DRAFT

FACT SHEET/TECHNICAL REPORT

FOR

SDRWQCB ORDER NO. 2001-193

MUNICIPAL STORM WATER PERMIT
FOR
THE COUNTY OF ORANGE,
THE INCORPORATED CITIES OF ORANGE COUNTY,
AND
ORANGE COUNTY FLOOD CONTROL DISTRICT
WITHIN
THE SAN DIEGO REGION

San Diego Regional Water Quality Control Board
~~August 23, 2001~~
November 1, 2001

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LIST OF ABBREVIATIONS

99-04 Plan	Orange County Water Quality Monitoring Program
BAT	Best Available Technology
BMP	Best Management Practice
CAR	Critical Aquatic Resource
CEQA	California Environmental Quality Act
CWA	Clean Water Act
CWC	California Water Code
DAMP	Drainage Area Management Plan
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
NURP	Nationwide Urban Runoff Program
SANDAG	San Diego Association of Governments
SDRWQCB	San Diego Regional Water Quality Control Board
SERRA	South East Regional Reclamation Authority
SUSMP	Standard Urban Storm Water Mitigation Plan
SWRCB	State Water Resources Control Board
SWPPP	Storm Water Pollution Prevention Plan
TAC	State Water Resources Control Board Urban Runoff Technical Advisory Committee
TMDL	Total Maximum Daily Load
URMP	Urban Runoff Management Program

USACE United States Army Corps of Engineers

US EPA United States Environmental Protection Agency

I. FACT SHEET/TECHNICAL REPORT FORMAT

The purpose of this Fact Sheet/Technical Report is to give the Copermittees and the interested public an overview of the permit and a practical discussion of its requirements, as well as a clear explanation of the regulatory justification for the permit requirements. The Fact Sheet/Technical Report can be considered to consist of two primary parts. The first part (which includes sections I. through V.) contains general information regarding urban runoff and the permit, including a summary of the permit in section IV. This part of the Fact Sheet/Technical Report provides an overview of the permit and the reasoning behind its requirements, and is likely to be the most pertinent part of the Fact Sheet/Technical Report for the more casual reader.

The second part of the Fact Sheet/Technical Report (which includes sections VI. and VII.) contains more detailed practical discussions and regulatory justifications of each permit component, and is meant to be used as a reference document during review of the permit. In sections V. and VI. of this Fact Sheet/Technical Report, each component of the permit is displayed in italics, followed by a discussion of the permit component. Section VII. (which addresses permit directives) also includes appropriate legal authority citations for each permit component. Each permit component is broken down in this manner so that the reader may find “stand alone” justification for each issue or permit component. This allows the Fact Sheet/Technical Report to be used as a reference during review of the permit. Please note that this has led to some repetition, as justifications for different sections are often similar or identical.

The Attachments 1-4 provide supporting information including NPDES permit justifications relative to Orange County, Copermittee population estimates, a list of impaired water bodies, and a discussion of storm water permitting and the SDRWQCB watershed management approach.

An additional attachment is being prepared and will be added to this document prior to adoption of this Tentative Order describing the SDRWQCB analysis of the Report of Waste Discharge and proposed DAMP submitted by the Orange County Copermittees with respect to the Tentative Order.

II. BACKGROUND – IMPACTS OF URBAN RUNOFF

A. WATER QUALITY

Urban runoff is fundamentally important to the water quality of Southern California. It has been found to be a leading cause of water quality impairment in the San Diego Region and nationwide. Untreated pollutants in urban runoff, indiscriminate of dry or wet weather conditions, routinely find their way to our creeks, lagoons, bays, and ocean as easily from over watering of residential lawns as from rainstorms. Urban runoff in the San Diego Region is commonly contaminated with pesticides, fertilizers, animal droppings, trash, food wastes, automotive byproducts, and many other toxic substances that are generated by our urban environment. Water that flows over streets, parking lots, construction sites, and industrial, commercial, residential, and municipal areas carries these untreated pollutants

through storm drain networks directly to the receiving waters of the region. Southern California, with the highest coastal population density of the entire country,[1] suffers multiple tribulations from this urban generated pollution source.

The United States Environmental Protection Agency (US EPA) recognizes urban wet weather flows as the number one source of estuarine pollution in coastal communities.[2] This trend is reflected locally by the 1998-1999 City of San Diego and Co-Permittee NPDES Storm Water Monitoring Program Report, which names urban runoff as one of the most significant contributors of pollution to our waterways and coastal areas. Furthermore, this document reports that monitoring efforts indicate that in-stream concentrations of pathogen indicators (fecal coliform and streptococcus) and heavy metals (such as cadmium, copper, lead, and zinc) exceed state and federal water quality criteria. Storm water within the region has also been found to contain the pesticides diazinon and chlorpyrifos (Dursban) at levels that can cause chronic or acute toxicity. [3] These trends are also represented in data collected by the Orange County Copermittees (see discussion below).

Preliminary results of the SDRWQCB's Ambient Bioassessment Monitoring Program from 1998-1999 indicate that the benthic macroinvertebrate communities of Aliso Creek and San Juan Creek may be adversely impacted. Additional data was collected under this program in 1999 and 2000 that may be appended to this Fact Sheet/Technical Report when it becomes available at a later date.

Inland surface water quality data in southern Orange County has been collected under the NPDES program by the Orange County Copermittees and under a number of other efforts, notably the Aliso Creek Watershed Management Study that was funded by a 205(j) grant from the State Water Resources Control Board. Data from these two sources have been among the most thoroughly assessed in the region and provide the best representation of contemporary water quality during the period of the Copermittees' DAMP. In particular, the U.S. Army Corps of Engineers (USACE) has assessed available water quality data in the Aliso Creek and San Juan Creek watersheds as part of comprehensive watershed studies to determine a process for restoring habitat and alleviating potential flood damage. A qualitative analysis of urban runoff was also performed by at least four Orange County Grand Juries from 1998-2001. Together, these sources of data and subsequent analyses indicate that urban runoff and storm water in southern Orange County is impairing water quality and that additional management efforts can have a positive impact of constituents of concern.

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[1] Culliton, T.M. et al. 1988. "50 years of population changes along the nation's coast." *Coastal Trends Series, Report No. 2*. National Oceanic and Atmospheric Administration, Strategic Assessments Branch. As cited in Moore, S. L., et al. *Composition and Distribution of Beach Debris in Orange County, California.* Southern California Coastal Water Research Project, Southern California Marine Institute, Divers Involved Voluntarily in Environmental Rehabilitation and Safety.

[2] US EPA. 1999. 40 CFR Parts 9, 122, 123, and 124. National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. 64 FR 68727.

[3] City of San Diego. 1999. 1989-1999 City of San Diego and ~~c~~Co-permittee NPDES Stormwater Monitoring Program Report. URS Greiner Woodward Clyde.

NPDES STORMWATER SAMPLING: Monitoring of urban runoff in the San Diego region in the 1999/2000 reporting period showed CTR (California Toxics Rule) exceedances of acute metals at the point of discharge to receiving waters in 94% of reported samples. From 1992 to 2000 the Copermittees report EMC data for one stream in the south county, Oso Creek. There are no discernible trends over time in the Oso Creek EMC data. There were no assessments for 1997, 1998, and 2000. At best, the data show a lack of water quality improvement, implying that the DAMP is not having a positive effect on EMC parameters in Oso Creek.

ALISO CREEK 205(J) BACTERIA INVESTIGATIONS: Bacteriological sampling demonstrated that high levels of Total and Fecal Coliform and Enterococcus bacteria were common in the watershed. Contact (REC-1) and Non-Contact Water Recreation (REC-2) standards were exceeded at all monitored stations except the uppermost. For example, three sampling locations on tributaries to Aliso Creek had *E. coli* averages over 2,000 MPN/100ml and two sampling locations on the main stem of Aliso Creek had average fecal coliform or *E. coli* averages greater than 2,000 MPN/100ml during the study period.

SOUTH EAST REGIONAL RECLAMATION AUTHORITY (SERRA) SURF ZONE BACTERIA DATA: Bacteriological sampling conducted by SERRA in the surf zone near the mouth of Prima Deshecha indicated elevated levels of fecal coliform and Enterococcus are present. One surf zone station is approximately 100 feet north of the Prima Deshecha beach outfall. From June 2000 through February 2001, 26 of 59 (44%) samples exceeded ocean water criteria for Enterococcus at this station. Regional Board staff does not attribute these elevated levels to the effluent discharged from SERRA's ocean outfall, but believe the creek may be a significant source of Fecal Coliform and Enterococcus bacteria.

USACE SAN JUAN CREEK WATERSHED STUDY: The USACE San Juan Creek Watershed Management Feasibility Study identifies high Fecal Coliform bacteria counts measured at the lowermost end of San Juan Creek as the greatest water quality concern in the watershed. Their analysis of water quality data from 1992-1995 further showed moderate contamination in San Juan Creek, Trabuco Creek, and Oso Creek. Their survey of historical data indicated that lead levels have dropped, copper levels have increased, and spikes of chromium and nitrates occur. The Feasibility Study concludes that *"Water quality in the San Juan creek watershed area is primarily influenced by nonpoint source stormwater runoff primarily from urban and residential areas."* (P.E44, SEC. 4.4.2.1).

USACE ALISO CREEK WATERSHED STUDY: In the USACE environmental evaluation for Aliso Creek watershed water quality, pollution concerns include runoff of pesticides and herbicides in areas near the creek. Non-point source pollution is attributed to an increase in urban developments and the associated storm water runoff. *"Due to the increase in development in the upper regions of*

the Aliso Creek watershed, stormwater runoff is likely the most prominent on-going factor causing deterioration of water quality." (P.E40, SEC. 4.4.1.1).

GRAND JURY FINDINGS: The 1999-2000Grand Jury investigating "The Rainy Season's "First Flush" Hits the Harbors of Orange County," found that in spite of the County's strong emphasis on public education as required by the DAMP, a significant amount of trash finds its way into the County-maintained flood control channels and County-maintained storm drains, rather than being disposed of properly. In "The Urban Runoff Battle: Ready, Fire, Aim!" the 2001 Grand Jury examined beach advisory postings and concluded that since the total number of postings is nearly identical in 1999 and 2000*, "virtually no improvement has occurred*."

B. IMPACTS OF URBAN RUNOFF

In Orange County, urban runoff enters the storm drains and then discharges to inland surface waters or, in some coastal areas, directly to the ocean. Urban runoff carries pollutants, contaminants, and other stressors from a large number of potential sources in developed areas. Impacts from these pollutants carried by urban runoff and the discharge of the runoff itself to surface waters include damage to riparian and in-stream habitats, increased flooding potential, threats to human and environmental, and subsequent economic ramifications.

Urban runoff causes many impacts in Southern California, including increased public health risks, high concentrations of toxic metals in harbor and ocean sediments, and toxicity to aquatic life.[4] A study exploring the health risks associated with urban runoff in Southern California was conducted in 1995 by the Santa Monica Bay Restoration Project using a survey of 15,000 bathers at three Santa Monica beaches. The study concluded that there is a 57% higher rate of illness in swimmers who swim adjacent to storm drains than in swimmers who swim more than 400 yards away from storm drains.

The San Diego Regional Water Quality Control Board (SDRWQCB) finds that such problems are indeed frequently urban runoff related. For instance, a common conveyance for a sewage spill to reach a beach is through the municipal storm water system. Also, exceedances of standards at some of our Region's beaches have unquestionably been conveyed by the storm water drainage system.[5] In addition, urban runoff is increasingly being targeted as the cause of beach closures and postings in other areas of the San Diego Region and Southern California. Urban runoff has been identified as a principal contributor to Fecal Coliform bacteria contamination in Orange County's Aliso Creek, a

[4] Threats to beneficial uses such as swimming and seafood consumption or ecosystem health have been demonstrated in numerous studies. Two important studies to note for Southern California are: Bay, S., Jones, B.H. and Schiff, K. 1999. Study of the Impact of Stormwater Discharge on Santa Monica Bay. Sea Grant Program, University of Southern California; and Haile, R.W., et al. 1996. An Epidemiological Study of Possible Adverse Health Effects of Swimming in Santa Monica Bay. Santa Monica Bay Restoration Project.

[5] SDRWQCB Clean-up and Abatement Order No. 97-69 and Cease and Desist Order No. 98-74, both were issued to the City of Coronado.

creek which often causes beach postings when flowing into the ocean.[6] Municipal enforcement efforts focusing on urban runoff have also resulted in reduced coliform levels in receiving waters in Encinitas in San Diego County.[7] Finally, US EPA goes on to say that urban storm water runoff and sewer overflows have become the largest cause of beach closings in the United States for the previous three years, becoming more significant than such sources as oil spills and publicly owned treatment works.[8]

A May 1999 draft of the Aliso Creek Watershed Management Feasibility Study (Aliso Study) mentioned above, led by the USACE, concluded that the Aliso Creek watershed "is not in good health," and attributes many of the problems to storm water runoff. The Aliso Study developed a watershed management plan intended to identify feasible management options to improve environmental and economic conditions in the watershed and reestablish a stable, healthy, and sustainable watershed environment. The feasibility study and a concurrent one prepared for the San Juan Creek watershed do not guarantee the "feasible" projects will be implemented, but instead provide information to the County of Orange, the cities, water districts and other partners regarding potential corrective actions and the current impacts from urban runoff. Some of these findings and proposed projects may be incorporated into the Jurisdictional and Watershed Urban Runoff Management Programs.

Some of the major impacts associated with the discharge of pollutants in urban runoff include, but are not limited to:

> BEACH CLOSURES: A number of the beach postings in the San Juan Creek Watershed Management Area within Orange County, including locations in Dana Point, Aliso Beach, and others are attributed to pollution from urban runoff. Beaches are posted and can be closed when bacteria levels indicate a potential health risk to humans. Coastal economies suffer when people decrease their time spent at beaches due to beach closings or fear of coastal water pollution.
>
> Copermittees understand the connection between urban runoff pollution and beach impairments. Several of the coastal Copermittees, including Laguna Beach and Dana Point, have implemented or are proposing dry-weather diversions that route urban runoff in streams or storm drain outfalls to sewer lines in an attempt to keep pollution contained in urban runoff from impacting beaches. As discussed elsewhere in this document, dry weather diversions to the sanitary sewer or regional treatment facilities present significant problems with respect to urban runoff and should not be the primary means whereby urban runoff is managed.

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[6] SDRWQCB Cleanup and Abatement Order No. 99-211, issued to the City of Laguna Niguel and the County of Orange.

[7] Kathy Weldon, City of Encinitas, Presentation to Beach Water Quality Workgroup, June 1, 2000.

[8] US EPA. 1999. 40 CFR Parts 9, 122, 123, and 124. National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. 64 FR 68727.

The following table, adapted from the 2001 Grand Jury report "The Urban Runoff Battle: Ready, Fire, Aim!" and based on data obtained from the Orange County Health Care Agency, lists the number of beach postings at South County Beaches in 2000.

Posting Location	Number of Postings	Total Days Posted	Posting Location	Number of Postings	Total Days Posted
Crystal Cove State Park	9	23	Doheny State Beach Park	9	315
Laguna Beach	32	77	Capistrano County Beach	6	248
Aliso Beach	13	23	Capistrano Bay District	7	107
Monarch Beach	5	49	Poche Beach	5	163
Salt Creek Beach	3	4	San Clemente City Beach	8	20
Dana Point Harbor	12	739*	San Clemente State Beach	1	3
* includes 2 long term postings totaling 569 days					

HABITAT STRESS: An aquatic life assessment conducted as part of the Aliso Creek Watershed 205(j) study demonstrated habitat within the study sites is unstable and under considerable environmental stress. The poor conditions were deemed likely attributable to high variability in flow volumes and velocities, sediment load and movement, high water temperatures, poor riparian development, and poor water quality. All of these influences can, at least in part, be attributable to a change in the runoff regime associated with urban development. The 205(j) study report concludes that continued development in the watershed without appropriate mitigation would lead to increased riparian habitat degradation. In addition, the USACE studies conclude that channel down-cutting is responsible for the loss of riparian habitat in many reaches of both Aliso Creek and San Juan Creek watersheds. Down-cutting of channels decreases the ability of water to reach the floodplains and riparian zones. Down-cutting is attributable to altered hydrology, including increased volume and peak discharge rates of runoff. Channel down-cutting creates a channelized stream condition that increases the threat of flooding downstream. Habitat loss and degradation were also cited as a major problem in the USACE San Juan Creek Watershed Study.

CHANNEL INSTABILITY: According to the USACE San Juan Creek Watershed Study, intense development since the 1980's is correlated with significant down-cutting and bank erosion on San Juan Creek and its main tributaries, especially in the lower reaches. Erosion and channel instability are identified in the USACE study as one of the major watershed problems. Channel instability and erosion degrade existing in-stream and riparian habitat and prevent the establishment of further stable habitat areas.

In addition, private and public property, including important infrastructure such as rail lines, sewer and water lines, and roads, have been threatened by erosion within the San Juan Creek and Aliso Creek watersheds.

FLOODING: The USACE San Juan Creek Watershed Study concluded that the threat of flooding in the lower San Juan Creek watershed has been exacerbated by changes to the creek's hydrology as a result of urbanization in the watershed. Potential flooding of the downstream portions of Oso, Trabuco, and San Juan Creeks is characterized by the USACE as a major watershed problem.

TOXICITY: A water quality data assessment conducted as part of the Aliso 205(j) study characterized surface water from several locations in the watershed and determined aquatic toxicity tests during two storm events caused varying degrees of mortality to test organisms. Storm sampling for toxicity was conducted twice at five locations within Aliso Creek during the study period. While two of the ten samples showed no mortality for *Ceriodaphnia*, six samples resulted in 100% mortality, one showed 85% mortality and one showed 95% mortality. The report suggests several possible sources of aquatic toxicity, all of which are derived from urban runoff.

These trends were observed in San Diego County as well and were considered during the adoption process for the San Diego Municipal Storm Water Permit Order No. 2001-01. As described in the Fact Sheet/Technical Report for that permit, in 1999, there were 29 days in which the San Diego County Health Department issued general advisories to avoid waters 300 feet either side of all storm drain outlets in order to protect the public from potential adverse health effects caused by urban runoff. Also, in 1999 there were 720 combined beach closures and postings in San Diego County. The San Diego County Department of Health does not recommend the public recreate in closed or posted waters due to associated health risk. A breakdown of the beach closure and posting data is as follows: 127 of these closings were related to sewage spills, 71 related to river mouth outlets or some other excavation, and 522 of the days were related to some exceedance of water quality standards.[9]

Regardless of how beach posting and closure data is interpreted, one thing is clear: the beneficial uses are not being adequately attained or protected for the waters in the San Diego Region, and urban runoff is a significant contributor to this receiving water impairment. For Orange County and the San Diego Region as a whole, known throughout the world for its beach lifestyle, these statistics are bound to have increasingly serious effects on tourism revenue as well as the local cultural identity.

III. ECONOMIC ISSUES

Urban runoff degrades surface water quality, but its impacts spread beyond the channel banks. Beach closures and other losses of recreational opportunity have a direct economic impact on communities whose economies are dependent on access to surface

[9] Information provided by the San Diego County Department of Public Health.

waters. Furthermore, property loss or damage from erosion and flooding has direct and indirect economic impacts on communities. In addition, replacement or perennial protection of public infrastructure from problems associated with urban runoff requires significant amount of public expenditures, thus diverting funds from other public agency concerns. The Copermittees have the power to encourage choices that decrease the impacts of urban runoff through activities such as public education on water quality issues, implementation of BMPs, and enforcement of water quality-related ordinances. The relationship between urban runoff, water quality, and both micro and macroeconomics in southern Orange County has been addressed in several reports, including the USACE watershed studies, Orange County Grand Jury reports, and others.

Water quality affects the recreational value of a water body and watershed. A recreational use analysis conducted within the Aliso 205(j) Watershed Study identified potential increases in recreational value would occur if the water quality improvements in the USACE Aliso Creek Watershed studies were implemented. The analysis noted that the largest benefit would be realized at Aliso Beach Park, but would require watershed-scale action because of the nature of the impacts derived from urban runoff.

The choices made by agencies, individuals, and businesses to protect water quality may be a decision based on microeconomics. The enforcement of local ordinances is an important tool of the Copermittees that can affect decisions made by agencies, individuals, and businesses. The disincentive to pollute created by enforcement, however, has been found to be insufficient by the 1998-1999 Orange County Grand Jury investigating “Coastal Water Quality and Urban Runoff in Orange County.” The Grand Jury concluded that current local fines were less than abatement costs, thus the level of enforcement may actually invite some polluters to continue polluting. The Grand Jury recommended that the County address the possibility of increasing fines for violators. This approach is supported in this Tentative Order.

With respect to economic impacts of urban runoff to Orange County communities, the following (incomplete) information should be considered:

DANA POINT: In response to a Grand Jury finding (1999-2000 Rainy Season’s First Flush Hits the Harbors of Orange County), the city of Dana Point notes the interrelationship between the clean coastal water and the economic health of the city. Dana Point reports receiving $5.2 million in T.O.T. funds in FY 1999-2000 “due in large part because of proximity to the beach. Without clean beaches, Dana Point risks losing its major revenue source.”

LAGUNA BEACH: Tourism is one of the primary components of the Laguna Beach economy, and the beach is one of the main tourist attractions in the city. In 1999, hotel/motel bed tax revenue was approximately $3 million, representing 13% of the City’s general fund revenue. The City Council recognizes the value of the beaches to tourists and the local population and has funded several low-flow diversion systems in an attempt to decrease beach pollution and beach closures.

DOHENY STATE BEACH: In 1997, the USACE prepared an economic analysis as part of the San Juan Creek and Aliso Creek Watershed Study. Recreational value for

Doheny State Beach, based on annual visitation of 670,545 people in 1995, was calculated at $2,850,000. Furthermore, the USACE notes that lifeguards reported that beach attendance falls dramatically when there are unhealthy conditions in the ocean. In 1999, the USACE prepared an updated economic study as part of the Feasibility Phase of the San Juan Creek Watershed Management Study. The 1999 study reports that average beach attendance from 1996 to 1998 increased to 918,735. The USACE places a recreation value per visitor at $5.76, which implies the annual recreational value of Doheny State Beach for 1996 to 1998 was $5,291,914.

ALISO BEACH: In 1997, the USACE prepared an economic analysis as part of the San Juan Creek and Aliso Creek Watershed Study. Recreational value for Aliso Beach, based on annual visitation of 3,477,369 people in 1995, was calculated at $14,779,000. In the 1999 Draft Feasibility Report for the Aliso Creek Watershed Management Study, the USACE noted that the average beach attendance from 1996 to 1998 decreased to 1,148,374. The recreation value per visitor was calculated at $4.50 and the average annual impact from water quality-related beach closures at Aliso Beach Park was estimated to be $468,392. This number is comparable to an economic analysis conducted as part of the Aliso Creek Watershed 205(j) study that estimated the annual average recreational value impact of beach closures at Aliso Beach Park to be $468,400.

The following information was considered during the adoption process for the San Diego Municipal Storm Water Permit, Order No. 2001-01. Because significant elements of the Tentative Order are similar to those adopted for San Diego County and because the information is broadly applicable to conditions in Orange County, the information is presented again for consideration. In the San Diego Region, polluted urban runoff not only poses a public health threat, but an economic one as well. A January 5, 1997 New York Times article warns: *Travel Advisory. Storm Drains Pose San Diego Health Risk*.[10] In the July 3, 2000 edition of Forbes Magazine, an article entitled *Don't Go Near the Water. Beaches That Make You Go Ewwwww*!, two San Diego area beaches are highlighted as having troubles. The article is particularly hard on the Mission Bay beaches, in stating, "If San Diego County has established itself as the California capital of sewage spills, this beach is its White House."[11] Local problems do indeed make national news. US EPA also brings attention to our region in the guidance document *Liquid Assets 2000* in saying, "Although our lakes, rivers, estuaries, and wetlands are much cleaner than they were in 1970, headlines like these are all too common…"[12] Next to the quote is pictured the San Diego page from the San Diego Union Tribune bearing the headline "Human Waste Fouls Three Beaches, DNA Tests Find."[13] Being spotlighted by the federal government in this context is definitely less than auspicious.

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[10] Kopytoff, V.G. 1/5/1997. *Travel Advisory: Storm Drains Pose San Diego Health Risk*. The New York Times.

[11] Powers, K. 7/3/2000. *Don't Go Near the Water. Beaches That Make You Go Ewwwww*! Forbes Magazine.

[12] US EPA. 2000. Liquid Assets 2000. *America's Water Resources at a Turning Point*. EPA –840-B-00-001.

[13] Rodgers, T. 1/21/00. Human Waste Fouls 3 Beaches, DNA Tests find. The San Diego Union-Tribune.

There may be no way to measure what effects such negative press have had on value lost due to changed vacation plans. However, one can presume that continued publicity will take its toll on local economies. According to a 1996 San Diego Association of Governments (SANDAG) Memorandum, the California Division of Tourism has estimated that each out-of-state visitor spends $101.00 a day. The memo goes on to state that based on projections from the California Department of Boating and Waterways nearly $1.2 billion in direct revenue and $1.2 billion in indirect revenue is pumped into the San Diego area economy each year by out-of-state visitors.[14] It would seem that given the importance of tourism to our area, municipalities cannot afford to ignore water quality. The bottom line is that there is no need to wait and see how much the waters can take before our economy is affected. We can simply look to catastrophes that other regions have already had to bear. The 1988 medical waste wash-ups closing New York and New Jersey beaches caused an estimated $4 billion loss to the local economy.[15]

"Willingness to pay" gives an indication of how much the public values clean water. A study conducted by Colorado State University researchers on a 45-mile stretch of the South Platte River looked at the value of ecosystem services. The services studied were habitat for fish and wildlife, recreation, erosion control, natural purification of water and dilution of wastewater. Results from nearly 100 in-person interviews show that households would pay on average $21 per month for additional ecosystem services.[16] The article goes on to explain that while the marginal benefits are often quite small per person, the non-rival nature of environmental goods often results in simultaneous enjoyment by millions of people. Therefore, ensuring dependable good water quality could mean huge social benefits. The National Water Research Institute states, "Water has a psychological value…People derive measurable pleasure from recreational activities like boating and fishing and find comfort in knowing that the water they drink is of the highest quality."[17]

Water quality as an externality can also cause shifts in real estate value. To help assess this we consider other areas of the country. US EPA looked at a study conducted on real estate around Lake Champlain in the Northeastern United States. Property values in the area of the lake with good water quality were valued an average of 20% more than property around poor water quality.[18] Research right here in California indicates that

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[14] San Diego Association of Governments. 10/25/96. *Memorandum: California Department of Boating and Waterways: Unpublished Survey Information Regarding Beach Use*. Written to the Shoreline Erosion Committee.

[15] US EPA. 1996. Liquid Assets: A Summertime Perspective on the Importance of Clean Water to the Nation's Economy. EPA 800-R-96-002. Page 5.

[16] Loomis J., et. Aal. 1999. Measuring the Total Economic vValue of Restoring Ecosystem Services in an iImpaired River Basin: Results from a Contingent Valuation Method Survey. Proceedings of the Third Workshop in the Environmental Policy and Economics Workshop Series. Sponsored by US EPA's Offices of Economy & Environment, and Reserved & Development. April 21-22, 1999.

[17] National Water Research Institute. The Value of Water: Recognizing and Using the Full Water Supply. National Water Research Institute, Fountain Valley, CA as cited in US EPA. 2000. Liquid Assets 2000. *America's Water Resources at a Turning Point*. EPA –840-B-00-001.

[18] US EPA. 1996. Liquid Assets: A Summertime Perspective on the Importance of Clean Water to the Nation's Economy. EPA 800-R-96-002. Page 8.

property values can increase by at least 3% for employing bank stabilization procedures and up to 11% for improving fishing habitat.[19]

Within the past decade or so we see that investor's concerns about environmental quality do indeed drive investment decisions. *Money* magazine conducts a "Best Places to Live" survey every year. In 1995, clean water and air ranked as the most important factors in choosing a place to live. It is important to note that they were ranked above typical high priority quality of life issues such as low crime rates, plentiful doctors or hospitals, and low taxes.[20] In the 2000 *Money* magazine "Best Places to Live" analysis, clean water was cited as a contributing factor in three of the top six choices from around the country.[21] Needless to say, San Diego did not make the list this year.

The SANDAG *Regional Growth Management Strategy, Water Quality Element* summarizes future needs in development strategies for San Diego by stating, "Protecting the health of the water bodies in the region calls for a new approach to storm water management in new development and redevelopment, an approach which considers the possibilities for *pollution prevention* and maximizing infiltration."[22] This is may be generally true for Orange County as well. However, many stakeholders feel that the prospect of such planning presents an economic burden. Not so, according to a *Watershed Protection Techniques* article, "The Benefits of Better Site Design in Residential Subdivision."[23] The journal did a comparative hydrology analysis for a medium-density residential subdivison using open space and conventional design. The following table shows the environmental benefits of using an open space versus conventional design.

Table One: Change in Site Characteristics from a Conventional Design to Open Space Design (*Both employ storm water protection practices*).

Factor of Concern	Percent Change by Applying Open Space Design
Impervious cover	24% decrease
Residential Lawn	48% decrease
Stormwater Runoff	24% decrease
Stormwater Infiltration	55% increase
Phosphorus Export	60% decrease
Nitrogen Export	45% decrease
Development Cost	20% decrease

Source: Adapted from the Center for Watershed Protection, 2000.

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19 Streiner C. and Loomis. J. 1996. Estimating the Benefits of Urban Stream Restoration Using the Hedonic Price Method. Rivers 5(4): 267-268 as cited in Loomis J., et. Aal. 1999. Measuring the Total Economic vValue of Restoring Ecosystem Services in an iImpaired River Basin: Results from a Contingent Valuation Method Survey. Proceedings of the Third Workshop in the Environmental Policy and Economics Workshop Series. Sponsored by US EPA's Offices of Economy & Environment, and Reserved & Development. April 21-22, 1999.

20 US EPA. 1996. Liquid Assets: A Summertime Perspective on the Importance of Clean Water to the Nation's Economy. EPA 800-R-96-002. Page 9.

21 Gertner J. and Kirwan, R. 2000. *Money Magazine.* "The Best Places to lLive 2000." As downloaded from http://www.money.com/money/depts/real_estate/bestplaces

22 San Diego Association of Governments. 1997. *Regional Growth Management Strategy: Water Quality Element*.

23 Center for Watershed Protection. 2000. The Benefits of bBetter Site Design in rResidential Subdivisions. Water Protection Techniques. 3(2): Page 641.

It's no surprise that environmentally sensitive planning techniques will produce environmental benefits, but what may be surprising is they can also produce economic benefits. The total cost to build this development was about 20% less using the open space design as opposed to the conventional design. Less road paving, as well as shorter sidewalks, water lines, sewer lines, curbs and gutters contributed to the savings.

An example from Davis, California reflects similar results. The Village Homes development, consisting of 22 houses and 40 apartments, employed narrow streets, plus graded land, channels and ponds to encourage on-site rain absorption. The resulting cost savings was $700/unit less than using conventional storm water management systems. It is also important to note that the development did not flood when a 100-year level flood hit the area. In fact, the owner Judy Corbett reported that the development soaked in some runoff from surrounding communities. [24] The ideas and technologies used in both of these examples have been available for many years. However, outdated development requirements, subdivision codes, zoning regulations, street standards, and drainage requirements have discouraged developers from even attempting changes in convention.

This problem can best be remedied on the municipal level. Local authorities can work to better encourage water quality sensitive planning techniques. Conditions of approval for new developments can be updated to allow for site designs which address water quality concerns. For instance, cities could decrease the width of impervious streets by allowing one way streets on alternate blocks. Providing discretion for creative thinking on site design can save developers money and help municipalities protect their local water quality. Employing such techniques also follows with SANDAG's *Regional Growth Management Strategy.* Preserving natural habitats and open spaces is one of the five basic elements the strategy recommends for addressing all growth-related questions.[25]

SANDAG has also developed *The Cites/County Forecast for the San Diego Region*, which attempts to project the demands that humans are going to place on the region over the next 20 years. The report contains some startling projections. According to the article, we can expect 1 million more people and over 400,000 new homes in the area over the next two decades.[26] According to the United States Census Bureau, the estimated population for San Diego County in July 1999 was 2,820,844 people.[27] We can therefore expect a 35% increase in population in just over 20 years. Secondly, the implications of 400,000 new homes extend beyond the homes themselves to include new roads, shopping malls, business parks, parking lots, schools and all the other amenities that accompany new development. Although largely built out, southern Orange County is currently experiencing dramatic growth similar to that discussed above in the SANDAG report for San Diego

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[24] Keith, L.D. 6/5/00. Fight Brewing in Southern California Over Construction Rules Aimed at Stormwater Runoff. Fresno Bee.

[25] San Diego Association of Governments. 1999. "2020 Cities/County Forecast for the San Diego Region." *SANDAG INFO*. Page 2.

[26] San Diego Association of Governments. 1999. "2020 Cities/County Forecast for the San Diego Region." *SANDAG INFO*. Page 2.

[27] As downloaded from the United States Census Bureau website: Http://www.census.gov/population/estimates/county/co-00-1/99C_06.txt

County. Regulations of today must anticipate and address this growth. The Tentative Order was drafted to address this and other similar issues with respect to the discharge of urban runoff throughout the San Diego Region.

To help with this matter, the Tentative Order includes a requirement for the Orange County Copermittees to develop Standard Urban Storm Water Mitigation Plans (SUSMPs) for broad categories of new development and significant redevelopment. SUSMPs as developed by the Copermittees will require developers to implement post-construction best management practices (BMPs) to reduce storm water flows and the associated pollutant loads generated from the development. What this means is that runoff carrying automobile byproducts, pet droppings, trash, and lawn chemicals for instance will need to be infiltrated, filtered, or treated before it is allowed to leave all new development. The reasoning for this is simple: Since previous efforts under the First and Second Term Permits and 1993 DAMP were not successful in protecting the beneficial uses of water quality in the past, increased population and development pressures will need to be addressed differently than they were in the past.

IV. PERMIT SUMMARY

HISTORICAL PERSPECTIVE ON THE DEVELOPMENT OF THE TENTATIVE ORDER (PERMIT SUMMARY)

The federal Clean Water Act was amended in 1987 to address urban runoff. One requirement of the amendment was that many municipalities throughout the United States were obligated for the first time to obtain National Pollutant Discharge Elimination System (NPDES) permits for discharges of urban runoff from their municipal separate storm sewer systems (MS4s). In response to the Clean Water Act amendment (and the pending federal NPDES regulations which would implement the amendment), the SDRWQCB issued an “early” municipal storm water permit, Order No. 90-38, in July 1990 to the County of Orange, the six incorporated cities within the County of Orange in the San Diego Region, and the Orange County Flood Control District (hereinafter Copermittees) for their urban runoff discharges. As the name implies, this “early” permit was issued prior to the November 1990 promulgation of the final federal storm water regulations. Although Order No. 90-38 contained the “essentials” of the 1990 regulations, the requirements were written in very broad, generic and often vague terms. Broad generic terms were incorporated into the permit for the purpose of providing the maximum amount of flexibility to the Copermittees in implementing the new requirements (flexibility was, in fact, the stated reason for issuing the permit in advance of the final regulations). This lack of specificity was reflected in the Drainage Area Management Plan implemented under this First Term Permit in 1993 and renewed under the Second Term Permit in 1996. From staff’s perspective however, this same lack of specificity, combined with the lack of funding and political will, also provided the Copermittees with ample reasons to take few substantive steps towards permit compliance. The situation was exacerbated by the SDRWQCB’s own lack of storm water resources and the general sense that the infant program was a considerably lower priority than its existing and competing core regulatory programs. In staff’s assessment, the result was a general lack of action by the

Copermittees and a general lack of corresponding reaction (enforcement) by the SDRWQCB during the early years of the storm water program.

When viewed relative to the early years, substantial progress towards compliance has been made by many of the Copermittees and improvements in the SDRWQCB's oversight have occurred as well. But when viewed relative to the magnitude of the problem, we've collectively progressed little in ten years and enormous challenges remain in Orange County. Today, urban runoff is the single largest discharge of waste and the leading cause of water quality impairment in the San Diego Region. One has only to look as far as the now too familiar "health advisory or beach closure" signs and the diversion of streams to the sanitary sewer to see the troubling local consequences of urban runoff.

Although renewed in 1996 as Order No. 96-03, the 1993 DAMP implemented by the Copermittees was not significantly updated until 2000. Although the Report of Waste Discharge and proposed DAMP submitted to the SDRWQCB were greatly improved over the earlier DAMP, staff has concluded that in most respects, the proposed DAMP and the new commitments submitted by the Copermittees reflect the basic requirements of the 1990 Federal Regulations and in most cases do not represent significant improvement over the 1993 DAMP. Continued implementation of the DAMP as proposed without amendment will not adequately address the impacts to receiving waters resulting from the discharge of urban runoff and would not achieve MEP as defined in this Order. For these reasons, In order to provide the Copermittees with the minimum requirements to meet the MEP standard of the SDRWQCB, a more specifically detailed Tentative Order is proposed that emphasizes the strong jurisdictional level programs developed by the Copermittees during the First and Second Term Permits as well as the watershed-level approach embodied in the proposed DAMP.

At the jurisdictional level, the Copermittees have a number of options available to them in developing the programs to meet the requirements of the Order. Each Copermittee has the discretion to individually develop and implement its Jurisdictional URMP. The Copermittees also have the discretion to develop a model Jurisdictional URMP or model Jurisdictional URMP components. The Jurisdictional URMP or equivalent is subject to review and comment by the SDRWQCB. Each Copermittee is responsible for ensuring that the Jurisdictional URMP addresses the specific urban runoff issues within its jurisdiction. To the extent that a model or template Jurisdictional URMP forms the basis of its program, each Copermittee is individually responsible for: 1) tailoring the model to the conditions within its jurisdiction; 2) implementing the program within its jurisdiction; and 3) ensuring that the implementation of the model Jurisdictional URMP satisfies all of the requirements of the Order within its jurisdiction. However, it is important to note that implementation of the minimum requirements of a Copermittee authored management plan alone does not guarantee compliance with the Tentative Order. The determination of compliance to the MEP and to receiving water quality objectives under this Tentative Order rests with the SDRWQCB.

MUNICIPAL STORM WATER NPDES PERMITS OVERVIEW (PERMIT SUMMARY)

Municipal storm water NPDES permits seek to ensure that the beneficial uses of a receiving water are protected despite discharges from MS4s into that receiving water.

Beneficial uses are defined as the uses of water necessary for the survival or well being of man, plants, and wildlife. Municipal storm water NPDES permits contain requirements to achieve numeric and narrative receiving water quality objectives which are established to protect these beneficial uses. Water quality objectives are defined as constituent concentrations, levels, or narrative statements, representing a quality of water that supports the most sensitive beneficial uses which have been designated for a water body. At this time, municipal storm water NPDES permits contain water quality objectives and a prohibition that MS4 discharges may not cause the water quality objectives in the receiving water to be exceeded. By definition, when the water quality objectives of a receiving water are exceeded, the beneficial uses of that water are not adequately protected.

Typical NPDES permits are based on the concept of employing full-scale treatment of an effluent to remove pollutants at the end of the pipe (i.e., just before being discharged into receiving waters). Accordingly, typical NPDES permits contain numeric effluent limits which are arithmetically derived from receiving water quality objectives for each pollutant of concern in the effluent. However, municipal storm water permits are not typical NPDES permits because they are not based on the concept of full-scale treatment of polluted storm water. Full-scale end of pipe treatment for storm water is not considered economically and technologically feasible at this time. Therefore municipal storm water permits do not contain numeric effluent limits, but rather are based on the concept that pollutants can be effectively reduced in storm water to the maximum extent practicable by the application of a wide range of best management practices (BMPs). The technology-based performance standard of “maximum extent practicable” refers to evaluation and implementation of BMPs to the maximum extent practicable, except where (1) other effective BMPs will achieve greater or substantially similar pollution benefits; (2) the BMP is not technically feasible; or (3) the cost of BMP implementation greatly outweighs the pollution control benefits.

In other words, in municipal storm water permits, receiving water quality objectives are attained by way of BMP implementation, including use of pollution prevention, source control, and treatment control BMPs. To protect receiving water beneficial uses, municipal storm water permits require the use of best management practices which prevent the generation of pollutants and keep runoff from coming into contact with pollutants, to be supplemented by the use of methods that remove or treat pollutants.

COPERMITTEE RESPONSIBILITY BASED ON LAND USE AUTHORITY (PERMIT SUMMARY)

Storm water permits are issued to municipalities because of their land use authority. The ultimate responsibility for the pollutant discharges, increased runoff, and inevitable long-term water quality degradation that results from urbanization lies with local governments. This responsibility is based on the fact that it is the local governments that have authorized the urbanization (i.e., conversion of natural pervious ground cover to impervious urban surfaces) and the land uses that generate the pollutants and runoff. Furthermore, the MS4 through which the pollutants and increased flows are conveyed, and ultimately discharged into San Diego’s natural receiving waters, are owned and operated by the same local governments. In summary, the municipal Copermittees under Order No. 2001-193 are responsible for discharges into and out of their storm water conveyance systems because

(1) they own or operate the MS4; and (2) they have the legal authority that authorizes the very development and land uses which generate the pollutants and increased flows in the first place.

Order No. 2001-193 holds the local government accountable for this direct link between its land use decisions and water quality degradation. The permit recognizes that each of the three major stages in the urbanization process (development planning, construction, and the use or operational stage) are controlled by and must be authorized by the local government. Accordingly, this permit requires the local government to implement, or require others to implement, appropriate best management practices to reduce pollutant discharges and increased flow during each of the three stages of urbanization.

For example, since grading cannot commence prior to the issuance of a local grading permit, the Copermittees have a built-in mechanism to ensure that all grading activities are protective of receiving water quality. The Copermittee has the authority and discretion to withhold issuance of the grading permit until the project proponent has demonstrated to the satisfaction of the Copermittee that the project will not violate the Copermittee's ordinances or cause the Copermittee to be in violation of its municipal storm water permit. Since the Copermittee will ultimately be held responsible for any discharges from the grading project by the SDRWQCB, the Copermittee will want to use its own permitting authority to ensure that whatever measures the Copermittee deems necessary to protect discharges into its MS4 are in fact taken by the project proponent.

TENTATIVE ORDER NO. 2001-193 OVERVIEW (PERMIT SUMMARY)

Tentative Order No. 2001-193 is the proposed re-issuance of Order No. 96-03 (i.e., the renewal municipal storm water permit for the Copermittees within the County of Orange in the San Diego Region). Tentative Order No. 2001-193 incorporates two highly controversial precedent setting decisions by the State Water Resources Control Board (SWRCB). Specifically, Tentative Order No. 2001-193 includes: (1) explicit language requiring municipal storm water dischargers to meet numeric receiving water quality standards[28] (in addition to meeting the Maximum Extent Practicable or MEP technology

28 The issue of whether municipal storm water dischargers must meet water quality standards has been intensely debated for the past five years in California and throughout the nation. During that same five-year period, the SDRWQCB developed and adopted three other municipal storm water permits. As a consequence of the ongoing debate, each of the three permits was immediately appealed (primarily) on the basis of the water quality standards language. In particular, SDRWQCB Order No. 96-03, the Municipal Storm Water Permit for Orange County Copermittees was adopted and appealed in 1996. SDRWQCB Order No. 97-08, the Municipal Storm Water Permit for CALTRANS was adopted and appealed in 1997. SDRWQCB Order No. 98-02, the Municipal Storm Water Permit for Riverside County Copermittees was adopted and appealed in 1998.

In response to the appeal of the SDRWQCB's permit for Orange County, the SWRCB issued Order WQ 98-01 prescribing specific precedent-setting water quality standards language to be included in all future California MS4 permits. In essence, the SWRCB's precedent-setting language made very clear that storm water discharges must attain receiving water quality standards. In addition, unlike previously adopted versions of the language, it did not state that "violations of water quality standards are not violations of the municipal storm water permit under certain conditions." Likewise, the order's language did not indicate that the "implementation of best management practices is the 'functional equivalent' of meeting water quality standards."

based-standard); and (2) numeric sizing criteria (i.e., design standards) for structural post-construction best management practices (BMPs) for new development and significant redevelopment.

While the requirements of Tentative Order No. 2001-193 are markedly more clear and specific than those of Order No. 96-03, they are based on the same 1990 federal storm water regulations. Where Order No. 96-03 and Tentative Order No. 2001-193 differ, Tentative Order No. 2001-193 is more specific as to what is necessary for Copermittee compliance. The increased specificity of Tentative Order No. 2001-193's requirements is necessary to address specific local urban runoff concerns, promote the attainment and protection of water quality standards in receiving waters, and satisfy the Copermittee's repeated request for the SDRWQCB to identify the minimum effort required for compliance with the permit. Where requirements are more stringent than the federal storm water regulations, they are generally based on specific guidance from the USEPA and/or the SWRCB and are authorized under both the Clean Water Act section 402(p)(3)(iii) as well as the California Water Code section 13377. Furthermore, the requirements contained in Tentative Order No. 2001-193 represent the SDRWQCB's interpretation of the requisite maximum extent practicable (MEP) technology-based standard.

Tentative Order No. 2001-193 places the responsibility for urban runoff discharges into and from MS4s on the Copermittees which own and operate the systems. This responsibility is based on the Copermittees' land use authority. Since the Copermittees permit, authorize, and profit from urban development within their jurisdictions, Tentative Order No. 2001-193 holds the Copermittees responsible for the short and long-term water quality consequences of their land use decisions. Furthermore because water quality degradation is the direct result of the urbanization process, Copermittees must

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In response to the appeal of the SDRWQCB's permit for Riverside County and the formal objection of the permit by the USEPA, the SWRCB issued Order WQ 99-05, modifying its own precedent-setting language (as specified in Order WQ 98-01) to meet the specific objections of the USEPA. SWRCB Order WQ 99-05 specified even more stringent requirements for municipal dischargers to meet water quality standards. In response to USEPA's formal objections to SDRWQCB Order No. 98-02, the USEPA assumed responsibility for the Riverside County permit and subsequently issued its own MS4 permit with water quality standards language for Riverside County in 1999. Upon issuance of its own permit, the USEPA returned full responsibility for the NPDES permit back to the SDRWQCB. In November 2000, the SDRWQCB amended its Order No. 98-02 to replace the existing language with the full text of the USEPA-issued NPDES permit. At that time, SDRWQCB Order No. 98-02 officially resumed function as both state waste discharge requirements and a federal NPDES permit.

Also following USEPA's issuance of its own MS4 permit for Riverside Copermittees (but in response to a separate similar USEPA-issued MS4 permit), the United States Court of Appeals for the Ninth Circuit (Defenders of Wildlife v. Browner, 1999, 197 F. 3d 1035), upheld USEPA's requirement for MS4 dischargers to meet water quality standards, but it did so on the basis of USEPA's discretion rather than on the basis of strict compliance with the Clean Water Act.

On October 14, 1999, the SWRCB issued what is currently its "final" legal opinion on the matter. In summary, the 1999 SWRCB opinion concluded that RWQCBs should continue to include the water quality standards language established in SWRCB Order WQ 99-05 in all future MS4 permits issued in California. The required language has been incorporated into Tentative Order 2001-193.

implement (or require others to implement) controls to reduce the flow and pollutants generated from each of the three major phases of urbanization that they authorize; namely the (1) land use planning, (2) construction; and (3) use or existing development phase.

The principal requirements of Tentative Order No. 2001-193 include the following: (1) each Copermittee shall prohibit all non-storm water discharges not specifically exempted to its MS4; (2) each Copermittee shall reduce pollutants in urban runoff discharges into and from its MS4 to the maximum extent practicable, (MEP); (3) each Copermittee shall ensure that urban runoff discharges into and from its MS4 do not cause or contribute to an exceedance of receiving water quality objectives; (4) each Copermittee shall actively seek and eliminate all sources of illicit discharges to its MS4; and (5) each Copermittee shall obtain, maintain, and enforce adequate legal authority (such as local ordinances and permits) to comply with all provisions of the Tentative Order.

Two Levels of Copermittee Responsibility

This Order is issued to each of the Copermittees and contains requirements to be implemented individually and collectively. Each Copermittee must carry out the requirements of Order No. 2001-193 across two broad levels of responsibility. Copermittees have responsibility for the water quality impacts of urbanization within (1) their jurisdiction and (2) their watershed. The jurisdictional responsibility of each Copermittee stems from Copermittee land use authority within its jurisdiction. As discussed above, the Copermittee has authority over the three stages of development (planning, construction, and use or operation) within its jurisdiction. Each Copermittee must therefore take responsibility for water quality impacts resulting from their jurisdictional land use decisions.

Watershed responsibility is also necessary from each Copermittee. This is because each Copermittee is located somewhere within a watershed it shares with other Copermittees. Urban runoff generated in various Copermittee jurisdictions does not follow jurisdictional boundaries, but rather travels through many jurisdictions while flowing towards receiving waters. Simplistically, a watershed can be thought of as a common pipe to the ocean, along the length of which reside the Copermittees within the watershed. Inland Copermittees can be thought of as upstream contributors of pollutants and flow to the common pipe; while coastal Copermittees can be considered downstream contributors. Collectively the Copermittees within the watershed each contribute to the cumulative pollutant load that is conveyed in urban runoff by their interconnected MS4 systems to the receiving waters. Therefore, each Copermittee has collective, shared responsibility for the impacts of its urbanization on the watershed in which it is located. Both coastal and inland cities contribute to receiving water quality problems and both must accept responsibility for contributing to the solution. The Copermittees will address the watershed level activities discussed above in the Watershed Urban Runoff Management Program that will incorporate elements of the proposed Drainage Area Management Plan submitted in September 2000 (see discussion below and for section J of this Order).

Order No. 2001-193 reflects these two broad levels of responsibility, in that it requires implementation of comprehensive urban runoff management plans on both a jurisdictional and watershed level.

Permit Requirements

Order No. 2001-193 contains the following principal elements:

- Legal Authority – Each Copermittee shall establish and maintain adequate legal authority to control pollutant discharges into and from its MS4.
- Jurisdictional Urban Runoff Management Program – Each Copermittee shall develop and implement a Jurisdictional Urban Runoff Management Program (Jurisdictional URMP) which will reduce discharges of pollutants and runoff flow during each major phase of urban development (i.e., planning, construction, and use or operation phases) within its jurisdiction.
- Watershed Urban Runoff Management Program – Each Copermittee shall collaborate with other Copermittees within the San Juan Creek Watershed Management Area within Orange County to revise the proposed DAMP and develop and implement a Watershed Urban Runoff Management Program (Watershed URMP) that will identify and address the highest priority water quality issues/pollutants in the watershed management area.
- All Copermittee CollaborationProgram Management – Each Copermittee shall collaborate with all other Copermittees to address common issues, promote consistency, and plan and coordinate urban runoff management activities as described in section 2 of the proposed DAMP.
- Monitoring – The Copermittees shall collectively develop and implement a Receiving Waters Monitoring Program which shall focus on the collection of monitoring data to be used for the assessment of compliance, achievement of water quality objectives, and the protection of beneficial uses.
- Reporting – Each Copermittee shall submit various reports describing the measures it is undertaking to meet the requirements of Order No. 2001-193.

Each of these principal elements of Order No. 2001-193 is discussed in greater detail below.

Legal Authority

Each Copermittee must adopt and enforce whatever legal authority is needed to eliminate or reduce pollutant discharges from all urban land use sources into and out of its MS4. This legal authority must include the ability to prohibit all discharges into the MS4 except for those which originate from precipitation (and a few other minor exceptions). Each Copermittee must also have legal authority to conduct inspections, collect samples, and require businesses to implement BMPs. Legal authority can be developed through ordinance, permit, contract, or similar means. Each Copermittee must ensure that its requirements are being complied with and use its legal authority to take enforcement actions against violators which are not meeting the Copermittee's requirements.

Jurisdictional Urban Runoff Management Program

The focus of the Jurisdictional Urban Runoff Management Program (URMP) is to address urban runoff during each phase of urbanization (i.e., planning, construction, and use or operation phases). The Jurisdictional URMP includes specific requirements for each of these phases of urbanization, as well as broad requirements that apply to all of the phases. Solid Jurisdictional level programs are necessary to realize truly effective watershed-level programs.

The Jurisdictional URMP singles out the planning phase of urbanization since addressing urban runoff during the planning phase of development is an effective means (in terms of both cost and performance) for protecting receiving water quality. The planning stage provides the greatest number and variety of opportunities for addressing runoff, as well as the most cost-effective time for implementation of BMPs. Order No. 2001-193 includes the following requirements for addressing urban runoff during the planning phase of new development:

- Each Copermittee shall incorporate water quality protection principles and policies into its General Plan or equivalent plan to guide land use decisions.
- Each Copermittee shall modify its development project approval processes to ensure water quality concerns are addressed by development projects. This requirement includes development and implementation by each Copermittee of water quality conditions of approval for projects. Each Copermittee shall also develop and implement Standard Urban Storm Water Mitigation Plans (SUSMPs), requiring various categories of development to implement post-construction BMPs meeting specific numeric sizing criteria.
- Each Copermittee shall revise its environmental review process to include requirements for evaluation of water quality effects from development projects.
- Each Copermittee shall conduct education efforts for its planning and development review staffs, as well as the development community at large.

The construction phase of urbanization is also singled out in the Jurisdictional URMP requirements of Order No. 2001-193. Construction sites and practices are given a high priority in the Jurisdictional URMP requirements due to their significant potential for erosion and discharge of pollutants to MS4s and receiving waters. Order No. 2001-193 includes the following requirements for addressing urban runoff during the construction phase of urbanization:

- Each Copermittee shall implement, or require implementation of, pollution prevention measures at construction sites.
- Each Copermittee shall update its grading ordinance to require grading and construction activities to include pollution prevention, source control, and structural treatment BMPs.
- Each Copermittee shall update its construction and grading approval processes to ensure water quality concerns are addressed by construction/grading projects. This requirement includes development and implementation by each Copermittee of water quality conditions of approval for construction and grading projects.

- Each Copermittee shall maintain an inventory of all construction sites within its jurisdiction.
- Each Copermittee shall establish priorities for construction oversight activities.
- Each Copermittee shall implement, or require implementation of, minimum BMPs at construction sites. The level of BMPs to be implemented shall be basis on the priority level of the site.
- Each Copermittee shall conduct inspections of construction sites based on construction site priority level.
- Each Copermittee shall enforce its ordinances at all construction sites.
- Each Copermittee shall report non-compliant construction sites to the SDRWQCB.
- Each Copermittee shall conduct education efforts for its construction, building, and grading review staffs, as well as the construction community at large.

The Jurisdictional URMP contains extensive requirements for existing development as well. All urban land uses are addressed by the requirements. The specific land uses identified in the Jurisdictional URMP are municipal, industrial, commercial, and residential land uses. In general, the structure of the Jurisdictional URMP requirements for each of these land uses are similar. For each of the existing development land uses, the Jurisdictional URMP requirements include:

- Each Copermittee shall implement, or require implementation of, pollution prevention measures for each land use.
- Each Copermittee shall maintain an inventory of sites for the various land uses within its jurisdiction. The types of sites to be inventoried for each land use are detailed in section VII. of this fact sheet as well as the permit.
- Each Copermittee shall establish priorities for oversight activities of sites for each land use. The types of sites to be prioritized for each land use are detailed in section VII. of this fact sheet as well as the permit .
- Each Copermittee shall implement, or require implementation of, minimum BMPs at sites for each land use, based on the sites' designated priority levels.
- Each Copermittee shall conduct inspections of sites for each land use based on the sites' designated priority levels.
- Each Copermittee shall enforce its ordinances at all sites for all land uses.

In addition to the general requirements listed above for each land use, the Jurisdictional URMP also contains specific requirements for each land use. These requirements are detailed section VII. of this fact sheet as well as the permit.

While the specific Jurisdictional URMP requirements for each of the three phases of urbanization (i.e., planning, construction, and use or operational phase) are detailed above, the Jurisdictional URMP also contains requirements which apply to all of the phases of urbanization. These include:

- Education – Each Copermittee shall implement an education program using various types of media to (1) increase the knowledge of target communities regarding MS4s, impacts of urban runoff on receiving waters, and potential BMP solutions; and (2) change the behavior of target communities and thereby reduce

pollutant releases to the MS4 and receiving waters. Education was emphasized under previous permits and most Copermittees already have well developed education programs.

- Illicit Discharge Detection and Elimination – Each Copermittee shall develop and implement measures to detect and eliminate all illicit discharges. This includes measures to respond to sewage and other spills, limit infiltration from sanitary sewers, and facilitate proper disposal and encourage reporting by the public.
- Public Participation – Each Copermittee shall incorporate a mechanism for public participation in the implementation of the Jurisdictional URMP.
- Assessment of Effectiveness – Each Copermittee shall develop a long-term strategy for assessing the effectiveness of its urban runoff management program.
- Fiscal Analysis – Each Copermittee conduct annual fiscal analyses to exhibit adequate fiscal resources necessary to meet the requirements of Order No. 2001-193.

Watershed Urban Runoff Management Program

As discussed above, each Copermittee has responsibility for the impacts of its urban runoff on its respective watershed(s). This is because urban runoff does not follow jurisdictional boundaries, and often travels through many jurisdictions while flowing to receiving waters. Therefore, the actions of various municipalities within a watershed regarding urban runoff can have a cumulative impact upon shared receiving waters. For this reason, Order No. 2001-193 requires the Copermittees to review and revise the proposed DAMP and implement it as develop and implement a Watershed URMP for the San Juan Creek Watershed Management Area within Orange County as specified in section J of this Order. The Watershed URMP will be developed later in the permit cycle than the Jurisdictional URMP and is intended to build upon and enhance the Jurisdictional URMPs. The purpose of the Watershed URMP is to identify and address the highest priority water quality issues/pollutants in each of the six hydrologic units of the San Juan Creek Watershed Management Area within Orange County. Under the Watershed URMP requirements, for each hydrologic unit of the watershed, the Copermittees shall:

- Map the watershed and identify all receiving waters, all impaired receiving waters, land uses, highways, jurisdictional boundaries, and inventoried commercial, industrial, construction, municipal sites, and residential areas.
- Assess the water quality of all receiving waters in the watershed based on existing data, and eventually perform watershed based water quality monitoring.
- Identify and prioritize major water quality problems in the watershed caused or contributed to by discharges from MS4s, including potential sources of the problems.
- Develop and implement a time schedule of activities needed to address the highest priority water quality problems.
- Identify which Copermittee is responsible for implementing each recommended watershed activity.
- Develop and implement a mechanism for public participation in watershed activities.
- Develop and implement a watershed based education program.

- Develop a strategy for assessing the effectiveness of the Watershed URMP.

All Copermittee CollaborationProgram Management

The Copermittees shall implement the collective program management structure and commitments described in the proposed DAMP that allows individual Copermittees to carry out permit requirements with other Copermittees, either as a whole (all of the Copermittees countywide) or within a watershed (Copermittees within a watershed). This requirement provides for more effective urban runoff management, in that it defines various Copermittee roles, aids in the sharing of costs to meet permit requirements, and provides performance standards to assess compliance.

Monitoring

Order No. 2001-193 requires a comprehensive monitoring program for urban runoff impacts to receiving waters. The monitoring program will help prioritize efforts so that limited resources will be most effective in improving receiving water quality. It will also aid in assessing the effectiveness of urban runoff management efforts. The Copermittees are to develop the monitoring program; however, the SDRWQCB has outlined several aspects to be included in the program. These aspects include:

- Development of a Receiving Waters Monitoring Program Document that includes both a Previous Monitoring and Future Recommendations (Technical) Report which summarizes all previous wet weather monitoring results and recommends future monitoring activities as well as a Receiving Waters Monitoring Program based upon that report and its recommendations.
- Development and implementation of a urban stream bioassessment monitoring program, which shall consist of station identification, sampling, monitoring, and analysis of bioassessment stations to determine the biological and physical integrity of urban streams within the County of San Diego.
- Review and revision of the monitoring program for existing mass loading stations for the purposes of evaluating long-term trends as described in the Orange County Water Quality Monitoring Program (99-04 Plan).
- Development and implementation of a monitoring program for discharges of urban runoff from coastal storm drain outfalls.
- Development and implementation of a monitoring program to assess the chemical, physical, and biological impact of urban runoff on ambient coastal receiving water quality.

Reporting

Under Order No. 2001-193, each Copermittee must submit a series of documents and reports. The following is a brief description of the primary reports required by Order No. 2001-193. When each Copermittee has developed its Jurisdictional Urban Runoff Management Programs and its part of the Watershed Urban Runoff Management Program (by dates specified in the permit), it must submit documents describing the programs. Each Copermittee must also annually submit its Jurisdictional URMP Annual

Reports and collaborate to submit the Watershed URMP Annual Reports once the programs have been implemented. An annual Receiving Waters Monitoring Program Report for the Copermittees must also be submitted. There are other documents and reports required for submittal; these documents and reports are detailed in section VII. of this fact sheet and in Order No. 2001-193.

CONCLUSION (PERMIT SUMMARY)

Order No. 2001-193 is an essential mechanism for maintaining and improving water quality in Orange County. Order No. 2001-193, which was drafted to be applied throughout the San Diego Region, represents the SDRWQCB definition of the minimum requirements to achieve compliance to the MEP and to protect the beneficial uses of receiving waters. Since the inception of the NPDES Storm Water Program, some progress has been made in the San Diego Region to control urban runoff pollution. The Orange County Copermittees have developed some strong programs under the First and Second Term Permits that this Order is intended to build upon and enhance. Also, there is This includes a better understanding by local managers of the regulations, the public education campaigns implemented by the Copermittees under previous permits, and improved Copermittee group communication. However, continued improvement in urban runoff quality is still necessary to achieve sound protection of beneficial uses of the region's receiving waters.

V. COMMON MUNICIPAL STORM WATER PERMIT ISSUES

Interested parties have frequently brought the following issues listed below to the attention of the SDRWQCB. During issuance of previous municipal storm water permits, most comments from interested parties have revolved around these issues. For this reason, the SDRWQCB has included its responses to the following issues in order to clarify its position regarding the issues.

1. Issue: Is the SDRWQCB required to meet California Environmental Quality Act (CEQA) requirements prior to adoption of the Draft Municipal Storm Water Permit for Orange County, the Incorporated Cities within Orange County, and the Orange County Flood Control District within the San Diego Region Tentative Order 2001-1933 (Tentative Order)?

> **Response:** No. The adoption and issuance of the Tentative Order itself, and the requirements contained in the Tentative Order, are exempt from CEQA under California Water Code section 13389. California Water Code section 13389 exempts the adoption of waste discharge requirements (such as NPDES permits) from CEQA requirements.

2. Issue: Do the requirements of the Tentative Order constitute an "unfunded mandate"?

> **Response:** No. The requirements of the Tentative Order are not within the definition of "unfunded mandate" that would require reimbursement of costs under

the California Constitution. This is because the requirements of the Tentative Order are derived from the federal Clean Water Act, as opposed to State Law. Since the Tentative Order would implement a federal requirement, rather than a state requirement, the Tentative Order is not an "unfunded mandate" by the state. The State Water Resources Control Board (SWRCB) has previously determined in several circumstances that regional board orders are exempt from the requirement for reimbursement under the California Constitution.

3. Issue: Does the SDRWQCB have the legal authority to require municipalities to regulate urban runoff flow to protect beneficial uses of receiving waters?

Response: Yes. Federal NPDES regulation 40 CFR 122.44(d)(1) requires municipal storm water permits to include any requirements necessary to "[a]cheive water quality standards established under section 303 of the CWA, including State narrative criteria for water quality." The term "water quality standards" in this context refers to a water body's **beneficial uses** and the water quality objectives necessary to protect those beneficial uses. The negative impact of urban runoff flow on the beneficial uses of receiving waters has been widely documented. Increases in flows from impervious surfaces associated with urbanization can result in (1) increases in the number of bankfull events and increased peak flow rates; (2) sedimentation and increased sediment transport; (3) frequent flooding; (4) stream bed scouring and habitat degradation; (5) shoreline erosion and stream bank widening; (6) decreased baseflow; (7) loss of fish populations and loss of sensitive aquatic species; (8) aesthetic degradation; and (9) changes in stream morphology.[29] Many of these effects have been identified in the Aliso Creek and San Juan Creek hydrologic units ins studies conducted by the Copermittees and the Army Corps of Engineers as summarized elsewhere in this document. US EPA finds that the level of imperviousness resulting from urbanization is strongly correlated with the water quality impairment of nearby receiving waters.[30] US EPA further attributes much of this water quality impairment to changes in flow conditions from urbanization, stating "[I]n many cases, the impacts on receiving streams due to high storm water flow rates or volumes can be more significant than those attributable to the contaminants found in storm water discharges."[31] Therefore, in order to protect the beneficial uses and water quality objectives of waters receiving urban runoff flows (as **required** by 40 CFR 122.44(d)(1)), the SDRWQCB has under certain circumstances placed limits on urban runoff flows in the Tentative Order.

In addition, the authority of states to regulate flow in order to protect water quality standards has been addressed by the U.S. Supreme Court in PUD No. 1 v.

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[29] U.S. Environmental Protection Agency. 1999. Preliminary Data Summary of Urban Storm Water Best Management Practices. EPA-821-R-99-012. p. 4-24.

[30] U.S. Environmental Protection Agency. 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. p. 68727.

[31] U.S. Environmental Protection Agency. 1999. Preliminary Data Summary of Urban Storm Water Best Management Practices. EPA-821-R-99-012. p. 4-23.

Washington Department of Ecology, 511 U.S. 700 (1994). In this case the U.S. Supreme Court found that the Clean Water Act applies to water quantity as well as water quality, stating "[p]etitioners also assert more generally that the Clean Water Act is only concerned with water 'quality' and does not allow the regulation of water 'quantity.' This is an artificial distinction. In many cases, water quantity is closely related to water quality." The U.S. Supreme court goes on to refer to the Clean Water Act's definition of pollution ("the man-made or man induced alteration of the chemical, physical, biological, and radiological integrity of water" 33 U.S.C. 1362(19)) and states "[t]his broad conception of pollution – one which expressly evinces Congress' concern with the physical and biological integrity of water – refutes petitioners' assertion that the Act draws a sharp distinction between the regulation of water 'quantity' and water 'quality'." In this context, the U.S. Supreme Court held that the state's regulation of flow was "a limitation necessary to enforce the designated use of the River as a fish habitat." Finally, it was held that the state's regulation of flow was "a proper application of the state and federal antidegradation regulations, as it ensures than an 'existing instream water use' will be 'maintained and protected.' 40 CFR 131.12(a)(1) (1992)."

4. Issue: Can the SDRWQCB include in the Tentative Order more specific requirements than those stated in the federal NPDES regulations?

Response: Yes. In both a general sense, as well as specifically relating to municipal storm water, the Clean Water Act explicitly preserves independent state authority to enact and implement its own standards and requirements, provided that such standards and requirements are at least as stringent as those that would be mandated by the Clean Water Act and the federal regulations. For example, as one general overriding principle, Clean Water Act section 510 states "nothing in this chapter shall (1) preclude or deny the right of any State or political subdivision thereof or interstate agency to adopt or enforce (A) any standard or limitation respecting discharges of pollutants, or (B) any requirement respecting control or abatement of pollution […]." When relating specifically to storm water, Clean Water Act section 402(p)(3)(B)(iii) clearly provides states with wide-ranging discretion, stating that municipal storm water permits "[s]hall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, **and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants**" (emphasis added).

Therefore, where the Tentative Order contains requirements more specific than those included in the federal NPDES regulations 40 CFR 122.26(d), it is seeking to meet the above Clean Water Act requirements, as well as other particular federal NPDES regulations such as 40 CFR 122.44(d)(1)(i). This federal NPDES regulation requires NPDES permits to include limitations to "control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for

water quality." Given the continued impact of urban runoff on receiving waters within the San Diego region, increased specificity in municipal storm water permits is necessary to meet the above CWA and federal regulation requirements.

In a 1992 decision, the U.S. Court of Appeals for the Ninth Circuit (NRDC v. US EPA, 966 F.2d 1292) interpreted the language in Clean Water Act section 402(p)(3)(B)(iii) as providing the State with substantial discretion and authority: "[t]he language in (iii), above, requires the Administrator or the State to design controls. Congress did not mandate a minimum standards approach or specify that U.S. EPA develop minimal performance requirements […] we must defer to U.S. EPA on matters such as this, where U.S. EPA has supplied a reasoned explanation of its choices." The decision in essence holds that the U.S. EPA and the States are authorized to require implementation of storm water control programs that, upon "reasoned explanation," accomplish the goals of CWA section 402(p). The Ninth Circuit Court of Appeals further reinforced the State's authority in this area more recently in 1999. In Defenders of Wildlife v. Browner (1999) Case No. 98-71080, the Court cited the language of CWA section 402(p)(3)(B)(iii) and stated "[t]hat provision gives the U.S. EPA discretion to determine what pollution controls are appropriate. As this court stated in NRDC v. U.S. EPA, 'Congress gave the administrator discretion to determine what controls are necessary […].'"

Furthermore, the increased specificity included in the Tentative Order is in line with US EPA guidance included in its *Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems*[32] and its *Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits*.[33] Where the Tentative Order is more specific than the federal regulations, it is frequently based on the recommendations of the Guidance Manual. The Interim Permitting Approach also supports increased specificity in storm water permits, recommending that municipal storm water permits use "best management practices (BMPs) in first-round storm water permits, and **expanded or better-tailored BMPs in subsequent permits**, where necessary, to provide for the attainment of water quality standards. In cases where adequate information exists to develop more specific conditions or limitations to meet water quality standards, these conditions or limitations are to be incorporated into storm water permits, as necessary and appropriate" (emphasis added). It is important to note that the SWRCB cited US EPA's Interim Permitting Approach as support for its recent tentative decision which upheld the increased specificity of numeric sizing criteria requirements for post-construction BMPs as appropriate requirements in municipal storm water permits.

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[32] U.S. Environmental Protection Agency. 1992. Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

[33] U.S. Environmental Protection Agency. 1996. Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits. 61 FR 43761.

Finally, Copermittees in the San Diego Region have frequently requested clarification from the SDRWQCB on what is necessary to achieve compliance with the current Municipal Storm Water Permits. The Tentative Order responds to this request by describing the minimum permit requirements in detail.

5. Issue: Does the Tentative Order dictate the design and manner of compliance in which the Copermittees are to comply with its requirements, in violation of California Water Code section 13360?

Response: No. CWA section 402(p)(3)(B)(iii) provides that municipal storm water permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." To meet this requirement of the CWA, the Tentative Order requires the implementation of BMPs, as required under Federal NPDES regulation 40 CFR 122.44(k). While the Tentative Order includes requirements for widespread BMP implementation, it does not require use of any particular BMPs. The Tentative Order actually encourages implementation of combinations of BMPs, and further does not preclude any particular BMPs or other means of compliance. A permit which allows for seemingly infinite means for achieving compliance does not 'specify the design or manner of compliance' in violation of California Water Code section 13360.

The specified programs included in the Tentative Order must be implemented by the Copermittees in order to carry out the CWA requirements. Any specified programs in the Tentative Order are made all the more necessary by the exclusion of numerical effluent limits from the permit. Reliance on BMPs as opposed to numerical effluent limits requires specification of those programs that are relied upon to reduce pollution.

Finally, the SWRCB's recent tentative decision on the appeal of the Los Angeles Regional Water Quality Control Board's (LARWQCB's) action on SUSMPs and numeric sizing criteria appears to support inclusion of detail in municipal storm water permits on the level which is found in the Tentative Order. The SWRCB tentatively found that the numeric sizing criteria requirement for post-construction BMPs did not violate California Water Code section 13360. Provided that the numeric sizing criteria requirement is most likely the most specific requirement in the Tentative Order, the SWRCB tentative decision in support of numeric sizing criteria indicates its general approval of the level of detail found in the Tentative Order.

6. Issue: Do discharges from municipal separate storm sewer systems (MS4s) need to meet the water quality standards (beneficial uses and water quality objectives) of the receiving waters to which they discharge?

Response: Yes. The issue of whether storm water discharges from MS4s must meet water quality standards has been intensely debated for the past five years. The argument arises because Clean Water Act section 402(p) fails to clearly state that municipal dischargers of storm water must meet water quality standards. On the issue of industrial discharges of storm water, the statute clearly indicates that industrial dischargers must meet both (1) the technology-based standard of "best available technology economically achievable (BAT)" and (2) applicable water quality standards. On the issue of municipal discharges however, the statute states that municipal dischargers must meet (1) the technology-based standard of "maximum extent practicable (MEP)" and (2) "such other provisions that the Administrator or the State determines appropriate for the control of such pollutants." The statute fails, however, to specifically state that municipal dischargers must meet water quality standards.

As a result, the municipal storm water dischargers have argued that they do not have to meet water quality standards; and that they only are required to meet the MEP standard. Environmental interest groups maintain that not only do MS4 discharges have to meet water quality standards, but that MS4 permits must also comply with numeric effluent limitations for the purpose of meeting water quality standards. On the issue of water quality standards, the US EPA, the SWRCB, and the SDRWQCB have consistently maintained that MS4s must indeed comply with water quality standards. On the issue of whether water quality standards must be met by numeric effluent limits, the US EPA, the SWRCB (in Orders WQ 91-03 and WQ 91-04), and the SDRWQCB have maintained that MS4 permits can, at this time, contain narrative requirements for the implementation of BMPs in place of numeric effluent limits.

SWRCB rationale: In addition to relying on US EPA's legal opinion concluding that MS4s must meet MEP and water quality standards, the SWRCB also relied on the Clean Water Act's explicit authority for States to require "such other provisions that the Administrator or the State determines appropriate for the control of such pollutants" in addition to the technology-based standard of MEP. To further support its conclusions that MS4 permit dischargers must meet water quality standards, the SWRCB relied on provisions of the California Water Code that specify that all waste discharge requirements must implement applicable Basin Plans and take into consideration the appropriate water quality objectives for the protection of beneficial uses.

The SWRCB first formally concluded that permits for MS4s must contain effluent limitations based on water quality standards in its Order WQ 91-03. In that Order, the SWRCB also concluded that it was appropriate for Regional Boards to achieve this result by requiring best management practices, rather than by inserting numeric effluent limitations into MS4 permits. In Order WQ 98-01, the SWRCB prescribed specific precedent setting Receiving Water Limitations language to be included in all future MS4 permits. This language specifically requires that MS4 dischargers meet water quality standards and allows for the use of narrative BMPs (increasing in stringency and implemented in an iterative process) as the mechanism by which water quality standards can be met.

In Order WQ 99-05, the SWRCB modified its receiving water limitations language found in Order WQ 98-01 to meet specific objections by the US EPA (the modifications resulted in stricter compliance with water quality standards). SWRCB Order WQ 99-05 states "In Order WQ 98-01, the State Water Resources Control Board (State Water Board) ordered that certain receiving water limitation language be included in future municipal storm water permits. Following inclusion of that language in permits issued by the San Francisco Bay and San Diego Regional Water Quality Control Boards (Regional Water Boards) for Vallejo and Riverside respectively, the United States Environmental Protection Agency (EPA) objected to the permits. The EPA objection was based on the receiving water limitation language. The EPA has now issued those permits itself and has included receiving water limitation language it deems appropriate.

"In light of EPA's objection to the receiving water limitation language in Order WQ 98-01 and its adoption of alternative language, the State Water Board is revising its instructions regarding receiving water limitation language for municipal storm water permits. It is hereby ordered that Order WQ 98-01 will be amended to remove the receiving water limitation language contained therein and to substitute the EPA language. Based on the reasons stated here, and as a precedent decision, the following receiving water limitation language [which is found in Receiving Water Limitations item C. of Order No. 2001-193] shall be included in future municipal storm water permits."

In a late 1999 case involving MS4 permits issued by US EPA to several Arizona cities (Defenders of Wildlife v. Browner, 1999, 197 F. 3d 1035), the United States Court of Appeals for the Ninth Circuit upheld US EPA's requirement for MS4 dischargers to meet water quality standards, but it did so on the basis of US EPA's discretion rather than on the basis of strict compliance with the Clean Water Act. In other words, while holding that the Clean Water Act does not require all MS4 discharges to comply strictly with state water quality standards, the Court also held that US EPA has the authority to determine that ensuring strict compliance with state water quality standards is necessary to control pollutants. On the question of whether MS4 permits must contain numeric effluent limitations, the court upheld US EPA's use of iterative BMPs in place of numeric effluent limits.

SWRCB's final position: On October 14, 1999, the SWRCB issued a legal opinion on the federal appellate decision and provided advice to the Regional Boards on how to proceed in the future. In the memorandum, the SWRCB concludes that the recent Ninth Circuit opinion upholds the discretion of US EPA and the State to (continue to) issue permits to MS4s that require compliance with water quality standards through iterative BMPs. Moreover, the memorandum states that "[…] because most MS4 discharges enter impaired water bodies, there is a real need for permits to include stringent requirements to protect those water bodies. As total maximum daily loads (TMDLs) are developed, it is likely that MS4s will have to participate in pollutant load reductions, and the MS4 permits are the most effective vehicles for those reductions." In summary, the SWRCB concludes that

the Regional Boards should continue to include the Receiving Water Limitations language established in SWRCB Order WQ 99-05 in all future permits.

Accordingly, the SDRWQCB has required in the Tentative Order that discharges from MS4s meet receiving water quality objectives.

7. Issue: What is the definition of "maximum extent practicable (MEP)" and who defines it?

Response: Under Section 402(p) of the Clean Water Act, municipalities are required to reduce the discharge of pollutants from their storm water conveyance systems to the maximum extent practicable (MEP). MEP is the critical technology-based performance standard which municipalities must attain in order to comply with their municipal storm water permits. The MEP standard establishes the level of pollutant reductions the municipality must achieve. MEP generally emphasizes pollution prevention and source control BMPs (as the first line of defense) **in combination** with treatment methods serving as a backup (additional line of defense).

To achieve the MEP standard, municipalities must employ whatever BMPs are technically feasible (i.e., are likely to be effective) and are not cost prohibitive. The major emphasis is on technical feasibility. Reducing pollutants to the MEP means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, or the BMPs would not be technically feasible, or the cost would be prohibitive. In selecting BMPs to achieve the MEP standard, the following factors may be useful to consider:

a. Effectiveness: Will the BMPs address a pollutant (or pollutant source) of concern?
b. Regulatory Compliance: Is the BMP in compliance with storm water regulations as well as other environmental regulations?
c. Public Acceptance: Does the BMP have public support?
d. Cost: Will the cost of implementing the BMP have a reasonable relationship to the pollution control benefits to be achieved?
e. Technical Feasibility: Is the BMP technically feasible considering soils, geography, water resources, etc?

If a municipality reviews a lengthy menu of BMPs and chooses to select only a few of the least expensive BMPs, it is likely that MEP has not been met. On the other hand, if a municipal discharger employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost is prohibitive, it would have met the standard. Where a choice may be made between two BMPs which should provide generally comparable effectiveness, the discharger may choose the least expensive alternative and exclude the more expensive BMP. However, it would not be acceptable either to reject all BMPs which would address a pollutant source, or to pick a BMP base solely on cost, which would be clearly less effective. In selecting BMPs the municipality must make a serious attempt to comply and practical solutions may not be lightly

rejected. In any case, the burden would be on the municipal discharger to show compliance with its permit. After selecting a menu of BMPs, it is the responsibility of the discharger to ensure that all BMPs are implemented.[34]

A definition of MEP is not provided in either the federal statute or in the federal regulations. The final determination regarding whether a municipality has reduced pollutants to the maximum extent practicable can only be made by the Regional or State Water Boards, and not by the municipal discharger. While Regional or State Boards ultimately define MEP, it is the responsibility of the Copermittees to initially propose actions that implement BMPs to reduce pollution to the MEP. In other words, the Copermittees' Jurisdictional and Watershed Urban Runoff Management Programs (URMPs) to be developed under the Tentative Order are the Copermittees' proposals of MEP. Their total collective and individual activities conducted pursuant to their URMPs become their proposal for MEP as it applies both to their overall effort, as well as to specific activities.

It is the SDRWQCB's responsibility to evaluate the proposed programs and specific BMPs to determine what constitutes MEP, using the above guidance and the court's decision in NRDC v. California Department of Transportation, Federal District Court, Central District of California (1994). The court stated that a permittee must evaluate and implement BMPs except where (1) other effective BMPs will achieve greater or substantially similar pollution control benefits; (2) the BMP is not technically feasible; or (3) the cost of BMP implementation greatly outweighs the pollution control benefits. In the absence of a proposal acceptable to the SDRWQCB, the SDRWQCB will define MEP by requiring implementation of additional measures by the Copermittees.

8. Issue: Can the SDRWQCB compel municipalities to use the local authority to control activities of third parties subject to their governmental jurisdiction that could affect the quality of the waters of the state?

Response: Yes. Copermittees cannot passively receive and discharge pollutants from third parties. As US EPA states, "The operator of a small MS4 that does not prohibit and/or control discharges into its system essentially accepts 'title' for those discharges. At a minimum, by providing free and open access to the MS4s that convey discharges to the waters of the United States, the municipal storm sewer system enables water quality impairment by third parties."[35]

Discharges of pollutants to the MS4 must therefore be controlled, and an important means for a municipality to achieve this is through the development and

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[34] Source: February 11, 1993 memo entitled "Definition of Maximum Extent Practicable" by Elizabeth Jennings, Senior Staff Counsel, SWRCB

[35] U.S. Environmental Protection Agency. 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. p. 68765.

enforcement of municipal legal authority. USEPA states "A crucial requirement of the NPDES storm water regulation is that a municipality must demonstrate that it has adequate legal authority to control the contribution of pollutants in storm water discharged to its MS4. […] In order to have an effective municipal storm water management program, a municipality must have adequate legal authority to control the contribution of pollutants to the MS4. […] 'Control,' in this context, means not only to require disclosure of information, but also to limit, discourage, or terminate a storm water discharge to the MS4." [36]

Since discharges which enter the MS4 are generally discharged unimpeded directly into receiving waters, the Copermittee's legal authority is to apply to both discharges into and from MS4s. Federal NPDES regulations clearly provide the SDRWQCB with the legal authority to require municipalities to control discharges from third parties into their MS4. 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in urban runoff **from** commercial, residential, industrial, and construction land uses or activities. Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(A - D) require municipalities to have legal authority to control various discharges **to** their MS4. This concept is further supported in the Preamble to the Phase II Final Rule NPDES storm water regulations, which states "The operators of regulated small MS4s cannot passively receive and discharge pollutants **from** third parties"[37] (emphasis added). Due to the greater water quality concerns generally experienced by larger municipalities, Phase II Final Rule findings for small municipalities are also applicable to larger municipalities such as the Copermittees. Finally, underlying the Federal NPDES storm water regulations is the Clean Water Act, which states in section 402(p)(3)(B)(ii) that municipalities shall "effectively prohibit non-stormwater discharges **into** the storm sewers" (emphasis added).

The requirement for municipal storm water dischargers to have, and exercise, local governmental authority in order to comply with water quality control obligations is analogous to the requirement for Publicly Owned Treatment Works to have and exercise legal authority to require pretreatment of industrial wastes being discharged to their sewage collections systems (CWA 402(b)(8)).

9. Issue: Does the Tentative Order improperly shift responsibility for control of construction and industrial sources of pollution to the Copermittees?

Response: No. The Copermittees are not responsible for enforcing or overseeing the General Statewide Industrial or Construction Permits. The SDRWQCB will oversee and enforce the General Statewide Industrial and Construction Permits. The Copermittees are however, responsible for enforcing

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[36] U.S. Environmental Protection Agency. 1992. Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

[37] U.S. Environmental Protection Agency. 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. p. 68765.

their ordinances that implement the Tentative Order, including the prohibitions against illicit discharges. In some cases, the Copermittees may be required to implement or require the implementation of BMPs at construction or industrial sites that exceed the minimum requirements of the General Statewide Industrial or Construction Permits in order to achieve compliance with the requirements of the Tentative Order. USEPA supports this approach, clearly placing responsibility for the control of discharges from construction and industrial sites with municipalities.

US EPA felt it so important to control the discharge of pollutants from construction and industry that it established a double system of regulation over construction and industrial sites. Two parallel regulatory systems were established with the same common objective of keeping pollutants from construction and industrial sites out of the municipal separate storm sewer system (MS4). A structure was created where local governments must enforce their local ordinances and permits as required under their municipal storm water permits, while the SDRWQCB (state) must enforce its statewide general construction and industrial storm water permits. The two regulatory systems were designed to complement and support each other in the shared goal of minimizing pollutant discharges in runoff from construction and industrial sites. To this extent, this Order actually enables the SDRWQCB to alleviate some of the annual burden for inspecting high priority industrial sites by permitting a SDRWQCB inspection of a facility to satisfy the Copermittee requirement to inspect the same facility (section F.3.b.6.d). The SDRWQCB has recently added two full time positions to the Industrial Compliance Unit that conducts these inspections.

Local governments have the primary regulatory authority over the majority of construction and industrial sites since they issue the development and land use permits for the sites. In other words, the Copermittees are responsible for the water quality consequences of their planning, construction, and land use decisions that result in discharges into their MS4s.

US EPA supports this approach, clearly placing responsibility for the control of discharges from construction and industrial sites with municipalities. US EPA notes in the preamble to the storm water regulations that municipalities are in the best place to enforce industrial compliance with storm water discharge requirements, stating "[b]ecause storm water from industrial facilities may be a major contributor of pollutants to MS4s, municipalities are obligated to develop controls for storm water discharges associated with industrial activity through their system in their storm water management program […]"[38] and "[t]hese permits are expected to require that controls be placed on storm water

[38] U.S. Environmental Protection Agency. 1990. 40 CFR Parts 122, 123, and 124 National Pollutant discharge Elimination System Permit Application Regulations for Storm Water Discharges; Final Rule. p. 48000.

discharges associated with industrial activity which discharge through the municipal system."[39]

Regarding construction sites, US EPA also places enforcement responsibility on municipalities, requiring small municipalities to develop and implement "[a]n ordinance or other regulatory mechanism to require erosion and sediment controls, as well as **sanctions** to ensure compliance […]" (40 CFR 122.34(b)(4)(ii)(A)) (emphasis added). In its guidance for the Phase II regulations, US EPA goes on to support increased municipality responsibility, stating "Even though all construction sites that disturb more than one acre are covered nationally by an NPDES storm water permit, the construction site runoff control minimum measure for the small MS4 program is needed to induce more localized site regulation and enforcement efforts, and to enable operators of regulated small MS4s to more effectively control construction site discharges into their MS4s."[40] While these above citations refer to small municipalities under Phase II of the NPDES program, US EPA recommendations to small municipalities are applicable to larger municipalities such as the Copermittees, due to the typically more serious water quality concerns attributed to such larger municipalities.

10. Issue: Must the Tentative Order require that municipal storm water discharges meet numeric effluent limits?

Response: No. Although NPDES permits must contain conditions to ensure that water quality standards are met, this does not require the use of numeric effluent limitations. Under the Clean Water Act and federal NPDES regulations, permitting authorities may employ a variety of conditions and limitations in storm water permits, including best management practices, performance objectives, narrative conditions, monitoring triggers, actions levels (e.g., monitoring benchmarks, toxicity reduction evaluation action levels), etc., as the necessary effluent limitations, where numeric effluent limitations are determined to be unnecessary or infeasible.

Neither the Clean Water Act nor the federal NPDES regulations require numeric effluent limitations for municipal storm water discharges. Section 301 of the Clean Water Act requires that discharger permits include effluent limitations necessary to meet water quality standards. Section 502 defines "effluent limitations" to mean any restriction on quantities, rates, and concentrations of constituents discharged from point sources. The Clean Water Act does not say that effluent limitations need be numeric. As a result, US EPA and States have flexibility in terms of how to express effluent limitations.

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[39] U.S. Environmental Protection Agency. 1990. 40 CFR Parts 122, 123, and 124 National Pollutant discharge Elimination System Permit Application Regulations for Storm Water Discharges; Final Rule. p. 48006.

[40] U.S. Environmental Protection Agency. 2000. Storm Water Phase II Compliance Assistance Guide. EPA 833-R-00-002.

US EPA has, through the federal NPDES regulations, interpreted the Clean Water Act statute to allow for non-numeric effluent limitations (e.g., best management practices) to replace numeric effluent limitations where numeric effluent limitations are infeasible (40 CFR 122.44(k)). US EPA has found numeric effluent limitations infeasible because storm water discharges are highly variable both in terms of flow and pollutant concentrations, and the relationships between discharges and water quality can be complex. The current use of system-wide permits and a variety of jurisdiction-wide BMPs, including educational and programmatic BMPs, does not easily lend itself to the existing methodologies for deriving numeric effluent limitations.

It should be noted that while the Tentative Order does not specify numeric effluent limitations for municipal urban runoff discharges, it does not preclude numeric effluent limitations from applying to municipal urban runoff discharges into impaired water bodies. Where impaired water bodies are not meeting their water quality standards, numeric effluent limitations may be placed on municipal urban runoff discharges through the implementation of total maximum daily loads (TMDLs) or other means. Furthermore, methods utilized to calculate waste load allocations for TMDLs may eventually be used to develop numeric effluent limitations for urban runoff in municipal storm water permits.[41]

11. Issue: Does the Tentative Order provide adequate time for the Copermittees to develop and implement programs to meet its requirements?

Response: Yes. The Tentative Order provides the Copermittees with at least one year to develop and implement their Jurisdictional Urban Runoff Management Programs. With regards to the component of the Jurisdictional Urban Runoff Management Programs which addresses planning and new development, the Copermittees are given a full year for development and implementation. In addition, the Copermittees are allowed at least 18 months to develop and implement their individual Standard Urban Storm Water Mitigation Plans (SUSMPs) for new development. Given that the federal NPDES storm water regulations, as well as the Copermittees' current storm water permit requirements, have been in place for approximately 10 years under the First and Second Term Permits, the Copermittees should require little time to develop and implement Jurisdictional Urban Runoff Management Programs which meet the requirements of the Tentative Order. The time periods provided by the Tentative Order should be more than adequate.

12. Issue: Does have the SDRWQCB have the authority to require SUSMPs and numeric sizing criteria in Tentative Order No. 2001-193

Response: Yes. Pursuant to the Clean Water Act and Federal NPDES regulations, municipal storm water permits must require controls to reduce the discharge of pollutants to the maximum extent practicable including controls

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[41] Source: U.S. Environmental Protection Agency. 1996. Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits. 61 FR 43761.

which address pollutant discharges resulting from new development and significant redevelopment. Both the Los Angeles Regional Water Quality Control Board (Order No. 96-54) and the San Diego Regional Water Quality Control Board (2001-01) have adopted SUSMP requirements in their Municipal Storm Water Permits. The SWRCB Order No. 2000-11(from appeal of LARWQCB permit) finds that SUSMP requirements (including numeric sizing criteria) reflect a reasonable interpretation of development controls that achieve reduction of pollutants in storm water discharges to the maximum extent practicable. The numeric sizing criteria is included to ensure that structural treatment BMPs are sized effectively to remove pollutants of concern to the maximum extent practicable. The Tentative Order allows Copermittees discretion in what BMPs will be implemented at a project and provides sizing options based on either runoff volume or flow.

13. Issue: Should the Tentative Order allow for urban runoff from new development and significant redevelopment to be addressed by regional BMPs (i.e., end of pipe or diversion BMPs) in lieu of site-specific BMPs?

Response: No, with the exceptions discussed below. Implementation of BMPs on a site by site basis provides many benefits. By its very definition, new development presents opportunities for on-site BMPs to be designed into the development as an integral component, at low cost, and with a greater likelihood for protecting water quality downstream over the life of the development. Treatment costs for municipal storm water generally increase with distance from the source. Regional “end of pipe” treatment also results in the loss of cost reducing opportunities for water quality improvements en route. Rather than increasing costs, small collection strategies, located at the point where runoff initially meets the ground, repeated consistently over entire projects, will usually yield the greatest water quality improvements for the least cost (BASMAA, 1999).

Furthermore, regional BMP approaches (such as end of pipe diversions) can send the wrong message to dischargers and the public, which can then cause setbacks in progress that has already been made. Instead of the idea that “business as usual” is acceptable since regional BMPs will “take care of everything” downstream, the message that SUSMPs and numeric sizing criteria should send is that behavior and site design must change in order for water quality to improve.

The SDRWQCB is skeptical that large-scale regional BMPs would be cost effective. Treatment costs for municipal storm water generally increase with distance from the source. Regional “end of pipe” treatment also results in the loss of cost reducing opportunities for water quality improvements en route. Rather than increasing costs, small collection strategies, located at the point where runoff initially meets the ground, repeated consistently over entire projects, will usually yield the greatest water quality improvements for the least cost.[42] Furthermore,

[42] Bay Area Stormwater Management Agencies Association. 1999. Start at the Source. Forbes Custom Publishing.

where regional approaches have been relatively successful, such as Fresno, generally few municipalities have been involved. In urbanized watersheds with many different jurisdictions, such as those in Los Angeles, Orange and San Diego Counties, there will be significantly greater organizational and jurisdictional difficulties, and hence drastically higher costs. For example, the failure in the San Diego Region of a regional BMP approach, the Carmel Valley Restoration Project, occurred due to a breakdown in coordination among agencies and resulted in a $527,000 Administrative Civil Liability fine against the City of San Diego. While the SDRWQCB supports watershed based intergovernmental coordination, in practice, this coordination is not yet in place and may take many years to develop. Furthermore, the difficulties of coordination on a watershed level are only compounded when expanded to a regional level.

Furthermore, a regional BMP approach (i.e. end of pipe treatment) will probably lead to a progressive erosion of storm water quality gains achieved through aforementioned education programs. Since most municipalities in Southern California have historically used natural drainage features as storm water conveyances, there could be an additional loss of beneficial uses, including aesthetic benefits, in those waterways upstream of the proposed regional mitigation facilities. The inadequate implementation of on-site BMPs, which may consequently result from focusing on regional end of pipe BMP approaches, may be more damaging than maintaining the status quo. The overall result of a regional BMP approach could be additional water quality degradation to already impacted receiving waters, while new development and significant redevelopment with inadequate BMP controls continues apace.

Additionally, popular short-term regional solutions, such as end of pipe diversions into sanitary sewers, are effective only for dry weather flows. The sanitary sewerage collection systems found in the San Diego Region were not designed to handle the increased loads from dry weather flows, let alone flows from even minor storm runoff events. Likewise, the existing coastal Publicly Owned Treatment Works (POTWs) are not sized to treat wet weather flows, have almost no capacity for expansion, and will not be able to treat storm water flows.

Finally, it is important to note that in 2000, Governor Davis opposed increasing funding for regional diversion BMPs. In his veto message of a $6.9 million bill that would have funneled money to Orange County to help curb urban runoff and clean beaches, Davis said the legislation "focuses on a temporary, seasonal fix and does not provide for identification and elimination of the sources of contamination."

Consequently, nearly all of the programs required and implemented under the Phase I Municipal Storm Water NPDES permits have been focused on source reduction through modification of behaviors/practices, in combination with the use of on-site structural BMPs, rather than on regional end of pipe treatment or diversion. In fact, on-site BMP implementation (such as a combination of pollution prevention, source control, and treatment BMPs) is a fundamental requirement of Tentative Order No. 2001-193. Shifting BMP implementation from an on-site focus to a regional focus violates this fundamental requirement.

However, while onsite BMPs provide many benefits, there may be cases where offsite structural BMPs, implemented on a "neighborhood" or "sub-watershed" basis, may be more feasible. This is particularly the case for existing development, where opportunities for innovative site design do not exist. To allow more flexibility in BMP implementation, the Tentative Order SUSMP requirements regarding structural treatment BMPs have been drafted to allow BMPs to be shared by multiple new development projects on a "neighborhood" or "sub-watershed" level. The SWRCB supports this approach in Order WQ 2000-11, which states "We do note that there could be further cost savings for developers if the permittees develop a regional solution to the problem." It should be noted, however, that shared BMPs will be required to be implemented upstream from any receiving water supporting beneficial uses. The receiving waters (such as urban streams) of the region cannot be used to transport potentially contaminated urban runoff to "regional" treatment facilities.

14. Issue: Will the SDRWQCB approve the Copermittees' Urban Runoff Management Programs (URMPs) and other submittals?

Response: No. The SDRWQCB does not approve dischargers' submittals.[43] It is the responsibility of the Copermittees to develop and implement adequate URMPs and other measures required by Tentative Order No. 2001-193 in a timely manner. In other words, a Copermittee cannot postpone implementation of its URMP because the URMP has not been approved by the SDRWQCB. The SDRWQCB will review the URMPs and other documents and provide comments where inadequacies are observed. Provision of comments by the SDRWQCB or lack thereof does not constitute approval on the part of the SDRWQCB. The SDRWQCB will provide as much guidance as possible regarding the requirements of Tentative Order No. 2001-193, but ultimately the responsibility for development and implementation lies with the Copermittees.

15. Issue: Will the Tentative Order's various requirements for implementation of structural BMPs and infiltration adversely impact wetlands by reducing flows reaching the wetlands?

Response: No. The Tentative Order will not adversely impact wetlands through a reduction in their receipt of flows. There are two conditions to consider regarding flows to wetlands: wet weather flows and dry weather flows.

The Tentative Order has been drafted to include only one requirement (F.1.b.2.b.i.) regarding wet weather flows. It is important to note this requirement

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[43]This response refers to the SDRWQCB's policy against staff approval of dischargers' programs or documents. At times, the SDRWQCB will approve dischargers' programs or documents at a public hearing during the public process. An example of this is the Tentative Order No. 2001-193 requirement for the Copermittees to develop a model Standard Urban Storm Water Mitigation Plan (SUSMP). The model SUSMP is to be approved by the SDRWQCB during a public hearing. However, in general, the documents and programs required by Tentative Order No. 2001-193 will not be approved by SDRWQCB, and never by SDRWQCB staff.

only applies to new development and significant redevelopment, and therefore does not effect the majority of the area of most watersheds. The requirement states: “BMPs shall […] Control the post-development peak storm water runoff discharge rates and velocities as necessary to maintain or reduce pre-development downstream erosion, and to protect stream habitat." As can be seen, the requirement attempts to maintain peak flow rates at predevelopment levels. Nowhere does the requirement make it necessary for peak flow rates to be reduced below predevelopment rates. By seeking to maintain predevelopment peak flow rates, the Tentative Order helps preserve the natural wet-weather runoff conditions, thereby protecting wetlands, as opposed to adversely impacting them.

The Tentative Order’s SUSMP requirements include the option of infiltration of storm water. This in an option, and need not be used if concerns exist regarding unforeseen impacts. The Tentative Order also promotes infiltration of storm water runoff during wet weather. Again, these requirements seek to maintain the natural infiltration rates and thereby maintain the natural flow regime, which can only benefit wetlands. Development, with its associated impervious surfaces, greatly reduces infiltration at newly developed sites. Maximization of infiltration at such development sites will only swing infiltration rates back closer to their natural predevelopment levels. It is doubtful that natural predevelopment infiltration levels can even be achieved at developed sites, as many engineers attested to at the Tentative Order workshops. Therefore, it is highly unlikely that requirements promoting the use of infiltration will result in decreased flows to wetlands, thereby causing any adverse impacts. On the contrary, promotion of infiltration maintains natural groundwater recharge and overland runoff rates, both of which are necessary for most healthy wetlands. Any argument focusing only on quantity of overland flows misses the important impact groundwater recharge typically has on wetlands.

The other flow condition the Tentative Order addresses is dry weather flows. It has been stated that the Tentative Order’s prohibitions on illicit discharges (section B) will impact the artificial dry weather flows upon which some wetlands are reliant. This is incorrect. The requirements for the prohibition of non-storm water discharges in section B of the Tentative Order are almost identical to requirements regarding non-storm water discharges in the current Orange County Municipal Storm Water Permit (Order No. 96-03). Clearly, these prohibitions have not led to the halt of dry weather urban runoff within Orange County over the last ten years. It has been further stated that Legal Authority section D.1.b of the Tentative Order will also result in decreased dry weather flows to wetlands. Again, this is not the case. This section requires the Copermittees to have legal authority to prohibit the discharges described in the section. It does not require the discharges to be prohibited in all instances, but rather requires the Copermittees to have the legal authority to prohibit such discharges in the event that prohibition is determined to be necessary. Irregardless, it is doubtful that any of the discharges discussed in section D.1.b would be beneficial to wetlands.

It has also been suggested that the provisions of the Tentative Order will require the diversion of dry weather flows to the sanitary sewer, thereby depriving

wetlands of valuable artificial flows. Nowhere does the Tentative Order require diversion of any types of flow to the sanitary sewer. The Tentative Order actually does the opposite by promoting onsite controls and discouraging diversion. The draft Fact Sheet/Technical Report also discusses a preference for on site controls as opposed to diversion-type regional solutions. Furthermore, the Tentative Order's requirement that dry weather flows be diverted from structural infiltration BMPs (section F.1.b.2.i.iii) does not constitute a diversion to the sanitary sewer. Dry weather flows can simply be diverted to other BMPs such as filters, which would remove pollutants in the dry weather flows prior to their discharge to wetlands or other downstream areas.

16. Issue: Does the federal Clean Water Act and State Water Code give the RWQCB the broad legal authority which staff claims, and on which the validity of the Order depends?

Response: Yes. The California Water Code 13263 & 13377 give RWQCB authority to regulate discharges to preserve highest reasonable water quality and water quality needed to sustain beneficial uses, including aquatic habitat, etc. NPDES regulations mandate reduction of pollutants in storm water that cause or contribute to pollution to MEP by municipalities; evidence establishes risk of unreasonable degradation and pollution associated with urban runoff and support's RWQCB imposition of requirements implementing "MEP" performance standards.

While CWA does not require municipalities to satisfy receiving water standards; [Defenders of Wildlife v Browner (9th c, 1999), 191F3d 1159] WQ sections 13263 & 13377 requires WDRs functioning as NPDES permits to implement water quality objectives (i.e., water quality standards) in basin plans and provisions of the CWA and NPDES regulations needed to protect beneficial uses, and to prevent nuisance.

17. Issue: Since the region's storm water problems stem from existing land use actions, will new development and redevelopment would carry a disproportionate share of the financial obligation to implement the provisions of the permit?

Response: No. The Tentative Order does not require new development and redevelopment to carry a disproportionate share of the financial burden to implement the provisions of the permit. The requirements on new development and redevelopment are required under the Federal NPDES regulations, and are designed to prevent new development and redevelopment from exacerbating existing conditions. The SWRCB supports this approach, stating in Order WQ 2000-11 that "[i]n the context of the entire effort required by the permit, the development controls can be seen as preventing the existing situation from becoming worse." The requirements for new development and redevelopment are only one section of the Tentative Order; the entire rest of the Tentative Order is focused on existing problems stemming from existing development conditions. The controls on new development do not result in a disproportionate financial obligation, since incorporation of BMPs during the planning phase of

development has been consistently shown to be the most cost effective approach to reduce pollutant loads to receiving waters (USEPA, 1999).

18. Issue: Does the Tentative Order expand legal authority over local government in a manner not prescribed?

Response: No. The Tentative Order does not expand on the legal authority provided the SDRWQCB by the Clean Water Act and Porter-Cologne. The increased detail in the Tentative Order is supported by the Clean Water Act, Porter-Cologne, and more recent guidance from USEPA and the SWRCB. Where the Tentative Order has increased detail, the detailed requirements are included as necessary to achieve water quality standards.

The Clean Water Act supports increased detail in permits, where necessary, in section 402(p)(3)(B)(iii), which requires that permits for discharges from municipal storm sewers "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." Porter-Cologne also supports this approach in section 13377, which requires "Notwithstanding any other provision of this division, the state board or the regional boards shall, as required or authorized by the Federal Water Pollution Control Act (Clean Water Act), as amended, issue waste discharge requirements and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary, thereto, together with anymore stringent effluent standards or limitation necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance."

More recent USEPA guidance also supports more detail in storm water permits where needed to meet water quality standards. In its "Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits" USEPA states "The interim permitting approach uses best management practices (BMPs) in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards." The SWRCB cited this guidance in Order WQ 2000-11, which upheld SUSMP requirements as a correct interpretation of the MEP standard.

19. Issue: Is the specificity of the Tentative Order in direct conflict with an iterative process described in the Tentative Order?

Response: No. The term "iterative process" only appears in the Tentative Order once, at Finding 14, where it applies to section C of the Tentative Order. The term specifically refers to the process to be undertaken in the situation where

discharges from an MS4 persist in causing or contributing to an exceedance of water quality objectives, despite the Copermittee's full implementation of its urban runoff management program (see section C of the Tentative Order). The term does not mean that compliance with the whole urban runoff management program and Tentative Order should be an "iterative process." Instead, the term means that efforts required to meet water quality standards, which go above and beyond those required in the urban runoff management program and other sections of the Tentative Order, may be implemented in an "iterative process."

VI. FINDINGS DISCUSSION

1. Finding states the following:

COPERMITTEES ARE DISCHARGERS OF URBAN RUNOFF: *Each of the persons in Table 1 below, hereinafter called Copermittees or dischargers, owns or operates a municipal separate storm sewer system (MS4), through which it discharges urban runoff into waters of the United States within the San Diego Region. The Copermittees serve a population of approximately 500,000 people within the San Diego Region. The MS4s operated by the Copermittees fall into one or more of the following categories: (1) a medium or large MS4 that services a population of greater than 100,000 or 250,000 respectively; or (2) a small MS4 that is "interrelated" to a medium or large MS4; or (3) an MS4 which contributes to a violation of a water quality standard; or (4) an MS4 which is a significant contributor of pollutants to waters of the United States.*

Table 1. Municipal Copermittees

1.	*City of Aliso Viejo*	*8.*	*City of Mission Viejo*
2.	*City of Dana Point*	*9.*	*City of Rancho Santa Margarita*
3.	*City of Laguna Beach*	*10.*	*City of San Clemente*
4.	*City of Lake Forest*	*11.*	*City of San Juan Capistrano*
5.	*City of Laguna Hills*	*12.*	*County of Orange*
6.	*City of Laguna Niquel*	*13.*	*Orange County Flood Control District*
7.	*City of Laguna Woods*		

Discussion: Section 402 of the Clean Water Act prohibits the discharge of any pollutant to waters of the United States from a point source, unless that discharge is authorized by a NPDES permit. Though urban runoff comes from a diffuse source, it is discharged through MS4s, which are point sources under the Clean Water Act. Federal NPDES regulation 40 CFR 122.26(a) (iii) and (iv) provide that discharges from MS4s, which service medium or large populations greater than 100,000 or 250,000 respectively, shall be required to obtain a NPDES permit. Federal NPDES regulation 40 CFR 122.26(a)(v) also provides that a NPDES permit is required for "A [storm water] discharge which the Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator, determines to contribute to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States." Such sources are then designated into the program. See Attachment 1, NPDES Municipal Storm Water Permit Justifications, for an explanation on NPDES municipal storm water permit coverage for each municipality.

2. Finding states the following:

URBAN RUNOFF IS A "WASTE" AND A "POINT SOURCE DISCHARGE OF POLLUTANTS": *Urban runoff is a waste, as defined in the California Water Code, that contains pollutants and adversely affects the quality of the waters of the State. The discharge of urban runoff from an MS4 is a "discharge of pollutants from a point source" into waters of the United States as defined in the Clean Water Act.*

Discussion: The legal definition of "waste" can be found in California Water Code (CWC) section 13050(d), which states "'Waste' includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal." 40 CFR 122.2 defines "point source" as "any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff." 40 CFR 122.2 defines "discharge of a pollutant" as "Any addition of any 'pollutant' or combination of pollutants to 'waters of the United States' from any point source." Also, the justification for control of pollution into Californian waters can be found at CWC Section 13260(a)(1).

3. Finding states the following:

URBAN DEVELOPMENT AND RUNOFF CAUSES RECEIVING WATER DEGRADATION: *Urban runoff discharges from MS4s are a leading cause of receiving water quality impairment in the San Diego Region and throughout the United States. As runoff flows over urban areas, it picks up harmful pollutants such as pathogens, sediment (resulting from human activities), fertilizers, pesticides, heavy metals, and petroleum products. These pollutants often become dissolved or suspended in urban runoff and are conveyed and discharged to receiving waters, such as streams, lakes, lagoons, bays, and the ocean without treatment. Once in receiving waters, these pollutants harm aquatic life primarily through toxicity and habitat degradation. Furthermore, the pollutants can enter the food chain and may eventually enter the tissues of fish and humans.*

There is a strong direct correlation between "urbanization" and "impacts to receiving water quality". In general, the more heavily developed the area, the greater the impacts to receiving waters from urban runoff.

These impacts especially threaten environmentally sensitive areas (such as Clean Water Act section 303(d) impaired water bodies, areas designated as Areas of Special Biological Significance, water bodies designated with the RARE beneficial use, riparian or estuarine areas designated by the Copermittees as Critical Aquatic Resources (CARS), and regional parks and preserves containing receiving waters within the Cities and County of Orange). Such environmentally sensitive areas have a much lower capacity to withstand pollutant shocks than might be acceptable in the general circumstance. In essence, urban development that is ordinarily insignificant in its impact on the environment may, in a particularly sensitive environment, be significant.

Discussion: Urbanization generally results in an increase in pollutant sources and impervious surfaces. The increase in pollutant sources associated with human land use leads to an increase in pollutant loads found in urban runoff,

while the increase in impervious surfaces associated with development prevents natural processes from reducing those pollutant loads. The impervious surfaces associated with urbanization prevent soil infiltration and natural vegetation filtration of urban runoff. The end result is urban runoff flows that are higher in volume and pollutant loads. This causes the quality of receiving waters to be adversely impacted and beneficial uses to be impaired.

The US EPA supports this finding, stating in its 1996 National Water Quality Inventory that urban runoff/discharges from storm sewers are a major source of water quality impairment nationwide.[44] The 1996 Inventory also found urban runoff to be the leading cause of ocean impairment for those ocean miles surveyed.[45] In addition, the Region's Clean Water Act section 303(d) list (see Attachment 2), which identifies water bodies with impaired beneficial uses within the region, also indicates that the impacts of urban runoff on receiving waters are significant. Many of the impaired water bodies on the 303(d) list are impaired by constituents which have been found at high levels within urban runoff by the regional storm water monitoring program.[46] Examples of constituents frequently responsible for beneficial use impairment include total and fecal coliform, heavy metals, and sediment; these constituents have been found at high levels in urban runoff both regionally and nationwide.[47, 48]

Beneficial use impairment resulting from urban runoff not only harms aquatic life, but can adversely impact human health as well. The US EPA finds that receiving water impairment from urban runoff can impact human health when it states "As runoff flows over areas altered by development, it picks up harmful sediment and chemicals such as oil and grease, pesticides, heavy metals, and nutrients (e.g., nitrogen and phosphorus). These pollutants often become suspended in runoff and are carried to receiving waters, such as lakes, ponds, and streams. Once deposited, these pollutants can enter the food chain through small aquatic life, eventually entering the tissues of fish and humans." [49]

4. Finding states the following:

> ***URBAN DEVELOPMENT INCREASES POLLUTANT LOAD, VOLUME, AND VELOCITY OF RUNOFF:*** *During urban development two important changes occur. First, natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops, and parking lots. Natural vegetated soil can both absorb rainwater and remove pollutants*

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[44] US EPA. 1998. The National Water Quality Inventory, 1996 Report to Congress. EPA 841-R-97-008. As cited in 64 FR 68726.

[45] US EPA. 1998. The National Water Quality Inventory, 1996 Report to Congress. EPA 841-R-97-008. As cited in 64 FR 68726.

[46] City of San Diego. 1999. 1998-1999 City of San Diego and Co-permittee NPDES Storm Water Monitoring Program Report. By URS Greiner Woodward Clyde.

[47] City of San Diego. 1999. 1998-1999 City of San Diego and Co-permittee NPDES Storm Water Monitoring Program Report. By URS Greiner Woodward Clyde.

[48] US EPA. 1983. Results of the Nationwide Urban Runoff Program, Volume 1 – Final Report.

[49] US EPA. 2000. Storm Water Phase II Compliance Assistance Guide. EPA 833-R-00-002.

providing a very effective natural purification process. Because pavement and concrete can neither absorb water nor remove pollutants, the natural purification characteristics of the land are lost.

Secondly, urban development creates new pollution sources as human population density increases and brings with it proportionately higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, trash, etc. which can either be washed or directly dumped into the MS4.

As a result of these two changes, the runoff leaving the developed urban area is significantly greater in volume, velocity and pollutant load than the pre-development runoff from the same area.

The significance of the impacts of urban development on receiving waters is determined by the scope of the project, such as the size of the project, the project land-use type, etc. Large projects (such as commercial developments greater than 100,000 square feet, home subdivisions greater than 10 units, and streets, roads, highways, and freeways) generally have large amounts of impervious surface, and therefore have greater potential to significantly impact receiving waters by increasing erosion (through increased peak flow rates, flow velocities, flow volumes, and flow durations) than smaller projects. Projects of particular land use types also have greater potential to significantly impact receiving waters due to the presence of typically large amounts of pollutants on site or an increased potential for pollutants to move off site (such as automotive repair shops, restaurants, parking lots, streets, roads, highways, and freeways, hillside development, and retail gasoline outlets).

Discussion: Urbanization increases the amount of impervious ground cover of an area. For example, residential areas commonly cover the ground with approximately 30-70% impervious surfaces.[50] Regarding the impact of urbanization's impervious surfaces on urban runoff volume and velocity, the State Water Resources Control Board (SWRCB) Urban Runoff Technical Advisory Committee states in its 1994 report:

> Changes in stream hydrology resulting from urbanization include: increased peak discharges; increased total volume of runoff; decreased time needed for runoff to reach the stream; increased frequency and severity of flooding; changes in stream flow during dry periods due to reduced levels of infiltration in the watershed; and greater runoff velocity during storms.

This finding is further supported by the SDRWQCB's Water Quality Control Plan (Basin Plan). Regarding the impact of urban development on urban runoff pollutant loads, the Basin Plan states:

> Nonpoint source pollution is primarily the result of man's uses of land such as urbanization, roads and highways, vehicles, agriculture, construction, industry, mineral extraction, physical habitat alteration (dredging/filling), hydromodification (diversion, impoundment, channelization), silviculture (logging), and other activities which disturb land.[51] As a result, when rain falls on and drains through urban freeways, industries, construction sites, and neighborhoods it picks up a multitude of pollutants. The pollutants can be dissolved in the runoff and quickly transported by gravity flow through a

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[50] Dunne, T. and Leopold, L.B. 1978. Water in Environmental Planning.

[51] SDRWQCB. 1994. Water Quality Control Plan for the San Diego Basin. Page 4-66.

vast network of concrete channels and underground pipes referred to as storm water conveyance systems. Such systems ultimately discharge the polluted runoff, without treatment, into the nation's creeks, rivers, estuaries, bays, and oceans.[52]

5. Finding states the following:

WATER QUALITY DEGRADATION INCREASES WITH PERCENT IMPERVIOUSNESS: *The increased volume and velocity of runoff from developed urban areas greatly accelerates the erosion of downstream natural channels. Numerous studies have demonstrated a direct correlation between the degree of imperviousness of an area and the degradation of its receiving water quality. Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur with as little as a 10% conversion from natural to impervious surfaces. (Developments of medium density single family homes range between 25 to 60% impervious). Today "% impervious coverage" is believed to be a reliable indicator and predictor of the water quality degradation expected from planned new development.*

Discussion: Studies have shown that the level of imperviousness in an area strongly correlates with the quality of nearby receiving waters.[53] One comprehensive study which looked at numerous areas, variables, and methods revealed that stream degradation occurs at levels of imperviousness as low as (10% to 20%).[54] Degradation indicates a decline in the biological integrity and physical habitat conditions that are necessary to support natural biological diversity. For instance, few urban streams can support diverse benthic communities with imperviousness greater or equal to 25%.[55] To provide some perspective, a medium density, single family home area can be from 25% to 60% impervious (variation due to street and parking design).[56]

The following figure shows the flow rate of an urban vs. a natural stream. What the figure demonstrates is that urban stream flows have greater peaks and volumes, as well as shorter retention times than natural stream flows. The greater peak flows and volumes result in stream degradation through increased erosion of stream banks and damage to aquatic habitat. The shorter retention times result in less time for sediments and other pollutants to settle before being carried out to the ocean. This sediment, and the associated pollutants it carries, can be a significant cause of degradation to the region's receiving waters, including coastal lagoons.

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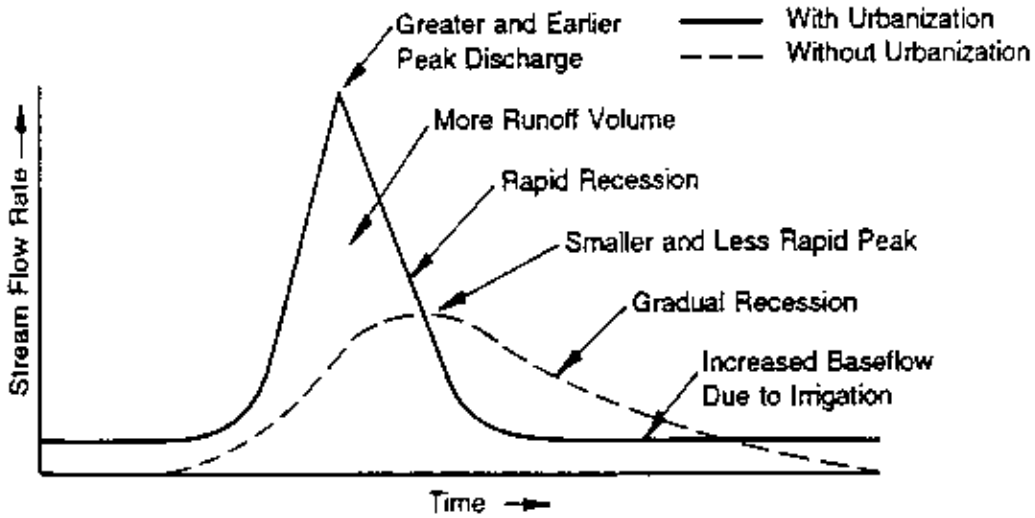
[52] SDRWQCB. 1994. Water Quality Control Plan for the San Diego Basin. Page 4-69 through 4-70.

[53] US EPA. 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System-Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges. 64 FR 68725.

[54] US EPA. 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System-Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges. 64 FR 68725.

[55] US EPA. 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System-Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges. 64 FR 68725.

[56] Schueler, T.R. 1994. *The Importance of Imperviousness*. Watershed Protection Techniques. As cited in 634 FR 68725.



Source: Adapted from Schueler, 1997 [57]

6. Finding states the following:

> ***URBAN RUNOFF IS A HUMAN HEALTH THREAT:*** *Urban runoff contains pollutants, which threaten human health. Human illnesses have been clearly linked to recreating (i.e., swimming, surfing, etc.) near storm drains flowing to coastal beach waters. Such flows from urban areas often result in the posting or closure of local beaches.*
>
> *Pollutants transported to receiving waters by urban runoff can also enter the food chain. Once in the food chain they can "bioaccumulate" in the tissues of invertebrates (e.g., mussels, oysters, and lobsters) and fish which may be eventually consumed by humans. Furthermore, some pollutants are also known to "biomagnify". This phenomenon can result in pollutant concentrations in the body fat of top predators that are millions of times greater than the concentrations in the tissues of their lower trophic (food chain) counterparts or in ambient waters.*

Discussion: This finding is supported by a landmark study conducted by the Santa Monica Bay Restoration Project. The study found that there was an increased occurrence of illness in people that swam in proximity to a flowing storm drain outlet.[58]

In addition to the human health risk urban runoff poses from bodily contact, urban runoff also has the potential to adversely impact human health through bioaccumulation/biomagnification of urban runoff pollutants in the food chain. Pollutants such as heavy metals and pesticides, which are commonly found in urban runoff, have been found to bioaccummulate and biomagnify in long-lived organisms at the higher trophic levels.[59] Since many aquatic species are utilized

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[57] Schueler, T.R. 1987. Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs. Metropolitan Washington Council of Governments.

[58] Haile, R.W., et al. 1996. An Epidemiological Study of Possible Adverse Health Effects of Swimming in Santa Monica Bay. Santa Monica Bay Restoration Project.

[59] Abel, P.D. 1996. Water Pollution Biology.

for human consumption, toxic substances accumulated in species' tissues can pose a significant threat to public health.

The US EPA supports this finding when it states "As runoff flows over areas altered by development, it picks up harmful sediment and chemicals such as oil and grease, pesticides, heavy metals, and nutrients (e.g., nitrogen and phosphorus). These pollutants often become suspended in runoff and are carried to receiving waters, such as lakes, ponds, and streams. Once deposited, these pollutants can enter the food chain through small aquatic life, eventually entering the tissues of fish and humans." [60]

7. Finding states the following:

POLLUTANT TYPES: *The most common categories of pollutants in urban runoff include total suspended solids, sediment (due to anthropogenic activities); pathogens (e.g., bacteria, viruses, protozoa); heavy metals (e.g., copper, lead, zinc and cadmium); petroleum products and polynuclear aromatic hydrocarbons; synthetic organics (e.g., pesticides, herbicides, and PCBs); nutrients (e.g., nitrogen and phosphorus fertilizers), oxygen-demanding substances (decaying vegetation, animal waste), and trash.*

Discussion: US EPA Nationwide Urban Runoff Program (NURP) data shows that heavy metals, organics, coliform bacteria, nutrients (e.g., fertilizers), oxygen demanding substances (e.g., decaying vegetation), and total suspended solids are found at relatively high levels in urban runoff.[61] The Basin Plan goes on to identify examples of nonpoint sources in southern California to include lawn and garden chemicals, household and automotive care products dumped or drained on streets, sediment that erodes from construction sites, and various pollutants deposited by atmospheric deposition.[62] In addition, the SWRCB Urban Runoff Technical Advisory Committee finds urban runoff pollutants to include sediment, nutrients, oxygen-demanding substances, road salts, heavy metals, petroleum hydrocarbons, pathogenic bacteria, viruses, and pesticides."

8. Finding states the following:

URBAN STREAMS AS AN MS4 COMPONENT: *Historic and current development make use of natural drainage patterns and features as conveyances for urban runoff. Urban streams used in this manner are part of the municipalities MS4 regardless of whether they are natural, man-made, or partially modified features. In these cases, the urban stream is both an MS4 and a receiving water.*

Discussion: Natural drainage patterns and urban streams are frequently used by municipalities to convey urban runoff away from development within their jurisdiction. This is exhibited when urban streams and natural drainage systems are often altered (channelized, lined, widened, etc.) by municipalities in order to control and convey the increased urban runoff flows resulting from the urban development. Since the natural drainage or urban stream is used by the

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[60] US EPA. 2000. Storm Water Phase II Compliance Assistance Guide. EPA 833-R-00-002.

[61] US EPA. 1983. Results of the Nationwide Urban Runoff Program, Volume 1-Final Report.

[62] SDRWQCB. 1994. Water Quality Control Plan for the San Diego Basin. Page 4-1.

municipality to convey urban runoff, it becomes part of the municipality's MS4. However, urban streams and natural drainages used to convey urban runoff are part of a municipality's MS4 regardless of whether they have been altered by the municipality or not. For example, urban streams frequently run back and forth between lined and unlined (or natural) segments. Changes in the condition of an urban stream's channel (lined or unlined) does not constitute a change in the use of the urban stream or drainage by a municipality. In this manner, urban streams can be both receiving waters and MS4s.

9. Finding states the following:

URBAN RUNOFF CAUSES BENEFICIAL USE IMPAIRMENT*: Individually and in combination, the discharge of pollutants and increased flows from MS4s can cause or threaten to cause a condition of pollution (i.e., unreasonable impairment of water quality for designated beneficial uses), contamination, or nuisance. The discharge of pollutants from MS4s can cause the concentration of pollutants to exceed applicable receiving water quality objectives and impair or threaten to impair designated beneficial uses. The discharge of urban runoff may also impact the physical habitat of receiving waters. Significant stream channel incision and bank erosion is a feature common in the Aliso Creek watershed and other drainages in Orange County and may be caused in part by changes in peak flow rates and volumes resulting from urban development. Preliminary results of the Ambient Bioassessment Monitoring Program in Aliso Creek and San Juan Creek in 1998 and 1999 indicate impacts to the benthic community that may be the result of water quality and habitat degradation.*

Discussion: The Basin Plan supports this finding:

> [W]hen rain falls on and drains through urban freeways, industries, construction sites, and neighborhoods it picks up a multitude of pollutants. The pollutants can be dissolved in the runoff and quickly transported by gravity flow through a vast network of concrete channels and underground pipes referred to as storm water conveyance systems. Such systems ultimately discharge the polluted runoff, without treatment, into the nation's creeks, rivers, estuaries, bays, and oceans. […] These pollutants severely degrade the beneficial uses of surface waters, and threaten the health of both humans and aquatic organisms.[63]

The US EPA also supports this finding, stating in its 1996 National Water Quality Inventory that urban runoff/discharges from storm sewers are a major source of water quality impairment nationwide.[64] The 1996 Inventory also found urban runoff to be the leading cause of ocean impairment for those ocean miles surveyed.[65] In addition, the Region's Clean Water Act section 303(d) list (see Attachment 2), which identifies water bodies with impaired beneficial uses within the region, also indicates that the impacts of urban runoff on receiving waters are significant. Many of the impaired water bodies on the 303(d) list are impaired by constituents that have been found at high levels within urban runoff by the

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63 SDRWQCB. 1994. Water Quality Control Plan for the San Diego Basin. Page 4-69 through 4-70.

64 US EPA. 1998. The National Water Quality Inventory, 1996 Report to Congress. EPA 841-R-97-008. As cited in 64 FR 68726.

65 US EPA. 1998. The National Water Quality Inventory, 1996 Report to Congress. EPA 841-R-97-008. As cited in 64 FR 68726.

regional storm water monitoring program.[66] Examples of constituents frequently responsible for beneficial use impairment include total and fecal coliform, heavy metals, and sediment; these constituents have been found at high levels in urban runoff both regionally and nationwide.[67,68]

10. Finding states the following:

> ***COPERMITTEES IMPLEMENT URBAN RUNOFF MANAGEMENT PROGRAMS (URMPs):*** *Copermittee implementation of Urban Runoff Management Programs (URMPs) designed to reduce discharges of pollutants and flow into and from MS4s to the maximum extent practicable (MEP) can protect receiving water quality by promoting attainment of water quality objectives necessary to support designated beneficial uses. To be most effective, URMPs must contain both structural and non-structural best management practices (BMPs).*

Discussion: US EPA finds that a "satisfactory proposed management program will address: management practices; control techniques and systems; design and engineering methods; and other measures to ensure the reduction of pollutants to the maximum extent practicable (MEP)."[69] The US EPA further states that "at a minimum, the proposed management program must include: […] Identification of structural control measures to be included in these proposed programs."[70] These statements indicate that it is expected that URMPs be developed by the Copermittees that contain both structural and non-structural BMPs for the purpose of reducing pollutants in MS4 discharges to the maximum extent practicable. When pollutants in MS4 discharges are treated to the maximum extent practicable, receiving water quality and beneficial uses are typically protected through the attainment of water quality objectives. However, its should be noted that pollutant discharges which have the potential to cause or contribute to an exceedance of water quality objectives (such as discharges to Clean Water Act section 303(d) waterbodies) may require implementation of BMPs beyond the "maximum extent practicable" standard (40 CFR 122.44(d)(1)(i).

11. Finding states the following:

> ***BEST MANAGEMENT PRACTICES (BMPs):*** *Pollutants can be effectively reduced in urban runoff by the application of a combination of pollution prevention, source control, and treatment control BMPs. Source control BMPs (both structural and non-structural) minimize the contact between pollutants and flows (e.g., rerouting run-on around pollutant sources or keeping pollutants on-site and out of receiving waters). Treatment control (or structural) BMPs remove pollutants from urban runoff. Where feasible, use of BMPs that utilize natural processes should be assessed. These types of BMPs, such as grassy swales and constructed wetlands, can frequently be as effective as less natural BMPs, while providing additional benefits such as aesthetics and habitat..*

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[66] City of San Diego. 1999. 1998-1999 City of San Diego and Co-permittee NPDES Storm Water Monitoring Program Report. By URS Greiner Woodward Clyde.

[67] City of San Diego. 1999. 1998-1999 City of San Diego and Co-permittee NPDES Storm Water Monitoring Program Report. By URS Greiner Woodward Clyde.

[68] US EPA. 1983. Results of the Nationwide Urban Runoff Program, Volume 1 – Final Report.

[69] US EPA. 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

[70] US EPA. 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

Discussion: The SWRCB finds in its Order WQ 98-01 that BMPs are effective in reducing pollutants in urban runoff, stating that "implementation of BMPs [is] generally the most appropriate form of effluent limitations when designed to satisfy technology requirements, including reduction of pollutants to the maximum extent practicable." The SWRCB Urban Runoff Technical Advisory Committee further supports this finding by recommending "that nonpoint source pollution control can be accomplished most effectively by giving priority to [best management practices] in the following order:

1. Prevention – implementation of practices that use or promote pollution free alternatives;
2. Source Control – implementation of control measures that focus on preventing or minimizing urban runoff from contacting pollution sources;
3. Treatment Controls – implementation of practices that require treatment of polluted runoff either onsite or offsite."

US EPA also supports the utilization of a combination of BMPs to address pollutants in urban runoff. For example, US EPA has found there has been success in addressing illicit discharge related problems through BMP initiatives like storm drain stenciling and recycling programs, including household hazardous waste special collection days.[71] Structural BMP performance data has also been compiled and summarized by US EPA.[72] This data indicates that structural BMPs can be effective in reducing pollutants in urban runoff discharges. The summary provides the performance ranges of various types of structural BMPs for removing suspended solids, nutrients, pathogens, and metals from storm water flows. These pollutants are in general the pollutants of most concern in storm water in the San Diego Region. For suspended solids, the least effective structural BMP type was found to remove 30-65% of the pollutant load, while the most effective was found to remove 65-100% of the pollutant load. For nutrients, the least effective structural BMP type was found to remove 15-45% of the pollutant load, while the most effective was found to remove 65-100% of the pollutant load. For pathogens, the least effective structural BMP type was found to remove <30% of the pollutant load, while the most effective was found to remove 65-100% of the pollutant load. For metals, the least effective structural BMP type was found to remove 15-45% of the pollutant load, while the most effective was found to remove 65-100% of the pollutant load.

12. Finding states the following:

***POLLUTION PREVENTION**: Pollution prevention, the initial reduction/elimination of pollutant generation at its source, is the best "first line of defense" for Copermittees and should be used in conjunction with source control and treatment control BMPs. Pollutants that are never generated*

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[71] US EPA. 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System-Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges. 64 FR 68728.

[72] USEPA. 1999. Preliminary Data Summary of Urban Storm Water Best Management Practices. EPA 821-R-99-012.

do not have to be controlled or treated. Encouragement during planning processes of the use of pollution prevention BMPs can be an effective means for pollution prevention BMPs to be implemented, through such methods as education, landscaping, etc.

Discussion: Pollution prevention, the reduction or elimination of pollutant generation at its source, is an essential aspect of BMP implementation. By limiting the generation of pollutants by urban activities, less pollutants are available to be washed from urban areas, resulting in reduced pollutant loads in storm water discharges from these areas. In addition, there is no need to control or treat pollutants that are not initially generated. Furthermore, pollution prevention BMPs are generally more cost effective than removal of pollutants by treatment facilities or cleanup of contaminated media. [73]

In the Pollution Prevention Act of 1990, Congress established a national policy that emphasizes pollution prevention over control and treatment. California Water Code section 13263.3(a) also supports pollution prevention, stating "The Legislature finds and declares that pollution prevention should be the first step in a hierarchy for reducing pollution and managing wastes, and to achieve environmental stewardship for society. The Legislature also finds and declares that pollution prevention is necessary to support the federal goal of zero discharge of pollutants into navigable waters." Finally, the Basin Plan also supports this finding by stating that "[T]o eliminate pollutants in storm water, one can either clean it up by removing pollutants or prevent it from becoming polluted in the first place. Because of the overwhelming volume of storm water and the enormous costs associated with pollutant removal, pollution prevention is the only approach that makes sense."

13. Finding states the following:

RECEIVING WATER LIMITATIONS: *Compliance with receiving water limits based on applicable water quality objectives is necessary to ensure that MS4 discharges will not cause or contribute to violations of water quality objectives and the creation of conditions of pollution.*

Discussion: Urban runoff discharges from MS4s are a leading cause of receiving water quality impairment in the San Diego Region and throughout the United States. Due to this significant contribution to the impairment of receiving waters, discharges from MS4s that cause or contribute to the violation of water quality standards (i.e., beneficial uses and the water quality objectives necessary to protect those uses) must be controlled and prohibited. MS4 permits must therefore include stringent discharge requirements to protect water bodies from discharges from MS4s.

The issue of whether storm water discharges from MS4s must meet water quality standards has been intensely debated for the past five years. The argument arises because Clean Water Act section 402(p) fails to clearly state that municipal dischargers of storm water must meet water quality standards. On the issue of

[73] Center for Watershed Protection, 2000. Assessing the Potential for Urban Watershed Restoration, Article 142 in the Protection, Tom Schueler.

industrial discharges of storm water, the statute clearly indicates that industrial dischargers must meet both (1) the technology-based standard of "best available technology economically achievable (BAT)" and (2) applicable water quality standards. On the issue of municipal discharges however, the statute states that municipal dischargers must meet (1) the technology-based standard of "maximum extent practicable (MEP)" and (2) "such other provisions that the Administrator or the State determines appropriate for the control of such pollutants." The statute fails, however, to specifically state that municipal dischargers must meet water quality standards.

As a result, the municipal storm water dischargers have argued that they do not have to meet water quality standards; and that they only are required to meet MEP. Environmental interest groups maintain that not only do MS4 discharges have to meet water quality standards, but that MS4 permits must also comply with numeric effluent limitations for the purpose of meeting water quality standards. On the issue of water quality standards, the US EPA, the SWRCB, and the SDRWQCB have consistently maintained that MS4s must indeed comply with water quality standards. On the issue of whether water quality standards must be met by numeric effluent limits, the US EPA, the SWRCB (in Orders WQ 91-03 and WQ 91-04), and the SDRWQCB have maintained that MS4 permits can, at this time, contain narrative requirements for the implementation of BMPs in place of numeric effluent limits.

SWRCB rationale: In addition to relying on US EPA's legal opinion concluding that MS4s must meet MEP and water quality standards, the SWRCB also relied on the Clean Water Act's explicit authority for States to require "such other provisions that the Administrator or the State determines appropriate for the control of such pollutants" in addition to the technology-based standard of MEP. To further support its conclusions that MS4 permit dischargers must meet water quality standards, the SWRCB relied on provisions of the California Water Code that specify that all waste discharge requirements must implement applicable Basin Plans and take into consideration the appropriate water quality objectives for the protection of beneficial uses.

The SWRCB first formally concluded that permits for MS4s must contain effluent limitations based on water quality standards in its Order WQ 91-03. In that Order, the SWRCB also concluded that it was appropriate for Regional Boards to achieve this result by requiring best management practices, rather than by inserting numeric effluent limitations into MS4 permits. In Order WQ 98-01, the SWRCB prescribed specific precedent setting Receiving Water Limitations language to be included in all future MS4 permits. This language specifically requires that MS4 dischargers meet water quality standards and allows for the use of narrative BMPs (increasing in stringency and implemented in an iterative process) as the mechanism by which water quality standards can be met.

In Order WQ 99-05, the SWRCB modified its receiving water limitations language in Order WQ 98-01 to meet specific objections by the US EPA (the modifications resulted in stricter compliance with water quality standards). SWRCB Order WQ

99-05 states "In Order WQ 98-01, the State Water Resources Control Board (State Water Board) ordered that certain receiving water limitation language be included in future municipal storm water permits. Following inclusion of that language in permits issued by the San Francisco Bay and San Diego Regional Water Quality Control Boards (Regional Water Boards) for Vallejo and Riverside respectively, the United States Environmental Protection Agency (EPA) objected to the permits. The EPA objection was based on the receiving water limitation language. The EPA has now issued those permits itself and has included receiving water limitation language it deems appropriate.

"In light of EPA's objection to the receiving water limitation language in Order WQ 98-01 and its adoption of alternative language, the State Water Board is revising its instructions regarding receiving water limitation language for municipal storm water permits. It is hereby ordered that Order WQ 98-01 will be amended to remove the receiving water limitation language contained therein and to substitute the EPA language. Based on the reasons stated here, and as a precedent decision, the following receiving water limitation language [which is found in Receiving Water Limitations item C. of Order No. 2001-193] shall be included in future municipal storm water permits."

In a late 1999 case involving MS4 permits issued by US EPA to several Arizona cities (*Defenders of Wildlife v. Browner*, 1999, 197 F. 3d 1035), the United States Court of Appeals for the Ninth Circuit upheld US EPA's requirement for MS4 dischargers to meet water quality standards, but it did so on the basis of US EPA's discretion rather than on the basis of strict compliance with the Clean Water Act. In other words, while holding that the Clean Water Act does not require all MS4 discharges to comply strictly with state water quality standards, the Court also held that US EPA has the authority to determine that ensuring strict compliance with state water quality standards is necessary to control pollutants. On the question of whether MS4 permits must contain numeric effluent limitations, the court upheld US EPA's use of iterative BMPs in place of numeric effluent limits.

SWRCB's final position: On October 14, 1999, the SWRCB issued a legal opinion on the federal appellate decision and provided advice to the Regional Boards on how to proceed in the future. In the memorandum, the SWRCB concludes that the recent Ninth Circuit opinion upholds the discretion of US EPA and the State to (continue to) issue permits to MS4s that require compliance with water quality standards through iterative BMPs. Moreover, the memorandum states that "[…] because most MS4 discharges enter impaired water bodies, there is a real need for permits to include stringent requirements to protect those water bodies. As total maximum daily loads (TMDLs) are developed, it is likely that MS4s will have to participate in pollutant load reductions, and the MS4 permits are the most effective vehicles for those reductions." In summary, the SWRCB concludes that the Regional Boards should continue to include the Receiving Water Limitations language established in SWRCB Order WQ 99-05 in all future permits.

Accordingly, the SDRWQCB has included the Receiving Water Limitations language in Receiving Water Limitations item C. of Order No. 2001-193.

14. Finding states the following:

> ***RECEIVING WATER LIMITATION COMPLIANCE STRATEGY****: Implementation of BMPs cannot ensure attainment of receiving water quality objectives under all circumstances; some BMPs may not prove to be as effective as anticipated. An iterative process of BMP development, implementation, monitoring, and assessment is necessary to assure that an Urban Runoff Management Program is sufficiently comprehensive and effective to achieve compliance with receiving water quality objectives.*

Discussion: As discussed above in the Finding 13 discussion, the US EPA and SWRCB have discretion to issue municipal storm water permits which require compliance with water quality standards. To ensure that MS4 discharges comply with water quality standards, the SWRCB has adopted US EPA language in SWRCB Order WQ 99-05 which dictates implementation of an iterative BMP process when water quality standards are not met. This language is included in Order No. 2001-193 in Receiving Water Limitations item C. The iterative BMP process requires the implementation of increasingly stringent BMPs until receiving water standards are achieved. This is necessary because implementation of BMPs alone cannot ensure attainment of receiving water quality objectives. For example, a BMP that is effective in one situation may not be applicable in another. An iterative process of BMP development, implementation, and assessment is needed to promote consistent compliance with receiving water quality objectives. If assessment of a given BMP confirms that the BMP is ineffective, the iterative process should be restarted, with redevelopment of a new BMP which is anticipated to result in compliance with receiving water quality objectives. Regarding BMP assessment, the SWRCB Urban Runoff Technical Advisory Committee states "The [Storm Water Pollution Prevention Plan] SWPPP must be revised if an inspection indicates a need to alter the BMPs: drop ineffective BMPs, add new BMPs, or modify a BMP that is to remain in the SWPPP." It should be noted that while implementation of the iterative BMP process is a means to achieve compliance with water quality objectives, it does not shield the discharger from enforcement actions for continued non-compliance with water quality objectives.

15. Finding states the following:

> ***COPERMITTEES' RESPONSIBILITY FOR ILLICIT DISCHARGES FROM THIRD PARTIES:*** *As operators of MS4s, the Copermittees cannot passively receive and discharge pollutants from third parties. By providing free and open access to an MS4 that conveys discharges to the waters of the United States, the operator of an MS4 that does not prohibit and/or control discharges into its system essentially accepts responsibility for those discharges.*

Discussion: Clean Water Act section 402(p) requires operators of MS4s to prohibit non-storm water into their MS4s. This is necessary because pollutants that enter the MS4 generally are conveyed through the MS4 to be eventually discharged into receiving waters. If a municipality does not prohibit non-storm water discharges, it is providing the pathway (its MS4) which enables pollutants to reach receiving waters. Since the municipality's storm water management service can result in pollutant discharges to receiving waters, the municipality must accept responsibility for the water quality consequences resulting from this service. Furthermore, third

party discharges can cause a municipality to be out of compliance with its permit. Since pollutants from third parties that enter the MS4 will eventually be discharged from the MS4 to receiving waters, the third party discharges can result in a situation of municipality non-compliance if the discharges lead to an exceedance of water quality standards. For these reasons, each Copermittee must prohibit and/or control discharges from third parties to its MS4.

16. Finding states the following:

> ***COPERMITTEES' RESPONSIBILITY BASED ON LAND USE AUTHORITY****: Utilizing their land use authority, Copermittees authorize and realize benefits from the urban development which generates the pollutants and runoff that impair receiving waters. Since the Copermittees utilize their legal authority to authorize urbanization, they must also exercise their legal authority to ensure that the resulting increased pollutant loads and flows do not further degrade receiving waters.*

Discussion: Storm water permits are issued to municipalities because of their land use authority. The ultimate responsibility for the pollutant discharges, increased runoff, and inevitable long-term water quality degradation that results from urbanization lies with local governments. This responsibility is based on the fact that it is the local governments that have authorized the urbanization (i.e., conversion of natural pervious ground cover to impervious urban surfaces) and the land uses that generate the pollutants and runoff. Furthermore, the MS4 through which the pollutants and increased flows are conveyed, and ultimately discharged into San Diego's natural receiving waters, are owned and operated by the same local governments. In summary, the municipal Copermittees under Order No. 2001-193 are responsible for discharges into and out of their storm water conveyance systems because (1) they own and operate the MS4; and (2) they have the legal authority that authorizes the very development and land uses with generate the pollutants and increased flows in the first place.

Order No. 2001-193 holds the local government accountable for this direct link between its land use decisions and water quality degradation. The permit recognizes that each of the three major stages in the urbanization process (development planning, construction, and the use or operational stage) are controlled by and must be authorized by the local government. Accordingly, this permit requires the local government to implement, or require others to implement, appropriate best management practices to reduce pollutant discharges and increased flow during each of the three stages of urbanization.

For example, since grading cannot commence prior to the issuance of a local grading permit, the Copermittees have a built-in mechanism to ensure that all grading activities are protective of receiving water quality. The Copermittee has the authority and discretion to withhold issuance of the grading permit until the project proponent has demonstrated to the satisfaction of the Copermittee that the project will not violate the Copermittee's ordinances or cause the Copermittee to be in violation of its municipal storm water permit. Since the Copermittee will ultimately be held responsible for any discharges from the grading project by the SDRWQCB, the Copermittee will want to use its own permitting authority to ensure

that whatever measures the Copermittee deems necessary to protect discharges into its MS4 are in fact taken by the project proponent.

17. Finding states the following:

> ***THREE PHASES OF URBAN DEVELOPMENT****: Urban development has three major phases: (1) land use planning for new development; (2) construction; and (3) the "use" or existing development phase. Because the Copermittees authorize, permit, and profit realize benefits from each of these phases, and because each phase has a profound impact on water quality, the Copermittees have commensurate responsibilities to protect water quality during each phase. In other words, Copermittees are held responsible for the short and long-term water quality consequences of their land use planning, construction, and existing development decisions.*

Discussion: Through its permitting processes, each Copermittee authorizes the three major phases of urban development within its jurisdiction. Each Copermittee can also profit from the authorization of urban development. For these reasons, each Copermittee must assume responsibility for its urban development decisions (see also the Discussion for Finding 16). The Federal Regulations clearly require municipalities to address urban runoff during each stage of development. Regarding BMP implementation during each stage of urban development, US EPA recommends that Copermittees ensure the appropriate implementation of the structural BMPs by considering some or all of the following: pre-construction review of BMP designs; inspections during construction to verify BMPs are built as designed; post-construction inspection and maintenance of BMPs; and penalty provisions for noncompliance with design, construction or operation and maintenance.[74]

18. Finding states the following:

> ***PLANNING PHASE FOR NEW DEVELOPMENT****: Because land use planning and zoning is where urban development is conceived, it is the phase in which the greatest and most cost-effective opportunities to protect water quality exists. When a Copermittee incorporates policies and principles designed to safeguard water resources into its General Plan and development project approval processes, it has taken a far-reaching step towards the preservation of local water resources for future generations.*

Discussion: Including plans for BMP implementation during the design phase of new development and redevelopment offers the most cost effective strategy to reduce urban runoff pollutant loads to surface waters.[75] The Phase II regulations for small municipalities reflect the necessity of addressing urban runoff during the early planning phase. Due to the greater water quality concerns generally experienced by larger municipalities, Phase II requirements for small municipalities are also applicable to larger municipalities such as the Copermittees. The Phase II regulations direct municipalities to develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre

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[74] US EPA. 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System-Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. 64 FR 68845.

[75] US EPA. 2000. Storm Water Phase II Compliance Assistance Guide. EPA 833-R-00-002.

that are part of a larger common plan of development or sale. The program must ensure that controls are in place that would prevent or minimize water quality impacts. This includes developing and implementing strategies that include a combination of structural and/or non-structural BMPs appropriate to the locality. The program must also ensure the adequate long-term operation and maintenance of BMPs.[76] US EPA expands on the Phase II regulations for urban development when it recommends that Copermittees:

> "[A]dopt a planning process that identifies the municipality's program goals (e.g., minimize water quality impacts resulting from post-construction runoff from new development and redevelopment), implementation strategies (e.g., adopt a combination of structural and/or non-structural BMPs), operation and maintenance policies and procedures, and enforcement procedures. In developing your program, you should consider assessing existing ordinances, policies, programs and studies that address storm water runoff quality."

19. Finding states the following:

> **CONSTRUCTION PHASE**: Construction activities are a significant cause of receiving water impairment. Siltation is currently the largest cause of river impairment in the United States. Sediment runoff rates from construction sites greatly exceed natural erosion rates of undisturbed lands causing siltation and impairment of receiving waters. In addition to requiring implementation of the full range of BMPs, an effective construction runoff program must include local plan review, permit conditions, field inspections, and enforcement.

Discussion: The US EPA strongly supports this finding in the Phase II regulations. The US EPA explains in the regulations that storm water discharges generated during construction activities can cause an array of physical, chemical, and biological water quality impacts. Specifically, the biological, chemical and physical integrity of the waters may become severely compromised due to runoff from construction sites. Fine sediment from construction sites can adversely affect aquatic ecosystems by reducing light penetration, impeding sight-feeding, smothering benthic organisms, abrading gills and other sensitive structures, reducing habitat by clogging interstitial spaces within the streambed, and reducing intergravel dissolved oxygen by reducing the permeability of the bed material. Water quality impairment also results, in part, because a number of pollutants are preferentially absorbed onto mineral or organic particles found in fine sediment. The interconnected process of erosion (detachment of the soil particles), sediment transport, and delivery is the primary pathway for introducing key pollutants, such as nutrients, metals, and organic compounds into aquatic systems.[77]

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[76] US EPA. 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System-Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. 64 FR 68845.

[77] US EPA. 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System-Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. 64 FR 68728.

20. Finding states the following:

> ***EXISTING DEVELOPMENT:*** *The Copermittees' wet weather monitoring results collected during the past decade, as well as volumes of other references in the literature today, confirm substantial pollutant loads to receiving waters in runoff from existing urban development. Implementation of jurisdictional and watershed URMPs, which include extensive controls on existing development, can reduce pollutant loadings over the long term.*

Discussion: This finding is supported by the results of the City of San Diego and Co-permittee NPDES Stormwater Monitoring Program annual reports.[78]

21. Finding states the following:

> ***CHANGES NEEDED****: Because the urbanization process is a direct and leading cause of water quality degradation in this Region, fundamental changes to existing policies and practices about urban development are needed if the beneficial uses of the San Diego Region's natural water resources are to be protected.*

Discussion: Urban runoff has been recognized as a leading cause of water quality degradation both regionally and nationwide. The 1998-1999 City of San Diego and Co-Permittee NPDES Stormwater Monitoring Program Report reflects the water quality issues resulting from urban runoff that have been observed in the San Diego region and on a nationwide level. Monitoring efforts indicate that instream concentrations of pathogen indicators (fecal coliform and streptococcus) and heavy metals (such as cadmium, copper, lead, and zinc) exceed state and federal water quality criteria. In addition, storm water within the region has been found to contain the pesticides diazinon and chlorpyrifos (Dursban) at levels that can cause chronic or acute toxicity.[79]

As the monitoring program results indicate, urban runoff is identified as a primary source of receiving water quality impairment within the Region. Though urban land use occupies approximately 30% of the monitoring program study area, approximately 50% or more of the total pollutant load for many constituents is contributed by urbanized land uses including residential, commercial, and industrial land uses.[80] The Region's Clean Water Act Section 303(d) list, which identifies water bodies with impaired beneficial uses within the Region, also indicates that the impacts of urban runoff are significant. Many of the impaired water bodies on the 303(d) list are impaired by constituents that have been found at high levels within urban runoff by the regional storm water monitoring program. Examples of constituents frequently responsible for beneficial use impairment include total and fecal coliform, heavy metals, and sediment; these constituents have been found at high levels in urban runoff both regionally and nationwide.

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[78] City of San Diego. Multiple Years. City of San Diego and Co-permittee NPDES Stormwater Monitoring Program. Prepared by Woodward Clyde Consultants.

[79] City of San Diego. 1999. 1998-1999 City of San Diego and Co-permittee NPDES Stormwater Monitoring Program Report. Prepared by URS Greiner Woodward Clyde.

[80] City of San Diego. 1998. 1997-1998 City of San Diego and Co-permittee NPDES Stormwater Monitoring Program Report. Woodward Clyde Consultants.

Clearly, current policies and practices to protect water quality from the impacts of urbanization have not been entirely effective. A shift is toward new and expanded policies and practices is needed to achieve the requirements of the Clean Water Act. The requirements of Tentative Order No. 2001-193 include and encourage new policies and practices to manage urban runoff. These new policies and practices are based on US EPA and SWRCB guidance, and are supported by recent and ongoing research. The requirements of Tentative Order No. 2001-193 are discussed individually in further detail in section VII of this Fact Sheet/Technical Report.

22. Finding states the following:

DUAL REGULATION OF INDUSTRIAL AND CONSTRUCTION SITES: *Discharges of runoff from industrial and construction sites in this Region are subject to dual (state and local) regulation. (1) All industries and construction sites are subject to the local permits, plans, and ordinances of the municipal jurisdiction in which it is located. Pursuant to this Order, local (storm water, grading, construction, and use) permits, plans, and ordinances must (a) prohibit the discharge of pollutants and non-storm water into the MS4; and (b) require the routine use of BMPs to reduce pollutants in site runoff. (2) Many industries and construction sites are also subject to regulation under the statewide General Industrial Storm Water Permit or statewide General Construction Storm Water Permit[1]. These statewide general permits are adopted by the State Water Resources Control Board and enforced by the nine Regional Water Quality Control Boards throughout California. Like the Copermittees' local permits and ordinances, the statewide General Industrial and Construction Permits also (a) prohibit the discharge of pollutants and non-storm water; and (b) require the routine use of BMPs to reduce pollutants in site runoff.*

Recognizing that both authorities share a common goal, the federal storm water regulations at 40 CFR 122.26 (and its preamble) call for the dual system to ensure the most effective oversight of industrial and construction site discharges. Under this dual system, each municipal Copermittee is responsible for enforcing its local permits, plans, and ordinances within its jurisdiction. Similarly, the SDRWQCB is responsible for enforcing both statewide general permits and this Order within the San Diego Region.

Discussion: US EPA finds the control of pollutant discharges from industry and construction so important to receiving water quality that it has established a double system of regulation over industrial and construction sites. This double system of regulation consists of two parallel regulatory systems with the same common objective: to keep pollutants from industrial and construction sites out of the MS4. In this double system of regulation for runoff from industrial and construction sites, local governments must enforce their legal authorities (i.e., local ordinances and permits) while the SDRWQCB must enforce its legal authority (i.e., statewide general industrial and construction storm water permits). These two regulatory systems are designed to complement and support each other. Municipalities are not required to enforce SDRWQCB and SWRCB permits; however, they are required to enforce their ordinances and permits. The Federal regulations are

[1] The "statewide General Industrial Storm Water Permit" refers to State Water Resources Control Board Water Quality Order No. 97-03-DWQ National Pollutant Discharge Elimination System General Permit No. CAS000001, Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities. The "statewide General Construction Storm Water Permit" refers to State Water Resources Control Board Order No. 99-08-DWQ National Pollutant Discharge Elimination System General Permit No. CAS000002, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activity.

clear that municipalities have responsibility to address runoff from industrial and construction sites which enters their MS4s.

Municipalities have this responsibility because they have the authority to issue land use and development permits. Since municipalities are the lead permitting authority for industrial land use and construction activities, they are also the lead for enforcement regarding runoff discharges from these sites. For sites where the municipality is the lead permitting authority, the SDRWQCB will work with the municipality and provide support where needed. In some instances, where the SDRWQCB is the primary regulatory authority and lead permitting authority (e.g., for landfills and sewage collection and treatment systems), the SDRWQCB is the lead for enforcement and will look for support from the municipalities.

23. Finding states the following:

EDUCATION: *Education is the foundation of every effective URMP and the basis for changes in behavior at a societal level. Education of municipal planning, inspection, and maintenance department staffs is especially critical to ensure that in-house staffs understand how their activities impact water quality, how to accomplish their jobs while protecting water quality, and their specific roles and responsibilities for compliance with this Order. Public education, designed to target various urban land users and other audiences, is also essential to inform the public of how individual actions impact receiving water quality and how these impacts can be minimized. The proposed Drainage Area Management Plan (DAMP) that was submitted to the SDRWQCB by the Orange County Copermittees in September 2000 has a strong emphasis on education measures.*

Discussion: The SWRCB and US EPA both recognize education as a critical component of storm water management. In its 1994 report, the SWRCB Technical Advisory Committee (TAC) "recognizes that education with an emphasis on pollution prevention is the fundamental basis for solving nonpoint source pollution problems." The TAC goes on to recommend that target audiences for education efforts include the government, youth groups, the development community, and business and industrial groups. According to the Phase II Storm Water Regulations found at 64 FR 68754 and 68754, US EPA believes that as the public gains a greater understanding of the storm water program through education, the municipality is likely to gain more support for the program (including funding initiatives). In addition, compliance with the program will probably be greater is the public understands the personal responsibilities expected of them. US EPA goes on to explain that a public education program should inform individuals and households about problems and the steps they can take to reduce or prevent storm water pollution.

24. Finding states the following:

ENFORCING LOCAL LEGAL AUTHORITY*: Enforcement of local urban runoff related ordinances, permits, and plans is an essential component of every URMP and is specifically required in the federal storm water regulations and this Order. Routine inspections provide an effective means by which Copermittees can evaluate compliance with their permits and ordinances. Inspections are especially important at high-risk areas for pollutant discharges such as industrial and construction sites.*

When industrial or construction site discharges occur in violation of local permits and ordinances, the SDRWQCB looks to the municipality that has authorized the discharge for appropriate actions (typically education followed by enforcement where education has been unsuccessful). Each Copermittee must also provide enforcement against illegal discharges from other land uses it has authorized, such as commercial and residential developments.

Discussion: Since municipalities approve and permit construction and land use within their jurisdiction, they must assume responsibility for urban runoff discharges from these activities and land uses. The Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A – D) are clear in placing responsibility on municipalities for control of urban runoff from third party activities and land uses to their MS4. In order for municipalities to assume this responsibility, they must implement ordinances, permits, and plans addressing urban runoff from third parties. Assessments for compliance with their ordinances, permits, and plans are essential for a municipality to ensure that third parties are not causing the municipality to be in violation of its municipal storm water permit. When conditions of non-compliance is determined, enforcement is necessary to ensure that violations of municipality ordinances and permits are corrected. Without enforcement, third parties do not have incentive to correct violations. US EPA supports inspections and enforcement by municipalities when it states "Effective inspection and enforcement requires […] penalties to deter infractions and intervention by the municipal authority to correct violations. Enforcement mechanisms […] also must be described."[81]

US EPA discusses the "dual regulation" of construction sites in its *Storm Water Phase II Compliance Assistance Guide*, which states "Even though all construction sites that disturb more than one acre are covered nationally by an NPDES storm water permit, the construction site runoff control minimum measure […] is needed to induce more localized site regulation and enforcement efforts, and to enable operators […] to more effectively control construction site discharges into their MS4s." While the *Storm Water Phase II Compliance Assistance Guide* applies to small municipalities, requirements for small municipalities are applicable to larger municipalities, such as the Copermittees, due to the generally more serious water quality problems caused by larger municipalities.

Municipalities assume initial responsibility for enforcement against illegal discharges from land uses and activities within their jurisdiction because of their land use authority. Since the municipality approves and permits development and land use, it must ensure that its development or land use decisions do not result in receiving water quality degradation. The SDRWQCB will assist municipalities in enforcement against non-compliant sites after the municipality has exhibited a good faith effort to bring the site into compliance.

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81 US EPA. 11/16/901992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges, Final Rule. 55 FR 48069

25. Finding states the following:

> ***PUBLIC PARTICIPATION:*** *Public participation during the URMP development process is necessary to ensure that all stakeholder interests and a variety of creative solutions are considered.*

Discussion: This finding is supported by the Phase II Storm Water Regulations found at 64 FR 68755 which states, "[E]arly and frequent public involvement can shorten implementation schedules and broaden public support for a program." It goes on to explain,"[P]ublic participation is likely to ensure a more successful storm water program by providing valuable expertise and a conduit to other programs and governments."

26. Finding states the following:

> ***TOXICITY****: Urban runoff discharges from MS4s often contain pollutants that cause toxicity, (i.e., adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies). The water quality objectives for toxicity provided in the Water Quality Control Plan, San Diego Basin, Region 9, (Basin Plan), state in part "All waters shall be free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life….The survival of aquatic life in surface waters subjected to a waste discharge or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge…" Urban runoff discharges from MS4s are considered toxic when (1) the toxic effect observed in an acute toxicity test exceeds zero Toxic Units Acute (TUa=0); or (2) the toxic effect observed in a chronic toxicity test exceeds one Toxic Unit Chronic (TUc=1).*

Discussion: Consideration of urban runoff toxicity is significant because toxicity assessments measure the potential effect of a discharge on receiving waters. This is particularly useful in assessing impacts, as opposed to measurements of pollutant concentrations where the effect of the pollutant concentration on receiving waters may be unknown. Finding 26 and this discussion clarify SDRWQCB expectations regarding urban runoff toxicity. Toxicity is also further discussed in Appendix I of the SWRCB's 1997 Water Quality Control Plan – Ocean Waters of California, "California Ocean Plan."

Toxicity is commonly evaluated in terms of both acute toxicity and chronic toxicity. "Acute toxicity concentration" can be expressed in Toxic Units Acute (TUa). The Ocean Plan defines acute toxicity and a method for calculating TUa in a manner that can be used for ocean waters and other waters. Using this Ocean Plan definition and calculation methodology, 100% survival of test organisms in an acute toxicity test yields an acute toxicity concentration of zero TUa. 100% survival of test organisms corresponds to the Basin Plan narrative objective of 'no toxics in toxic amounts.' Therefore, an acute toxicity concentration in excess of zero TUa would not meet the Basin Plan narrative objective for toxicity.

"Chronic toxicity concentration" can be expressed in Toxic Units Chronic (TUc). As with acute toxicity, the Ocean Plan defines chronic toxicity and a method for calculating TUc that can be used for ocean waters and other waters. Using this Ocean Plan definition and calculation methodology, the absence of observable

effects on test organisms in undiluted test water in a critical life stage toxicity test yields a chronic toxicity concentration of 1 TUc. The absence of observable effects on test organisms in undiluted test water corresponds to the Basin Plan narrative objective of 'no toxics in toxic amounts.' Therefore, a chronic toxicity concentration in excess of 1 TUc would not meet the Basin Plan narrative objective for toxicity.

27. Finding states the following:

FOCUS ON MAN-MADE POLLUTANTS AND FLOWS: *The focus of this Order is on the control of urban runoff pollutants and flows, which are either generated or accelerated by human activities. This Order is not meant to control background or naturally occurring pollutants and flows.*

Discussion: In general, man-made pollutants and flows are the cause of receiving water impairment resulting from urban runoff. This is because human activities increase the concentrations of constituents above natural or background levels. Flow volumes and rates are also increased above background levels due to human activities, in both wet and dry weather. The focus of Order No. 2001-193 is therefore placed man-made pollutants and flows. Man-made pollutants and flows are also focused on due to our ability to control them. In comparison with naturally occurring pollutants and flows, man-made pollutants and flows are significantly easier to control. The SDRWQCB has discretion to require control of flows under a United States Supreme Court decision, which held that regulation of flow to protect beneficial uses is within the authority of the Clean Water Act (PUD No. 1 v. WA Dept. of Ecology, 511 U.S. 700 (1994)).

28. Finding states the following:

COMMON WATERSHEDS AND CWA SECTION 303(d) IMPAIRED WATERS*: The Copermittees discharge urban runoff into lakes, streams, creeks, bays, the Pacific Ocean, and tributaries thereto within six hydrologic areas within Orange County as shown in Table 2 below. During its downstream course, urban runoff is conveyed through lined and unlined (natural, manmade, and partially modified) channels, all of which are defined as components of the Copermittees' MS4.*

Some of the receiving water bodies listed below, which receive or convey urban runoff discharges, have been designated as impaired by the SDRWQCB and USEPA in 1998 pursuant to Clean Water Act section 303(d). Additional water bodies may be listed during the term of this Order pursuant to Clean Water Act section 303(d) as impaired as more information is collected and analyzed.

Table 2. Watershed Management Areas (WMAs)

SDRWQCB WATERSHED MANAGEMENT AREA (WMA)	***HYDROLOGIC UNIT(S)***	***MAJOR SURFACE WATER BODIES***	***303(d) POLLUTANT(S) OF CONCERN OR WATER QUALITY EFFECT***	***COPERMITTEES***
San Juan Creek WMA	*San Juan Hydrologic Unit (901.00)*	*Moro Canyon Creek* *Laguna Canyon Creek* *Aliso Creek* *English Canyon Creek* *Sulphur Creek* *Wood Canyon Creek* *Salt Creek*	*1. Coliform Bacteria*	*1. County of Orange* *2. City of Aliso Viejo* *3. City of Dana Point* *4. City of Laguna Beach* *5. City of Lake Forest* *6. City of Laguna Hills* *7. City of Laguna Niguel*

SDRWQCB WATERSHED MANAGEMENT AREA (WMA)	HYDROLOGIC UNIT(S)	MAJOR SURFACE WATER BODIES	303(d) POLLUTANT(S) OF CONCERN OR WATER QUALITY EFFECT	COPERMITTEES
		San Juan Creek *Bell Canyon Creek* *Canada Gobernadora* *Arroyo Trabuco* *Oso Creek* *Prima Deshecha Canada* *Segunda Deshecha Canada* *Pacific Ocean*		*8. City of Laguna Woods* *9. City of Mission Viejo* *10. City of Rancho Santa Margarita* *11. City of San Juan Capistrano* *12. City of San Clemente* *13. Orange County Flood Control District*

Discussion: The 1998 California 303(d) List and TMDL Priority Schedule identifies impaired receiving water bodies and their watersheds within the State of California. The Copermittees which discharge from MS4s to these water bodies are identified in the Regional Board *Draft Watershed Management Approach*.[82] For an explanation on how the watershed approach fits into the NPDES municipal storm water permitting program, see Attachment 4, Municipal Storm Water Permitting and the Watershed Approach.

29. Finding states the following:

CUMULATIVE POLLUTANT LOAD CONTRIBUTIONS: *Because they are interconnected, each MS4 within a watershed contributes to the cumulative pollutant loading, volume, and velocity of urban runoff and the ensuing degradation of downstream receiving water bodies. Accordingly, inland MS4s contribute to coastal impairments.*

Discussion: A watershed is the drainage basin, outlined by topographic divides, which drain to a common outlet, such as a stream, lake, estuary, enclosed bay, or ocean. Therefore, when various MS4s discharge into the same watershed, the discharges eventually flow into a common receiving water body. In this manner, individual MS4s that share the same watershed contribute to cumulative pollutant loading in the watershed's receiving water body. To help alleviate this cumulative loading, watershed based water quality protection is needed. The SWRCB Urban Runoff Technical Advisory Committee defines watershed based water quality protection as "the prevention/control of pollution and management of human activities within a geographically or other defined drainage area to protect, restore, and/or enhance the natural resources and beneficial uses within the watershed."

30. Finding states the following:

LAND USE PLANNING ON A WATERSHED SCALE*: Because urban runoff does not recognize political boundaries, "watershed-based" land use planning (pursued collaboratively by neighboring local governments) can greatly enhance the protection of shared natural water resources. Such planning enables multiple jurisdictions to work together to plan for both development and resource conservation that can be environmentally as well as economically sustainable.*

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[82] SDRWQCB. 1999. Fifth Draft Watershed Management Approach for the San Diego Region.

Discussion: Conventional planning and zoning can be limited in their ability to protect the environmental quality of creeks, rivers, and other waterbodies. Watershed-based planning is often ignored, despite the fact that receiving waters unite land by collecting runoff from throughout the watershed. Since watersheds unite land, they can be used as an effective basis for planning. Watershed-based planning enables local and regional areas to realize economic, social, and other benefits associated with growth, while conserving the resources needed to sustain such growth, including water quality. This type of planning can involve four steps: (1) Identify the watersheds shared by the participating jurisdictions; (2) Identify, assess, and prioritize the natural, social, and other resources in the watersheds; (3) Prioritize areas for growth, protection, and conservation, based on prioritized resources; and (4) Develop plans and regulations to guide growth and protect resources. Local governments can start with simple, yet effective, steps toward watershed planning, such as adopting a watershed-based planning approach, articulating the basic strategy in their General Plans, and beginning to pursue the basic strategy in collaboration with neighboring local governments who share the watersheds. New mechanisms have been created to facilitate watershed-based planning and zoning, such as the San Francisquito Creek Watershed Coordinated Resource Management Process and the Santa Clara Basin Watershed Management Initiative.[83]

31. Finding states the following:

INTERGOVERNMENTAL COORDINATION: *Within their common watersheds it is essential for the Copermittees to coordinate their water quality protection and land use planning activities to achieve the greatest protection of receiving water bodies. Copermittee coordination with other watershed stakeholders, especially CALTRANS and the Department of Defense is also critical.*

Continued implementation of the management structure developed under previous permits, ~~Establishment of a management structure,~~ within which the Copermittees subject to this Order, will fund and coordinate those aspects of their joint obligations will promote implementation of Urban Runoff Management Programs on a watershed and regional basis in the most cost effective manner.

Discussion: Within a given watershed, "water quality and beneficial uses may be affected by many different activities – which may occur throughout or only in certain parts of watersheds, and which may occur near to or far from locations of known water problems" (SDRWQCB,1999). This implies that pollutant sources may actually be located far from where the water quality problem manifests itself. Therefore, water quality problems generated by one municipality may impact another municipality. In addition, municipalities within a watershed all contribute pollutants to shared receiving waters. For these reasons, coordination between municipalities and stakeholders within a watershed is necessary. Watershed scale coordination provides for the highest priority water quality problems to be addressed, resulting in the greatest improvements in water quality for costs incurred. Intergovernmental coordination can also result in cost savings through the sharing of resources between Copermittees.

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[83] Source: Bay Area Stormwater Management Agencies Association. 1999. Start at the Source. Forbes Custom Publishing.

Also, federal NPDES regulation 40 CFR 122.26(d)(2)(iv) requires where necessary intergovernmental coordination by stating "a proposed management program covers the duration of the permit. It shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate." In addition, the US EPA finds that "[Copermittees] may use jurisdictional agreements to show adequate legal authority and to ensure planning, coordination, and the sharing of the resource burden of permit compliance" (1992).

32. Finding states the following:

WASTE REMOVAL: *Waste and pollutants which are deposited and accumulate in MS4 drainage structures will be discharged from these structures to waters of the United States unless they are removed. These discharges may cause or contribute to, or threaten to cause or contribute to, a condition of pollution in receiving waters. Once removed, such accumulated wastes must be characterized and lawfully disposed.*

Discussion: When rain falls and drains urban freeways, industries, construction sites, and neighborhoods it picks up a multitude of pollutants. Gravity flow transports the pollutants to the MS4. Illicit discharges and connections also contribute a significant amount of pollutants to MS4s. MS4s are commonly designed to convey their contents as quickly as possible. Due to these typically high flow rates within the concrete conveyance systems of MS4s, pollutants that enter or are deposited in the MS4 and not removed are generally flushed unimpeded through the MS4 to waters of the United States. The US EPA found in its National Urban Runoff Pollution study (1983) that pollutant concentrations in urban runoff discharged from MS4s frequently exceed established receiving water quality objectives and drinking water standards. Therefore, when waste is deposited in the MS4, it is generally flushed to receiving waters, when it can potentially cause or contribute to a violation of water quality standards.

33. Finding states the following:

CHANGING THE STORM WATER MANAGEMENT APPROACH*: In contrast to the conventional "conveyance" approach, a more natural approach to storm water management seeks to filter and infiltrate runoff by allowing it to flow slowly over permeable vegetated surfaces. By "preserving and restoring the natural hydrologic cycle", filtration and infiltration can greatly reduce the volume/peak rate, velocity, and pollutant loads of urban runoff. The greatest opportunities for changing from a "conveyance" to a more natural management approach occur during the land use planning and zoning processes and when new development projects are under early design.*

Discussion: Urbanization generally results in an increase in pollutant sources and impervious surfaces. The increase in pollutant sources leads to an increase in pollutant loads found in storm water, while the increase in impervious surfaces prevents natural processes from reducing those pollutant loads. The impervious surfaces associated with urbanization and its storm water conveyance systems prevent storm water from infiltrating into the soil. Natural vegetation and soil are

prevented from filtering urban runoff, resulting in storm water flows that are higher in volume and pollutant loads. This causes the quality of receiving waters to be adversely impacted and beneficial uses to be impaired.

Studies have revealed that the level of imperviousness resulting from urbanization is strongly correlated with the water quality impairment of nearby receiving waters.[84] Urbanization creates new sources of pollutants and provides for their rapid transport to receiving waters through storm water conveyance systems. Urbanization also adversely impacts receiving waters through changes it causes to local hydrology. Increases in population density and imperviousness stemming from urbanization result in changes to stream hydrology, including:

1. increased peak discharges compared to predevelopment levels;
2. increased volume of storm water runoff with each storm compared to pre- development levels;
3. decreased travel time to reach receiving water;
4. increased frequency and severity of floods;
5. increased runoff velocity during storms due to a combination of effects of higher discharge peaks, rapid time of concentration, and smoother hydraulic surfaces from channelization; and
6. decreased infiltration and diminished groundwater recharge.

In many cases the impacts on receiving waters due to changes in hydrology can be more significant than those attributable to the contaminants found in storm water discharges (USEPA, 1999b). These impacts include stream bank erosion (increased sediment load and subsequent deposition), benthic habitat degradation, and decreased diversity of macroinvertebrates.

For the above reasons, this Order encourages an approach to storm water management that seeks to preserve and restore the natural hydrologic cycle. Open space designs which maximize pervious surfaces and retention of “natural” drainages have been found to reduce both the costs of development and pollutant export.[85] Moreover, US EPA finds including plans for a “natural” site design and BMP implementation during the design phase of new development and redevelopment offers the most cost effective strategy to reduce pollutant loads to surface waters.[86]

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[84] U.S. Environmental Protection Agency. 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule.

[85] Center for Watershed Protection. 2000. “The Benefits of Better Site Design in Residential Subdivisions.” Watershed Protection Techniques. Vol. 3. No. 2.

[86] U.S. Environmental Protection Agency. 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule.

34. Finding states the following:

> ***INFILTRATION AND POTENTIAL GROUNDWATER CONTAMINATION:*** *Any drainage feature that infiltrates runoff poses some risk of potential groundwater contamination. Although dependent on several factors, the risks typically associated with properly managed infiltration of runoff (especially from residential land use areas) are not significant. The risks associated with infiltration can be managed by many techniques, including (1) designing landscape drainage features that promote infiltration of runoff, but do not "inject" runoff (injection bypasses the natural processes of filtering and transformation that occur in the soil); (2) taking reasonable steps to prevent the illegal disposal of wastes; and (3) ensuring that each drainage feature is adequately maintained in perpetuity. Minimum conditions needed to protect groundwater are specified in section F.1.b. of this Order.*

Discussion: Infiltration is an effective means for managing urban runoff. However, measures must be taken to protect groundwater quality when infiltration of urban runoff is implemented. US EPA supports urban runoff infiltration and provides guidance for protection of groundwater: "With a reasonable degree of site-specific design considerations to compensate for soil characteristics, infiltration may be very effective in controlling both urban runoff quality and quantity problems. This strategy encourages infiltration of urban runoff to replace the natural infiltration capacity lost through urbanization and to use the natural filtering and sorption capacity of soils to remove pollutants; however, the potential for some types of urban runoff to contaminate groundwater through infiltration requires some restrictions."[87] The restrictions placed on urban runoff infiltration in Tentative Order No. 2001-193 are based on recommendations provided by the US EPA Risk Reduction Engineering Laboratory. The SWRCB tentatively found in its draft order on the appeal of the Los Angeles Regional Water Quality Control Board's (LARWQCB's) Standard Urban Storm Water Mitigation Plan (SUSMP) requirements that the guidance provided in the above referenced document by the US EPA Risk Reduction Engineering Laboratory is sufficient for the protection of groundwater quality from urban runoff infiltration. To further protect groundwater quality, Tentative Order No. 2001-193 also includes guidance from the LARWQCB,[88] the State of Washington,[89] and the State of Maryland.[90]

35. Finding states the following:

> ***VECTOR CONTROL:*** *Certain BMPs implemented or required by municipalities for urban runoff management may create a habitat for vectors (e.g. mosquitoes and rodents) if not properly designed or maintained. Close collaboration and cooperative effort between municipalities and local vector control agencies and the State Department of Health Services during the development and implementation of the Urban Runoff Management Programs is necessary to minimize nuisances and public health impacts resulting from vector breeding.*

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[87] U.S. Environmental Protection Agency. 1994. Potential Groundwater Contamination from Intentional and Nonintentional Stormwater Infiltration. EPA 600 SR-94 051.

[88] Guidance on vertical distance from base of BMP to groundwater table. LARWQCB. 2000. Standard Urban Storm Water Mitigation Plan for Los Angeles County and Cities in Los Angeles County.

[89] Washington State Department of Ecology. 1999. Draft Stormwater Management in Washington State. Volume V – Runoff Treatment BMPs. Pub. No. 99-15.

[90] Maryland Department of the Environment. 1999. 2000 Maryland Stormwater Design Manual. Volume I.

Discussion:
The implementation of certain structural BMPs or other urban runoff treatment systems can result in significant vector problems in the form of increased breeding or harborage habitat for mosquitoes, rodents or other potentially disease transmitting organisms. The implementation of BMPs that retain water may provide breeding habitat for a variety of mosquito species, some of which have the potential to transmit diseases such as Western Equine Encephalitis, St. Louis Encephalomyelitis, and malaria. Recent BMP implementation studies by CALTRANs[91] in District 7 and District 11 have demonstrated mosquito breeding associated with some types of BMPs. The CALTRANS BMP Retrofit Pilot study cited lack of maintenance and improper design as factors contributing to mosquito production. However, a Watershed Protection Techniques article[92] describes management techniques to select, design and maintain structural treatment BMPs for urban runoff to minimize mosquito production. State and local urban runoff management programs that include structural BMPs with the potential to retain water have been implemented in Florida and the Chesapeake Bay region without resulting in significant public health threats from mosquitoes or other vectors[93]. The finding identifies the potential vector issues related to BMP implementation and the role of collaborative program development between municipalities and vector control agencies in addressing and minimizing vector production in the implementation of the Jurisdictional Urban Runoff Management Program.

36. Finding states the following:

LEGAL AUTHORITY: *This Order is based on the federal Clean Water Act, the Porter-Cologne Water Quality Control Act (Division 7 of the Water Code, commencing with Section 13000), applicable state and federal regulations, all applicable provisions of statewide Water Quality Control Plans and Policies adopted by the State Water Resources Control Board, the Regional Water Quality Control Plan (Basin Plan) adopted by the Regional Board, the California Toxics Rule, and the California Toxics Rule Implementation Plan.*

Discussion:
The United States and State of California have sought to protect streams, bays, lagoons, the ocean, and other waters from human-induced pollution. Municipal separate storm sewer systems (MS4s) are recognized as a significant conveyor of pollutants to waters of the United States and waters of the State of California. In 1987, Congress established Clean Water Act Amendments to create requirements for storm water discharges under the NPDES program, which provides for permit systems to regulate the discharge of pollutants. Under the Porter-Cologne Water Quality Control Act (California Water Code), the State Water Resources Control Board and each Regional Water Quality Control Board have primary responsibility for the coordination and control of water quality,

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[91] Caltrans BMP Retrofit Pilot Studies: A Preliminary Assessment of Vector Production (2000), Vicki Kramer, Vector Borne Disease Section, California Department of Health Services.

[92] Watershed Protection Techniques (1995) 1(4):203-207 Mosquitoes in Constructed Wetlands: A Management Bugaboo?

[93] Shaver, E. and R. Baldwin (1995) Sand Filter Design for Water Quality Treatment in Herricks, E., Ed. Stormwater Runoff and Receiving Systems: Impact, Monitoring, and Assessment, CRC Lewis Publishers, New York, NY.

including the authority to implement the Federal Clean Water Act. Porter Cologne (section 13240) directs the Regional Boards to set water quality objectives via adoption of Basin Plans that conform to all state policies for water quality control. As a means for achieving those water quality objectives, Porter Cologne (section 13243) further authorizes the Regional Boards to establish waste discharge requirements to prohibit waste discharges in certain conditions or areas. Since 1990 the San Diego Regional Board has issued area-wide NPDES permits for storm water runoff. This Order will renew Order No. 96-03 as a means to attain water quality objectives in the Basin Plan by limiting the contributions of pollutants conveyed by urban runoff and to comply with Federal Clean Water Act. Further discussions of the broad and specific legal authority associated with the prohibitions and directives of this Order are provided throughout this document.

37. Finding states the following:

TOTAL MAXIMUM DAILY LOADS (TMDLs): *40 CFR 122.44 (d)(vii)(B) requires that NPDES permits contain effluent limitations that are consistent with waste load allocations developed under a TMDL. Several TMDLs are being developed in the San Diego Region for impaired water bodies that receive Copermittees' discharge. Once these TMDLs are approved by the SDRWQCB and USEPA, Copermittees' discharge of urban runoff into an impaired water body will be subject to load allocations established by the TMDLs. This Order may be revised by the Regional Board to implement the TMDL waste load allocations for specific water bodies within the Orange County watersheds.*

Discussion:
40 CFR 122.44 (d)(vii)(B) requires that NPDES permit effluent limitations be consistent with any waste load allocation for the discharge that are prepared by the state (Regional Board) and approved by USEPA. Furthermore, USEPA's guidance for developing TMDLs in California includes a recommendation that the state (Regional Board) evaluate how waste load allocations will be translated into NPDES permits as part of the development of the TMDL implementation plan. Once TMDL limits are established and approved by USEPA, NPDES permits will be required to include effluent limitations that are consistent with the TMDL allocations. This Order may be specifically revised by the Regional Board to implement the TMDL waste load allocations for specific water bodies within the Orange County watersheds. There are no USEPA approved TMDLs for the San Diego Region, and therefore no limitations that can be explicitly included in the Tentative Order at this time. This finding was added to the permit to reference TMDLs and their relationship to the permit.

38. Finding states the following:

ANTIDEGRADATION: *Conscientious implementation of URMPs that satisfy the requirements contained in this Order will reduce the likelihood that discharges from MS4s will cause or contribute to unreasonable degradation of the quality of receiving waters. Therefore, this Order is in conformance with SWRCB Resolution No. 68-16 and the federal antidegradation policy described in 40 CFR 131.12.*

Discussion: Implementation of URMPs is required to reduce pollutants in urban runoff to the maximum extent practicable. Reduction of pollutants to the maximum

extent practicable will prevent degradation of the quality of receiving waters. Therefore, implementation of URMPs that satisfy the requirements of Order No. 2001-193 will prevent violations of receiving water quality objectives. The Basin Plan states that "Water quality objectives must […] conform to US EPA regulations covering antidegradation (40 CFR 131.12) and State Board Resolution 68-16, Statement of Policy with Respect to Maintaining High Quality of Waters in California." As a result, when water quality objectives are met through the implementation of URMPs, US EPA and SWRCB antidegradation policy requirements are also met.

39. Finding states the following:

CEQA: *The issuance of waste discharge requirements for the discharge of urban runoff from MS4s to waters of the United States is exempt from the requirement for preparation of environmental documents under the California Environmental Quality Act (CEQA) (Public Resources Code, Division 13, Chapter 3, § 21000 et seq.) in accordance with the CWC § 13389.*

Discussion: CWC section 13389 provides that "Neither the state board nor the regional boards shall be required to comply with the provisions of Chapter 3 (commencing with section 21100) of Division 13 of the Public Resources Code prior to the adoption of any waste discharge requirement, except requirements for new sources as defined in the Federal Water Pollution Control Act or acts amendatory thereof or supplementary thereto."

40. Finding states the following:

COMMON INTEREST DEVELOPMENTS AND HOMEOWNERS ASSOCIATIONS: *Common interest developments occur within the jurisdiction of the Copermittees. Commonly owned areas can include those used to convey urban runoff. State Law (Civil code 1350-1376) requires that an association be established to manage the commonly owned areas. Urban runoff from storm water conveyance systems within common interest developments is discharged to receiving waters and/or MS4s. This runoff is expected to have water quality and quantity characteristics similar to runoff from areas of similar land use and drainage area.*

Discussion:
Many residential neighborhoods and some commercial areas within the jurisdiction of the Copermittees are within common interest developments and are, therefore, subject to management of common areas by associations. The Declaration of the Covenants, Conditions and Restrictions (CC&Rs) contains the ground rules for the operation of such an association. CC&Rs are an appropriate method for protecting the common plan of developments and to provide for a mechanism for financial support for the upkeep of common areas including roads, storm drains, and other components of storm water conveyance systems.

In certain cases the Copermittees may neither own nor operate the storm water conveyance systems within common interest developments. Presently, some Copermittees have agreements with the responsible association(s) in which the association either allows the Copermittee to implement best management practices or the association agrees to uphold the intent of the DAMP. Rather than list the associations as Copermittees, this Order interprets common interest

areas as property subject to the codes and ordinance and enforcement mechanisms of the city or county in which it resides and, therefore, holds the local government responsible for the discharge of wastes from private storm water conveyance systems.

41. Finding states the following:

REPORT OF WASTE DISCHARGE: *In September 2000, the Orange County Copermittees submitted a Report of Waste Discharge and a proposed Drainage Area Management Plan (DAMP) for 2001-2006 to the SDRWQCB. ~~The SDRWQCB has determined the implementation of proposed DAMP would be inadequate to reduce pollutants in the discharge of urban runoff to the maximum extent practicable (MEP) and to protect the beneficial uses of the receiving waters of Orange County within the San Diego Region.~~*

Discussion:
The Orange County Copermittees submitted the Report of Waste Discharge and a proposed Drainage Area Management Plan (DAMP) for Orange County.
A staff level review of the Report of Waste Discharge and the proposed DAMP submitted in September 2000 concluded that implementation of the proposed DAMP would not satisfy the MEP standard as defined in this Order or adequately protect the beneficial uses of the receiving waters of Orange County within the San Diego Region. Although the Copermittees proposed performance commitments that improved the 1993 DAMP, staff concluded that the DAMP as a whole does not provide adequate specific information on the required ~~the~~ implementation of BMPs that would prevent, treat or reduce the pollutants in the discharges of urban runoff to the maximum extent practicable. The proposed DAMP does not incorporate sufficient tools to complement public education as a means to increase public cooperation in the effort to reduce sources of urban runoff pollution. Implementation of the DAMP has not adequately protected the beneficial uses of the receiving waters of Orange County within the San Diego region as evidenced in part by the ongoing beach closures, elevated bacterial contamination of Aliso Creek, and the continued diversion of Aliso Creek into the AMWA Regional Treatment Facility (sewer) outfall at Aliso State Beach. In addition, the Orange County Grand Jury found that local enforcement actions are insufficient to deter polluters because monetary fines related to urban runoff pollution are “so minimal that it is often more cost effective for the offender to pay the fine than to properly dispose of the pollutants.” (source: OC Grand Jury, 1998-1999 “Coastal Water Quality and Urban Runoff in Orange County”) Furthermore, during the May 9, 2001 meeting of the SDRWQCB in Laguna Beach, concerns were expressed regarding the adequacy of proposed BMP implementation, source identification and control, and the urban runoff management programs being employed by the Copermittees.

~~A more detailed analysis of the proposed DAMP is being prepared and will be attached at a later date as a supplement to this Fact Sheet/Technical Report prior to consideration of the Tentative Order for adoption.~~

A more detailed analysis of the proposed DAMP has been prepared and presented as Attachment 5 of this Fact Sheet/Technical Report. In addition, this subject has

been extensively addressed in the response to comments, which will be appended to this document.

42. Finding states the following:

PUBLIC NOTICE: *The SDRWQCB has notified the Copermittees, all known interested parties, and the public of its intent to consider adoption of an Order prescribing waste discharge requirements that would serve to renew an NPDES permit for the existing discharge of urban runoff.*

Discussion: Public notification of development of a draft permit is required under Federal regulation 40 CFR 124.10(a)(1)(ii). This regulation states "(a) Scope. (1) The Director shall give public notice that the following actions have occurred: (ii) A draft permit has been prepared under Sec. 124.6(d)." Public notifications "shall allow at least 30 days for public comment," as required under Federal regulation 40 CFR 124.10(b)(1). Public notification is also required under California Water Code Section 13378, which states "Waste discharge requirements and dredged or fill material permits shall be adopted only after notice and any necessary hearing."

43. Finding states the following:

PUBLIC HEARING*: The SDRWQCB has, at a public meeting on September 12, 2001, held a public hearing and heard and considered all comments pertaining to the terms and conditions of this Order.*

Discussion: Public hearings are required under California Water Code Section 13378, which states "Waste discharge requirements and dredged or fill material permits shall be adopted only after notice and any necessary hearing." Federal regulation 40 CFR 124.12(a)(1) also requires public hearings for draft permits, stating "The Director shall hold a public hearing whenever he or she finds, on the basis or requests, a significant degree of public interest in a draft permit(s)." Regarding public notice of a public hearing, Federal regulation 40 CFR 124.10(b)(2) states that "Public notice of a public hearing shall be given at least 30 days before the hearing."

44. **Finding** states the following:

RETAIL GASOLINE OULETS (RGOs) ARE SIGNIFICANT SOURCES OF POLLUTANTS IN URBAN RUNOFF: RGOs are points of confluence for motor vehicles for automotive related surfaces such as repair, refueling, tire inflation, and radiator fillup and consequently produce significantly greater loadings of hydrocarbons and trace metals (including copper and zinc) than other urban areas. Source control and structural treatment BMPs are needed at RGOs, with 5,000 or more square feet, to reduce pollutants to MEP.

Discussion: The Tentative Order includes RGOs as a priority development category that is subject to SUSMP requirements. In Order No. 2000-11, the SWRCB removed RGOs as a SUSMP category since they were already heavily regulated, limited on their ability to construct infiltration devices or perform treatment, treatment may be unsafe near USTs, and lacked a threshold. In a draft response to the petition, San Diego Storm Water Permit Order 2001-01, the SWRCB again removed the RGOs from the SUSMP since the SDRWCB did not include findings specific to address the issues raised in Order 2000-11 and did not include a justified threshold. The following includes a brief discussion on each SWRCB issue regarding RGOs. Additional detailed

supporting information can found in *Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts, June 2001* in Attachment XX.

Heavily Regulated
The heavily regulated distinction does not remove RGOs as significant source of pollutants in urban runoff and therefore should not be a basis for exempting them. Other regulation of RGOs is separate from regulation under the CWA and does not necessarily relate to water quality from urban runoff. Other municipalities already require that RGOs implement structural BMPs even though they are regulated under other programs.

Treatment Limitations`
Structural treatment BMPs are available for RGOs to reduce pollutants and control peak flow rates and velocities that that are both inexpensive and effective. Studies have shown that catch basin inserts can remove hydrocarbons and heavy metals that are the pollutants of concern. Sand or media filters have also been found to be effective and available for use at RGOs. Cisterns are examples of established BMPs to control flow, but RGOs could also use site design measures such as small weirs, baffles, and redirecting roof runoff to pervious areas.

Safety
No evidence has been provided to indicate that use of these structural BMPs will pose a safety risk. In fact, filter BMP have been installed at RGOs in other municipalities without apparent adverse safety effects. In addition, similar BMPs such as oil/water separators have been used for years by RGOs without apparent adverse safety risks.

Threshold
Studies indicate that runoff from RGOs contains similar pollutants to runoff from commercial parking lots. In Order 2000-11and the draft response to the petition for San Diego Storm Water Permit Order 2001-01, SWRCB affirmed that parking lots 5,000 square feet or more is an appropriate SUSMP category. Based on their similarity of pollutants, the 5,000 square feet threshold was included for RGOs in the Tentative Order. Other municipalities currently use similar size thresholds for RGOs to require design standards to mitigate storm water runoff.

Finding
Finding 44 has been included in the Tentative Order that indicates RGOs are a significant source of pollutants in urban runoff needing source control and structural treatment BMPs.

VII. DIRECTIVES DISCUSSION

UNDERLYING BROAD LEGAL AUTHORITY FOR ORDER NO. 2001-193

The following statutes, regulations, and Water Quality Control Plans provided the basis for Tentative Order No. 2001-193: Clean Water Act, California Water Code, 40 CFR Parts 122, 123, 124 (National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges, Final Rule), Part II of 40 CFR Parts 9, 122, 123, and 124 (National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule), Water Quality Control Plan – Ocean Waters of California (California Ocean Plan), Water Quality Control Plan for the San Diego Basin (Basin Plan), 40 CFR 131 Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California; Rule (California Toxics Rule), and the California Toxics Rule Implementation Plan.

The following broad legal authority citations generally apply to all directives in Order No. 2001-193, and provide the SDRWQCB with ample underlying authority to require each of the directives.

CWA 402(p)(3)(B)(ii) – Prohibit Non-Storm Water
The CWA requires in section 402(p)(3)(B)(ii) that permits for discharges from municipal storm sewers "shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers."

CWA 402(p)(3)(B)(iii) – Reduce to MEP and Whatever Else is Needed
The CWA requires in section 402(p)(3)(B)(iii) that permits for discharges from municipal storm sewers "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants."

40 CFR 122.26(d)(2)(i)(B,C,E, and F) – Obtain Adequate Legal Authority
Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) provide that each Copermitee's permit application "shall consist of : (i) Adequate legal authority. A demonstration that the applicant can operate pursuant to legal authority established by statute, ordinance or series of contracts which authorizes or enables the applicant at a minimum to: […] (B) Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer; (C) Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water; […] (E) Require compliance with condition in ordinances, permits, contracts or orders; and (F) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer."

40 CFR 122.26(d)(2)(iv) – Reduce to the MEP and Whatever Else is Needed
Federal NPDES regulation 40 CFR 122.26(d)(2)(iv) provides that the Copermittee shall develop and implement a proposed management program which "shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate. The program shall also include a description of staff and equipment available to implement the program. […] Proposed programs may impose controls on a systemwide basis, a watershed basis, a jurisdiction basis, or on individual outfalls. […] Proposed management programs shall describe priorities for implementing controls."

CWC 13377 – Implement Clean Water Act and Whatever Else is Needed
California Water Code section 13377 provides that "Notwithstanding any other provision of this division, the state board or the regional boards shall, as required

or authorized by the Federal Water Pollution Control Act (Clean Water Act), as amended, issue waste discharge requirements and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary, thereto, together with anymore stringent effluent standards or limitation necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance."

In addition to the five broad legal authority items cited above, which underlie all of the directives in Order No. 2001-193, additional specific legal authority citations applicable to particular directives of Order No. 2001-193 are provided in this Fact Sheet/Technical Report as necessary. Some of these additional specific legal authority citations apply to entire components of Order No. 2001-193. In this case, the specific legal authority quotations are provided at the beginning of the discussion of the permit component, while the legal authority is again cited under each directive of the component. Furthermore, some specific legal authority citations only apply to distinct directives of Order No. 2001-193. When this occurs, the quotation of the specific legal authority citation will appear with the discussion of the distinct permit directive.

A. PROHIBITIONS – DISCHARGES

A.1. Prohibitions – Discharges states the following:

Discharges into and from MS4s in a manner causing, or threatening to cause, a condition of pollution, contamination, or nuisance (as defined in CWC § 13050), in waters of the state are prohibited.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: The SDRWQCB Water Quality Control Plan for the San Diego Basin (Basin Plan) contains the following waste discharge prohibition: "The discharge of waste to waters of the state in a manner causing, or threatening to cause a condition of pollution, contamination, or nuisance as defined in California Water Code Section 13050, is prohibited."

California Water Code section 13050(l) states"(1) 'Pollution' means an alteration of the quality of waters of the state by waste to a degree which unreasonably affects either of the following: (A) The water for beneficial uses. (B) Facilities which serve beneficial uses. (2) 'Pollution' may include "contamination."

California Water Code section 13050(k) states "'Contamination' means an impairment of the quality of waters of the state by waste to a degree which creates a hazard to public health through poisoning or through the spread of disease. 'Contamination' includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected."

California Water Code section 13050(m) states "'Nuisance' means anything which meets all of the following requirements: (1) Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property. (2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal. (3) Occurs during, or as a result of, the treatment or disposal of wastes."

California Water Code Section 13243 provides that "A regional board, in a water quality control plan or in waste discharge requirements, may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted."

California Water Code Section 13263(a) provides that waste discharge requirements prescribed by the SDRWQCB implement the Basin Plan.

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in urban runoff from commercial, residential, industrial, and construction land uses or activities.

Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(A - D) require municipalities to have legal authority to control various discharges to their MS4.

Discussion: Prohibition item A.1. characterizes a basic premise and primary goal of Order No. 2001-193. The entire thrust of Order No. 2001-193 is to prevent discharges from MS4s from causing, or threatening to cause, a condition of pollution, contamination, or nuisance. In fact, Prohibition item A.1. exhibits a major component of the SDRWQCB's mission, and is included in its Basin Plan. The SDRWQCB seeks to preserve and enhance the quality of the region's waters, and one primary method to achieve this is by preventing conditions of pollution, contamination, or nuisance in the region's waters. As discussed in Finding 9, urban runoff discharges from MS4s can cause these conditions. Therefore, Prohibition item A.1 is included in Order No. 2001-193 to prevent urban runoff discharges which may cause or threaten to cause conditions of pollution, contamination, or nuisance.

Since discharges that enter the MS4 are generally discharged unimpeded directly into receiving waters, this prohibition applies to both discharges into and from MS4s. Federal NPDES regulations clearly provide the SDRWQCB with the legal authority to require municipalities to control discharges from third parties into their MS4. 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in urban runoff **from** commercial, residential, industrial, and construction land uses or activities. Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(A - D) require municipalities to have legal authority to control various discharges **to** their MS4. This concept is further supported in the Preamble to the Phase II Final Rule NPDES storm water regulations, which states "The operators of regulated small MS4s cannot passively receive and discharge

pollutants **from** third parties" (US EPA, 1999). Due to the greater water quality concerns generally experienced by larger municipalities, Phase II Final Rule findings for small municipalities are also applicable to larger municipalities such as the Copermittees. Finally, underlying the Federal NPDES storm water regulations is the Clean Water Act, which states in section 402(p)(3)(B)(ii) that municipalities shall "effectively prohibit non-stormwater discharges **into** the storm sewers."

The requirement for municipal storm water dischargers to have, and exercise, local governmental authority in order to comply with water quality control obligations (such as Prohibition A.1 of Order No. 2001-193) is analogous to the requirement for Publicly Owned Treatment Works to have and exercise legal authority to require pretreatment of industrial wastes being discharged to their sewage collections systems (CWA 402(b)(8)).

The SDRWQCB has discretion to require Prohibition item A.1. in Order No. 2001-193 under the broad and specific legal authority cited above.

A.2. Prohibitions – Discharges states the following:

Discharges from MS4s which cause or contribute to exceedances of receiving water quality objectives for surface water or groundwater are prohibited.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to "control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality."

California Water Code section 13241 requires each regional board to "establish such water quality objectives in water quality control plans as in its judgement will ensure the reasonable protection of beneficial uses and the prevention of nuisance […]."

California Water Code Section 13243 provides that "A regional board, in a water quality control plan or in waste discharge requirements, may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted."

California Water Code Section 13263(a) provides that waste discharge requirements prescribed by the SDRWQCB implement the Basin Plan.

Discussion: As with Prohibition item A.1., Prohibition item A.2. also characterizes a primary goal of Order No. 2001-193 and the SDRWQCB. This goal is to protect

the beneficial uses of the region's waters and achieve the water quality objectives necessary to protect those uses. The overarching intent of the Clean Water Act embodies Prohibition item A.2. as well; the Act's objective is to "restore and maintain all chemical, physical and biological integrity of the Nation's waters [to make all surface waters] fishable [and] swimmable."

As discussed in Finding 3, urban runoff discharges from MS4s can cause or contribute to exceedances of receiving water quality objectives. For this reason, there is a real need for municipal storm water permits to include stringent requirements such as Prohibition item A.2. to protect those water bodies. To meet this need the SDRWQCB has included receiving water limitations, which dictate water quality standards (designated beneficial uses and water quality objectives developed to protect beneficial uses), in Receiving Water Limitations item C. of Order No. 2001-193 (see the Discussion for this item for more information). To ensure that water quality standards are protected and receiving water limitations met, the SDRWQCB must prohibit MS4 discharges that cause or contribute to exceedances of receiving water quality objectives.

The SDRWQCB has discretion to require Prohibition item A.2. in Order No. 2001-193 under the broad and specific legal authority cited above.

A.3. Prohibitions – Discharges states the following:

~~Discharges from MS4s to waters of the United States containing pollutants which have not been reduced to the maximum extent practicable (MEP) are prohibited.~~ Discharges from MS4s containing pollutants which have not been reduced to the maximum extent practicable (MEP) are prohibited.

~~Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).~~

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

~~Specific Legal Authority: California Water Code Section 13243 provides that "A regional board, in a water quality control plan or in waste discharge requirements, may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted."~~

Specific Legal Authority: California Water Code Section 13243 provides that "A regional board, in a water quality control plan or in waste discharge requirements, may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted."

Discussion: As discussed in Findings 3 and 9, urban runoff discharges from MS4s can cause receiving water degradation and beneficial use impairment. For this reason, pollutants in these discharges must be reduced to the maximum extent practicable (see Finding 10). The Clean Water Act and Federal NPDES regulations clearly require operators of MS4s to reduce pollutants in discharges from MS4s to the maximum extent practicable. Therefore, the SDRWQCB has prohibited discharges that do not meet this requirement.

The SDRWQCB has discretion to require Prohibition item A.3. in Order No. 2001-193 under the broad and specific legal authority cited above.

This prohibition was removed from the Order in response to comments to provide greater clarity regarding the minimum requirement to prohibit illicit discharges.

Discussion: As discussed in Findings 3 and 9, urban runoff discharges from MS4s can cause receiving water degradation and beneficial use impairment. For this reason, pollutants in these discharges must be reduced to the maximum extent practicable (see Finding 10). The Clean Water Act and Federal NPDES regulations clearly require operators of MS4s to reduce pollutants in discharges from MS4s to the maximum extent practicable. Therefore, the SDRWQCB has prohibited discharges which do not meet this requirement.

The SDRWQCB has discretion to require Prohibition item A.3. in Order No. 2001-193 under the broad and specific legal authority cited above.

This prohibition has been revised and is included in response to a draft SWRCB Order, dated October 18, 2001, in the Matter of the Petitions of Building Industry Association of San Diego County and Western States Petroleum Association for Review of Waste Discharge Requirements Order No. 2001-01 for Urban Runoff from San Diego County [NPDES No. CAS0108758] Issued by the California Water Quality Control Board, San Diego Region.

A.4. Prohibitions – Discharges states the following:

In addition to the above prohibitions, discharges from MS4s are subject to all Basin Plan prohibitions cited in Attachment A to this Order.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: California Water Code Section 13243 provides that "A regional board, in a water quality control plan or in waste discharge requirements, may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted."

California Water Code Section 13263(a) provides that waste discharge requirements prescribed by the SDRWQCB implement the Basin Plan.

Discussion: As discussed in Findings 3, 6, and 9, the discharge of pollutants from MS4s can cause the concentration of pollutants to exceed applicable receiving water quality objectives, impair or threaten to impair designated beneficial uses, and pose a significant threat to the public health. To prevent these conditions, the Prohibitions included in the SDRWQCB's Basin Plan must therefore apply to MS4 discharges. The Basin Plan contains Prohibitions established by the SDRWQCB pursuant to California Water Code Section 13243. The SDRWQCB is required to implement Basin Plan Prohibitions in Order No. 2001-193 pursuant to California Water Code Section 13263(a).

The SDRWQCB has discretion to require Prohibition item A.5. in Order No. 2001-193 under the broad and specific legal authority cited above.

B. PROHIBITIONS – NON STORM WATER DISCHARGES

B.1. Prohibitions – Non-Storm Water Discharges states the following:

*Each Copermittee shall effectively prohibit **all** types of non-storm water discharges into its Municipal Separate Storm Sewer System (MS4) unless such discharges are either authorized by a separate NPDES permit; or not prohibited in accordance with B.2. and B.3. below.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B) requires MS4 operators "to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(1) provides that the Copermittees shall prevent all types of illicit discharges into the MS4 except for the non-storm water discharges listed in Prohibition item B.2., provided that these discharges are not found to be a significant source of pollutants.

Discussion: Illicit or non-storm water discharges can constitute a significant portion of urban runoff discharges from MS4s. US EPA states "A study conducted in 1987 in Sacramento, California, found that almost one-half of the water discharged from a local MS4 was not directly attributable to precipitation runoff. A significant portion of these dry weather flows were from illicit and/or inappropriate discharges and connections to the MS4" (2000).

MS4 discharges attributable to illicit or non-storm water discharges can be a significant source of pollutant loading to receiving waters. The NURP study concluded that the quality of urban runoff can be adversely impacted by illicit discharges and connections (US EPA, 1983). Furthermore, US EPA states that illicit or non-storm water discharges result in "untreated discharges that contribute high levels of pollutants, including heavy metals, toxics, oil and grease, solvents,

nutrients, viruses, and bacteria to receiving waterbodies. Pollutant levels from these illicit discharges have been shown in EPA studies to be high enough to significantly degrade receiving water quality and threaten aquatic wildlife and human health" (2000).

For these reasons, CWA section 402(p)(3)(B)(ii) requires each Copermittee to prohibit non-storm water discharges into its MS4. The detection and elimination of illicit discharges and connections is also clearly identified in the federal regulations as a high priority (40 CFR 122.26(d)(2)(iv)(B) and 122.26(d)(2)(iv)(B)(1)). As guidance for detecting and eliminating illicit discharges and connections, the US EPA suggests "The proposed management program must include a description of inspection procedures, orders, ordinances, and other legal authorities necessary to prevent illicit discharges to the MS4" (1992).

The SDRWQCB has the discretion to require Prohibition item B.1. in Order 2001-193 under the broad and specific legal authority cited above.

B.2. Prohibitions – Non-Storm Water Discharges states the following:

Pursuant to 40 CFR 122.26(d)(2)(iv)(B)(1), the following categories of non-storm water discharges need only be prohibited from entering an MS4 if such categories of discharges are identified by the Copermittee as a significant source of pollutants to waters of the United States:

a. Diverted stream flows;
b. Rising ground waters;
c. Uncontaminated ground water infiltration [as defined at 40 CFR 35.2005(20)] to MS4s;
d. Uncontaminated pumped ground water;
e. Foundation drains;
f. Springs;
g. Water from crawl space pumps;
h. Footing drains;
i. Air conditioning condensation;
j. Flows from riparian habitats and wetlands;
k. Water line flushing;
l. Landscape irrigation;
m. Discharges from potable water sources;
n. Irrigation water;
o. Lawn watering;
p. Individual residential car washing; and
q. Dechlorinated swimming pool discharges.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B) requires MS4 operators "to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(1) provides that the Copermittees shall prevent all types of illicit discharges into the MS4 except for the

non-storm water discharges listed in Prohibition item B.2., provided that these discharges are not found to be a significant source of pollutants.

Discussion: The discharges listed in Prohibition item B.2. are referred to as "de minimis" discharges in the Federal NPDES regulations. They are considered acceptable non-storm water discharges to the MS4 only when found by the municipality to not be a significant source of pollutants to the MS4 (40 CFR 122.26(d)(2)(iv)(B)(1)). Regarding these discharges, US EPA states "While EPA does not consider these flows to be innocuous, they are only to be regulated by the storm water program to the extent that they may be identified as significant sources of pollutants to waters of the United States under certain circumstances" (1992).

The SDRWQCB has discretion to require Prohibition item B.2. in Order No. 2001-193 under the broad and specific legal authority cited above.

B.3. Prohibitions – Non-Storm Water Discharges states the following:

When a discharge category above is identified as a significant source of pollutants to waters of the United States, the Copermittee shall either:

a. Prohibit the discharge category from entering its MS4; ***OR***

b. Not prohibit the discharge category and implement, or require the responsible party(ies) to implement, BMPs which will reduce pollutants to the MEP; ***AND***

c. For each discharge or discharge class not prohibited, the Copermittee shall submit the following information to the SDRWQCB within 180 days of adoption of this Order:

(1) The non-storm water discharge category listed above which the Copermittee elects not to prohibit; and

(2) The BMP(s) for each discharge class listed above which the Copermittee will implement, or require the responsible party(ies) to implement, to prevent or reduce pollutants to the MEP.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B) requires MS4 operators "to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(1) provides that the Copermittees shall prevent all types of illicit discharges into the MS4 except for the non-storm water discharges listed in Prohibition item B.2., provided that these discharges are not found to be a significant source of pollutants.

California Water Code Section 13267 provides that "the regional board may require that any person who has discharged […] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires."

Discussion: Discharges listed in Prohibition item B.2. which are found to be significant sources of pollutants cannot be discharged to the MS4 without implementation of applicable control measures. These control measures can include prohibition of the discharges or implementation of BMPs to reduce pollutants in the discharges to the maximum extent practicable. If a municipality chooses not to prohibit such a discharge, the municipality must supply the SDRWQCB information assuring that pollutants in the discharges will be reduced to the maximum extent practicable. This will help ensure that the municipality has a plan in place to address the discharges, thereby reducing the potential for the discharges to impact receiving water quality.

The SDRWQCB has discretion to require Prohibition item B.3. in Order No. 2001-193 under the broad and specific legal authority cited above.

B.4. Prohibitions – Non-Storm Water Discharges states the following:

Fire Fighting Flows: *Emergency fire fighting flows (i.e., flows necessary for the protection of life or property) do not require BMPs and need not be prohibited. As part of the Jurisdictional URMP, each Copermittee shall develop and implement a program within 365 days of adoption of this Order to reduce pollutants from non-emergency fire fighting flows (i.e., flows from controlled or practice blazes and maintenance activities) identified by the Copermittee to be significant sources of pollutants to waters of the United States.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B) requires MS4 operators "to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(1) provides that Copermittees "shall address discharges or flows from fire fighting only where such discharges or flows are identified as significant sources of pollutants to waters of the United States."

Discussion: Discharges or flows from non-emergency fire fighting can be a significant source of pollutants to the MS4. Pollutants that enter the MS4 are generally flushed out to receiving waters. Discharges or flows from non-emergency fire fighting activities can therefore negatively impact receiving water quality. For this reason, non-emergency fire fighting discharges and flows must be addressed when identified as significant sources of pollutants.

The SDRWQCB has discretion to require Prohibition item B.4. in Order No. 2001-193 under the broad and specific legal authority cited above.

B.5. Prohibitions – Non-Storm Water Discharges states the following:

Dry Weather Monitoring and Non-Storm Water Discharges: *Each Copermittee shall examine all dry weather monitoring results collected in accordance with section F.5. and Attachment E of this Order to identify water quality problems which may be the result of any non-prohibited discharge category(ies) identified above in Non-Storm Water Discharges to MS4s Prohibition B.2. Follow-up investigations shall be conducted as necessary to identify and control any non-prohibited discharge category(ies) listed above.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B) requires MS4 operators "to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(2) requires that Copermittees shall provide "A description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(3) provides that Copermittees shall "investigate portions of the separate storm sewer system that, based on the results of a field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources on non-storm water."

Discussion: Non-prohibited non-storm water discharges can be a significant source of pollutants to the MS4. These discharges can reach receiving waters, causing negative impacts to receiving water quality. Field screening can be an effective tool to help prevent these conditions. Field screening results can be used to identify non-prohibited discharges that may be a significant source of pollutants to the MS4. When field screening results exhibit potential non-storm water discharges, follow-up investigations should be conducted to find if non-prohibited discharges are the source. This information can then be used to prohibit the non-prohibited discharge or require implementation of BMPs.

The SDRWQCB has discretion to require Prohibition item B.5. in Order No. 2001-193 under the broad and specific legal authority cited above.

C. RECEIVING WATER LIMITATIONS

C. Receiving Water Limitation states the following:

1. *Discharges from MS4s that cause or contribute to the violation of water quality standards (designated beneficial uses and water quality objectives developed to protect beneficial uses) are prohibited.*

2. *Each Copermittee shall comply with Part C.1. and Part A.2. of this Order through timely implementation of control measures and other actions to reduce pollutants in urban runoff discharges in accordance with the Jurisdictional Urban Runoff Management Program (Jurisdictional URMP) and other requirements of this Order including any modifications. The Jurisdictional URMP shall be designed to achieve compliance with Part C.1. and Part A.2. of this Order. If exceedance(s) of water quality standards persist notwithstanding implementation of the URMP and other requirements of this Order, the Copermittee shall assure compliance with Part C.1. and Part A.2. of this Order by complying with the following procedure:*

   a. *Upon a determination by either the Copermittee or the SDRWQCB that MS4 discharges are causing or contributing to an exceedance of an applicable water quality standard, the Copermittee shall promptly notify and thereafter submit a report to the SDRWQCB that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance of water quality standards. The report may be incorporated in the annual update to the Jurisdictional URMP unless the SDRWQCB directs an earlier submittal. The report shall include an implementation schedule. The SDRWQCB may require modifications to the report;*

   b. *Submit any modifications to the report required by the SDRWQCB within 30 days of notification;*

   c. *Within 30 days following approval of the report described above by the SDRWQCB, the Copermittee shall revise its Jurisdictional URMP and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, the implementation schedule, and any additional monitoring required;*

   d. *Implement the revised Jurisdictional URMP and monitoring program in accordance with the approved schedule.*

   So long as the Copermittee has complied with the procedures set forth above and are implementing the revised Jurisdictional URMP, the Copermittee does not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the SDRWQCB to do so.

3. *Nothing in this section shall prevent the SDRWQCB from enforcing any provision of this Order while the Copermittee prepares and implements the above report.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: California Water Code Section 13241 provides that the "SDRWQCB shall establish such water quality objectives in water quality control plans as in its judgement will ensure the reasonable protection of beneficial uses and the prevention of nuisance."

California Water Code Section 13263(a) provides that waste discharge requirements prescribed by the SDRWQCB implement the Basin Plan.

Discussion: See the above discussion of Finding 13 in section VI. of this Fact Sheet/Technical Report.

This prohibition has been modified in response to a draft SWRCB Order, dated October 18, 2001, in the Matter of the Petitions of Building Industry Association of San Diego County and Western States Petroleum Association for Review of Waste Discharge Requirements Order No. 2001-01 for Urban Runoff from San Diego County [NPDES No. CAS0108758] Issued by the California Water Quality Control Board, San Diego Region.

D. LEGAL AUTHORITY

D.1. Legal Authority states the following:

*Each Copermittee shall establish, maintain, and enforce adequate legal authority to control pollutant discharges **into** and **from** its MS4 through ordinance, statute, permit, contract or similar means. This legal authority must, at a minimum, authorize the Copermittee to:*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that the Copermittees shall develop and implement legal authority to "Control through ordinance, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity."

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(D) provides that the Copermittees shall develop and implement legal authority to "Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system."

Illicit discharge is defined under Federal NPDES regulation 40 CFR 122.26(b)(2) as "any discharge to a municipal separate storm sewer system that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities."

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in urban runoff from commercial, residential, industrial, and construction land uses or activities.

Discussion: As discussed in Finding 15, Copermittees cannot passively receive and discharge pollutants from third parties. As US EPA states, "The operator of a small MS4 that does not prohibit and/or control discharges into its system

essentially accepts 'title' for those discharges. At a minimum, by providing free and open access to the MS4s that convey discharges to the waters of the United States, the municipal storm sewer system enables water quality impairment by third parties" (1999).

Discharges of pollutants to the MS4 must therefore be controlled, and an important means for a municipality to achieve this is through development of municipal legal authority. USEPA states "A crucial requirement of the NPDES storm water regulation is that a municipality must demonstrate that it has adequate legal authority to control the contribution of pollutants in storm water discharged to its MS4. […] In order to have an effective municipal storm water management program, a municipality must have adequate legal authority to control the contribution of pollutants to the MS4. […] 'Control,' in this context, means not only to require disclosure of information, but also to limit, discourage, or terminate a storm water discharge to the MS4" (1992).

Since discharges that enter the MS4 are generally discharged unimpeded directly into receiving waters, the Copermittee's legal authority is to apply to both discharges into and from MS4s. Federal NPDES regulations clearly provide the SDRWQCB with the legal authority to require municipalities to control discharges from third parties into their MS4. 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in urban runoff **from** commercial, residential, industrial, and construction land uses or activities. Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(A - D) require municipalities to have legal authority to control various discharges **to** their MS4. This concept is further supported in the Preamble to the Phase II Final Rule NPDES storm water regulations, which states "The operators of regulated small MS4s cannot passively receive and discharge pollutants **from** third parties" (US EPA, 1999). Due to the greater water quality concerns generally experienced by larger municipalities, Phase II Final Rule findings for small municipalities are also applicable to larger municipalities such as the Copermittees. Finally, underlying the Federal NPDES storm water regulations is the Clean Water Act, which states in section 402(p)(3)(B)(ii) that municipalities shall "effectively prohibit non-stormwater discharges **into** the storm sewers."

The requirement for municipal storm water dischargers to have, and exercise, local governmental authority in order to comply with water quality control obligations is analogous to the requirement for Publicly Owned Treatment Works to have and exercise legal authority to require pretreatment of industrial wastes being discharged to their sewage collections systems (CWA 402(b)(8)).

The SDRWQCB has discretion to require Legal Authority item D.1 in Order No. 2001-193 under the broad and specific legal authority cited above.

D.1.a. Legal Authority states the following:

*Control the contribution of pollutants in discharges of runoff associated with industrial and construction activity **to** its MS4 and control the quality of runoff **from** industrial and construction*

sites. This requirement applies both to industrial and construction sites which have coverage under the statewide general industrial or construction storm water permits, as well as to those sites which do not. Grading ordinances shall be upgraded as necessary to comply with this Order.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that the Copermittees shall develop and implement legal authority to "Control through ordinance, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity."

Federal NPDES regulation 40 CFR 122.26(b)(14) provides that "The following categories of facilities are considered to be engaging in 'industrial activity' for purposes of this subsection: […] (x) Construction activity including clearing, grading and excavation activities […]."

Discussion: Industrial and construction sites are frequently sources of pollutants such as hazardous materials or sediment. These pollutants are typically carried to MS4s by urban runoff. As discussed in Finding 32, pollutants in urban runoff which enter the MS4 are generally discharged from these structures into receiving waters, where they may cause or contribute to a condition of pollution. Pollutant discharges from industrial and construction sites to MS4s must therefore be controlled. As discussed in Finding 22, municipalities are responsible for discharges from industrial and construction sites to their MS4s (see also Discussion under Legal Authority item D.1). US EPA supports this when it states "To comply with its permit, a municipality must have the authority to hold dischargers accountable for their contributions to separate storm sewers" (1992).

A necessary means for controlling pollutant discharges from industrial and construction sites is the development and implementation of legal authority that addresses urban runoff from these sites. The Federal NPDES regulations clearly emphasize the development and implementation of legal authority for controlling pollutant discharges from industrial and construction sites in 40 CFR 122.26(d)(2)(i)(A) and 40 CFR 122.26(b)(14).

Ordinances, statutes, permits, or contracts can be used to develop legal authority. For example, grading ordinances should be upgraded to control pollutant discharges from construction sites. The US EPA suggests this, stating "All construction sites, regardless of size, must be addressed by the municipality. […] A description of the local erosion and sediment control law or ordinance is needed to satisfy this program requirement. The description should include information that links the enforcement of the law or ordinance to the legal authority of the applicant" (1992). The US EPA further states "a municipality, to satisfy its permit conditions, may need to impose additional requirements on discharges from permitted industrial facilities, as well as discharges from

industrial facilities and construction sites not required to obtain permits. Therefore, a municipality should develop a mechanism to assure that all industrial facilities and construction sites that discharge to the MS4 know their obligation to comply with the applicable terms of the municipality's storm water ordinances" (1992).

The SDRWQCB has discretion to require Legal Authority item D.1.a in Order No. 2001-193 under the broad and specific legal authority cited above.

D.1.b. Legal Authority states the following:

*Prohibit **all** illicit discharges including but not limited to:*

(1) Sewage;

(2) Discharges of wash water resulting from the hosing or cleaning of gas stations, auto repair garages, or other types of automotive services facilities;

(3) Discharges resulting from the cleaning, repair, or maintenance of any type of equipment, machinery, or facility including motor vehicles, cement-related equipment, and port-a-potty servicing;

(4) Discharges of wash water from mobile operations such as mobile automobile washing, steam cleaning, power washing, and carpet cleaning, etc.;

(5) Discharges of wash water from the cleaning or hosing of impervious surfaces in municipal, industrial, commercial, and residential areas including parking lots, streets, sidewalks, driveways, patios, plazas, work yards and outdoor eating or drinking areas, etc.;

(6) Discharges of runoff from material storage areas containing chemicals, fuels, grease, oil, or other hazardous materials;

(7) Discharges of pool or fountain water containing chlorine, biocides, or other chemicals; discharges of pool or fountain filter backwash water;

(8) Discharges of sediment, pet waste, vegetation clippings, or other landscape or construction-related wastes; and

(9) *Discharges of food-related wastes (e.g., grease, fish processing, and restaurant kitchen mat and trash bin wash water, etc.).*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26 (b)(2) defines an illicit discharge as "any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities."

California Water Code Section 13243 also provides that a "regional board, in a water quality control plan or in waste discharge requirements, may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted."

Discussion: Illicit or non-storm water discharges can be a significant source of pollutants to the MS4. As discussed in Finding 32, pollutants that enter the MS4 are generally discharged to receiving waters, where they can impact receiving water quality. Illicit or non-storm water discharges must therefore be prohibited. In order to effectively prohibit illicit or non-storm water discharges, legal authority addressing the discharges must be developed and implemented by each Copermittee.

The SDRWQCB has discretion to require Legal Authority item D.1.b in Order No. 2001-193 under the broad and specific legal authority cited above.

D.1.c. Legal Authority states the following:

Prohibit and eliminate illicit connections to the MS4;

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(b)(2) defines an illicit discharge as "any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities."

California Water Code Section 13243 also provides that a "regional board, in a water quality control plan or in waste discharge requirements, may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted."

Discussion: An illicit connection is a connection to the MS4 that carries illicit discharges to the MS4. Because illicit discharges to the MS4 are prohibited (discussed in section D.1.b. Legal Authority above), illicit connections are also prohibited and must be eliminated. In order to effectively prohibit and eliminate illicit connections, legal authority addressing the discharges must be developed and implemented by each Copermittee.

The SDRWQCB has discretion to require Legal Authority item D.1.c in Order No. 2001-193 under the broad and specific legal authority cited above.

D.1.d. Legal Authority states the following:

Control the discharge of spills, dumping, or disposal of materials other than storm water to its MS4;

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: California Water Code Section 13243 also provides that a "regional board, in a water quality control plan or in waste discharge requirements, may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted."

Discussion: Non-storm water discharges such as spills, dumping, and disposal of materials can be a significant source of pollutants to the MS4. As discussed in Finding 32, pollutants deposited in MS4s most likely will be discharged to receiving waters, where they can impact receiving water quality. Non-storm water discharges such as spills, dumping, or disposal of materials must therefore be prohibited. In order to effectively prohibit these non-storm water discharges, legal authority addressing the discharges must be developed and implemented by each Copermittee. The SDRWQCB has discretion to require Legal Authority item D.1.d in Order 2001-193 under the broad and specific legal authority cited above.

D.1.e. and D.1.f. Legal Authority state the following:

Require compliance with conditions in Copermittee ordinances, permits, contracts or orders (i.e., hold dischargers to its MS4 accountable for their contributions of pollutants and flows);

Utilize enforcement mechanisms to require compliance with Copermittee storm water ordinances, permits, contracts, or orders;

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Discussion: As discussed in Finding 15, the Copermittees cannot passively receive and discharge pollutants from third parties. Each Copermittee must implement ordinances, permits, contracts, and orders to hold discharges to MS4s accountable for their contributions of pollutants. In order for the ordinances to be effective, each Copermittee must be able to require compliance with the ordinances. Lack of ordinance enforcement by a Copermittee allows third parties to violate a municipality's ordinances with little fear of retribution, leading to receiving water quality degradation. US EPA recommends that a municipality in its urban runoff management program "identify the administrative and legal procedures available to mandate compliance with appropriate ordinances, and therefore, with permit conditions. [Programs] should contain descriptions of how ordinances are implemented and appealed. In particular, a municipality should indicate if it can issues administrative orders and injunctions or if it must go through the court system for enforcement actions" (1992).

The SDRWQCB has discretion to require Legal Authority item D.1.e in Order No. 2001-193 under the broad and specific legal authority cited above.

D.1.g. Legal Authority states the following:

Control the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements among Copermittees. Control of the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements with other owners of the MS4 such as CALTRANS, Native American Tribes, and the Department of Defense is encouraged;

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(D) provides that the Copermittee must demonstrate that it can control "through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system."

Discussion: Discharges from Copermittees that share an MS4 eventually reach the same receiving water body. Each Copermittee that discharges to the shared MS4 is therefore responsible for discharges from the shared MS4, and the impacts of those discharges on receiving waters. The Copermittees of a shared MS4 must demonstrate that together they can control the contribution of pollutants over the whole shared MS4. To this effect, the US EPA states "When two or more municipalities submit a joint application, each coapplicant must demonstrate that it individually possesses adequate legal authority over the entire municipal system it operates and owns. A coapplicant need not fulfill every component of legal authority specified in the regulations, as long as the combined legal authority of all coapplicants satisfies the regulatory criteria for every segment of the MS4 (including authority over all sources that discharge to the MS4). […] Coapplicants also may use interjurisdictional agreements to show legal authority and to ensure planning, coordination, and the sharing of the resource burden of permit compliance" (1992).

The SDRWQCB has discretion to require Legal Authority item D.1.g. in Order No. 2001-193 under the broad and specific legal authority cited above.

D.1.h. Legal Authority states the following:

Carry out all inspections, surveillance, and monitoring necessary to determine compliance and noncompliance with local ordinances and permits and with this Order, including the prohibition on illicit discharges to the MS4. This means the Copermittee must have authority to enter, sample, inspect, review and copy records, and require regular reports from industrial facilities discharging into its MS4, including construction sites; and

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and

Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Discussion: The Copermittees' ability to determine compliance and noncompliance with permit conditions is critical to control pollutant discharges to and from MS4s. Determination of compliance and noncompliance allows for significant sources of pollutants to be identified and addressed, thereby minimizing the discharge of pollutants from the MS4 and the resulting receiving water quality degradation. For this reason each Copermittee must have legal authority to carry out the inspections, surveillance, and monitoring necessary to assess compliance. Regarding compliance determination, US EPA states "municipalities should provide documentation of their authority to enter, sample, inspect, review, and copy records, etc., as well as demonstrate their authority to require regular reports" (1992).

The SDRWQCB has discretion to require Legal Authority item D.1.g in Order No. 2001-193 under the broad legal authority cited above.

D.1.i. Legal Authority states the following:

Require the use of best management practices (BMPs) to prevent or reduce the discharge of pollutants to MS4s.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(1)(ii) requires from the Copermittee "A description of existing legal authority to control discharges to the municipal separate storm sewer system."

Discussion: As discussed in Finding 15, the Copermittees cannot passively receive and discharge pollutants from third parties. The Copermittees must ensure discharges of pollutants to the MS4 are reduced to the maximum extent practicable. In order to achieve this, and hold third party dischargers responsible for their contributions of pollutants, the Copermittees must require the use of BMPs by third party dischargers (see Discussion under Legal Authority item D.1).

The SDRWQCB has discretion to require Legal Authority item D.1.i in Order 2001-193 under the broad and specific legal authority cited above.

D.2. Legal Authority states the following:

*Within **365 days** of adoption of this Order, each Copermittee shall provide to the SDRWQCB a statement certified by its chief legal counsel that the Copermittee has adequate legal authority to implement and enforce each of the requirements contained in 40 CFR 122.26(d)(2)(i)(A-F) and this Order. This statement shall include:*

b. Identification of all departments within the jurisdiction that conduct urban runoff related activities, and their roles and responsibilities under this Order. Include an up to date organizational chart specifying these departments and key personnel.

c. Citation of urban runoff related ordinances and the reasons they are enforceable;

d. Identification of the local administrative and legal procedures available to mandate compliance with urban runoff related ordinances and therefore with the conditions of this Order;

e. *Description of how these ordinances are implemented and appealed; and*

Description of whether the municipality can issue administrative orders and injunctions or if it must go through the court system for enforcement actions.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that the Copermittees shall develop and implement legal authority to "Control through ordinance, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity."

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(D) provides that the Copermittee must demonstrate that it can control "through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system."

Discussion: Copermittees must demonstrate that they can operate pursuant to legal authority to meet the requirements of Federal NPDES regulations 40 CFR 122.26(d)(2)(A-F). For the Copermittee demonstrate this legal authority, the US EPA suggests that "One acceptable way to support a declaration of adequate legal authority, including the ability to enforce appropriate ordinances, is for the municipality to provide a certification from the Municipal General Counsel or equivalent. The certification should state that the applicant has the legal authority to apply and enforce the requirements of 40 CFR 122.26(d)(2)(i)(A-F) in State or local courts. The certification would, therefore, cite specific ordinances and the reasons why they are enforceable. The statement should discuss what the municipality can do to ensure full compliance with 40 CFR 122.26(d)(2)(i)" (1992).

The SDRWQCB has discretion to require Legal Authority item D.2 in Order No. 2001-193 under the broad and specific legal authority cited above.

E. TECHNOLOGY BASED STANDARDS

E. Technology Based Standards states the following:

*Each Copermittee shall implement, or require implementation of, best management practices to ensure that the following pollutant discharges **into** and/or **from** its MS4 are reduced to the applicable technology based standard as specified below:*

Table 3. Technology Based Standards

POLLUTANT DISCHARGE FROM	DESCRIPTION	APPLICABLE PERFORMANCE STANDARD
Industrial Activity owned by the Copermittee	*Categorical Industry in 40 CFR 122.26*	*BAT/BCT (pursuant to Statewide General Industrial Permit)*
Industrial Activity	*All other industry*	*MEP*
Construction Activity owned by the Copermittee	*Greater than or Equal to 5 Acres (or less than 5 acres and Part of a Larger Common Plan of Sale or Development)*	*BAT/BCT (pursuant to Statewide General Construction Permit)*
Construction Activity	*All Other construction*	*MEP*
Other Sources	*All Other Land Use Activities*	*MEP*
MS4s	*All discharges from MS4s*	*MEP*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: CWA section 402(p)(3)(A) requires "Permits for discharges associated with industrial activity shall meet all applicable provisions of this section and section 301."

CWA section 301(b)(2) requires "effluent limitations for categories and classes of point sources, other than publicly owned treatment works, which (i) shall require application of the best available technology economically achievable for such category or class, which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants."

Federal NPDES regulation 40 CFR 122.26(b)(14) provides that "The following categories of facilities are considered to be engaging in 'industrial activity' for purposes of this subsection: […] (x) Construction activity including clearing, grading and excavation activities […]."

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A-D) require municipalities to control pollutants in urban runoff discharges to the MS4 to the maximum extent practicable from urban land uses such as residential, commercial, municipal, industrial, and construction.

Discussion: Pollutant discharges in storm water to and from MS4s are held to applicable technology based standards. Storm water discharges to the MS4 from industrial and construction activities owned by the Copermittee, which fall

under the general statewide industrial and construction storm water permits, must meet the BAT/BCT performance standard per permit requirements. This BAT/BCT performance standard is required in CWA section 301(b)(2), and is further described in CWA sections 304(b)(2-4).

Pollutant discharges in storm water **to** and **from** the MS4 for all other urban land use activities, including industrial and construction activities not covered under the statewide general permits, must be reduced to the maximum extent practicable. CWA section 402(p)(3)(B)(iii) and Federal NPDES regulation 40 CFR 122.26 (d)(2)(iv) require pollutant discharges in urban runoff discharged **from** MS4s to be reduced to the maximum extent practicable.

Since discharges that enter the MS4 are generally discharged unimpeded directly into receiving waters, the maximum extent practicable standard is to apply to both discharges into and from MS4s. Federal NPDES regulations clearly provide the SDRWQCB with the legal authority to require municipalities to control discharges from third parties into their MS4. 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in urban runoff **from** commercial, residential, industrial, and construction land uses or activities to the maximum extent practicable. Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(A - D) require municipalities to have legal authority to control various discharges **to** their MS4. This concept is further supported in the Preamble to the Phase II Final Rule NPDES storm water regulations, which states "The operators of regulated small MS4s cannot passively receive and discharge pollutants **from** third parties" (US EPA, 1999). Due to the greater water quality concerns generally experienced by larger municipalities, Phase II Final Rule findings for small municipalities are also applicable to larger municipalities such as the Copermittees. Finally, underlying the Federal NPDES storm water regulations is the Clean Water Act, which states in section 402(p)(3)(B)(ii) that municipalities shall "effectively prohibit non-stormwater discharges **into** the storm sewers."

The requirement for municipal storm water dischargers to have, and exercise, local governmental authority in order to comply with water quality control obligations is analogous to the requirement for Publicly Owned Treatment Works to have and exercise legal authority to require pretreatment of industrial wastes being discharged to their sewage collections systems (CWA 402(b)(8)).

The SDRWQCB has discretion to require Technology Based Standards item E. in Order No. 2001-193 under the broad and specific legal authority cited above.

F. JURISDICTIONAL URBAN RUNOFF MANAGEMENT PROGRAM

The following underlying broad legal authority citations generally apply to all directives of section F. Jurisdictional Urban Runoff Management Program of Order No. 2001-193, and provide the SDRWQCB with ample underlying authority to require each of the directives. These legal authority citations are also listed under the Underlying Broad Legal Authority for Order No. 2001-193 segment of section VII. of this Fact Sheet/Technical Report. They are repeated here to emphasize their pertinence to the Jurisdictional Urban Runoff

Management Program section of Order No. 2001-193, which is the primary component of the Order.

In addition to the five broad legal authority items cited below that underlie all of the directives in section F. of Order No. 2001-193, additional specific legal authority citations applicable to particular directives of section F. are provided in this section of the Fact Sheet/Technical Report as necessary. Some of these additional specific legal authority citations apply to entire components of section F. of Order No. 2001-193. In these cases, the specific legal authority quotations are provided at the beginning of the discussion of the permit component, while the legal authority is again cited under each directive of the component. Furthermore, some specific legal authority citations only apply to distinct directives of section F. of Order No. 2001-193. When this occurs, the quotation of the specific legal authority citation will appear with the discussion of the distinct permit directive.

CWA 402(p)(3)(B)(ii) – Prohibit Non-Storm Water
The CWA requires in section 402(p)(3)(B)(ii) that a storm water program "shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers."

CWA 402(p)(3)(B)(iii) – Reduce to MEP and Whatever Else is Needed
The CWA requires in section 402(p)(3)(B)(iii) that a storm water program "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants."

40 CFR 122.26(d)(2)(i)(B,C,E, and F) – Obtain Adequate Legal Authority
Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) provide that each Copermitee's permit application "shall consist of : (i) Adequate legal authority. A demonstration that the applicant can operate pursuant to legal authority established by statute, ordinance or series of contracts which authorizes or enables the applicant at a minimum to: […] (B) Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer; (C) Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water; […] (E) Require compliance with condition in ordinances, permits, contracts or orders; and (F) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer."

40 CFR 122.26(d)(2)(iv) – Reduce to MEP and Whatever Else is Needed
Federal NPDES regulation 40 CFR 122.26(d)(2)(iv) provides that the Copermittee shall develop and implement a proposed management program which "shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control

techniques and system, design and engineering methods, and such other provisions which are appropriate. The program shall also include a description of staff and equipment available to implement the program. […] Proposed programs may impose controls on a systemwide basis, a watershed basis, a jurisdiction basis, or on individual outfalls. […] Proposed management programs shall describe priorities for implementing controls."

CWC 13377 – Implement CWA and Whatever Else is Needed
California Water Code section 13377 provides that "Notwithstanding any other provision of this division, the state board or the regional boards shall, as required or authorized by the Federal Water Pollution Control Act (Clean Water Act), as amended, issue waste discharge requirements and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary, thereto, together with an more stringent effluent standards or limitation necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance."

F. Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall take appropriate actions to reduce discharges of pollutants and runoff flow during each of the three major phases of urban development, i.e., the planning, construction, and existing development (or use) phases. Following the adoption of the Order and prior to the full implementation of the Jurisdictional URMP, each Copermittee shall at a minimum implement the provisions and commitments of the proposed DAMP submitted in September 2000.

Each Copermittee shall implement a Jurisdictional Urban Runoff Management Program (Jurisdictional URMP) that contains the components shown below as described in Sections F.1. through F.8:

- *F.1. Land-Use Planning for New Development and Redevelopment Component*
- *F.2. Construction Component*
- *F.3. Existing Development Component*
  - *a. Municipal*
  - *b. Industrial*
  - *c. Commercial*
  - *d. Residential*
- *F.4. Education Component*
- *F.5. Illicit Discharge Detection and Elimination Component*
- *F.6. Common Interest Areas and Homeowners Associations*
- *F.7. Public Participation Component*
- *F.8. Assessment of Jurisdictional URMP Effectiveness Component*
- *F.9. Fiscal Analysis Component*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A – D) include provisions for inclusion of program components F.1 – F.8 in the Jurisdictional URMPs.

Discussion: As discussed in Finding 17, urban development has three major phases: (1) land use planning for new development; (2) construction; and (3) the land use or existing development phase. Because the Copermittees authorize each of these phases, they have commensurate responsibilities to protect water quality during each phase. Findings 18 – 20 indicate how each of these phases of development can be a significant source of pollutants in urban runoff and can impact receiving water quality. To address the potential negative impacts from the three phases of urban development, Urban Runoff Management Programs focusing on the three phases must be developed and implemented (see Finding 10). US EPA places importance on the development and implementation of URMPs when it states "Under the Part 2 application requirements, municipalities must propose site-specific storm water management programs. This is the most important aspect of the permit application" (1992).

The SDRWQCB has discretion to require development and implementation of Jurisdictional Urban Runoff Management Programs in Order No. 2001-193 under the broad and specific legal authority cited above.

F.1. LAND-USE PLANNING FOR NEW DEVELOPMENT AND REDEVELOPMENT COMPONENT

In addition to the underlying broad legal authority citations listed above in section VII. of this Fact Sheet/Technical Report, the following specific legal authority item also generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.1. Land-Use Planning for New Development and Redevelopment Component of Order No. 2001-193. Other specific legal authority items applicable only to distinct directives of Jurisdictional Urban Runoff Management Program item F.1. are provided as necessary.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(2) provides that Copermittees develop and implement a proposed management program which is to include "A description of planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers which receive discharges from areas of new development and significant redevelopment. Such plan shall address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed."

F.1. Land-Use Planning for New Development and Redevelopment Component states the following:

Each Copermittee shall minimize the short and long-term impacts on receiving water quality from new development and redevelopment. In order to reduce pollutants and runoff flows from new development and redevelopment to the maximum extent practicable, each Copermittee shall at a minimum:

F.1.a Revise General Plan
F.1.b Modify Development Project Approval Processes
F.1.c Revise Environmental Review Processes
F.1.d Conduct Education Efforts Focused on New Development and Redevelopment

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(2) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.1. Land-Use Planning for New Development and Redevelopment Component of Order No. 2001-193.

Discussion: As discussed in Finding 4, urban development can negatively impact receiving water quality by increasing the pollutant load, volume, and velocity of urban runoff. An effective means for minimizing these impacts is to address water quality concerns during the planning phase of urban development. US EPA supports this, stating "Post-construction storm water management in areas undergoing new development or redevelopment is necessary because runoff from these areas has been shown to significantly effect receiving waterbodies. Many studies indicate that prior planning and design for the minimization of pollutants in post-construction storm water discharges is the most cost-effective approach to storm water quality management" (2000). For these reasons, Order No. 2001-193 includes a requirement for the development and implementation of a Land-Use Planning for New Development and Redevelopment Component.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.1. in Order No. 2001-193 under the broad and specific legal authority cited above.

F.1.a. Revise General Plan of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee's General Plan or equivalent plan (e.g., Comprehensive, Master, or Community Plan) shall include water quality and watershed protection principles and policies to direct land-use decisions and require implementation of consistent water quality protection measures for development projects. As part of its Jurisdictional Urban Runoff Management Program document, each Copermittee shall provide a workplan with time schedule detailing any changes to its General Plan regarding water quality and watershed protection. Examples of water quality and watershed protection principles and policies to be considered include the following:

(1) Minimize the amount of impervious surfaces and directly connected impervious surfaces in areas of new development and redevelopment and where feasible slow runoff and maximize on-site infiltration of runoff.

(2) Implement pollution prevention methods supplemented by pollutant source controls and treatment. Use small collection strategies located at, or as close as possible to, the source (i.e., the point where water initially meets the ground) to minimize the transport of urban runoff and pollutants offsite and into an MS4.

(3) Preserve, and where possible, create or restore areas that provide important water quality benefits, such as riparian corridors, wetlands, and buffer zones. Encourage land acquisition of such areas.

(4) Limit disturbances of natural water bodies and natural drainage systems caused by development including roads, highways, and bridges.

(5) Prior to making land use decisions, utilize methods available to estimate increases in pollutant loads and flows resulting from projected future development. Require incorporation of structural and non-structural BMPs to mitigate the projected increases in pollutant loads and flows.

(6) Avoid development of areas that are particularly susceptible to erosion and sediment loss; or establish development guidance that identifies these areas and protects them from erosion and sediment loss.

(7) Reduce pollutants associated with vehicles and increasing traffic resulting from development. Coordinate local traffic management reduction efforts with Orange County Transit Authority's Congestion Management Plan.

(8) Post-development runoff from a site shall not contain pollutant loads that cause or contribute to an exceedance of receiving water quality objectives or which have not been reduced to the maximum extent practicable.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(2) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.1. Land-Use Planning for New Development and Redevelopment Component of Order No. 2001-193.

Discussion: The US EPA finds that the Copermittee "must thoroughly describe how the municipality's comprehensive plan is compatible with the storm water regulations" (1992). To achieve this, the Copermittee shall incorporate water quality and watershed protection principles and policies into its General Plan (or equivalent plan). US EPA supports addressing urban runoff problems in General Plans (or equivalent plans) when it states "Runoff problems can be addressed efficiently with sound planning procedures. Master Plans, Comprehensive Plans, and zoning ordinances can promote improved water quality by guiding the growth of a community away from sensitive areas and by restricting certain types of growth (industrial, for example) to areas that can support it without compromising water quality" (2000).

The principles included in Jurisdictional Urban Runoff Management Program item F.1.a. are based on findings by the SWRCB Urban Runoff Technical Advisory Committee. They incorporate basic measures that have been found to minimize pollutants in urban runoff from new development and redevelopment.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.1.a. in Order No. 2001-193 under the broad legal authority cited above.

F.1.b. Modify Development Project Approval Processes of the Jurisdictional Urban Runoff Management Program states the following:

> *Prior to project approval and issuance of local permits, Copermittees shall require each proposed project to implement measures to ensure that pollutants and runoff from the development will be reduced to the maximum extent practicable and will not cause or contribute to an exceedance of receiving water quality objectives. Each Copermittee shall further ensure that all development will be in compliance with Copermittee storm water ordinances, local permits, all other applicable ordinances and requirements, and this Order.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(2) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.1. Land-Use Planning for New Development and Redevelopment Component of Order No. 2001-193.

Discussion: As discussed in Finding 18, incorporating post-construction BMPs into new development and redevelopment during project planning and approval is an effective means for controlling pollutants in urban runoff. US EPA finds review of development plans during the project approval process necessary, stating: "Proposed storm water management programs should include planning procedures for both during and after construction to implement control measures to ensure that pollution is reduced to the maximum extent practicable in areas of new development and redevelopment. Design criteria and performance standards may be used to assist in meeting this objective. Further, storm water management program goals should be reviewed during planning processes that guide development to appropriate locations and steer intensive land uses away from sensitive environmental areas. […] A municipality should describe how it plans to implement the proposed standards (e.g., through an ordinance requiring approval of storm water management programs, a review and approval process, and adequate enforcement)" (1992).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.1.b. in Order No. 2001-193 under the broad legal authority cited above.

F.1.b.(1). Conditions of Approval of the Jurisdictional Urban Runoff Management Program states the following:

> *Development Project Requirements*
>
> *Each Copermittee shall include development project requirements in local permits to ensure that pollutant discharges and runoff flows from development are reduced to the*

maximum extent practicable and that receiving water quality objectives are not violated throughout the life of the project. Such requirements shall, at a minimum:

(a) Require project proponent to implement source control BMPs for all applicable development projects.
(b) Require project proponent to implement site design/landscape characteristics where feasible which maximize infiltration, provide retention, slow runoff, and minimize impervious land coverage for all development projects.
(c) Require project proponent to implement buffer zones for natural water bodies, where feasible. Where buffer zone implementation is infeasible, require project proponent to implement other buffers such as trees, lighting restrictions, access restrictions, etc.
(d) Require industrial applicants subject to California's statewide General NPDES Permit for Storm Water Discharges Associated with Industrial Activities (Except Construction), (hereinafter General Industrial Permit), to provide evidence of coverage under the General Industrial Permit.
(e) Require project proponent to ensure its grading or other construction activities meet the provisions specified in Section F.2. of this Order.
(f) Require project proponent to provide proof of a mechanism which will ensure ongoing long-term maintenance of all structural post-construction BMPs.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(2) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.1. Land-Use Planning for New Development and Redevelopment Component of Order No. 2001-193.

Discussion: Regarding conditions of approval in storm water permits, the US EPA finds that "Proposed storm water management programs should include planning procedures for both during and after construction to implement control measures to ensure that pollution is reduced to the maximum extent practicable in areas of new development and redevelopment. Design criteria and performance standards may be used to assist in meeting this objective" (1992). The US EPA further finds that "The municipality should consider storm water controls and structural controls in planning, zoning, and site or subdivision plan approval" (1992). In addition, US EPA states each Copermittee should "have an ordinance or other regulatory mechanism requiring the implementation of post-construction runoff controls […]" (2000).

Furthermore, in its Phase II Final Rule, US EPA requires small municipalities to "Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects […]" (1999). Due to the greater water quality concerns generally experienced by larger municipalities, Phase II Final Rule requirements for small municipalities are also applicable to larger municipalities such as the Copermittees.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.1.b.(1). in Order No. 2001-193 under the broad legal authority cited above.

F.1.b.(2). Standard Urban Storm Water Mitigation Plans (SUSMPs) of the Jurisdictional Urban Runoff Management Program states the following:

Within 365 days of adoption of this Order, the Copermittees shall collectively develop a model Standard Urban Storm Water Mitigation Plan (SUSMP) to reduce pollutants and runoff flows from all new development and significant redevelopment projects falling under the priority project categories or locations listed in section F.1.b.(2)(a) below. The Copermittees shall submit the model SUSMP to the SDRWQCB. Within 180 days of development of the model SUSMP, each Copermittee shall adopt its own local SUSMP, and amended ordinances consistent with the model SUSMP, and shall submit both (local SUSMP and amended ordinances) to the SDRWQCB.

Immediately following adoption of its local SUSMP, each Copermittee shall ensure that all new development and significant redevelopment projects falling under the priority project categories or locations listed in F.1.b.(2)(a) below meet SUSMP requirements. The SUSMP requirements shall apply to all priority projects or phases of priority projects that have not yet begun grading or construction activities. If a Copermittee determines that lawful prior approval of a project exists, whereby application of SUSMP requirements to the project is infeasible, SUSMP requirements need not apply to the project. Where feasible, the Copermittees shall utilize the 18-month SUSMP implementation period to ensure that projects undergoing approval processes include application of SUSMP requirements in their plans.

(a) Priority Development Project Categories - SUSMP requirements shall apply to all new development and significant redevelopment projects falling under the priority project categories or locations listed below. Significant redevelopment is defined as the creation or addition of at least 5,000 square feet of impervious surfaces on an already developed site. Significant redevelopment includes, but is not limited to: the expansion of a building footprint or addition or replacement of a structure; structural development including an increase in gross floor area and/or exterior construction or remodeling; replacement of impervious surface that is not part of a routine maintenance activity; and land disturbing activities related with structural or impervious surfaces. Where significant redevelopment results in an increase of less than fifty percent of the impervious surfaces of a previously existing development, and the existing development was not subject to SUSMP requirements, the numeric sizing criteria discussed in section F.1.b.(2)(c) applies only to the addition, and not to the entire development.

i. Home subdivisions of 100 housing units or more. This category includes single-family homes, multi-family homes, condominiums, and apartments.

ii. Home subdivisions of 10-99 housing units. This category includes single-family homes, multi-family homes, condominiums, and apartments.

iii. Commercial developments greater than 100,000 square feet. This category is defined as any development on private land that is not for heavy industrial or residential uses where the land area for development is greater than 100,000 square feet. The category includes, but is not limited to: hospitals; laboratories and other medical facilities; educational institutions; recreational facilities; commercial nurseries; multi-apartment buildings; car wash facilities; mini-malls and other business complexes; shopping malls; hotels; office buildings; public warehouses; automotive dealerships; commercial airfields; and other light industrial facilities.

iv. Automotive repair shops. This category is defined as a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539.

v. Restaurants. This category is defined as a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812), where the land area for development is greater than 5,000 square feet. Restaurants where land development is less than 5,000 square feet shall meet all SUSMP requirements except for structural treatment

BMP and numeric sizing criteria requirement F.1.b.(2)(c) and peak flow rate requirement F.1.b(2)(b)(i).

vi. *All hillside development greater than 5,000 square feet. This category is defined as any development which creates 5,000 square feet of impervious surface which is located in an area with known erosive soil conditions, where the development will grade on any natural slope that is twenty-five percent or greater.*

vii. *Environmentally Sensitive Areas: All development and redevelopment located within or directly adjacent to or discharging directly to an environmentally sensitive area (where discharges from the development or redevelopment will enter receiving waters within the environmentally sensitive area), which either creates 2,500 square feet of impervious surface on a proposed project site or increases the area of imperviousness of a proposed project site to 10% or more of its naturally occurring condition. Environmentally sensitive areas include but are not limited to all Clean Water Act Section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the State Water Resources Control Board (Water Quality Control Plan for the San Diego Basin (1994) and amendments); water bodies designated with the RARE beneficial use by the State Water Resources Control Board (Water Quality Control Plan for the San Diego Basin (1994) and amendments); areas in the Natural Community Conservation Planning Program ; and any areas designated as Critical Aquatic Resources (CARS) or other equivalent environmentally sensitive areas which have been identified by the Copermittees. "Directly adjacent" means situated within 200 feet of the environmentally sensitive area. "Discharging directly to" means outflow from a drainage conveyance system that is composed entirely of flows from the subject development or redevelopment site, and not commingled with flows from adjacent lands.*

viii. *Parking lots 5,000 square feet or more or with 15 or more parking spaces and potentially exposed to urban runoff. Parking lot is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce.*

ix. *Street, roads, highways, and freeways. This category includes any paved surface that is 5,000 square feet or greater used for the transportation of automobiles, trucks, motorcycles, and other vehicles.*

x. *Retail Gasoline Outlets 5,000 square feet or more. Retail Gasoline Outlet is defined as any facility engaged in selling gasoline.*

(b) *BMP Requirements – The SUSMP shall include a list of recommended source control and structural treatment BMPs. The SUSMP shall require all new development and significant redevelopment projects falling under the above priority project categories or locations to implement a combination of BMPs selected from the recommended BMP list, including at a minimum (1) source control BMPs and (2) structural treatment BMPs. The BMPs shall, at a minimum:*

i. *Control the post-development peak storm water runoff discharge rates and velocities to maintain or reduce pre-development downstream erosion, and to protect stream habitat;*
ii. *Conserve natural areas where feasible;*
iii. *Minimize storm water pollutants of concern in urban runoff from the new development or significant redevelopment (through implementation of source control BMPs). Identification of pollutants of concern should include at a minimum consideration of any pollutants for which water bodies receiving the development's runoff are listed as impaired under Clean Water Act section 303(d), any pollutant associated with the land use type of the development, and any pollutant commonly associated with urban runoff;*
iv. *Remove pollutants of concern from urban runoff (through implementation of structural treatment BMPs);*
v. *Minimize directly connected impervious areas where feasible;*
vi. *Protect slopes and channels from eroding;*

vii. Include storm drain stenciling and signage;
viii. Include properly designed outdoor material storage areas;
ix. Include properly designed trash storage areas;
x. Include proof of a mechanism, to be provided by the project proponent or Copermittee, which will ensure ongoing long-term structural BMP maintenance;
xi. Include additional water quality provisions applicable to individual priority project categories;
xii. Be correctly designed so as to remove pollutants to the maximum extent practicable;
xiii. Be implemented close to pollutant sources, when feasible, and prior to discharging into receiving waters supporting beneficial uses; and
xiv. Ensure that post-development runoff does not contain pollutant loads which cause or contribute to an exceedance of water quality objectives or which have not been reduced to the maximum extent practicable.

(c) Numeric Sizing Criteria – The SUSMP shall require structural treatment BMPs to be implemented for all priority development projects. All structural treatment BMPs shall be located so as to infiltrate, filter, or treat the required runoff volume or flow prior to its discharge to any receiving water body supporting beneficial uses. Structural treatment BMPs may be shared by multiple new development projects as long as construction of any shared structural treatment BMPs is completed prior to the use of any new development project from which the structural treatment BMP will receive runoff.

In addition to meeting the BMP requirements listed in item F.1.b.(2)(b) above, all structural treatment BMPs for a single priority development project shall collectively be sized to comply with the following numeric sizing criteria:

Volume

Volume-based BMPs shall be designed to mitigate (infiltrate, filter, or treat) either:

i. The volume of runoff produced from a 24-hour 85th percentile storm event, as determined from the local historical rainfall record (0.8 inch approximate average for the Orange County area);[94] or
ii. The volume of runoff produced by the 85th percentile 24-hour rainfall event, determined as the maximized capture storm water volume for the area, from the formula recommended in Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87, (1998); or
iii. The volume of annual runoff based on unit basin storage volume, to achieve 90% or more volume treatment by the method recommended in California Stormwater Best Management Practices Handbook – Industrial/Commercial, (1993); or
iv. The volume of runoff, as determined from the local historical rainfall record, that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile 24-hour runoff event;[95]

OR

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[94] This volume is not a single volume to be applied to all of Orange County. The size of the 85th percentile storm event is different for various parts of the County. The Copermittees are encouraged to calculate the 85th percentile storm event for each of their jurisdictions using local rain data pertinent to their particular jurisdiction (the 0.8 inch standard is a rough average for the County and should only be used where appropriate rain data is not available). In addition, isopluvial maps may be used to extrapolate rainfall data to areas where insufficient data exists in order to determine the volume of the local 85th percentile storm event in such areas. Where the Copermittees will use isopluvial maps to determine the 85th percentile storm event in areas lacking rain data, the Copermittees shall describe their method for using isopluvial maps in the model and local SUSMPs.

[95] Under this volume criteria, hourly rainfall data may be used to calculate the 85th percentile storm event, where each storm event is identified by its separation from other storm events by at least six hours of no rain. Where the Copermittees may use hourly rainfall data to calculate the 85th percentile storm event, the Copermittees shall describe their method for using hourly rainfall data to calculate the 85th percentile storm event in the model and local SUSMPs.

Flow

Flow-based BMPs shall be designed to mitigate (infiltrate, filter, or treat) either:

i. The maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour; or
ii. The maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity, as determined from the local historical rainfall record, multiplied by a factor of two; or
iii. The maximum flow rate of runoff, as determined from the local historical rainfall record, that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile hourly rainfall intensity multiplied by a factor of two.

(d) Equivalent Numeric Sizing Criteria - The Copermittees may develop, as part of the model SUSMP, any equivalent method for calculating the volume or flow which must be mitigated (i.e., any equivalent method for calculating numeric sizing criteria) by post-construction structural treatment BMPs. Such equivalent sizing criteria may be authorized by the SDRWQCB for use in place of the above criteria. In the absence of development and subsequent authorization of such equivalent numeric sizing criteria, the above numeric sizing criteria requirement shall be implemented.

(e) Pollutants or Conditions of Concern – As part of the model SUSMP, the Copermittees shall develop a procedure for pollutants or conditions of concern to be identified for each new development or significant redevelopment project. The procedure shall include, at a minimum, consideration of (1) receiving water quality (including pollutants for which receiving waters are listed as impaired under Clean Water Act section 303(d)); (2) land use type of the development project and pollutants associated with that land use type; (3) pollutants expected to be present on site; (4) changes in storm water discharge flow rates, velocities, durations, and volumes resulting from the development project; and (5) sensitivity of receiving waters to changes in storm water discharge flow rates, velocities, durations, and volumes.

(f) Implementation Process – As part of the model SUSMP, the Copermittees shall develop a process by which SUSMP requirements will be implemented. The process shall identify at what point in the planning process development projects will be required to meet SUSMP requirements. The process shall also include identification of the roles and responsibilities of various municipal departments in implementing the SUSMP requirements, as well as any other measures necessary for the implementation of SUSMP requirements.

(g) Waiver Provision – A Copermittee may provide for a project to be waived from the requirement of implementing all structural treatment BMPs (F.1.b.(2)(b) & F.1.b.(2)(c)) if infeasibility can be established. A waiver of infeasibility shall only be granted by a Copermittee when all available structural treatment BMPs have been considered and rejected as infeasible. Copermittees shall notify the SDRWQCB within 5 days of each waiver issued and shall include the name of the person granting each waiver.

As part of the model SUSMP, the Copermittees may develop a program to require project proponents who have received waivers to transfer the savings in cost, as determined by the Copermittee(s), to a storm water mitigation fund. This program may be implemented by all Copermittees that choose to provide waivers. Funds may be used on projects to improve urban runoff quality within the watershed of the waived project. The waiver program may identify:

i. The entity or entities that will manage the storm water mitigation fund (i.e., assume full responsibility for)
ii. The range and types of acceptable projects for which mitigation funds may be expended;
iii. The entity or entities that will assume full responsibility for each mitigation project including its successful completion
iv. How the dollar amount of fund contributions will be determined.

(h) Infiltration and Groundwater Protection – To protect groundwater quality, each Copermittee shall apply restrictions to the use of structural treatment BMPs which are designed to primarily function as infiltration devices (such as infiltration trenches and infiltration basins). Such restrictions shall ensure that the use of such infiltration structural treatment BMPs shall not cause or contribute to an exceedance of groundwater quality objectives. At a minimum, use of structural treatment BMPs which are designed to primarily function as infiltration devices shall meet the following conditions:[96]

i. Urban runoff shall undergo pretreatment such as sedimentation or filtration prior to infiltration.
ii. All dry weather flows shall be diverted from infiltration devices.
iii. Pollution prevention and source control BMPs shall be implemented at a level appropriate to protect groundwater quality at sites where infiltration structural treatment BMPs are to be used.
iv. Infiltration structural treatment BMPs shall be adequately maintained so that they remove pollutants to the maximum extent practicable.
v. The vertical distance from the base of any infiltration structural treatment BMP to the seasonal high groundwater mark shall be at least 10 feet. Where groundwater basins do not support beneficial uses, this vertical distance criteria may be reduced, provided groundwater quality is maintained.
vi. The soil through which infiltration is to occur shall have physical and chemical characteristics (such as appropriate cation exchange capacity, organic content, clay content, and infiltration rate) which are adequate for proper infiltration durations and treatment of urban runoff for the protection of groundwater beneficial uses.
vii. Infiltration structural treatment BMPs shall not be used for areas of industrial or light industrial activity; areas subject to high vehicular traffic (25,000 or greater average daily traffic on main roadway or 15,000 or more average daily traffic on any intersecting roadway); automotive repair shops; car washes; fleet storage areas (bus, truck, etc.); nurseries; and other high threat to water quality land uses and activities as designated by each Copermittee.
viii. Infiltration structural BMPs shall be located a minimum of 100 feet horizontally from any water supply wells.

As part of the model and local SUSMPs, the Copermittees may develop alternative restrictions on the use of structural treatment BMPs which are designed to primarily function as infiltration devices.

(j) Downstream Erosion – As part of the model SUSMP and the local SUSMPs, the Copermittees shall develop criteria to ensure that discharges from new development and significant redevelopment maintain or reduce pre-development downstream erosion and protect stream habitat. At a minimum, criteria shall be developed to control peak storm water discharge rates and velocities in order to maintain or reduce pre-development downstream erosion and protect stream habitat. Storm water discharge volumes and durations should also be considered.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(2) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.1. Land-Use Planning for New Development and Redevelopment Component of Order No. 2001-193.

California Water Code Section 13267 provides that "the regional board may require that any person who has discharged […] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires."

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[96] These conditions do not apply to structural treatment BMPs which allow incidental infiltration and are not designed to primarily function as infiltration devices (such as grassy swales, detention basins, vegetated buffer strips, constructed wetlands, etc.)

Discussion: Copermittees must utilize planning procedures to reduce the discharge of pollutants from new development and redevelopment to the maximum extent practicable. This is necessary due to the potential for new development to increase the volume, flow velocity, and pollutant load of urban runoff (see Findings 4 and 5). As the SWRCB Urban Runoff Technical Advisory Committee (TAC) states, "Urban development often results in impacts to the land and consequently the water bodies adjacent to the land. The two major changes that result from urbanization are changes in stream hydrology and an increase in pollutant loading." To alleviate these potential negative impacts on receiving waters, each Copermittee must develop and implement a Standard Urban Runoff Mitigation Plan for various categories of development.

GENERAL INFORMATION ON SUSMPs

As part of the Jurisdictional Urban Runoff Management Program, Copermittees must also develop Standard Urban Runoff Management Plans (SUSMPs) for certain development and significant redevelopment projects falling under priority project categories. The project categories generally result in the large increases in impervious surfaces, are potential significant sources of pollutants, or have a history of storm water mismanagement. The SUSMPs include requirements for implementation of minimum source control and structural treatment BMPs. The structural treatment BMPs also have numeric sizing criteria that must be met based on volume or flow (of runoff). By developing and implementing the SUSMPs, the Copermittees are reducing the potential negative impacts of urban runoff on receiving waters.

SUPPORT FOR SUSMPS

Support for the inclusion of the SUSMP requirements is found in both Federal and State guidance/regulations. Pursuant to the Clean Water Act and Federal NPDES regulations, municipal storm water permits must require controls to reduce the discharge of pollutants to the maximum extent practicable including controls which address pollutant discharges resulting from new development and significant redevelopment. Clean Water Act section 402(p)(3)(B)(iii) gives USEPA and States considerable discretion on establishing provisions for implementation in storm water programs, stating "require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and systems, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of pollutants." USEPA also recommends design criteria (such as numeric sizing criteria) and performance standards for post construction BMPs at development sites (1992). The increased specificity of the SUSMP requirements is also in line with U.S. EPA Interim Permitting Approach guidance, which states that first round permit BMPs should be expanded or better-tailored where necessary in subsequent permits to attain water quality standards (1996). The SWRCB Urban Runoff Technical Advisory Committee supports development of plans such as SUSMPs, stating that "The TAC recommends that communities of

all sizes implement programs[…] to address control of urban runoff pollution from new development and construction." Both the Los Angeles Regional Water Quality Control Board (Order No. 96-54) and the San Diego Regional Water Quality Control Board (2001-01) have adopted SUSMP requirements in their Municipal Storm Water Permits. The SWRCB Order No. 2000-11(from appeal of LARWQCB permit) finds that SUSMP requirements reflect a reasonable interpretation of development controls that achieve reduction of pollutants in storm water discharges to the maximum extent practicable.

The current Municipal Storm Water Permit for Orange County and Cities (Order No. 96-03) generally addresses new development and redevelopment. The Permit requires the Copermittees to implement new development BMPs that were developed under the previous first term permit (Order No. 90-38). These BMP guidelines were developed in 1993 by a New Development Task Force comprised of government and industry representatives. The guidelines are very general, resulting in development projects proceeding with minimal measures to reduce the impacts of urban runoff. Consequently, draft Order No. 2001-193 contains SUSMP requirements that are more prescriptive than Order 96-03 to establish a framework of narrative and numeric criteria that ensure adequate measures are taken to address urban runoff.

SUSMP REQUIREMENTS IN ORANGE COUNTY PERMIT

Staff reviewed the SUSMP requirements included in the San Diego Municipal Storm Water Permit to determine applicability to the Orange County Municipal Storm Water Permit. Staff also reviewed public comments, the Los Angeles Municipal Storm Water Permit, and SWRCB Order No. 2000-11. The following sections are proposed to be included in the draft Orange County Permit and includes discussion on intent of the requirements.

Priority Development Projects Categories

1. Home Divisions of 100 housing units or more
2. Home subdivisions of 10-99 housing units or more
3. Commercial developments greater than 100,000 square feet
4. Automotive repair shops
5. Restaurants
6. All hillside development greater than 5,000 square feet
7. Environmentally Sensitive Areas
8. Parking lots 5,000 square feet or more or with 15 or more parking spaces
9. Street, roads, highways, and freeways
10. Retail Gasoline Outlets 5,000 square feet or more

The categories listed above will either result in a large increase of impervious surfaces or are potential significant sources of pollutants. These types of projects are typical of new development and significant redevelopment that are likely to occur and be locally approved by the Copermittees in Orange County. All ten categories are included in the draft permit. The SUSMP provisions that

apply to the ten categories of new development and significant redevelopment are separated into two categories, required and optional

1. Required Provisions

BMPs Requirements

Requires SUSMPs include a list of recommended source control and structural BMPs for all projects falling under the priority development categories. Also establishes criteria that these BMPS must meet. The intent of the requirements is to allow the Copermittees and developers flexibility in choosing which combination of source control and structural treatment BMPs are to be implemented at a site. The intent of the criteria is to define what minimum performance standards must be met by these selected BMPs.

Numeric Sizing Criteria

Requires structural BMPs to meet numeric sizing criteria to mitigate (infiltrate, filter, or treat) volume or flow prior to discharge into receiving waters. The numeric sizing criteria is included to ensure that structural BMPs are sized effectively to remove the pollutants of concern. The sizing criteria are based on capture of runoff from a 24-hour 85th percentile storm. The 24-hour 85th percentile storm represents the “knee” of a precipitation probability curve from which it is no longer cost effective to treat runoff. The precipitation curve is calculated by using local historical rainfall data on the number and intensity of storm events. The Regional Board staff has calculated the average 24-hour 85th percentile storm for area covered by the permit to be 0.8 inch (see Appendix X for calculations). However, the requirements allow needed flexibility for the Copermittees and developers to mitigate runoff based on either volume or flow. In addition, the requirements allow for several different options to calculate the amount of runoff to ensure that projects are not required to capture runoff from storm events beyond the point of diminishing returns. For example, a project proponent may demonstrate that the 24-hour 85th storm event may be less than the average 0.8 inch by using local precipitation data.

Pollutants or Conditions of Concern

As part of the model SUSMP, requires the Copermittees to develop a procedure to identify pollutants or conditions or concern for each development or significant redevelopment project. The intent of the requirements is to provide consistency in the application of the SUSMPs between the Copermittees. This requirement was included in response to consistency concerns of the Copermittees.

Implementation Process

As part of the model SUSMP, requires identification at what point in the planning process that projects must meet SUSMP requirements and what are roles/responsibilities of municipal departments. The intent of this requirement is

to provide consistency in the application of the SUSMPs between the Copermittees. This requirement was included in response to consistency concerns of the Copermittees.

Infiltration and Groundwater Protection

Requires restrictions for structural treatment BMPs that are designed to primarily function as infiltration devices to protect groundwater quality. Defines what restrictions are placed on these BMPs, but allows Copermittees to develop alternative restrictions. Applying large amounts of runoff water in a small area has the potential to adversely impact groundwater quality. The intent of these requirements is to provide necessary restrictions for use of these structural BMPs to protect the beneficial uses (municipal, agricultural, industrial) of groundwater in the Orange County section of the San Juan Creek Watershed Management Area. The intent of the requirements is also to provide the Copermittees needed flexibility to develop alternative restrictions for projects or locations.

Downstream Erosion

Require Copermittees to develop criteria to ensure discharges from new development and significant redevelopment maintain or reduce pre-development downstream erosion and protect stream habitat. Development and significant redevelopment can cause increases in runoff amount and velocity causing down erosion problems. The intent of these requirements is to mitigate these potential increases and prevent downstream erosion problems as seen in Aliso & San Juan Creeks.

2. Optional Provisions

Equivalent Numeric Sizing Criteria

Allows Copermittees the opportunity to develop an equivalent method for calculating the volume or flow to be mitigated. The intent of the requirement is to provide necessary flexibility to Copermittees to develop equivalent methods in calculating the volume or flow that must be mitigated from the 24-hour 85th percentile storm event.

Waiver Provision

Allows Copermittees to waive structural treatment BMPs when all available BMPs have been considered and rejected as infeasible. Also allows the Copermittees to develop a program to require projects that receive waivers, to transfer the cost savings to a fund. The intent of the requirements is to allow Copermittees necessary flexibility to waive structural BMPs when it can be established that the implementation of structural BMPs that meet numeric sizing criteria is not feasible at a given site. This provision also allows Copermittees discretion to transfer the costs saving from such a waiver to a fund for water quality projects within the watershed.

The SDRWQCB has discretion to require Standard Urban Runoff Mitigation Plans in Jurisdictional Urban Runoff Management Program item F.1.b.(2). of Order No. 2001-193 under the broad and specific legal authority cited above.

F.1.c. Revise Environmental Review Processes Including CEQA Checklists of the Jurisdictional Urban Runoff Management Program states the following:

(1) *To the extent feasible, the Copermittees shall revise their current environmental review processes to include requirements for evaluation of water quality effects and identification of appropriate mitigation measures. The following questions are examples to be considered in addressing increased pollutants and flows from proposed projects:*

(a) Could the proposed project result in an increase in pollutant discharges to receiving waters? Consider water quality parameters such as temperature, dissolved oxygen, turbidity and other typical storm water pollutants (e.g., heavy metals, pathogens, petroleum derivatives, synthetic organics, sediment, nutrients, oxygen-demanding substances, and trash).
(b) Could the proposed project result in significant alteration of receiving water quality during or following construction?
(c) Could the proposed project result in increased impervious surfaces and associated increased runoff?
(d) Could the proposed project create a significant adverse environmental impact to drainage patterns due to changes in runoff flow rates or volumes?
(e) Could the proposed project result in increased erosion downstream?
(f) Is the project tributary to an already impaired water body, as listed on the Clean Water Act Section 303(d) list? If so, can it result in an increase in any pollutant for which the water body is already impaired?
(g) Is project tributary to other environmentally sensitive areas? If so, can it exacerbate already existing sensitive conditions?
(h) Could the proposed project have a potentially significant environmental impact on surface water quality, to either marine, fresh, or wetland waters?
(i) Could the proposed project have a potentially significant adverse impact on ground water quality?
(j) Could the proposed project cause or contribute to an exceedance of applicable surface or groundwater receiving water quality objectives or degradation of beneficial uses?
(k) Can the project impact aquatic, wetland, or riparian habitat?

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(2) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.1. Land-Use Planning for New Development and Redevelopment Component of Order No. 2001-193.

Discussion: Consideration of the effects of new development and redevelopment on water quality during project approval processes will help ensure that potential water quality problems resulting from the development are identified and addressed. The US EPA finds that "Proposed storm water management programs should include planning procedures for both during and after construction to implement control measures to ensure that pollution is reduced to the maximum

extent practicable in areas of new development and redevelopment. Design criteria and performance standards may be used to assist in meeting this objective" (1992). The US EPA further finds that "The municipality should consider storm water controls and structural controls in planning, zoning, and site or subdivision plan approval" (1992). The SWRCB Urban Runoff Technical Advisory Committee advises that the Copermittees' CEQA initial study checklists be revised to include consideration of water quality effects from new development or redevelopment. The questions included in Jurisdiction Urban Runoff Management Program item F.1.c. are based on questions recommended by the Technical Advisory Committee. The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.1.c. in Order No. 2001-193 under the broad legal authority cited above.

F.1.d. Conduct Education Efforts Focused on New Development and Redevelopment of the Jurisdictional Urban Runoff Management Program states the following:

(1) Internal: Municipal Staff and Others

Each Copermittee shall implement an education program to ensure that its planning and development review staffs (and Planning Boards and Elected Officials, if applicable) have an understanding of:

(a) *Federal, state, and local water quality laws and regulations applicable to development projects;*
(b) *The connection between land use decisions and short and long-term water quality impacts (i.e., impacts from land development and urbanization); and*
(c) *How impacts to receiving water quality resulting from development can be minimized (i.e., through implementation of various source control and structural BMPs).*

(2) External: Project Applicants, Developers, Contractors, Property Owners, Community Planning Groups

As early in the planning and development process as possible, each Copermittee shall implement a program to educate project applicants, developers, contractors, property owners, and community planning groups on the following topics:

(a) *Federal, state, and local water quality laws and regulations applicable to development projects;*
(b) *Required federal, state, and local permits pertaining to water quality;*
(c) *Water quality impacts of urbanization; and*
(d) *Methods for minimizing the impacts of development on receiving water quality.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(2) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.1. Land-Use Planning for New Development and Redevelopment Component of Order No. 2001-193.

Discussion: Training of municipal planning and development review staff is a critical aspect of an urban runoff management program. As discussed in Finding 18, development and implementation of urban runoff control measures as early in the project planning process as possible is an effective means (in terms of both cost and performance) for minimizing the impacts of urban runoff to receiving waters. Municipal planning and development review staff are well-positioned to ensure that water quality considerations are incorporated into development projects in the early planning stages. With adequate training, municipal planning and development review staff can require implementation of BMPs early in the project planning process, thereby minimizing the urban runoff impacts of development in a cost effective manner. US EPA supports training of municipal staff when it identifies "training for appropriate employees" as a measurable goal of an urban runoff management program (2000).

Education on storm water planning issues for the public sector involved with development is equally critical. When the public sector has knowledge of storm water issues and regulations, it is more likely to incorporate storm water planning in the development and redevelopment process. In this manner, implementation of measures to address storm water issues will be included in development plans, saving time and money for the developer and the municipality. The SWRCB Urban Runoff Technical Advisory Committee finds that Copermittees should "Establish an education/information dissemination program that includes such things as: brochures to distribute to developers and contractors at permit counters and by mail; reference and training manuals for planners, engineers, inspectors, developers, contractors; and training and information exchange workshops."

Furthermore, in its Phase II Final Rule, US EPA requires small municipalities to "…implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities […]" (1999). Due to the greater water quality concerns generally experienced by larger municipalities, Phase II Final Rule requirements for small municipalities are also applicable to larger municipalities such as the Copermittees.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.1.d. in Order No. 2001-193 under the broad legal authority cited above.

F.2. CONSTRUCTION COMPONENT

In addition to the underlying broad legal authority citations listed above in section VII. of this Fact Sheet/Technical Report, the following specific legal authority item also generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.2. Construction Component of Order No. 2001-193. Other specific legal authority items applicable only to distinct directives of Jurisdictional Urban Runoff Management Program item F.2. are provided as necessary.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) provides that the proposed management program include "A description of a program to implement and maintain structural and non-structural best management practices to reduce

pollutants in storm water runoff from construction sites to the municipal storm sewer system."

F.2. Construction Component of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall implement a Construction Component of its Jurisdictional URMP to reduce pollutants in runoff from construction sites during all construction phases. At a minimum the construction component shall address:

F.2.a. Pollution Prevention
F.2.b. Grading Ordinance Update
F.2.c. Modify Construction and Grading Approval Process
F.2.d. Source Identification
F.2.e. Threat to Water Quality Prioritization
F.2.f. BMP Implementation
F.2.g. Inspection of Construction Sites
F.2.h. Enforcement of Construction Sites
F.2.i. Reporting of Non-compliant Sites
F.2.j. Education Focused on Construction Activities

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.2. Construction Component of Order No. 2001-193.

Discussion: CWA sections 402(p)(3)(B)(ii-iii) requires each Copermittee to prohibit non-storm water discharges into its MS4 and to reduce the discharge of pollutants to the maximum extent practicable for all urban land uses. The purpose of these two broad requirements is to minimize the short and long-term impacts of urban runoff on receiving water quality. Land used for construction activities is clearly identified in the federal regulations as one of several high priority land uses from which pollutants in urban runoff discharges must be reduced to the maximum extent practicable by each Copermittee. Federal NPDES regulation 40 CFR 122.26(d)(2)(iv) requires the development of a proposed management program to reduce the discharge of pollutants in storm water to the maximum extent practicable. Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) requires that this program include components which address construction sites and activities.

Natural erosion processes are accelerated when existing protective cover is removed during construction. Suspended sediments constitute the largest mass of pollutant loadings to surface waters. As discussed in Finding 19, the primary source of these sediments is construction sites. Sediments from construction site erosion can be effectively reduced in urban runoff by the application of a wide range of BMPs, which emphasize pollution prevention and source control and are supplemented by treatment control BMPs. For these reasons, each

Copermittee must develop and implement a Construction Component that utilizes BMPs to control pollutants in runoff generated from construction sites.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.2 in Order No. 2001-193 under broad legal authority cited above.

F.2.a. Pollution Prevention (Construction) of the Jurisdictional Urban Runoff Management Program states the following:

> *Each Copermittee shall implement pollution prevention methods in its Construction Component and shall require its use by construction site owners, developers, contractors, and other responsible parties, where appropriate.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.2. Construction Component of Order No. 2001-193.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(1) provides that the proposed management program include "A description of procedures for site planning which incorporate consideration of potential water quality impacts."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(2) provides that the proposed management program include "A description of requirements for nonstructural and structural best management practices."

Discussion: Each Copermittee must develop a program to reduce the discharge of pollutants in storm water from construction sites to the maximum extent practicable. In order to achieve this level of pollution reduction, BMPs must be implemented.[97] As discussed in Finding 12, pollution prevention (the reduction or elimination of pollutant generation at its source) is an essential aspect of BMPs. By limiting the generation of pollutants, less pollutants are available to be washed from construction sites, resulting in reduced pollutant loads in storm water discharges from these sites. In addition, there is no need to control or treat pollutants that are not initially generated. Furthermore, pollution prevention BMPs are generally more cost effective than removal of pollutants by treatment facilities or cleanup of contaminated media. In the Pollution Prevention Act of 1990, Congress established a national policy that emphasizes pollution prevention over control and treatment. Since pollution prevention is an effective and efficient means for reducing pollutant loads in storm water runoff, pollution prevention

[97] Santa Clara Valley Urban Runoff Pollution Program, 1995. Blueprint for a Clean Bay:Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities.

methods are an important aspect of BMPs to be included in the Construction Component of the Jurisdictional URMP.[98]

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.4.a in Order No. 2001-193 under the broad and specific legal authority cited above.

F.2.b. Grading Ordinance Update (Construction) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall review and update its grading ordinances as necessary for compliance with its storm water ordinances and this Order. The updated grading ordinance shall require implementation of BMPs and other measures during all construction activities, including the following BMPs and other measures or their equivalent:

(1) Erosion prevention;
(2) Seasonal restrictions on grading;
(3) Slope stabilization requirements;
(4) Phased grading;
(5) Revegetation as early as feasible;
(6) Preservation of natural hydrologic features;
(7) Preservation of riparian buffers and corridors;
(8) Maintenance of all source control and structural treatment BMPs; and
(9) Retention and proper management of sediment and other construction pollutants on site.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.2. Construction Component of Order No. 2001-193.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(1) provides that the proposed management program include “A description of procedures for site planning which incorporate consideration of potential water quality impacts.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(2) provides that the proposed management program include “A description of requirements for nonstructural and structural best management practices.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that each Copermitee must demonstrate that it can control “through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from site of industrial activity.”

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[98] U.S. EPA, 1996. Controlling Stormwater Runoff Discharges from Small Construction Sites: A National Review.

Federal NPDES regulation 40 CFR 122.26(b)(14) provides that "The following categories of facilities are considered to be engaging in 'industrial activity' for the purposes of this subsection: […] (x) Construction activity including cleaning, grading and excavation activities […]."

Discussion: Copermittees must reduce pollutant discharges in storm water from construction sites to the maximum extent practicable. In order to achieve this level of pollution reduction, BMPs must be implemented. An effective means for ensuring BMP implementation at construction sites is through the development and implementation of grading ordinances which require pollution prevention, source control, and structural treatment BMPs. Updated grading ordinances that adequately address water quality considerations will provide Copermittees with the necessary legal authority to require effective BMPs at construction sites.

The US EPA suggests that local ordinance be used to require implementation of BMPs, stating that "A description of the local erosion and sediment control law or ordinance is needed to satisfy this requirement [i.e., Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(2)]" (1992). Regarding Copermittee approval of construction activities, the US EPA further states that "applicants must propose site review and approval procedures that address sediment and erosion controls, storm water management, and other appropriate measures. Approvals should be clearly tied to commitments to implement structural and nonstructural BMPs during the construction process" (1992).

Furthermore, in its Phase II Final Rule, US EPA requires small municipalities to develop and implement for construction sites "An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance […]" (1999). Due to the greater water quality concerns generally experienced by larger municipalities, Phase II Final Rule requirements for small municipalities are also applicable to larger municipalities such as the Copermittees.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.2.b in Order No. 2001-193 under the broad and specific legal authority cited above.

F.2.c. Modify Construction and Grading Approval Process (Construction) of the Jurisdictional Urban Runoff Management Program states the following:

Prior to approval and issuance of local construction and grading permits, each Copermittee shall require all individual proposed construction and grading projects to implement measures to ensure that pollutants from the site will be reduced to the maximum extent practicable and will not cause or contribute to an exceedance of water quality objectives. Each Copermittee shall further ensure that all grading and construction activities will be in compliance with applicable Copermittee ordinances (e.g., storm water, grading, construction, etc.) and other applicable requirements, including this Order.

(1) Construction and Grading Project Requirements

Include construction and grading project requirements in local grading and construction permits to ensure that pollutant discharges are reduced to the maximum extent practicable and water quality objectives are not violated during the construction phase. Such requirements shall include the following requirements or their equivalent:

(a) Require project proponent to develop and implement a plan to manage storm water and non-storm water discharges from the site at all times;
(b) Require project proponent to minimize grading during the wet season and coincide grading with seasonal dry weather periods to the extent feasible. If grading does occur during the wet season, require project proponent to implement additional BMPs for any rain events which may occur, as necessary for compliance with this Order;
(c) Require project proponent to emphasize erosion prevention as the most important measure for keeping sediment on site during construction;
(d) Require project proponent to utilize sediment controls as a supplement to erosion prevention for keeping sediment on-site during construction, and never as the single or primary method;
(e) Require project proponent to minimize areas that are cleared and graded to only the portion of the site that is necessary for construction;
(f) Require project proponent to minimize exposure time of disturbed soil areas;
(g) Require project proponent to temporarily stabilize and reseed disturbed soil areas as rapidly as possible;
(h) Require project proponent to permanently revegetate or landscape as early as feasible;
(i) Require project proponent to stabilize all slopes; and
(j) *Require project proponents subject to California's statewide General NPDES Permit for Storm Water Discharges Associated With Construction Activities, (hereinafter General Construction Permit), to provide evidence of existing coverage under the General Construction Permit.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.2. Construction Component of Order No. 2001-193.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(1) provides that the proposed management program include "A description of procedures for site planning which incorporate consideration of potential water quality impacts."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(2) provides that the proposed management program include "A description of requirements for nonstructural and structural best management practices."

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that each Copermitee must demonstrate that it can control "through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from site of industrial activity."

Federal NPDES regulation 40 CFR 122.26(b)(14) provides that "The following categories of facilities are considered to be engaging in 'industrial activity' for the

purposes of this subsection: […] (x) Construction activity including cleaning, grading and excavation activities […].”

Discussion: As discussed in Finding 16, since each Copermittee approves and issues construction and grading permits, and discharges from construction and grading activities enter its MS4, each Copermittee is responsible for the pollutant discharges resulting from construction and grading activities. Each Copermittee must ensure that pollutant discharges from construction and grading activities are reduced to the maximum extent practicable and do not result in degradation of receiving waters. An effective means for achieving this is to develop conditions of approval for grading and construction permits that require measures to minimize pollutant discharges. The US EPA recommends approval processes which consider water quality impacts, stating that approval process requirements should “include phasing development to coincide with seasonal dry periods, minimizing areas that are cleared and graded to only the portion of the site that is necessary for construction, exposing areas for the briefest period possible, and stabilizing and reseeding disturbed areas rapidly after construction activity is completed” (1992). Other suggested construction and grading conditions of approval listed in this item are based on SWRCB Urban Runoff Technical Advisory Committee recommendations.

During approval and issuance of grading and construction permits, each Copermittee must review construction and grading plans to ensure that the conditions of approval are met. US EPA states that to determine if a construction site is in compliance with construction and grading ordinances and permits, the “MS4 operator should review the site plans submitted by the construction site operator before ground is broken” (2000). Furthermore, in its Phase II Final Rule, US EPA requires small municipalities to develop and implement for construction sites “Procedures for site plan review which incorporate consideration of potential water quality impacts” (1999). Due to the greater water quality concerns generally experienced by larger municipalities, Phase II Final Rule requirements for small municipalities are also applicable to larger municipalities such as the Copermittees.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.2.c in Order No. 2001-193 under the broad and specific legal authority cited above.

F.2.d. Source Identification (Construction) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall annually develop and update, prior to the rainy season, a watershed-based inventory of all construction sites within its jurisdiction regardless of site size or ownership. This requirement is applicable to all construction sites regardless of whether the construction site is subject to the California statewide General NPDES Permit for Storm Water Discharges Associated With Construction Activities (hereinafter General Construction Permit), or other individual NPDES permit. The use of an automated database system, such as Geographical Information System (GIS) is highly recommended, but not required.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.2. Construction Component of Order No. 2001-193.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(3) provides that the proposed management program include "A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality."

Discussion: In order to prohibit non-storm water discharges, reduce construction pollutant sources to the maximum extent practicable, and ensure that adequate BMPs are implemented, Copermittees must first identify all of the construction sites within their jurisdiction. The construction sites are to be inventoried on a watershed basis in order to help with prioritization of the sites. For example, construction sites which are found to be located in a watershed with impaired receiving waters for sediment should be considered a high priority for BMP implementation, inspections, and enforcement. The US EPA requires that all construction sites be addressed (and therefore inventoried), stating: "All construction sites, regardless of size, must be addressed by the municipality. To begin to identify these sites, the applicant should obtain lists of construction site operators that are covered by general or individual storm water NPDES permits from the NPDES permitting authority. However, construction sites not covered by a storm water discharge permit also need to be addressed by the municipality. The best way to identify these construction sites and implement an effective BMP program to reduce pollutants in their runoff is through the site planning process" (1992).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.4.d in Order No. 2001-193 under the broad and specific legal authority cited above.

F.2.e. Threat to Water Quality Prioritization (Construction) of the Jurisdictional Urban Runoff Management Program states the following:

(1) To establish priorities for construction oversight activities under this Order, the Copermittee shall prioritize its watershed-based inventory (developed pursuant to F.2.d. above) by threat to water quality. Each construction site shall be classified as high, medium, or low threat to water quality. In evaluating threat to water quality each Copermittee shall consider (1) soil erosion potential; (2) site slope; (3) project size and type; (4) sensitivity of receiving water bodies; (5) proximity to receiving water bodies; (6) non-storm water discharges; and (7) any other relevant factors.

(2) A high priority construction site shall at a minimum be defined as a site meeting either of the following criteria or equivalent criteria:

(a) *The site is 50 acres or more and grading will occur during the wet season; OR*

(b) *The site is (1) 5 acres or more and (2) tributary to a Clean Water Act section 303(d) water body impaired for sediment or is within or directly adjacent to or discharging directly to a receiving water within an environmentally sensitive area (as defined in section F.1.b.(2)(a)vii of this Order).*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.2. Construction Component of Order No. 2001-193.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(3) provides that the proposed management program include "A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality."

Discussion: As discussed in Finding 19, construction sites are high risk areas for pollutant discharges to storm water. Development of an inventory of construction sites within a watershed will help identify potential sources of pollutants in storm water. By assessing information provided in the inventory (such as site topography and site proximity to receiving waters), sites can be prioritized by threat to water quality. Those sites that pose the greatest threat can then be targeted for inspection and monitoring. This will allow for limited inspection and monitoring time to be most effective.

The types of construction sites identified as high priority in this item are identified as such due to their high potential for erosion and impacting receiving waters. These types of construction sites are generally large, requiring grading of a large area, resulting in a large area of disturbed earth which is susceptible to erosion. Hillside construction is also high priority, due to its susceptibility to slope erosion. Any construction sites tributary to a CWA section 303(d) waterbody are also high priority due to their potential to further degrade those waterbodies. US EPA supports this type of prioritization, stating that municipalities should "identify priority sites for inspection and enforcement based on the nature and extent of the construction activity, topography, and the characteristics of soils and receiving water quality" (2000).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.2.e in Order No. 2001-193 under the broad and specific legal authority cited above.

F.2.f.(1), F.2.f.(2), and F.2.f.(3) BMP Implementation (Construction) of the Jurisdictional Urban Runoff Management Program state the following:

(1) Each Copermittee shall designate a set of minimum BMPs for high, medium, and low threat to water quality construction sites (as determined under section F.2.e). BMPs are to be implemented year round.

(2) Each Copermittee shall implement, or require the implementation of, the designated minimum BMPs (based upon the site's threat to water quality rating) at each construction site within its jurisdiction year round. If particular minimum BMPs are infeasible at any specific site, each Copermittee shall implement, or require the implementation of, other equivalent BMPs. Each Copermittee shall also implement or require any additional site specific BMPs as necessary to comply with this Order, including BMPs which are more stringent than those required under the statewide General Construction Permit.

(3) Each Copermittee shall implement, or require the implementation of, BMPs year round; however, BMP implementation requirements can vary based on wet and dry seasons.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.2. Construction Component of Order No. 2001-193.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(2) provides that the proposed management program include "A description of requirements for nonstructural and structural best management practices."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(3) provides that the proposed management program include "A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality."

Discussion: Copermittees must reduce the discharge of pollutants in storm water from construction sites to the maximum extent practicable. To achieve this level of pollutant reduction, BMPs must be implemented (see Finding 11). Designation of a set of minimum BMPs for high, medium, and low threat construction sites will help ensure that appropriate BMPs are implemented at construction sites. These minimum BMPs will also serve as guidance as to the level of water quality protection required.

Regarding designation of BMPs to be implemented, the US EPA states that "the proposed management program should describe requirements for nonstructural and structural BMPs that operators of construction activities that discharge to MS4s must meet" (1992). While minimum BMPs will be required at all construction sites, implementation of particular BMPs will be site specific in order to address various conditions at different sites. Regarding site specific BMPs, the US EPA states "Appropriate structural and nonstructural control requirements will vary by project. Project type, size, and duration, as well as soil composition, site slope,

and proximity to sensitive receiving waters will determine the appropriate structural and nonstructural BMPs" (1992).

In order to comply with Order No. 2001-193 requirements, implemented BMPs may need to be more stringent than those required under the statewide General Construction Permit. The US EPA implies that local sediment and erosion control requirements may be more stringent than statewide General Construction Permit requirements when it states that "construction sites covered under NPDES permit regulations must indicate whether they are in compliance with State and local sediment and erosion control plans" (1992).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program items F.2.f.(1-3) in Order No. 2001-193 under the broad and specific legal authority cited above.

F.2.f.(4) BMP Implementation (Construction) of the Jurisdictional Urban Runoff Management Program states the following:

> *Each Copermittee shall implement, or require implementation of, additional controls for construction sites tributary to Clean Water Act section 303(d) water bodies impaired for sediment as necessary to comply with this Order. Each Copermittee shall implement, or require implementation of, additional controls for construction sites within or adjacent to or discharging directly to receiving waters within environmentally sensitive areas (as defined in section F.1.b.(2)(a)(vii) of this Order) as necessary to comply with this Order.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.2. Construction Component of Order No. 2001-193.

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to "control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality."

Discussion: CWA section 303(d) water bodies are impaired water bodies that are not achieving the water quality objectives necessary to protect their beneficial uses. As discussed in Finding 3, urban runoff discharges from MS4s are a leading cause of receiving water quality impairment in the San Diego Region and throughout the United States. Since discharges that cause or contribute to an exceedance of water quality standards are prohibited (see section C.1. of Order No. 2001-193), any discharges to CWA section 303(d) waterbodies of pollutants for which the waterbody is impaired are prohibited. Therefore, construction sites and activities tributary to these water bodies must implement additional controls to

ensure that they are not discharging the pollutants which are causing or contributing to the impairment of these water bodies.

With regards to coastal lagoons and other sensitive water bodies, additional controls are needed to protect these valuable and unique resources. In their Nonpoint Source Program Strategy and Implementation Plan, the SWRCB and California Coastal Commission support additional controls for critical coastal areas, stating "the State will seek to attain and maintain applicable water quality standards, and protect waters threatened by land uses, or by substantial expansion of existing land uses, by implementing additional management measures."

Furthermore, US EPA supports additional controls for construction sites tributary to impaired or sensitive water bodies, stating "The proximity and sensitivity of the receiving water to which the construction site discharges is an important consideration. For construction sites that discharge to receiving waters that do not support their designated use or other waters of special concern, additional construction site controls are probably warranted and should be strongly considered" (1992).

The SDRWQCB has the discretion to require Jurisdictional Urban Runoff Program item F.2.f.(4) in Order No. 2001-193 under the broad and specific legal authority cited above.

F.2.g. Inspection of Construction Sites (Construction) of the Jurisdictional Urban Runoff Management Program item F.4.g states the following:

(1) Each Copermittee shall conduct construction site inspections for compliance with its ordinances (grading, storm water, etc.), permits (construction, grading, etc.), and this Order. Inspections shall include review of site erosion control and BMP implementation plans..

(2) Each Copermittee shall establish inspection frequencies and priorities as determined by the threat to water quality prioritization described in F.2.e above. During the wet season (i.e., October 1 through April 30 of each year), each Copermittee shall inspect, at a minimum, each High Priority construction site, either:

(a) Weekly
OR
(b) Monthly for any site that the responsible Copermittee certifies in a written statement to the SDRWQCB all of the following (certified statements may be submitted to the SDRWQCB at any time for one or more sites):

i. Copermittee has record of construction site's Waste Discharge Identification Number (WDID#) documenting construction site's coverage under the statewide General Construction Permit; and
ii. Copermittee has reviewed the constructions site's Storm Water Pollution Prevention Plan (SWPPP); and
iii. Copermittee finds SWPPP to be in compliance with all local ordinances, permits, and plans; and
iv. Copermittee finds that the SWPPP is being properly implemented on site.

At a minimum, Medium and Low Priority construction sites shall be inspected by Copermittees twice during the wet season. All construction sites shall be inspected by the Copermittees as needed during the dry season (i.e., May 1 through September 30 of each year).

(3) Based upon site inspection findings, each Copermittee shall implement all follow-up actions necessary to comply with this Order.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.2. Construction Component of Order No. 2001-193.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(3) provides that the proposed management program include "A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality."

Discussion: As discussed in Finding 24, inspections provide a necessary means by which Copermittees can evaluate compliance with their municipal ordinances. Inspections are especially important at high-risk areas for pollutant discharges, such as industrial and construction sites. To ensure that BMPs are properly installed and maintained, US EPA states MS4 operators should "develop procedures for site inspection and enforcement of control measures to deter infractions" (2000). Inspections of construction projects in the early stages of land disturbance have been shown be an effective tool to ensure initial compliance with its local ordinances, permits and erosion control plans. A study was conducted by the North Carolina Department of Environment, which evaluated the effectiveness of their Erosion and Sediment Control Program (Malcom et al., 1990). The study found that at the start of construction, less than half of construction sites inspected had installed all of the sediment and erosion control measures specified on their approved plans, and even higher degrees of noncompliance were found in the maintenance of these measures once they were installed.[99]

Construction site inspections shall be conducted to determine compliance with applicable ordinances and permits, including Order No. 2001-193. To this effect, the US EPA finds that "Site inspections are expected to be the primary enforcement mechanism by which erosion and sediment controls are maintained" (1992). When inspections result in findings of noncompliance, follow-up by the Copermittee to ensure compliance is necessary. The US EPA states "Effective inspection and enforcement requires […] intervention by the municipal authority to correct violations" (1992). This is supported by the North Carolina Study that

[99] Malcom, H.R., A.C. Beard, R.J. Burby, E.J. Kaiser, M.I. Luger, and R.G. Patterson. 1990. *Evaluation of the North Carolina Erosion and Sediment Control Program*. Raleigh NC: Land Quality Section, Division of Land Resources, North Carolina Department of Environmental Health and Natural Resources.

provided empirical support for the importance of inspections in increasing construction site compliance with local and state ordinances. Both the frequency and duration of project inspections were positively associated with the level of installation and maintenance compliance at the construction sites (Malcom et al., 1990). US EPA further finds "inspections give the MS4 operator an opportunity to provide additional guidance and education, issue warnings or assess penalties"(2000)". Frequent inspections by Copermittees of high priority construction sites will keep compliance a priority, and allow opportunities for inspectors to enhance problem-solving skills among site personnel.

Construction site inspection frequencies are to be based on threat to water quality prioritization. US EPA supports this, stating that site inspection procedures should "identify priority sites for inspection and enforcement based on the nature and extent of the construction activity, topography, and the characteristics of soils and receiving water quality" (2000). For example, construction sites that are considered a high threat to water quality are to be given a high priority for inspection. This will allow for limited inspection and monitoring time to be most effective. Weekly to monthly inspection of high threat sites is necessary due to the dynamic nature of construction activities. Medium and low threat construction sites can be inspected less frequently, due to their reduced risk of negatively impacting receiving waters. Review of SWPPPs can be one effective tool for determining frequency of site inspections. Construction sites which effectively implement the measures of a comprehensive SWPPP may not need to be inspected as frequently as less diligent sites.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.2.g in Order No. 2001-193 under the broad and specific legal authority cited above.

F.2.h. Enforcement of Construction Sites (Construction) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall enforce its ordinances (grading, storm water, etc.) and permits (construction, grading, etc.) at all construction sites as necessary to maintain compliance with this Order. Copermittee ordinances or other regulatory mechanisms shall include sanctions to ensure compliance. Sanctions shall include the following or their equivalent: Non-monetary penalties, fines, bonding requirements, and/or permit denials for non-compliance.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.2. Construction Component of Order No. 2001-193.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(3) provides that the proposed management program include "A description of procedures for identifying priorities for inspecting sites and enforcing control measures which

consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality."

Discussion: Each Copermittee must develop grading and storm water ordinances under its Jurisdictional Urban Runoff Management Program. As discussed in Finding 24, when a Copermittee determines a violation of its grading or storm water ordinance, it must pursue correction of the violation. A critical aspect of the correction of violations is enforcement of ordinances. Enforcement increases the probability of correction of a violation. The US EPA supports development of enforceable ordinances and permits when it states "applicants must describe proposed regulatory programs to reduce pollutants in storm water runoff from construction sites to the MS4" (1992). The US EPA supports enforcement of these ordinances and permits at construction sites when it states "Effective inspection and enforcement requires […] penalties to deter infractions and intervention by the municipal authority to correct violations. Enforcement mechanisms […] also must be described" (1992).

Furthermore, in its Phase II Final Rule, US EPA requires small municipalities to develop and implement "An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance […]" (1999). Due to the greater water quality concerns generally experienced by larger municipalities, Phase II Final Rule requirements for small municipalities are also applicable to larger municipalities such as the Copermittees.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.2.h of Order No. 2001-193 under the broad and specific legal authority cited above.

F.2.i. Reporting of Non-compliant Sites (Construction) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall provide oral notification to the SDRWQCB of non-compliant sites that are determined to pose a threat to human or environmental health within its jurisdiction within 24 hours of the discovery of noncompliance, as required under section R.1 (and B.6 of Attachment C) of this Order.

Each Copermittee shall develop and submit criteria by which to evaluate events of non-compliance to determine whether they pose a threat to human or environmental health. These criteria shall be submitted in the Jurisdictional Urban Runoff Management Program Document and Annual Reports for SDRWQCB review.

Such oral notification shall be followed up by a written report to be submitted to the SDRWQCB within 5 days of the incidence of non-compliance as required under section R.1 (and B.6 of Attachment C) of this Order. Sites are considered non-compliant when one or more violations of local ordinances, permits, plans, or this Order exist on the site.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.2. Construction Component of Order No. 2001-193.

California Water Code section 13267 provides that "the regional board may require than any person who has discharged […] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires."

Federal NPDES regulation 40 CFR 122.44(l)(6) states "The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of non-compliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance."

Discussion: Follow-up with non-compliant construction sites is essential to ensure that the site has taken adequate corrective measures to achieve compliance. To help ensure that compliance has been achieved, the Copermittees shall report non-compliant industrial sites to the SDRWQCB. The SDRWQCB can then participate in follow-up efforts to assure that the construction site is in compliance. Notification of non-compliance is common to all NPDES permits under Federal NPDES regulation 40 CFR 122.44(l)(6).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.b.(7) in Order No. 2001-193 under the broad and specific legal authority cited above.

F.2.j. Education Focused on Construction Activities (Construction) of the Jurisdictional Urban Runoff Management Program states the following:

(1) Internal: Municipal Staff

Each Copermittee shall implement an education program to ensure that its construction, building, and grading review staffs and inspectors have an understanding of:

(a) Federal, state, and local water quality laws and regulations applicable to construction and grading activities.
(b) The connection between construction activities and water quality impacts (i.e., impacts from land development and urbanization).
(c) How erosion can be prevented.
(d) How impacts to receiving water quality resulting from construction activities can be minimized (i.e., through implementation of various source control and structural BMPs).
(e) Applicable topics listed in section F.4. of this Order.

(2) External: Project Applicants, Contractors, Developers, Property Owners, and other Responsible Parties

Each Copermittee shall implement an education program to ensure that project applicants, contractors, developers, property owners, and other responsible parties have an understanding of the topics outlined in section F.2.j.1. above of this Order.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.2. Construction Component of Order No. 2001-193.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(4) provides that the proposed management program include "A description of appropriate educational and training measures for construction site operators."

Discussion: As discussed in Finding 23, implementation of an education program is an important best management practice for construction sites and activities. The SWRCB Technical Advisory Committee "recognizes that education with an emphasis on pollution prevention is the fundamental basis for solving nonpoint source pollution problems." The TAC points out several target communities for education efforts, including "Government: Educate agencies and officials to achieve better communication, consistency, collaboration, and coordination at the federal, state and local levels" and "Development Community: Educate the development community, including developers, contractors, architects, and local government planners, engineers, and inspectors, on nonpoint source pollution problems associated with development and redevelopment and construction activities and involve them in problem definitions and solutions."

The US EPA also supports education efforts for parties involved in construction, stating "technical information on how to incorporate storm water management with erosion and sediment control and other BMP training courses are recommended for municipal employees and construction site operators."

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.2.j. in Order No. 2001-193 under the broad and specific legal authority cited above.

F.3. EXISTING DEVELOPMENT COMPONENT

F.3. Existing Development Component of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall minimize the short and long-term impacts on receiving water quality from all types of existing development.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Discussion: CWA sections 402(p)(3)(B)(ii-iii) require each Copermittee to prohibit non-storm water discharges into its MS4 and to reduce the discharge of pollutants to the maximum extent practicable for all urban land uses. The purpose of these two broad requirements is to minimize the short and long-term impacts of urban runoff on receiving water quality. The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.3 of Order No. 2001-193 under the broad legal authority cited above.

F.3.a. MUNICIPAL (EXISTING DEVELOPMENT)

In addition to the underlying broad legal authority citations listed above in section VII. of this Fact Sheet/Technical Report, the following specific legal authority items also generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.a. Municipal (Existing Development) of Order No. 2001-193. Other specific legal authority items applicable only to distinct directives of Jurisdictional Urban Runoff Management Program item F.3.a. are provided as necessary.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(1) provides that the proposed management program include "A description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(3) provides that the proposed management program include "A description for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of deicing activities."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(4) provides that the proposed management program include "A description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from storm water is feasible."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(5) provides that the proposed management program include "A description of a program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste, which shall identify priorities and procedures for inspections and establishing and implementing control measures for such discharges."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(6) provides that the proposed management program include "A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides, and fertilizer which will include, as appropriate, controls such as educational activities, permits,

certifications, and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities."

F.3.a. Municipal (Existing Development) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall implement a Municipal (Existing Development) Component to prevent or reduce pollutants in runoff from all municipal land use areas and activities. At a minimum the municipal component shall address:

F.3.a.(1)	*Pollution Prevention*
F.3.a.(2)	*Source Identification*
F.3.a.(3)	*Threat to Water Quality Prioritization*
F.3.a.(4)	*BMP Implementation*
F.3.a.(5)	*Maintenance of Municipal Separate Storm Sewer System*
F.3.a.(6)	*Management of Pesticides, Herbicides, and Fertilizers*
F.3.a.(7)	*Inspection of Municipal Areas and Activities*
F.3.a.(8)	*Enforcement of Municipal Areas and Activities*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A)(1,3,4,5, and 6) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.a. Municipal (Existing Development) of Order No. 2001-193.

Discussion: CWA sections 402(p)(3)(B)(ii-iii) requires each Copermittee to prohibit non-storm water discharges into its MS4 and to reduce the discharge of pollutants to the maximum extent practicable for all urban land uses. The purpose of these two broad requirements is to minimize the short and long-term impacts of urban runoff on receiving water quality. Land used for municipal activities is clearly identified in the federal regulations as one of several high priority land uses from which pollutants in urban runoff discharges must be reduced to the maximum extent practicable by each Copermittee. Federal NPDES regulation 40 CFR 122.26(d)(2)(iv) requires the development of a proposed management program to reduce the discharge of pollutants in storm water to the maximum extent practicable. Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A)(1) and 40 CFR 122.26 (d)(2)(iv)(A)(3-6) require that this program include components which address municipal areas and activities.

US EPA targets municipal areas and activities "to help ensure a reduction in the amount and type of pollution that (1) collects on streets, parking lots, open spaces, and storage and vehicle maintenance areas and is discharged into local waterways; and (2) results from actions such as environmentally damaging land development and flood management practices or poor maintenance of storm sewer systems" (2000). To reduce pollutant discharges from municipal areas and activities to the maximum extent practicable, BMPs must be implemented.

Therefore, a municipal existing development component requiring BMPs must be developed and implemented as part of each Copermittee's Jurisdictional URMP.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.3.a in Order No. 2001-193 under the broad legal authority cited above.

F.3.a.(1) Pollution Prevention (Municipal) of the Jurisdictional Urban Runoff Management Program states the following:

> *Each Copermittee shall include and describe pollution prevention methods within its Municipal (Existing Development) Component. Each Copermittee shall require the use of pollution prevention methods by municipal departments, contractors, and personnel, where appropriate.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A)(1,3,4,5, and 6) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.a. Municipal (Existing Development) of Order No. 2001-193.

Discussion: Each Copermittee must develop a program to reduce the discharge of pollutants to and from the MS4 to the maximum extent practicable for all urban land uses and activities, including municipal areas and activities. In order to achieve this level of pollution reduction, BMPs must be implemented. Pollution prevention, the reduction or elimination of pollutant generation at its source, is an essential aspect of BMPs. By limiting the generation of pollutants, less pollutants are available to be washed from municipal areas and activities, resulting in reduced pollutant loads in storm water discharges from these areas and activities. In addition, there is no need to control or treat pollutants that are not initially generated. Furthermore, pollution prevention BMPs are generally more cost effective than removal of pollutants by treatment facilities or cleanup of contaminated media. In the Pollution Prevention Act of 1990, Congress established a national policy that emphasizes pollution prevention over control and treatment. Since pollution prevention is an effective and efficient means for reducing pollutant loads in storm water runoff, pollution prevention methods are an important aspect of BMPs to be included in the municipal existing development component. [100]

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.3.a.(1) in Order No. 2001-193 under the broad legal authority cited above.

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[100] National Association of Counties, 1995. Preventing pollution in Our Cities and Counties: A Compendium of Case Studies.

F.3.a.(2) Source Identification (Municipal) of the Jurisdictional Urban Runoff Management Program states the following:

> *Each Copermittee shall develop, and update annually, a watershed-based inventory of the name, address (if applicable), and description of all municipal land use areas and activities which generate pollutants.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A)(1,3,4,5, and 6) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.a. Municipal (Existing Development) of Order No. 2001-193.

Discussion: In order to prohibit non-storm water discharges, reduce municipal pollutant sources to the maximum extent practicable, and ensure that adequate BMPs are implemented, Copermittees must first identify all of the municipal areas and pollutant source activities within their jurisdiction. The municipal areas and pollutant source activities are to be inventoried on a watershed basis in order to help with prioritization of the sites. For example, municipal pollutant sources which are found to be located in a watershed with impaired receiving waters should be considered a high priority for BMP implementation, inspections, and monitoring. Regarding municipal pollutant source inventories, the US EPA states "The first step is to identify facilities that handle municipal waste and summarize their operations" (1992). The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.3.a.(2) of Order No. 2001-193 under the broad legal authority cited above.

F.3.a.(3)(a) Threat to Water Quality Prioritization (Municipal) of the Jurisdictional Urban Runoff Management Program states the following:

> *To establish priorities for oversight of municipal areas and activities required under this Order, each* *To establish priorities for oversight of municipal areas and activities required under this Order, each* *Copermittee shall prioritize each watershed inventory in F.3.a.2. above by threat to water quality and update annually. Each municipal area and activity shall be classified as high, medium, or low threat to water quality. In evaluating threat to water quality, each Copermittee shall consider (1) type of municipal area or activity; (2) materials used; (3) wastes generated; (4) pollutant discharge potential; (5) non-storm water discharges; (6) size of facility or area; (7) proximity to receiving water bodies; (8) sensitivity of receiving water bodies; and (9) any other relevant factors.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A)(1,3,4,5, and 6) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.a. Municipal (Existing Development) of Order No. 2001-193.

Discussion: Many municipal pollutant sources pose a high risk for pollutant discharges to storm water. By assessing information provided in the municipal pollutant source inventory (such as principal pollutants used or services provided by a municipal facility), sites can be prioritized by threat to water quality. Those sites which pose the greatest threat can then be targeted for BMP implementation, inspection, and monitoring. This will allow for limited resources to be most effective in reducing pollutant discharges from municipal sources.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.3.a.(3)(a) in Order No. 2001-193 under the broad legal authority cited above.

F.3.a.(3)(b) Threat to Water Quality Prioritization (Municipal) of the Jurisdictional Urban Runoff Management Program states the following:

At a minimum, the high priority municipal areas and activities shall include the following:

i. Roads, Streets, Highways, and Parking Facilities.
ii. Flood Management Projects and Flood Control Devices.
iii. Areas and activities tributary to a Clean Water Act section 303(d) impaired water body, where an area or activity generates pollutants for which the water body is impaired. Areas and activities within or adjacent to or discharging directly to receiving waters within environmentally sensitive areas (as defined in section F.1.b.(2)(a)vii of this Order).
iv. Municipal Waste Facilities.
- *Active or closed municipal landfills;*
- *Publicly owned treatment works (including water and wastewater treatment plants) and sanitary sewage collection systems;*
- *Municipal separate storm sewer systems;*
- *Incinerators;*
- *Solid waste transfer facilities;*
- *Land application sites;*
- *Uncontrolled sanitary landfills;*
- *Corporate yards including maintenance and storage yards for materials, waste, equipment and vehicles;*
- *Sites for disposing and treating sewage sludge; and*
- *Hazardous waste treatment, disposal, and recovery facilities.*

v. Other municipal areas and activities that the Copermittee determines may contribute a significant pollutant load to the MS4.
vi. Municipal airfields.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A)(1,3,4,5, and 6) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.a. Municipal (Existing Development) of Order No. 2001-193.

Discussion: Identification of high priority municipal pollutant areas and activities allows for limited pollution reduction resources to be most effective. Targeting high priority municipal areas and activities for BMP implementation, inspection, and monitoring provides the greatest reduction in risk of degrading receiving waters per expenditure.

Items (i), (ii), and (iv) above are considered to be high priority sources since they are specifically addressed in Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A)(3-5). Regarding roads, highways, and parking facilities, the US EPA states "Road maintenance practices, especially snow management and road repair, and traffic are significant sources of pollutants in storm water discharges. […] Municipal equipment yards and maintenance shops that support road maintenance activities can also be significant sources of pollutants" (1992). Regarding flood management projects and flood control devices, the US EPA states "Storm water management devices and structures that focus solely on water quantity are usually not designed to remove pollutants, and may sometimes harm aquatic habitat and aesthetic values" (1992). Regarding municipal waste facilities, the US EPA states "Applicants must describe programs that identify measures to monitor and reduce pollutants in storm water discharges from facilities that handle municipal waste, including sewage sludge. […] The types of facilities that should be included are: active or closed municipal waste landfills; publicly owned treatment works, including water and wastewater treatment plants; incinerators; municipal solid waste transfer facilities; land application sites; uncontrolled sanitary landfills; maintenance and storage yards for waste transportation fleets and equipment; sites for disposing or treating sludge from municipal treatment works; and other treatment, storage, or disposal facilities for municipal waste" (1992).

Areas and activities included in item (iii) are considered high priority due to their location in relation to CWA section 303(d) water bodies. Pollutant loading of these water bodies must be avoided to aid in their recovery and ensure against their further degradation.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.3.a.(3)(b) in Order No. 2001-193 under the broad legal authority cited above.

F.3.a.(4)(a) and F.3.a.(4)(b) BMP Implementation (Municipal) of the Jurisdictional Urban Runoff Management Program state the following:

(a) Each Copermittee shall designate a set of minimum BMPs for high, medium, and low threat to water quality municipal areas and activities (as determined under section F.3.a.(3)). The designated minimum BMPs for high threat to water quality municipal areas and activities shall be area or activity specific as appropriate.

(b) Each Copermittee shall implement, or require the implementation of, the designated minimum BMPs (based upon the threat to water quality rating) at each municipal area or activity within its jurisdiction. If particular minimum BMPs are infeasible for any specific area or activity, each Copermittee shall implement, or require implementation of other equivalent BMPs. Each Copermittee shall also implement any additional BMPs as are necessary to comply with this

Order.

i. Each Copermittee shall evaluate feasibility of retrofitting existing structural food control devices and retrofit where needed.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A)(1,3,4,5, and 6) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.a. Municipal (Existing Development) of Order No. 2001-193.

Discussion: Copermittees must reduce the discharge of pollutants to the MS4 to the maximum extent practicable. In order to achieve this level of pollution reduction in storm water discharges from municipal areas and activities, BMPs must be implemented. To ensure that adequate BMPs are utilized for various municipal areas and activities, each Copermittee shall designate and implement a set of minimum BMPs for high, medium, and low threat to water quality municipal areas and activities. The designated minimum BMPs will provide guidance as to the level of water quality protection required for various municipal areas and activities.

The US EPA recommends that Copermittees include in the proposed management program BMP measures for addressing municipal area and activities. Regarding public street, road, or highway BMPs, the US EPA states that "proposed management programs must include a description of practices for operation and maintenance of public streets, roads, and highways, and procedures for reducing the impact of runoff from these areas on receiving waters. […] Pollutants from traffic can be minimized by using nonstructural controls (e.g., traffic reduction and improved traffic management), structural controls (e.g., traditional and innovative BMPs), and changing maintenance activities" (1992).

Regarding flood management projects, the US EPA finds that flood management projects can be harmful to receiving waters, stating that "Storm water management devices and structures that focus solely on water quantity are usually not designed to remove pollutants, and may sometimes harm aquatic habitat and aesthetic values" (1992). As flood control structures and other elements of the MS4 age and retrofitting becomes necessary, opportunities for water quality improvements arise. Conveyance systems which take water quality consideration into account (such as grassed swales, vegetated detention ponds, etc.) can often cost less to construct than traditional concrete systems. Evaluation of the applicability of such systems during retrofitting must occur to ensure that pollutants in urban runoff are reduced to the maximum extent practicable. The US EPA supports utilizing BMPs for pollution reduction in flood management projects, stating that "The proposed management program must demonstrate that flood management projects take into account the effects on the water quality of receiving water bodies. […] Opportunities for pollutant reduction should be considered" (1992).

Regarding municipal waste facility BMPs, the US EPA states that "Procedures to evaluate, inspect, monitor, and establish control measures for municipal waste sites over the term of the NPDES permit should be described" (1992).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.3.a.(4)(a) in Order No. 2001-193 under the broad legal authority cited above.

F.3.a.(4)(c) BMP Implementation (Municipal) of the Jurisdictional Urban Runoff Management Program states the following:

> *Each Copermittee shall implement, or require implementation of, any additional controls for municipal areas and activities tributary to Clean Water Act section 303(d) impaired water bodies (where an area or activity generates pollutants for which the water body is impaired) as necessary to comply with this Order. Each Copermittee shall implement, or require implementation of, additional controls for municipal areas and activities within or directly adjacent to or discharging directly to receiving waters within environmentally sensitive areas (as defined in section F.1.b.(2)(a)(vii) of this Order) as necessary to comply with this Order.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A)(1,3,4,5, and 6) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.a. Municipal (Existing Development) of Order No. 2001-193.

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to "control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality."

Discussion: CWA section 303(d) water bodies are water bodies which are not achieving the water quality objectives necessary to protect their beneficial uses. As discussed in Finding 3, urban runoff discharges from MS4s are a leading cause of receiving water quality impairment in the San Diego Region and throughout the United States. Since discharges which cause or contribute to an exceedance of water quality standards must be controlled and are prohibited (see section C.1. of Order No. 2001-193), discharges to CWA section 303(d) waterbodies of pollutants for which the waterbody is impaired must be controlled and are prohibited. Therefore, municipal areas and activities tributary to these water bodies must implement additional controls to ensure that they are not discharging the pollutants which are causing or contributing to the impairment of these water bodies.

With regards to coastal lagoons and other sensitive water bodies, additional controls are needed to protect these valuable and unique resources. In their Nonpoint Source Program Strategy and Implementation Plan, the SWRCB and California Coastal Commission support additional controls for critical coastal areas, stating "the State will seek to attain and maintain applicable water quality standards, and protect waters threatened by land uses, or by substantial expansion of existing land uses, by implementing additional management measures."

The SDRWQCB has the discretion to require Jurisdictional Urban Runoff Program item F.3.a.(4)(c) in Order No. 2001-193 under the broad and specific legal authority cited above.

F.3.a.(5) Maintenance of Municipal Separate Storm Sewer System (Municipal) of the Jurisdictional Urban Runoff Management Program states the following:

(a) Each Copermittee shall implement a schedule of maintenance activities at all structural controls designed to reduce pollutant discharges to or from its MS4s and related drainage structures.

(b) Each Copermittee shall implement a schedule of maintenance activities for the municipal separate storm sewer system.

(c) The maintenance activities must, at a minimum, include:

i. Inspection and removal of accumulated waste (e.g. sediment, trash, debris and other pollutants) between May 1 and September 30 of each year;

ii. Additional cleaning as necessary between October 1 and April 30 of each year;

iii. Record keeping of cleaning and the overall quantity of waste removed;

iv. Proper disposal of waste removed pursuant to applicable laws;

v. *Measures to eliminate waste discharges during MS4 maintenance and cleaning activities.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A)(1,3,4,5, and 6) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.a. Municipal (Existing Development) of Order No. 2001-193.

Discussion: Maintenance is critical to the successful implementation of every URMP. The US EPA finds that "Lack of maintenance often limits the effectiveness of storm water structural controls such as detention/retention basins and infiltration devices. […] The proposed program should provide for maintenance logs and identify specific maintenance activities for each class of control, such as removing sediment from retention ponds every five years, cleaning catch basins annually,

and removing litter from channels twice a year. If maintenance activities are scheduled infrequently, inspections must be scheduled to ensure that the control is operating adequately. In cases where scheduled maintenance is not appropriate, maintenance should be based on inspections of the control structure or frequency of storm events. If maintenance depends on the results of inspections or if it occurs infrequently, the applicant must provide an inspection schedule. The applicant should also identify the municipal department(s) responsible for the maintenance program" (1992). The maintenance schedule included in this item is based on the above US EPA recommendations. This maintenance schedule will help ensure that structural controls are in adequate condition to be effective year round but especially at the beginning of and throughout the rainy season.

Maintenance of municipal facilities, control structures, and the MS4 is considered so essential by US EPA that the requirement to conduct a maintenance program is specifically directed in both the Phase I and Phase II storm water regulations. In both cases, the maintenance programs must include a training component and have the ultimate goal of preventing pollutant runoff from municipal operations. Municipal activities should set a good example for all non-municipal personnel and the public.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.a.(5) in Order No. 2001-193 under the broad legal authority cited above.

F.3.a.(6) Management of Pesticides, Herbicides, and Fertilizers (Municipal) of the Jurisdictional Urban Runoff Management Program states the following:

The Copermittees shall implement BMPs to reduce the contribution of pollutants associated with the application, storage, and disposal of pesticides, herbicides and fertilizers from municipal areas and activities to MS4s. Important municipal areas and activities include municipal facilities, public rights-of-way, parks, recreational facilities, golf courses, cemeteries, botanical or zoological gardens and exhibits, landscaped areas, etc.

Such BMPs shall include, at a minimum: (1) educational activities, permits, certifications and other measures for municipal applicators and distributors; (2) integrated pest management measures that rely on non-chemical solutions; (3) the use of native vegetation; (4) schedules for irrigation and chemical application; and (5) the collection and proper disposal of unused pesticides, herbicides, and fertilizers.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A)(1,3,4,5, and 6) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.a. Municipal (Existing Development) of Order No. 2001-193.

Discussion: Regarding the municipal use of pesticides, herbicides, and fertilizers, the US EPA finds that "The proposed program should include educational measures for the public and commercial applicators, and should include integrated

pest management measures that rely on non-chemical solutions to pest control. The program should also describe how educational materials will be developed and distributed. Applicants are encouraged to consider providing information for the collection and proper disposal of unused pesticides, herbicides, and fertilizers, or to establish their own program. […] In addition, applicants must include a discussion of controls for the application of pesticides, herbicides, and fertilizers in public rights-of-way and at municipal facilities. Planting low-maintenance vegetation, such as perennial ground covers, reduces pesticide and herbicide use. Native vegetation is often preferable because there is less need to apply fertilizers and herbicides, and to perform other forms of maintenance, such as mowing" (1992). Based on these US EPA recommendations, the SDRWQCB included Jurisdictional Urban Runoff Management Program item F.3.a.(6) in Order No. 2001-193.

The SDRWQCB has discretion to include Jurisdictional Urban Runoff Management Program item F.3.a.(6) in Order No. 2001-193 under the broad legal authority cited above.

F.3.a.(7) Inspection of Municipal Areas and Activities (Municipal) of the Jurisdictional Urban Runoff Management Program states the following:

At a minimum, each Copermittee shall inspect high priority municipal areas and activities annually. Based upon site inspection findings, each Copermittee shall implement all follow-up actions necessary to comply with this Order.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A)(1,3,4,5, and 6) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.a. Municipal (Existing Development) of Order No. 2001-193.

Discussion: The USEPA finds that the municipal areas and activities listed in section F.3.a.(3) of Order No. 2001-193 can be a significant source of pollutants in urban runoff (see Discussion for F.3.a.(3) above). Since these municipal areas and activities can be a significant source of pollutants, annual inspections are necessary to ensure that proper measures are being undertaken to reduce pollutant discharges to the maximum extent practicable. The USEPA supports inspections of municipal areas and activities, stating "Applicants must describe programs that identify measures to monitor and reduce pollutants in storm water discharges from facilities that handle municipal waste, including sewage sludge. […] The types of facilities that should be included are: active or closed municipal waste landfills; publicly owned treatment works, including water and wastewater treatment plants; incinerators; municipal solid waste transfer facilities; land application sites; uncontrolled sanitary landfills; maintenance and storage yards for waste transportation fleets and equipment; sites for disposing

or treating sludge from municipal treatment works; and other treatment, storage, or disposal facilities for municipal waste" (1992). The USEPA further states that "Procedures to evaluate, inspect, monitor, and establish control measures for municipal waste sites over the term of the NPDES permit should be described" (1992).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.3.a.(7) in Order No. 2001-193 under the broad legal authority cited above.

F.3.a.(8) Enforcement of Municipal Areas and Activities (Municipal) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall enforce its storm water ordinance for all municipal areas and activities as necessary to maintain compliance with this Order.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A)(1,3,4,5, and 6) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.a. Municipal (Existing Development) of Order No. 2001-193.

Discussion: When a Copermittee determines a violation of its storm water ordinance, it must pursue correction of the violation. A critical aspect of the correction of violations is enforcement of ordinances. Enforcement increases the probability of correction of a violation. Regarding inspection and enforcement measures, the US EPA states "Effective inspection and enforcement requires […] penalties to deter infractions and intervention by the municipal authority to correct violations. Enforcement mechanisms […] also must be described" (1992).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.3.a.(8) in Order No. 2001-193 under the broad legal authority cited above.

F.3.b. INDUSTRIAL (EXISTING DEVELOPMENT)

In addition to the underlying broad legal authority citations listed above in section VII. of this Fact Sheet/Technical Report, the following specific legal authority items also generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.b. Industrial (Existing Development) of Order No. 2001-193. Other specific legal authority items applicable only to distinct directives of Jurisdictional Urban Runoff Management Program item F.3.b. are provided as necessary.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(C) provides that the proposed management program include "A description of a program to monitor and control

pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(C)(1) provides that the Copermittee must "identify priorities and procedures for inspections and establishing and implementing control measures for such discharges."

F.3.b. Industrial (Existing Development) for the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall implement an Industrial (Existing Development) Component to reduce pollutants in runoff from all industrial sites. At a minimum the industrial component shall address:

F.3.b.(1) Pollution Prevention
F.3.b.(2) Source Identification
F.3.b.(3) Threat to Water Quality Prioritization
F.3.b.(4) BMP Implementation
F.3.b.(5) Monitoring of Industrial Sites
F.3.b.(6) Inspection of Industrial Sites
F.3.b.(7) Enforcement Measures for Industrial Sites
F.3.b.(8) Reporting of Non-compliant Sites

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(C) and 40 CFR 122.26(d)(2)(iv)(C)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.b. Industrial (Existing Development) of Order No. 2001-193.

Discussion: CWA sections 402(p)(3)(B)(ii-iii) require each Copermittee to prohibit non-storm water discharges into its MS4 and to reduce the discharge of pollutants to the maximum extent practicable for all urban land uses. The purpose of these two broad requirements is to minimize the short and long-term impacts of urban runoff on receiving water quality. Land used for industrial activities is clearly identified in the federal regulations as one of several high priority land uses from which pollutants in urban runoff discharges must be reduced to the maximum extent practicable by each Copermittee. Federal NPDES regulation 40 CFR 122.26(d)(2)(iv) requires the development of a proposed management program to reduce the discharge of pollutants in storm water to the maximum extent practicable. Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(C) requires that this program include a component which addresses industrial sites.

Due to their numerous potential pollutant sources, industrial sites are relatively high risk areas for pollutant discharges to storm water. In order to control the

discharge of pollutants from industrial sites to the maximum extent practicable, implementation of BMPs is necessary. As discussed in Finding 12, BMPs effectively reduce pollutants in urban runoff by emphasizing pollution prevention and source controls, followed by treatment controls. The industrial existing development component will provide a program for the development and implementation of BMPs to address pollutants in storm water discharges from industrial sites. The US EPA supports such a program, stating "NPDES permits for MS4s will establish responsibilities for municipal system operators to control pollutants from industrial storm water discharged through their system" (1992).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.3.b. in Order No. 2001-193 under the broad legal authority cited above.

F.3.b.(1) Pollution Prevention (Industrial) of the Jurisdictional Urban Runoff Management Program states the following:

> *Each Copermittee shall include and describe pollution prevention methods within its Industrial (Existing Development) Component. Each Copermittee shall require the use of pollution prevention methods by industry, where appropriate.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(C) and 40 CFR 122.26(d)(2)(iv)(C)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.b. Industrial (Existing Development) of Order No. 2001-193.

Discussion: Each Copermittee must develop a program to reduce the discharge of pollutants to and from its MS4 to the maximum extent practicable for all urban land uses, including industrial land uses. In order to achieve this level of pollution reduction, BMPs must be implemented. Pollution prevention, the reduction or elimination of pollutant generation at its source, is an essential aspect of BMPs. By limiting the generation of pollutants, less pollutants are available to be washed from industrial sites, resulting in reduced pollutant loads in storm water discharges from these sites. In addition, there is no need to control or treat pollutants which are not initially generated. Furthermore, pollution prevention BMPs are generally more cost effective than removal of pollutants by treatment facilities or cleanup of contaminated media.[101] In the Pollution Prevention Act of 1990, Congress established a national policy that emphasizes pollution prevention over control and treatment. Since pollution prevention is an effective and efficient means for reducing pollutant loads in storm water runoff, pollution prevention methods are an important aspect of BMPs to be included in the industrial existing development component.

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[101] U.S. EPA, 1992. Storm Water Management of Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.a in Order No. 2001-193 under the broad legal authority cited above.

F.3.b.(2) Source Identification (Industrial) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall develop and update annually a watershed-based inventory of all industrial sites within its jurisdiction regardless of site ownership. This requirement is applicable to all industrial sites regardless of whether the industrial site is subject the California statewide General NPDES Permit for Storm Water Discharges Associated With Industrial Activities, Except Construction (hereinafter General Industrial Permit) or other individual NPDES permit.

The inventory shall include the following minimum information for each industrial site: name; address; and a narrative description including SIC codes which best reflects the principal products or services provided by each facility.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(C) and 40 CFR 122.26(d)(2)(iv)(C)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.b. Industrial (Existing Development) of Order No. 2001-193.

Federal NPDES regulation 40 CFR 122.26(d)(2)(ii) provides that the Copermittee "Provide an inventory, organized by watershed of the name and address, and a description (such as SIC codes) which best reflects the principal products or services provided by each facility which may discharge, to the municipal separate storm sewer, storm water associated with industrial activity."

Discussion: Due to their numerous potential pollutant sources, industrial sites are high risk areas for pollutant discharges to storm water. In order to prohibit non-storm water discharges, reduce industrial pollutant sources to the maximum extent practicable, and ensure that adequate BMPs are implemented, each Copermittee must first identify all industrial sites within their jurisdiction. Development of an inventory of industrial sites within a watershed will help identify potential industrial sources of pollutants in storm water. By assessing information provided in the inventory (such as principal products, services provided, and location), sites with the highest risk to receiving water quality can be identified, and priority for inspection, monitoring, and enforcement can be placed on those sites. By focusing inspection and monitoring on high priority sites, the effectiveness of limited inspection and monitoring resources can be maximized.

The SDRWQCB has discretion to require inventories of industrial sites in Jurisdictional Urban Runoff Program item F.3.b of Order No. 2001-193 under the broad and specific legal authority above.

F.3.b.(3) Threat to Water Quality Prioritization (Industrial) of the Jurisdictional Urban Runoff Management Program states the following:

(a) To establish priorities for industrial oversight activities under this Order, the Copermittee shall prioritize each watershed-based inventory in F.3.b.(2) above by threat to water quality and update annually. Each industrial site shall be classified as high, medium, or low threat to water quality. In evaluating threat to water quality each Copermittee shall consider (1) type of industrial activity (SIC Code); (2) materials used in industrial processes; (3) wastes generated; (4) pollutant discharge potential; (5) non-storm water discharges; (6) size of facility; (7) proximity to receiving water bodies; (8) sensitivity of receiving water bodies; (9) whether the industrial site is subject to the statewide General Industrial Permit; and (10) any other relevant factors.

(b) At a minimum the high priority industrial sites shall include industrial facilities that are subject to section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA); industrial facilities tributary to a Clean Water Act section 303(d) impaired water body, where a facility generates pollutants for which the water body is impaired; industrial facilities within or directly adjacent to or discharging directly to receiving waters within environmentally sensitive areas (as defined in section F.1.b.(2)(a)vii of this Order); facilities subject to the statewide General Industrial Permit (excluding those facilities that have been approved for No Exposure Certification); and all other industrial facilities that the Copermittee determines are contributing significant pollutant loading to its MS4, regardless of whether such facilities are covered under the statewide General Industrial Permit or other NPDES permit.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(C) and 40 CFR 122.26(d)(2)(iv)(C)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.b. Industrial (Existing Development) of Order No. 2001-193.

Federal NPDES regulation 40 CFR 122.26(d)(2)(ii) provides that the Copermittee "Provide an inventory, organized by watershed of the name and address, and a description (such as SIC codes) which best reflects the principal products or services provided by each facility which may discharge, to the municipal separate storm sewer, storm water associated with industrial activity."

Discussion: Due to their numerous pollutant sources, industrial sites are high risk areas for pollutant discharges to storm water. Development of an inventory of industrial sites within a watershed will help identify potential sources of pollutants in urban runoff. By assessing information provided in the inventory (such as principal products or services provided by the facility), sites can be prioritized by threat to water quality. Those sites that pose the greatest threat can then be targeted for inspection and monitoring. This will allow for limited inspection and monitoring time to be most effective. Regarding industrial site priority designation, the US EPA states that "When municipalities develop criteria for identifying additional priority industrial facilities, they are advised to consider, at a minimum:

- The type of industrial activity (SIC codes can help characterize the type of industrial activity);
- The use and management of chemicals or raw products at the facility and the likelihood that storm water discharge from the site will be contaminated; and
- The size and location of the facility in relation to sensitive watersheds" (1992).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.b.(3) in Order No. 2001-193 under the broad and specific legal authority cited above.

F.3.b.(4)(a) and F.3.b.(4)(b) BMP Implementation (Industrial) of the Jurisdictional Urban Runoff Management Program states the following:

(a) Each Copermittee shall designate a set of minimum BMPs for high, medium, and low threat to water quality industrial sites (as determined under section F.3.b.(3)). The designated minimum BMPs for high threat to water quality industrial sites shall be industry and site specific as appropriate.

(b) Each Copermittee shall implement, or require the implementation of, the designated minimum BMPs (based upon the site's threat to water quality rating) at each industrial site within its jurisdiction. If particular minimum BMPs are infeasible at any specific site, each Copermittee shall implement, or require implementation of, other equivalent BMPs. Each Copermittee shall also implement or require any additional site specific BMPs as necessary to comply with this Order including BMPs which are more stringent than those required under the statewide General Industrial Permit.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(C) and 40 CFR 122.26(d)(2)(iv)(C)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.b. Industrial (Existing Development) of Order No. 2001-193.

Discussion: Copermittees must reduce the discharge of pollutants to the MS4 from industrial sites to the maximum extent practicable. In order to achieve this level pollution reduction in storm water discharges from industrial sites, BMPs must be designated and implemented. To ensure that adequate BMPs are utilized at the industrial sites, each Copermittee shall designate and require implementation of a set of minimum BMPs for high, medium, and low threat to water quality industrial sites. The designated minimum BMPs will provide guidance on level of water quality protection required. The US EPA recommends that Copermittees provide BMP guidance to industrial facilities, stating "the applicant should suggest procedures for requiring pollutant control measures in runoff from priority industrial facilities. Applicants should provide information to the industrial facilities that discharge to the MS4s and industry-specific guidance on appropriate control measures that industries discharging to the systems should follow" (1992).

In order to adequately protect receiving water quality and allow Copermittees to meet their permit responsibilities under Order No. 2001-193, additional BMPs may be required, including BMPs more stringent than those required under the state wide General Industrial Permit. Regarding additional BMP requirements of this type, the US EPA finds that "nothing in the Federal regulations would prohibit the municipality from requiring additional controls beyond the permit requirements for industrial activities. For this reason, the EPA recommends that municipal applicants incorporate a provision in the proposed storm water management program that allows the municipality to require priority industrial facilities to implement the controls necessary for the municipality to meet its permit responsibilities" (1992).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program items F.3.b.(4)(a) and F.3.b.(4)(b) in Order No. 2001-193 under the broad legal authority cited above.

F.3.b.(4)(c) BMP Implementation (Industrial) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall implement, or require implementation of, additional controls for industrial sites tributary to Clean Water Act section 303(d) impaired water bodies (where a site generates pollutants for which the water body is impaired) as necessary to comply with this Order. Each Copermittee shall implement, or require implementation of, additional controls for industrial sites within or directly adjacent to or discharging directly to receiving waters within environmentally sensitive areas (as defined in section F.1.b.(2)(a)(vii) of this Order) as necessary to comply with this Order.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(C) and 40 CFR 122.26(d)(2)(iv)(C)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.b. Industrial (Existing Development) of Order No. 2001-193.

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to "control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality."

Discussion: CWA section 303(d) water bodies are water bodies that are not achieving the water quality objectives necessary to protect their beneficial uses. As discussed in Finding 3, urban runoff discharges from MS4s are a leading cause of receiving water quality impairment in the San Diego Region and throughout the United States. Since discharges which cause or contribute to an exceedance of water quality standards must be controlled and are also prohibited (see section

C.1. of Order No. 2001-193), discharges to CWA section 303(d) water bodies of pollutants for which the waterbody is impaired must be controlled and prohibited. Therefore, municipal areas and activities tributary to these water bodies must implement additional controls to ensure that they are not discharging the pollutants which are causing or contributing to the impairment of these water bodies.

Regarding coastal lagoons and other sensitive water bodies, additional controls are needed to protect these valuable and unique resources. In their Nonpoint Source Program Strategy and Implementation Plan, the SWRCB and California Coastal Commission support additional controls for critical coastal areas, stating "the State will seek to attain and maintain applicable water quality standards, and protect waters threatened by land uses, or by substantial expansion of existing land uses, by implementing additional management measures."

The SDRWQCB has the discretion to require Jurisdictional Urban Runoff Program item F.3.b.(4)(c) in Order No. 2001-193 under the broad and specific legal authority cited above.

F.3.b.(5) Monitoring of Industrial Sites (Industrial) of the Jurisdictional Urban Runoff Management Program item F.3.e. states the following:

(a) Each Copermittee shall conduct, or require industry to conduct, a monitoring program for runoff from each high threat to water quality industrial site (identified in F.3.b.(3) above). Group monitoring by multiple industrial sites conducted under group monitoring programs approved by the State Water Resources Control Board is acceptable.

(b) At a minimum, the monitoring program shall provide quantitative data from two storm events per year on the following constituents:

i. Any pollutant listed in effluent guidelines subcategories where applicable;
ii. Any pollutant for which an effluent limit has been established in an existing NPDES permit for the facility;
iii. Oil and grease or Total Organic Carbon (TOC);
iv. pH;
v. Total suspended solids (TSS);
vi. Specific conductance; and
vii. Toxic chemicals and other pollutants that are likely to be present in storm water discharges.
viii. Any pollutant that may be used, stored, or generated at the facility, which may be discharged to a water body or a tributary of that water body that is listed as impaired under Clean Water Act Section 303(d) for that pollutant(s), unless the facility can demonstrate approval of No Exposure Certification.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(C) and 40 CFR 122.26(d)(2)(iv)(C)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.b. Industrial (Existing Development) of Order No. 2001-193.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(C)(2) provides that the proposed management program shall "Describe a monitoring program for storm water discharges associated with the industrial facilities identified in paragraph (d)(2)(iv)(C) of this section, to be implemented during the term of the permit, including the submission of quantitative data on the following constituents: any pollutants limited in effluent guidelines subcategories, where applicable; any pollutant listed in an existing NPDES permit for a facility; oil and grease, COD, pH, BOD_5, TSS, total phosphorus, total Kjeldhal nitrogen, nitrate plus nitrite nitrogen, and any information on discharges required under 40 CFR 122.21(g)(7)(iii) and (iv)."

Discussion: The purpose of the monitoring program is to provide the information needed by each Copermittee to assess the effectiveness of its Industrial BMP Program. Quantitative data is required for two storm events per year in order to identify potential trends and/or anomalies in the data. The Copermittee may be able to obtain this monitoring information from some industrial sites by requesting submittal of the Annual Reports required under the General Industrial Storm Water Permit.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.b.(5) in Order No. 2001-193 under the broad and specific legal authority cited above.

F.3.b.(6) Inspection of Industrial Sites (Industrial) of the Jurisdictional Urban Runoff Management Program states the following:

(a) Each Copermittee shall conduct industrial site inspections for compliance with its ordinances, permits, and this Order. Inspections shall include review of BMP implementation plans.

(b) Each Copermittee shall establish inspection frequencies and priorities as determined by the threat to water quality prioritization described in F.3.b.(3) above. Each Copermittee shall inspect high priority industrial sites, at a minimum:

i. Annually

OR

ii. Bi-annually for any site that the responsible Copermittee certifies in a written statement to the SDRWQCB all of the following (certified statements may be submitted to the SDRWQCB at any time for one or more sites):

- *Copermittee has record of industrial site's Waste Discharge Identification Number (WDID#) documenting industrial site's coverage under the statewide General Industrial Permit; and*
- *Copermittee has reviewed the industrial site's Storm Water Pollution Prevention Plan (SWPPP); and*
- *Copermittee finds SWPPP to be in compliance with all local ordinances, permits, and plans; and*
- *Copermittee finds that the SWPPP is being properly implemented on site.*

Each Copermittee shall inspect medium and low threat to water quality industrial sites as needed.

(c) Based upon site inspection findings, each Copermittee shall implement all follow-up actions necessary to comply with this Order.

(d) To the extent that the SDRWQCB has conducted an inspection of a high priority industrial site during a particular year, the requirement for the responsible Copermittee to inspect this site during the same year will be satisfied.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(C) and 40 CFR 122.26(d)(2)(iv)(C)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.b. Industrial (Existing Development) of Order No. 2001-193.

Discussion: Routine inspections provide an effective means by which Copermittees can evaluate compliance with their ordinances. Inspections are especially important at high risk areas for pollutant discharges, such as industrial and construction sites. Industrial site inspection frequencies are to be based on threat to water quality prioritization. For example, industrial sites that are considered a high threat to water quality are to be given a high priority for inspection. This allows for limited inspection resources to be most effective. Annual or bi-annual inspection of high threat sites is necessary to ensure that changes to the site that may be detrimental to water quality are identified and addressed.

Review of a facility's Storm Water Pollution Prevention Plan (SWPPP) can be an effective tool in inspecting the facility's storm water controls. The US EPA recommends that municipalities review SWPPPs during inspections when it states "Municipalities are urged to evaluate pollution prevention plans and discharge monitoring data collected by the industrial facility to ensure that the facility is in compliance with its NPDES storm water permit. Site inspections should include (1) an evaluation of the pollution prevention plan and any other pertinent documents, and (2) an onsite visual inspection of the facility to evaluate the potential for discharges of contaminated storm water from the site and to assess the effectiveness of the pollution prevention plan" (1992).

Regarding industrial site inspections, the US EPA finds that "The proposed management program should describe the inspection procedures that will be followed.[…] Proposed management programs should address minimum frequency for routine inspections. For example, how often, how much of the site, and how long an inspection may take are appropriate to explain in this proposed management program component. Applicants should also describe procedures for conducting inspections and provide an inspector's checklist" (1992). The US EPA also finds that follow-up actions are to be implemented based upon site inspection findings: "The results of inspection may be used as a basis for requiring storm water management controls and enhanced pollution prevention measures" (1992).

Due to the large number of industrial sites within the region, sites that have been inspected by the SDRWQCB do not need to be re-inspected by a Copermittee within the same year. This practice will increase collaboration between the SDRWQCB and the Copermittees for industrial site inspections. Collaboration between the SDRWQCB and the Copermittees can provide for more efficient and effective overall inspection of industrial sites within the region. Regarding collaboration for inspection of industrial sites, US EPA states "The storm water regulations envision that NPDES permitting authorities and municipal operators will cooperate to develop programs to monitor and control pollutants in storm water discharges to municipal systems from various sites that handle waste and certain industrial facilities" (1992).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.b.(6) in Order No. 2001-193 under the broad legal authority cited above.

F.3.b.(7) Enforcement of Industrial Sites (Industrial) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall enforce its storm water ordinance at all industrial sites as necessary to maintain compliance with this Order. Copermittee ordinances or other regulatory mechanisms shall include sanctions to ensure compliance. Sanctions shall include the following or their equivalent: Non-monetary penalties, fines, bonding requirements, and/or permit denials for non-compliance.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(C) and 40 CFR 122.26(d)(2)(iv)(C)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.b. Industrial (Existing Development) of Order No. 2001-193.

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that each Copermittee must demonstrate that it can control "through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from site of industrial activity."

Discussion: The Copermittee is ultimately responsible for discharges to and from their MS4. Each Copermittee must therefore develop and enforce storm water ordinances in order reduce pollutant discharges to the MS4 to the maximum extent practicable and comply with its permit responsibilities. These ordinances must be applied at all industrial sites to ensure that pollutant discharges to the MS4 are reduced to the maximum extent practicable and permit requirements are met. To this effect, the US EPA "recommends that municipal applicants incorporate a provision in the proposed management program that allows the municipality to require priority industrial facilities to implement the controls

necessary for the municipality to meet its permit responsibilities" (1992). Regarding enforcement at industrial sites, the US EPA further states "The municipality, as a permittee, is responsible for compliance with its permit and must have authority to implement the conditions in its permit. To comply with its permit, a municipality must have the authority to hold dischargers accountable for their contributions to separate storm sewers" (1992).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.b.(7) in Order No. 2001-193 under the broad and specific legal authority cited above.

F.3.b.(8) Reporting of Non-compliant Sites (Industrial) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall provide oral notification to the SDRWQCB of non-compliant sites that are determined to pose a threat to human or environmental health within its jurisdiction within 24 hours of the discovery of noncompliance, as required under section R.1 (and B.6 of Attachment C) of this Order.

Each Copermittee shall develop and submit criteria by which to evaluate events of non-compliance to determine whether they pose a threat to human or environmental health. These criteria shall be submitted in the Jurisdictional Urban Runoff Management Program Document and Annual Reports for SDRWQCB review.

Such oral notification shall be followed up by a written report to be submitted to the SDRWQCB within 5 days of the incidence of non-compliance as required under section R.1(and B.6 of Attachment C) of this Order. Sites are considered non-compliant when one or more violations of local ordinances, permits, plans, or this Order exist on the site.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(C) and 40 CFR 122.26(d)(2)(iv)(C)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.b. Industrial (Existing Development) of Order No. 2001-193.

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that each Copermitee must demonstrate that it can control "through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from site of industrial activity."

Federal NPDES regulation 40 CFR 122.44(l)(6) states "The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The

written submission shall contain a description of the noncompliance and its cause; the period of non-compliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance."

Discussion: Follow-up with non-compliant industrial sites is essential to ensure that the site has taken adequate corrective measures to achieve compliance. To help ensure that compliance has been achieved, the Copermittees shall report non-compliant industrial sites to the SDRWQCB. The SDRWQCB can then participate in follow-up efforts to assure that the industrial site is in compliance. The US EPA supports this type of collaboration when it states "the municipality will help EPA and authorized NPDES states: […] Inspect and monitor industrial facilities to verify that the industries discharging storm water to the municipal systems are in compliance with their NPDES storm water permit, if required" (1992). Notification of non-compliant sites is a common requirement of all NPDES permits under Federal NPDES regulation 40 CFR 122.44(l)(6).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.b.(7) in Order No. 2001-193 under the broad and specific legal authority cited above.

F.3.c. COMMERCIAL (EXISTING DEVELOPMENT)

In addition to the underlying broad legal authority citations listed above in section VII. of this Fact Sheet/Technical Report, the following specific legal authority item also generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.3.c. Commercial (Existing Development) of Order No. 2001-193. Other specific legal authority items applicable only to distinct directives of Jurisdictional Urban Runoff Management Program item F.3.c. are provided as necessary.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) provides that the Copermittee develop a proposed management program which includes "A description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls."

F.3.c. Commercial (Existing Development) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall implement a Commercial (Existing Development) Component to reduce pollutants in runoff from commercial sites. At a minimum the commercial component shall address:

F.3.c.(1) Pollution Prevention
F.3.c.(2) Source Identification
F.3.c.(3) BMP Implementation
F.3.c.(4) Inspection of Commercial Sites and Sources

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.3.c. Commercial (Existing Development) of Order No. 2001-193.

Discussion: CWA sections 402(p)(3)(B)(ii-iii) require each Copermittee to prohibit non-storm water discharges into its MS4 and to reduce the discharge of pollutants to the maximum extent practicable for all urban land uses. The purpose of these two broad requirements is to minimize the short and long-term impacts of urban runoff on receiving water quality. Land used for commercial activities is clearly identified in the federal regulations as one of several high priority land uses from which pollutants in urban runoff discharges must be reduced to the maximum extent practicable by each Copermittee. Federal NPDES regulation 40 CFR 122.26(d)(2)(iv) requires the development of a proposed management program to reduce the discharge of pollutants in storm water to the maximum extent practicable. Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) requires that this program include a component which addresses commercial sites and sources.

Commercial sites and sources have the potential to be significant sources of pollutants in urban runoff. To reduce the discharge of pollutants in urban runoff from commercial sites to the maximum extent practicable, BMPs must be implemented. As discussed in Finding 12, BMPs effectively reduce pollutants in urban runoff by emphasizing pollution prevention and source controls, followed by treatment controls. The commercial existing development component will provide a program for the development and implementation of BMPs to address pollutants in storm water discharges from commercial sites and activities.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.c. in Order No. 2001-193 under the broad legal authority cited above.

F.3.c.(1) Pollution Prevention (Commercial) of the Jurisdictional Urban Runoff Management Program states the following:

> *Each Copermittee shall include and describe pollution prevention methods within its Commercial (Existing Development) Component. Each Copermittee shall require the use of pollution prevention methods by commercial facilities, where appropriate.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.3.c. Commercial (Existing Development) of Order No. 2001-193.

Discussion: Each Copermittee must develop a program to reduce the discharge of pollutants to and from its MS4 to the maximum extent practicable. In order to achieve this level of pollution reduction, BMPs must be implemented. As discussed in Finding 12, pollution prevention (the reduction or elimination of pollutant generation at its source) is an essential aspect of BMP programs. By limiting the generation of pollutants, less pollutants are available to be washed from commercial sites and sources, resulting in reduced pollutant loads in storm water discharges from these sites and sources. In addition, there is no need to control or treat pollutants that are not initially generated. Furthermore, pollution prevention BMPs are generally more cost effective than removal of pollutants by treatment facilities or cleanup of contaminated media. [102] In the Pollution Prevention Act of 1990, Congress established a national policy that emphasizes pollution prevention over control and treatment. Since pollution prevention is an effective and efficient means for reducing pollutant loads in storm water runoff, pollution prevention methods are an important aspect of BMPs to be included in the commercial existing development component of the Jurisdictional URMP.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.c.(1) in Order No. 2001-193 under the broad legal authority cited above.

F.3.c.(2) Source Identification (Commercial) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall develop and update annually an inventory of the following high priority threat to water quality commercial sites/sources listed below. (If any commercial site/source listed below is inventoried as an industrial site, as required under section F.3.b.(2) of this Order, it is not necessary to also inventory it as a commercial site/source).

(a) Automobile mechanical repair, maintenance, fueling, or cleaning;
(b) Airplane mechanical repair, maintenance, fueling, or cleaning;
(c) Boat mechanical repair, maintenance, fueling, or cleaning;
(d) Equipment repair, maintenance, fueling, or cleaning;
(e) Automobile and other vehicle body repair or painting;
(f) Mobile automobile or other vehicle washing;
(g) Automobile (or other vehicle) parking lots and storage facilities;
(h) Retail or wholesale fueling;
(i) Pest control services;
(j) Eating or drinking establishments;
(k) Mobile carpet, drape or furniture cleaning;
(l) Cement mixing or cutting;
(m) Masonry;
(n) Painting and coating;
(o) Botanical or zoological gardens and exhibits;
(p) Landscaping;
(q) Nurseries and greenhouses;
(r) Golf courses, parks and other recreational areas/facilities;

[102] Urban Runoff Technical Advisory Group, 1992. Urban Runoff Pollution Prevention Practices.

(s) Cemeteries;
(t) Pool and fountain cleaning;
(u) Marinas;
(v) Port-a-Potty servicing;
(w) Other commercial sites/sources that the Copermittee determines may contribute a significant pollutant load to the MS4;
(x) Any commercial site or source tributary to a Clean Water Act section 303(d) impaired water body, where the site or source generates pollutants for which the water body is impaired; and
(y) Any commercial site or source within or directly adjacent to or discharging directly to a coastal lagoon or other receiving water within an environmentally sensitive area (as defined in F.1.b(2)(a)vii of this Order).

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.3.c. Commercial (Existing Development) of Order No. 2001-193.

Discussion: In order to prohibit non-storm water discharges, reduce commercial pollutant sources to the maximum extent practicable, and ensure that adequate BMPs are implemented, Copermittees must first identify all high priority threat to water quality commercial pollutant sources. Based on the number of complaints received by the SDRWQCB and the Copermittees, the types of commercial sites and activities listed in item F.3.c.(2) are potential high risk areas for pollutant discharges to storm water. The sites and activities are identified as such due to their frequent use of substances often found to be present as pollutants in urban runoff, combined with frequent mismanagement of runoff from the sites and activities. Therefore, development of an inventory of these commercial sites within a watershed will help identify the location of potential sources of pollutants in storm water. Pollutants found to be present in receiving waters can then be traced to the sites that frequently use such substances. In this manner an inventory of commercial sites can help in targeting commercial sites for inspection, monitoring, and potential enforcement. This will allow for limited inspection, monitoring, and enforcement time to be most effective.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.c.(2) in Order No. 2001-193 under the broad legal authority cited above.

F.3.c.(3)(a) and F.3.c.(3)(b) BMP Implementation (Commercial) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall designate a set of minimum BMPs for the high priority threat to water quality commercial sites/sources (listed above in section F.3.c.(2)). The designated minimum BMPs for the high threat to water quality commercial sites/sources shall be site and source specific as appropriate.

Each Copermittee shall implement, or require the implementation of, the designated minimum BMPs at each high priority threat to water quality commercial site/source within its jurisdiction. If particular minimum BMPs are infeasible for any specific site/source, each Copermittee shall implement, or

require the implementation of, other equivalent BMPs. Each Copermittee shall also implement or require any additional site specific BMPs as necessary to comply with this Order.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.3.c. Commercial (Existing Development) of Order No. 2001-193.

Discussion: Copermittees must reduce the discharge of pollutants in storm water from commercial sites and activities to the maximum extent practicable. To achieve this level of pollutant reduction, BMPs must be implemented (see Finding 11). Designation of a set of minimum BMPs for high threat commercial sites will help ensure that appropriate BMPs are implemented at the sites. These minimum BMPs will also serve as guidance as to the level of water quality protection required. While minimum BMPs will be required at all high threat commercial sites, implementation of particular minimum BMPs will be site and source specific in order to address different conditions at various sites. BMPs to be implemented must comply with Order No. 2001-193. As such, additional site specific BMPs may be necessary to comply with other aspects of Order 2001-193. The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program items F.3.c.(3)(a) and F.3.c.(3)(b) in Order No. 2001-193 under the broad legal authority cited above.

F.3.c.(3)(c) BMP Implementation (Commercial) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall implement, or require implementation of, additional controls for commercial sites or sources tributary to Clean Water Act section 303(d) impaired water bodies (where a site or source generates pollutants for which the water body is impaired) as necessary to comply with this Order. Each Copermittee shall implement, or require implementation of, additional controls for commercial sites or sources within or directly adjacent to or discharging directly to coastal lagoons or other receiving waters within environmentally sensitive areas (as defined in section F.1.b.(2)(a)(vii) of this Order) as necessary to comply with this Order.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.3.c. Commercial (Existing Development) of Order No. 2001-193.

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to “control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to

cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality."

Discussion: CWA section 303(d) water bodies are water bodies that are not achieving the water quality objectives necessary to protect their beneficial uses. As discussed in Finding 3, urban runoff discharges from MS4s are a leading cause of receiving water quality impairment in the San Diego Region and throughout the United States. Since discharges which cause or contribute to an exceedance of water quality standards must be controlled and are also prohibited (see section C.1. of Order No. 2001-193), discharges to CWA section 303(d) water bodies of pollutants for which the waterbody is impaired must be controlled and prohibited. Therefore, commercial sites and activities tributary to these water bodies must implement additional controls to ensure that they are not discharging the pollutants which are causing or contributing to the impairment of these water bodies.

Regarding coastal lagoons and other sensitive water bodies, additional controls are needed to protect these valuable and unique resources. In their Nonpoint Source Program Strategy and Implementation Plan, the SWRCB and California Coastal Commission support additional controls for critical coastal areas, stating "the State will seek to attain and maintain applicable water quality standards, and protect waters threatened by land uses, or by substantial expansion of existing land uses, by implementing additional management measures."

The SDRWQCB has the discretion to require Jurisdictional Urban Runoff Program item F.3.c.(3)(c) in Order No. 2001-193 under the broad and specific legal authority cited above.

F.3.c.(4) Inspection of Commercial Sites and Sources (Commercial) and F.3.c.(5) Enforcement of Commercial Sites and Sources (Commercial) of the Jurisdictional Urban Runoff Management Program state the following:

Each Copermittee shall inspect high priority commercial sites and sources as needed. Based upon site inspection findings, each Copermittee shall implement all follow-up actions necessary to comply with this Order.

Each Copermittee shall enforce its storm water ordinance for all commercial sites and sources as necessary to maintain compliance with this Order.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.3.c. Commercial (Existing Development) of Order No. 2001-193.

Discussion: BMPs must be implemented for commercial sites and activities to reduce the discharge of pollutants from the sites and activities to the maximum extent practicable. Inspection of commercial sites is necessary to ensure that

implemented BMPs are adequate. As discussed in Finding 24, inspections provide a necessary means by which Copermittees can evaluate compliance with their ordinances and requirements of Order No. 2001-193. Inspections are especially important for high risk commercial sites and activities, such as commercial sites and activities where urban runoff is not properly managed. If inspections identify noncompliance conditions, enforcement of storm water ordinance is also necessary to ensure adequate BMP implementation. Regarding inspection and enforcement measures, the US EPA states "Effective inspection and enforcement requires […] penalties to deter infractions and intervention by the municipal authority to correct violations. Enforcement mechanisms […] also must be described" (1992).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program items F.3.c.(4) and F.3.c.(5) in Order No. 2001-193 under the broad legal authority cited above.

F.3.d. RESIDENTIAL (EXISTING DEVELOPMENT)

In addition to the underlying broad legal authority citations listed above in section VII. of this Fact Sheet/Technical Report, the following specific legal authority item also generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.3.d. Residential (Existing Development) of Order No. 2001-193. Other specific legal authority items applicable only to distinct directives of Jurisdictional Urban Runoff Management Program item F.3.d. are provided as necessary.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) provides that the Copermittee develop a proposed management program which includes "A description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls."

F.3.d. Residential (Existing Development) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall implement a Residential (Existing Development) Component to prevent or reduce pollutants in runoff from all residential land use areas and activities. At a minimum the residential component shall address:

F.3.d.(1)	*Pollution Prevention*
F.3.d.(2)	*Threat to Water Quality Prioritization*
F.3.d.(3)	*BMP Implementation*
F.3.d.(4)	*Enforcement of Residential Areas and Activities*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.3.d. Residential (Existing Development) of Order No. 2001-193.

Discussion: CWA sections 402(p)(3)(B)(ii-iii) require each Copermittee to prohibit non-storm water discharges into its MS4 and to reduce the discharge of pollutants to the maximum extent practicable for all urban land uses. The purpose of these two broad requirements is to minimize the short and long-term impacts of urban runoff on receiving water quality. Land used for residential activities is clearly identified in the federal regulations as one of several high priority land uses from which pollutants in urban runoff discharges must be reduced to the maximum extent practicable by each Copermittee. Federal NPDES regulation 40 CFR 122.26(d)(2)(iv) requires the development of a proposed management program to reduce the discharge of pollutants in storm water to the maximum extent practicable. Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) requires that this program include a component which addresses residential areas and activities.

Residential areas and activities have the potential to be significant sources of pollutants in urban runoff. In residential areas pollution sources conveyed by the MS4 include activities related to automobile maintenance, landscaping/gardening, home-improvement, pets, and others, including those described below in section F.3.d.(2). Through the DAMP, Orange County Copermittees have instituted or promoted residential pollution prevention BMPs, including street sweeping, household hazardous waste collections, and education. Nationally, education is increasingly being used as a tool for pollution prevention in residential areas, where the use of regulatory enforcement actions has traditionally been less than in other land use areas. Pollution prevention can encourage responsible residential nutrient management, such as proper fertilization rates and proper pet waste disposal, when a connection is established between such practices and local or regional water quality needs (see "A Survey of Residential Nutrient Behavior" in Nonpoint Source News Notes, July 2000"). Similarly, source control is vital to protect urban watersheds from pesticides that are applied in residential areas and are transported to streams via the MS4. For example in a review, "Diazinon Sources in Runoff from the San Francisco Region," the Center for Watershed Protection concluded that, "the only real tool to control diazinon in urban watersheds is source control to either reduce the use of diazinon or to apply it in a safer manner." In addition, where structural BMPs or MS4 facilities are owned or operated by the residential community, pollution prevention activities taken by local governments can include maintenance guidance. For example, the Northern Virginia Regional Planning Commission offers maintenance guidance because after finding that reduced or improper maintenance by some private owners contributed to a higher failure rate of BMPs (see "Maintaining Your BMP: A guidebook for Private Owners and Operators in Northern Virginia").

To reduce the discharge of pollutants in urban runoff from residential areas and activities to the maximum extent practicable, BMPs must be implemented. As discussed in Finding 12, BMPs effectively reduce pollutants in urban runoff by emphasizing pollution prevention and source controls, followed by treatment

controls. The residential existing development component will provide a program for the development and implementation of BMPs to address pollutants in storm water discharges from residential areas and activities.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.c. in Order No. 2001-193 under the broad legal authority cited above.

F.3.d.(1) Pollution Prevention (Residential) for the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall include pollution prevention methods in its Residential (Existing Development) Component and shall encourage their use by all residents, where appropriate.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.3.d. Residential (Existing Development) of Order No. 2001-193.

Discussion: Each Copermittee must develop a program to reduce the discharge of pollutants to and from its MS4 to the maximum extent practicable. In order to achieve this level of pollution reduction, BMPs must be implemented. As discussed in Finding 12, pollution prevention (the reduction or elimination of pollutant generation at its source) is an essential aspect of BMP programs. By limiting the generation of pollutants, less pollutants are available to be washed from residential areas and activities, resulting in reduced pollutant loads in storm water discharges from these areas and activities. In addition, there is no need to control or treat pollutants that are not initially generated. Furthermore, pollution prevention BMPs are generally more cost effective than removal of pollutants by treatment facilities or cleanup of contaminated media.[103] In the Pollution Prevention Act of 1990, Congress established a national policy that emphasizes pollution prevention over control and treatment. Since pollution prevention is an effective and efficient means for reducing pollutant loads in storm water runoff, pollution prevention methods are an important aspect of BMPs to be included in the residential existing development component of the Jurisdictional URMP.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.d.(1) in Order No. 2001-193 under the broad legal authority cited above.

F.3.d.(2) Threat to Water Quality Prioritization (Residential) for the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall identify high priority residential areas and activities. At a minimum, these shall include:

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[103] Center for Watershed Protection, 1998. Better Site: A Handbook for Changing Development Rules in Your Community.

- *Automobile repair and maintenance;*
- *Automobile washing;*
- *Automobile parking;*
- *Home and garden care activities and product use (pesticides, herbicides, and fertilizers);*
- *Disposal of household hazardous waste (e.g., paints, cleaning products, and other wastes generated during home improvement or maintenance activities);*
- *Disposal of pet waste;*
- *Disposal of green waste;*
- *Any other residential source that the Copermittee determines may contribute a significant pollutant load to the MS4; and*
- *Any residence tributary to a Clean Water Act section 303(d) impaired water body, where the residence generates pollutants for which the water body is impaired; and*
- *Any residence within or directly adjacent to or discharging directly to coastal waters or other receiving waters within an environmentally sensitive area (as defined in F.1.b.(2)(a)vii of this Order).*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.3.d. Residential (Existing Development) of Order No. 2001-193.

Discussion: The above residential areas and activities are identified as high priority threats to water quality due to their wide distribution, their association with pollutants of concern in urban runoff, and their historical mismanagement of associated urban runoff. Identification of high priority residential areas and activities will help focus BMP implementation efforts on these areas and activities. By focusing efforts on high priority areas and activities, the greatest potential for water quality improvements will result. Therefore, limited Copermittee staff time will be focused where it can be most effective.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.d.(2) in Order No. 2001-193 under the broad legal authority cited above.

F.3.d.(3)(a) and F.3.d.(3)(b) BMP Implementation (Residential) for the Jurisdictional Urban Runoff Management Program state the following:

(a) *Each Copermittee shall designate a set of minimum BMPs for high threat to water quality residential areas and activities (as required under section F.3.d.(2)). The designated minimum BMPs for high threat to water quality ~~municipal~~ residential areas and activities shall be area or activity specific.*

(b) *Each Copermittee shall implement or require implementation of the designated minimum BMPs for high threat to water quality residential areas and activities. If particular minimum BMPs are infeasible for any specific site/source, each Copermittee shall require implementation of other equivalent BMPs. Each Copermittee shall also implement, or require implementation of, any additional BMPs as are necessary to comply with this Order.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.3.d. Residential (Existing Development) of Order No. 2001-193.

Discussion: Copermittees must reduce the discharge of pollutants in storm water from residential areas and activities to the maximum extent practicable. To achieve this level of pollutant reduction, BMPs must be implemented (see Finding 11). Designation of a set of minimum BMPs for high threat residential areas and activities will help ensure that appropriate BMPs are implemented. These minimum BMPs will also serve as guidance as to the level of water quality protection required. While minimum BMPs will be required for all high threat residential areas and activities, implementation of particular minimum BMPs will be site and source specific in order to address different conditions for various areas and activities. BMPs to be implemented must comply with Order No. 2001-193. As such, additional site specific BMPs may be necessary to comply with other aspects of Order 2001-193.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program items F.3.d.(3)(a) and F.3.d.(3)(b) in Order No. 2001-193 under the broad legal authority cited above.

F.3.d.(3)(c) BMP Implementation (Residential) for the Jurisdictional Urban Runoff Management Program states the following:

(c) *Each Copermittee shall implement, or require implementation of, any additional controls for residential areas and activities tributary to Clean Water Act Section 303(d) impaired water bodies (where a residential area or activity generates pollutants for which the water body is impaired) as necessary to comply with this Order. Each Copermittee shall implement, or require implementation of, additional controls for residential areas within or directly adjacent to or discharging directly to coastal waters or other receiving waters within environmentally sensitive areas (as defined in section F.1.b.(2)(a)(vii) of this Order) as necessary to comply with this Order.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.3.d. Residential (Existing Development) of Order No. 2001-193.

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to “control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to

cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality."

Discussion: CWA section 303(d) water bodies are water bodies that are not achieving the water quality objectives necessary to protect their beneficial uses. As discussed in Finding 3, urban runoff discharges from MS4s are a leading cause of receiving water quality impairment in the San Diego Region and throughout the United States. Since discharges which cause or contribute to an exceedance of water quality standards must be controlled and are also prohibited (see section C.1. of Order No. 2001-193), discharges to CWA section 303(d) water bodies of pollutants for which the waterbody is impaired must be controlled and prohibited. Therefore, residential areas and activities tributary to these water bodies must implement additional controls to ensure that they are not discharging the pollutants which are causing or contributing to the impairment of these water bodies.

Regarding coastal lagoons and other sensitive water bodies, additional controls are needed to protect these valuable and unique resources. In their Nonpoint Source Program Strategy and Implementation Plan, the SWRCB and California Coastal Commission support additional controls for critical coastal areas, stating "the State will seek to attain and maintain applicable water quality standards, and protect waters threatened by land uses, or by substantial expansion of existing land uses, by implementing additional management measures."

The SDRWQCB has the discretion to require Jurisdictional Urban Runoff Program item F.3.d.(3)(c) in Order No. 2001-193 under the broad and specific legal authority cited above.

F.3.d.(4) Enforcement of Residential Areas and Activities (Residential) for the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall enforce its storm water ordinance for all residential areas and activities as necessary to maintain compliance with this Order.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.3.d. Residential (Existing Development) of Order No. 2001-193.

Discussion: As discussed in Finding 24, enforcement of storm water ordinances, permits, and plans is an essential aspect of a Jurisdictional URMP. Enforcement measures increase the probability that non-compliance situations will not occur or will be corrected. Regarding enforcement measures, the US EPA states "Effective inspection and enforcement requires […] penalties to deter infractions and intervention by the municipal authority to correct violations. Enforcement mechanisms […] also must be described" (1992).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.d.(4) in Order No. 2001-193 under the broad legal authority cited above.

F.4. EDUCATION COMPONENT

F.4. Education Component of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall implement an Education Component using all media as appropriate to (1) measurably increase the knowledge of the target communities regarding MS4s, impacts of urban runoff on receiving waters, and potential BMP solutions for the target audience; and (2) to measurably change the behavior of target communities and thereby reduce pollutant releases to MS4s and the environment. At a minimum the education component shall address the following target communities:

- *Municipal Departments and Personnel*
- *Construction Site Owners and Developers*
- *Industrial Owners and Operators*
- *Commercial Owners and Operators*
- *Residential Community, General Public, and School Children*
- *Quasi-Governmental Agencies/Districts (i.e., educational institutions, water districts, sanitation districts, etc.)*

F.4.a. All Target Communities

At a minimum the Education Program for each target audience shall contain information on the following topics where applicable:

- *State and Federal water quality laws*
- *Requirements of local municipal permits and ordinances (e.g., storm water and grading ordinances and permits)*
- *Water conservation*
- *Impacts of urban runoff on receiving waters*
- *Watershed concepts (i.e., stewardship, connection between inland activities and coastal problems, etc.)*
- *Distinction between MS4s and sanitary sewers*
- *Importance of good housekeeping (e.g., sweeping impervious surfaces instead of hosing)*
- *Pollution prevention and safe alternatives*
- *Household hazardous waste collection*
- *Recycling*
- *BMPs: Site specific, structural and source control*
- *BMP maintenance*
- *Non-storm water disposal alternatives (e.g., all wash waters)*
- *Pet and animal waste disposal*
- *Proper solid waste disposal (e.g., garbage, tires, appliances, furniture, vehicles)*
- *Equipment and vehicle maintenance and repair*
- *Public reporting mechanisms*
- *Green waste disposal*
- *Integrated pest management*
- *Native vegetation*
- *Proper disposal of boat and recreational vehicle waste*
- *Traffic reduction, alternative fuel use*

F.4.b. Municipal, Construction, Industrial, Commercial, and Quasi-Governmental (educational institutions, water districts, sanitation districts, etc.) Communities

In addition to the topics listed in F.4.a. above, the Municipal, Construction, Industrial, Commercial, and Quasi-Governmental (Educational Institutions, Water Districts, Sanitation Districts) Communities shall also be educated on the following topics where applicable:

- *Basic urban runoff training for all personnel*
- *Additional urban runoff training for appropriate personnel*
- *Illicit Discharge Detection and Elimination observations and follow-up during daily work activities*
- *Lawful disposal of catchbasin and other MS4 cleanout wastes*
- *Water quality awareness for Emergency/First Responders*
- *California's Statewide General NPDES Permit for Storm Water Discharges Associated with Industrial Activities (Except Construction).*
- *California's Statewide General NPDES Permit for Storm Water Discharges Associated with Construction Activities*
- *SDRWQCB's General NPDES Permit for Groundwater Dewatering*
- *401 Water Quality Certification by the SDRWQCB*
- *Statewide General NPDES Utility Vault Permit (NPDES No. CAG990002)*
- *SDRWQCB Waste Discharge Requirements for Dredging Activities*
- *Local requirements beyond statewide general permits*
- *Federal, state and local water quality regulations that affect development projects*
- *Water quality impacts associated with land development*
- *Alternative materials & designs to maintain peak runoff values*
- *How to conduct a storm water inspection*
- *Potable water discharges to the MS4*
- *Dechlorination techniques*
- *Hydrostatic testing*
- *Spill response, containment, & recovery*
- *Preventive maintenance*
- *How to do your job and protect water quality*

F.4.c. Residential, General Public, School Children Communities

In addition to the topics listed in F.4.a. above, the Residential, General Public, and School Children Communities shall be educated on the following topics where applicable:

- *Public reporting information resources*
- *Residential and charity car-washing*
- *Community activities (e.g., "Adopt a Storm Drain, Watershed, or Highway" Programs, citizen monitoring, creek/beach cleanups, environmental protection organization activities, etc.)*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(6) provides that the proposed management program include "A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides, and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications, and other measures for

commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(6) provides that the proposed management program include “A description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(4) provides that the proposed management program include “A description of appropriate educational and training measures for construction site operators.”

Discussion: As discussed in Finding 23, implementation of an Education Component is a critical best management practice and an important aspect of the Jurisdictional URMP. The SWRCB Technical Advisory Committee “recognizes that education with an emphasis on pollution prevention is the fundamental basis for solving nonpoint source pollution problems.” The US EPA finds that “An informed and knowledgeable community is critical to the success of a storm water management program since it helps ensure the following:

> Greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important. […]
>
> Greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters” (2000).

Regarding target audiences, US EPA states “The public education program should use a mix of appropriate local strategies to address the viewpoints and concerns of a variety of audiences and communities, including minority and disadvantaged communities, as well as children” (2000). The target communities included in Education item 7 are based on recommendations of the TAC, which states:

“Target Audiences should include:

1. Government: Educate government agencies and officials to achieve better communication, consistency, collaboration, and coordination at the federal, state and local levels.
2. K-12/Youth Groups: Establish statewide education programs, including curricula, on watershed awareness and nonpoint source pollution problems and solutions, based on a state lead role building upon and coordinating with existing local programs.
3. Development Community: Educate the development community, including developers, contractors, architects, and local government planners, engineers, and inspectors, on nonpoint source pollution problems associated with development and redevelopment and construction activities and involve them in problem definitions and solutions.

4. Business and Industrial Groups."

The required topics to be covered in the Education Component are based on topics of concern as discussed by the US EPA (1992) and the SWRCB Technical Advisory Committee. Additional education topics were also added based on the number of complaints received by the SDRWQCB and the Copermittees for various topics of concern.

US EPA identifies measurable goals for urban runoff education programs, including such goals as creation of a website, halting dumping of grease and other pollutants into the storm drain by a certain percentage of restaurants, and detecting a percent reduction in litter or animal waste in discharges (2000).

Public education was strongly emphasized in the 1993 DAMP implemented under the First and Second Term Permits. Consequently, the Copermittees already have well-developed education programs that may be readily reviewed and as necessary revised to satisfy the requirements of this Order. The specific detail provided in this section and other sections of the permit where education is identified as a necessary part of the Jurisdictional Program, is provided to establish a framework within which the Copermittees will review and as necessary update their already extensive programs.

The SDRWQCB has the discretion to require item F.4 of the Jurisdictional URMP in Order No. 2001-193 under the broad and specific legal authority cited above.

F.5. ILLICIT DISCHARGE DETECTION AND ELIMINATION COMPONENT

In addition to the underlying broad legal authority citations listed above in section VII. of this Fact Sheet/Technical Report, the following specific legal authority items also generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.5. Illicit Discharge and Detection Elimination Component of Order No. 2001-193. Other specific legal authority items applicable only to distinct directives of Jurisdictional Urban Runoff Management Program item F.5. are provided as necessary.

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) provides that the proposed management program "shall be based on a description of a program, including a schedule, to detect and remove (or require the discharger to the municipal storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(1) provides that the Copermittee include in its proposed management program "a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal storm sewer system." This regulation excludes prohibition of those non-storm water discharges listed in Section B.1 of Order 2001-193.

F.5. Illicit Discharge Detection and Elimination Component of the Jurisdictional Urban Runoff Management Program states the following:

> *Each Copermittee shall implement an Illicit Discharge Detection and Elimination Component containing measures to actively seek and eliminate illicit discharges and connections. At a minimum the Illicit Discharge Detection and Elimination Component shall address:*
>
> *F.5.a Illicit Discharges and Connections*
> *F.5.b Dry Weather Monitoring*
> *F.5.c Investigation / Inspection and Follow-up*
> *F.5.d Elimination of Illicit Discharges and Connections*
> *F.5.e Enforce Ordinances*
> *F.5.f Prevent and Respond To Sewage Spills (Including from Private Laterals and Failing Septic Systems) and Other Spills*
> *F.5.g Facilitate Public Reporting of Illicit Discharges and Connections – Public Hotline*
> *F.5.h Facilitate Disposal of Used Oil and Toxic Materials*
> *F.5.i Limit Infiltration From Sanitary Sewer to MS4*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) and 40 CFR 122.26(d)(2)(iv)(B)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.5. Illicit Discharge Detection and Elimination Component of Order No. 2001-193.

Discussion: Illicit discharges and connections can constitute a significant portion of urban runoff discharges from MS4s. US EPA states “A study conducted in 1987 in Sacramento, California, found that almost one-half of the water discharged from a local MS4 was not directly attributable to precipitation runoff. A significant portion of these dry weather flows were from illicit and/or inappropriate discharges and connections to the MS4" (2000).

MS4 discharges attributable to illicit discharges and connections can be a significant source of pollutant loading to receiving waters. The NURP study concluded that the quality of urban runoff can be adversely impacted by illicit discharges and connections (US EPA, 1983). Furthermore, US EPA states that illicit discharges and connections result in “untreated discharges that contribute high levels of pollutants, including heavy metals, toxics, oil and grease, solvents, nutrients, viruses, and bacteria to receiving waterbodies. Pollutant levels from these illicit discharges have been shown in EPA studies to be high enough to significantly degrade receiving water quality and threaten aquatic wildlife and human health” (2000).

For these reasons, CWA section 402(p)(3)(B)(ii) requires each Copermittee to prohibit non-storm water discharges into its MS4. The detection and elimination of illicit discharges and connections is also clearly identified in the federal regulations as a high priority (40 CFR 122.26(d)(2)(iv)(B) and 122.26(d)(2)(iv)(B)(1)). As guidance for detecting and eliminating illicit discharges and connections, the US

EPA suggests "The proposed management program must include a description of inspection procedures, orders, ordinances, and other legal authorities necessary to prevent illicit discharges to the MS4" (1992).

The SDRWQCB has the discretion to require Jurisdictional Urban Runoff Management Program item F.5 in Order 2001-193 under the broad legal authority cited above.

F.5.a. Illicit Discharges and Connections of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall implement a program to actively seek and eliminate illicit discharges and connections into its MS4. The program shall address all types of illicit discharges and connections excluding those non-storm water discharges not prohibited by the Copermittee in accordance with Section B. of this Order.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) and 40 CFR 122.26(d)(2)(iv)(B)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.5. Illicit Discharge Detection and Elimination Component of Order No. 2001-193.

Discussion: See discussion for F.5 Illicit Discharge Detection and Elimination Component above.

F.5.b. Dry Weather Monitoring of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall conduct dry weather inspections, field screening, and analytical monitoring of MS4 outfalls within its jurisdiction to detect illicit discharges and connections in accordance with Attachment E of this Order.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) and 40 CFR 122.26(d)(2)(iv)(B)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.5. Illicit Discharge Detection and Elimination Component of Order No. 2001-193.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(2) provides that the Copermittee include in its proposed management program "a description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens."

Discussion: Since illicit discharges and connections can be significant sources of pollutants in urban runoff, and can cause receiving water degradation, the locations of all illicit discharges and connections need to be identified. An effective means for achieving this is analytical monitoring of dry weather urban runoff flows. Through frequent, geographically widespread MS4 inspections, field screening and laboratory analysis of dry weather urban runoff, the Copermittees can identify locations potentially impacted by illicit discharges or connections. If results indicate that an illicit discharge or connection may be present, then follow-up procedures can be followed to pinpoint the source of the illicit discharge or connection. Once the illicit discharge or connection source is identified, steps may be taken to eliminate the discharge or connection. In this manner, dry weather analytical monitoring of urban runoff can lead to the elimination of illicit discharges and connections and the reduction of pollutants in urban runoff.

The Copermittees directed in Attachment E to review their Illegal Discharge and Illicit Connections programs and update them to include more frequent, geographically widespread inspections, field screening analysis, and laboratory analysis of specific parameters. Although the minimum number of inspections is set at twice during the period of May 1st to September 30th of each year, it is expected that more frequent inspections may be necessary. An emphasis is placed on designing a program with clear criteria and rationale. The programs designed should be flexible and implemented in a manner that will enable the Copermittees to identify illicit discharges and illegal connections, respond to citizen complaints, and follow-up on ongoing investigations to identify and eliminate sources.

The SDRWQCB has the discretion to require Jurisdictional Urban Runoff Management Program item F.5.b in Order No. 2001-193 under the broad and specific legal authority cited above.

F.5.c. Investigation/Inspection and Follow-up of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall investigate and inspect any portion of the MS4 that, based on dry weather monitoring results or other appropriate information, indicates a reasonable potential for illicit discharges, illicit connections, or other sources of non-storm water (including non-prohibited discharge(s) identified in Section B. of this Order). Each Copermittee shall establish criteria to identify portions of the system where such follow-up investigations are appropriate.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) and 40 CFR 122.26(d)(2)(iv)(B)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.5. Illicit Discharge Detection and Elimination Component of Order No. 2001-193.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(3) provides that the Copermittee include in its proposed management program "procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water."

Discussion: The quality of urban runoff can be adversely impacted by illicit discharges and connections (US EPA, 1983). Elimination of these sources of pollutants can therefore result in a dramatic improvement in the quality of urban runoff discharges from MS4s, which in turn can result in improved receiving water quality. If field screening results indicate the presence of illicit discharges to the MS4, that portion of the MS4 must be investigated to eliminate the illicit discharge and prevent further potential degradation of receiving waters. To determine when follow-up procedures should be undertaken, US EPA states "Applicants should propose criteria to identify portions of the system where follow-up investigations are appropriate" (1992).

Procedures to investigate priority locations for illicit connections include sampling for such constituents as Total Coliform Bacteria Fecal Coliform Bacteria, Enterococcus Bacteria, surfactants (MBAS), residual chlorine, oil and grease, selected dissolved metals, fluoride, phenolic compounds, and potassium. Inspection of the storm sewer system, use of remote-control cameras, on-site inspections, and dye testing at priority or suspect facilities, and additional discharge monitoring to pinpoint pollutant sources are also important elements of such programs.

The SDRWQCB has the discretion to require Jurisdictional Urban Runoff Management Program item F.5.c in Order No. 2001-193 under the broad and specific legal authority cited above.

F.5.d. Elimination of Illicit Discharges and Connections of the Jurisdictional Urban Runoff Management Program states the following:

> *Each Copermittee shall eliminate all detected illicit discharges, discharge sources, and connections immediately.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) and 40 CFR 122.26(d)(2)(iv)(B)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.5. Illicit Discharge Detection and Elimination Component of Order No. 2001-193.

Water Quality Control Plan for the San Diego Basin Waste Discharge Prohibition 8 states "Any discharge to a storm water conveyance system that is not entirely

composed of 'storm water' is prohibited unless authorized by the Regional Board." California Water Code Section 13263(a) provides that waste discharge requirements prescribed by the SDRWQCB implement the Basin Plan.

Discussion: Under CWA section 402(p)(3)(B)(ii) and Water Quality Control Plan for the San Diego Basin Waste Discharge Prohibition 8 non-storm water discharges are prohibited. By definition, illicit discharges and connections are non-storm water discharges. Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B) also requires illicit discharges and connections to be detected and removed. Therefore, any detected illicit discharges or connections must be eliminated. US EPA supports elimination of detected illicit discharges and connections when it states "Once the source is identified, the offending discharger should be notified and directed to correct the problem. Education efforts and working with the discharger can be effective in resolving the problem before taking legal action."

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.5.d in Order No. 2001-193 under the broad and specific legal authority cited above.

F.5.e. Enforce Ordinances of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall implement and enforce its ordinances, orders, or other legal authority to prevent illicit discharges and connections to its MS4. Each Copermittee shall also implement and enforce its ordinance, orders, or other legal authority to eliminate detected illicit discharges and connections to it MS4.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) and 40 CFR 122.26(d)(2)(iv)(B)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.5. Illicit Discharge Detection and Elimination Component of Order No. 2001-193.

Discussion: To prevent and eliminate illicit discharges and connections, the Copermittee must implement and enforce its ordinance, orders, or other legal authority over illicit discharges and connections. The US EPA states that this "proposed management program component should describe how the prohibition on illicit discharges will be implemented and enforced. The description could include a schedule and allocation of staff and resources. A direct linkage should exist between this program component and the adequate legal authority requirements for the ordinances and orders to effectively implement the prohibition of illicit discharges" (1992).

The SDRWQCB has the discretion to require Jurisdictional Urban Runoff Management Program item F.5.e in Order 2001-193 under the broad legal authority cited above.

F.5.f. Prevent and Respond to Sewage and Other Spills of the Jurisdictional Urban Runoff Management Program states the following:

> *Each Copermittee shall prevent, respond to, contain and clean up all sewage and other spills that may discharge into its MS4 from any source (including private laterals and failing septic systems). Spill response teams shall prevent entry of spills into the MS4 and contamination of surface water, ground water and soil to the maximum extent practicable. Each Copermittee shall coordinate spill prevention, containment and response activities throughout all appropriate departments, programs and agencies to ensure maximum water quality protection at all times.*
>
> *Each Copermittee shall develop and implement a mechanism whereby it is notified of all sewage spills from private laterals and failing septic systems into its MS4. Each Copermittee shall prevent, respond to, contain and clean up sewage from any such notification.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) and 40 CFR 122.26(d)(2)(iv)(B)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.5. Illicit Discharge Detection and Elimination Component of Order No. 2001-193.

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(4) provides that the Copermittee include in its proposed management program "a description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer."

Discussion: Sewage and other spills frequently enter the MS4, to be carried and discharged to receiving waters. Such spills into and from the MS4 can severely impair receiving water quality and pose a significant threat to public health. To avoid these negative impacts, the proposed management program must describe procedures that the Copermittee will implement to prevent, contain, and respond to spills that may discharge into the MS4. The US EPA states "The goal of a spill prevention program is to reduce the frequency and extent of spills of hazardous materials which can cause water quality impairment. Spill containment programs may establish minimum chemical storage and handling requirements, require users to submit prevention and control plans, and ensure site inspections. […] Spill response teams should attempt to prevent or minimize contamination of surface water, groundwater, and soil. Spill response programs often require a coordinated response from a number of municipal departments. Municipalities should describe how response procedures within these programs attempt to mitigate potential pollutant discharges to surface waters and the MS4" (1992). Spills from private laterals have been identified in the San Diego Region as a significant source of illicit discharges to MS4s and must be addressed by the Copermittees. Failing private septic systems have also been identified as potential

illicit discharges that should be addressed by Copermittees that may have septic systems within their jurisdictions. The Copermittees are directed to implement a program in which they are notified of all such spills. One mechanism to achieve compliance with this requirement is to update business licenses or permits of plumbers or other potential responders (e.g. apartment management agencies, homeowners associations, etc) to these spills to report them to the Copermittee in whose jurisdiction the spill occurred.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.5.f in Order No. 2001-193 under the broad and specific legal authority cited above.

F.5.g. Facilitate Public Reporting of Illicit Discharges and Connections – Public Hotline of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall promote, publicize and facilitate public reporting of illicit discharges or water quality impacts associated with discharges into or from MS4s. Each Copermittee shall facilitate public reporting through development and operation of a public hotline. Public hotlines can be Copermittee-specific or shared by Copermittees. All storm water hotlines shall be capable of receiving reports in both English and Spanish 24 hours per day / seven days per week. Copermittees shall respond to and resolve each reported incident. All reported incidents, and how each was resolved, shall be summarized in each Copermittee's individual Jurisdictional URMP Annual Report.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) and 40 CFR 122.26(d)(2)(iv)(B)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.5. Illicit Discharge Detection and Elimination Component of Order No. 2001-193.

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(4) provides that the Copermittee include in its proposed management program "a description of a program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers."

Discussion: Regarding public reporting of illicit discharges or water quality impacts associated with discharges from MS4s, the US EPA states "Timely reporting by the public of improper disposal and illicit discharges are critical components of programs to control such sources. To enhance public awareness, programs may include setting up a public information hotline number, educating school students, community and volunteer watchdog groups, using inserts into utility bills, and newspaper, radio, and television announcements to inform the public about what to look for and how to report incidents" (1992). As indicated in the Report of Waste Discharge and proposed DAMP, the Orange County Copermittees already have mechanisms in place to facilitate public reporting of potential illicit discharges that

meet or exceed the requirements of this section.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.5.g in Order No. 2001-193 under the broad and specific legal authority cited above.

F.5.h. Facilitate Disposal of Used Oil and Toxic Materials of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall facilitate the proper management and disposal of used oil, toxic materials, and other household hazardous wastes. Such facilitation shall include educational activities, public information activities, and establishment of collection sites operated by the Copermittee or a private entity. Neighborhood collection of household hazardous wastes is encouraged.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) and 40 CFR 122.26(d)(2)(iv)(B)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.5. Illicit Discharge Detection and Elimination Component of Order No. 2001-193.

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(6) provides that the Copermittee include in its proposed management program "a description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials."

Discussion: The US EPA states "If private individuals find the proper disposal of used oil or toxic materials difficult, incidents of improper disposal (such as into the MS4) increase" (1992). Therefore Copermittees are required to propose a program component that will facilitate the proper disposal of used oil and toxics from households by establishing municipally operated collection sites, or ensuring that privately operated collections sites are available. The US EPA suggests this program component "should describe outreach plans to handlers of used oil and to the public, and operating plans for oil and household waste collection programs" (1992). As indicated in the Report of Waste Discharge and proposed DAMP, the Orange County Copermittees already have mechanisms in place to facilitate the proper management and disposal of used oil and toxic materials that meets or exceed the requirements of this section.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.5.h in Order No. 2001-193 under the broad and specific legal authority cited above.

F.5.i. Limit Infiltration from Sanitary Sewer to MS4 of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall implement controls and measures to limit infiltration of seepage from municipal sanitary sewers to MS4s through thorough, routine preventive maintenance of the MS4. Each Copermittee that operates both a municipal sanitary sewer system and a MS4 shall implement controls and measures to limit infiltration of seepage from the municipal sanitary sewers to the MS4s that shall include overall sanitary sewer and MS4 surveys and thorough, routine preventive maintenance of both.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) and 40 CFR 122.26(d)(2)(iv)(B)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.5. Illicit Discharge Detection and Elimination Component of Order No. 2001-193.

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(4) provides that the Copermittee include in its proposed management program "a description of controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary."

Discussion: Regarding seepage from sanitary sewers, the US EPA states "Raw sewage can seep from sanitary sewage collection systems through leaks and cracks in aging pipes, poorly constructed manholes and joints, and main breaks. Sewage from a leaky sanitary system can flow to storm sewers or contaminate ground water supplies. Interaction between sanitary sewers and separate storm sewers may occur at manholes and where sanitary sewer laterals and storm sewer trenches cross. Separate storm sewers and sanitary sewers may share the same trench, which is generally filled with very porous material such as gravel" (1992). When raw sewage enters the storm water system, it can reach receiving waters untreated, posing a threat to water quality and public health. In order to prevent this condition, the Copermittees are directed to perform these inspection and maintenance activities. To the extent that a Copermittee operates both a MS4 and a sanitary sewer, the Copermittee is directed to coordinate the thorough, routine preventive maintenance of both systems. In cases where the Copermittee does not operate the sanitary sewer, the Copermittee is implicitly encouraged to coordinate the maintenance of the MS4 and sanitary sewer with the operator of the sanitary sewer, but must at a minimum ensure the thorough, routine preventive maintenance of the MS4 system.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.5.i in Order No. 2001-193 under the broad and specific legal authority cited above.

F.6. COMMON INTEREST AREAS AND HOMEOWNERS ASSOCIATIONS

F.6 Common Interest Areas and Homeowners Associations Component of the Jurisdictional Urban Runoff Management Plan states the following:

> *a. .Each Copermittee shall develop and implement a plan for ensuring that urban runoff within common interest areas from private roads, drainage facilities, and other components of the storm water conveyance system, including those managed by associations, meets the objectives of this Order.*
>
> *b. As part of its individual Jurisdictional URMP Annual Report, each Copermittee shall describe the measures taken to ensure that urban runoff from common interest areas to the MS4 meets the objectives of this Order.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Discussion: Many residential neighborhoods and some commercial areas within the jurisdiction of the Copermittees are within common interest developments and are, therefore, subject to management of common areas by associations. The Declaration of the Covenants, Conditions and Restrictions (CC&Rs) contains the ground rules for the operation of such an association. CC&Rs are an appropriate method for protecting the common plan of developments and to provide for a mechanism for financial support for the upkeep of common areas including roads, storm drains, and other components of storm water conveyance systems.

In certain cases the Copermittees may neither own nor operate the storm water conveyance systems within common interest developments. Presently, some Copermittees have agreements with the responsible association(s) in which the association either allows the Copermittee to implement best management practices or the association agrees to uphold the intent of the DAMP. Rather than list the associations as Copermittees, this Order interprets common interest areas as property subject to the codes and ordinance and enforcement mechanisms of the city or county in which it resides and, therefore, holds the local government responsible for the discharge of wastes from private storm water conveyance systems.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.5.i in Order No. 2001-193 under the broad and specific legal authority cited above.

F.7. PUBLIC PARTICIPATION COMPONENT

F.7. Public Participation Component of the Jurisdictional Urban Runoff Management Program states the following:

> *Each Copermittee shall incorporate a mechanism for public participation in the implementation of the Jurisdictional URMP.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Discussion: Public participation can be an important tool for strengthening an urban runoff management program. US EPA strongly supports public participation when it states "An active and involved community is crucial to the success of a storm water management program because it allows for:

> Broader public support since citizens who participate in the development and decision making process are partially responsible for the program and, therefore, may be less likely to raise legal challenges to the program and more likely to take an active role in its implementation;
>
> Shorter implementation schedules due to fewer obstacles in the form of public and legal challenges and increased sources in the form of citizen volunteers;
>
> A broader base of expertise and economic benefits since the community can be a valuable, and free, intellectual resource; and
>
> A conduit to other programs as citizens involved in the storm water program development process provide important cross-connections and relationships with other community and government programs. This benefit is particularly valuable when trying to implement a storm water program on a watershed basis, as encouraged by EPA" (2000).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.6 in Order No. 2001-193 under the broad legal authority cited above.

F.8. ASSESSMENT OF JURISDICTIONAL URMP EFFECTIVENESS COMPONENT

F.8. Assessment of Jurisdictional URMP Effectiveness Component of the Jurisdictional Urban Runoff Management Program states the following:

a. *As part of its individual Jurisdictional URMP, each Copermittee shall develop a long-term strategy for assessing the effectiveness of its individual Jurisdictional URMP. The long-term assessment strategy shall identify specific direct and indirect measurements that each Copermittee will use to track the long-term progress of its individual Jurisdictional URMP towards achieving improvements in receiving water quality. Methods used for assessing effectiveness shall include the following or their equivalent: surveys, pollutant loading estimations, and receiving water quality monitoring. The long-term strategy shall also discuss the role of monitoring data in substantiating or refining the assessment.*

b. *As part of its individual Jurisdictional URMP Annual Report, each Copermittee shall include an assessment of the effectiveness of its Jurisdictional URMP using the direct and indirect assessment measurements and methods developed in its long-term assessment strategy.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(v) provides that the Copermittees must include "Estimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of the municipal storm water quality management program. The assessment shall also identify known impacts of storm water controls on ground water." Under Federal NPDES regulation 40 CFR 122.42(c) applicants must provide annual reports on the progress of their storm water management programs.

Discussion: Regarding the assessment of the effectiveness of URMPs, the US EPA states that "At a minimum, applicants must submit estimated reductions in pollutant loads expected to result from implemented controls and describe known impacts of storm water controls on groundwater" (1992). The US EPA suggests that the assessments include direct and indirect measurements of effectiveness, stating that "Reductions in pollutant loads due to the implementation and maintenance of structural controls provide direct measurements of the effectiveness of the storm water management program. In addition, EPA encourages applicants to go beyond the minimum requirement and assess the effectiveness of their storm water management program through other direct measurements as well as indirect measurements" (1992). The US EPA also recommends that monitoring data be used to substantiate or refine the assessment, suggesting that "the estimated removal efficiencies can be refined through the monitoring program. […] Throughout the permit term, the municipality must submit refinements to its assessment or additional direct measurements of program effectiveness in its annual report" (1992). Finally, the US EPA suggests that the assessment be used for long-term assessment of progress when it states "The applicant should use direct measurements of program effectiveness as it begins to assess its long-term progress in improving water quality through storm water management practices. […] [A]pplicants are encouraged to use direct measurements of program effectiveness, such as annual pollutant loads, event mean concentrations, and seasonal pollutant loadings, to begin to estimate long-term trends" (1992).

The SDRWQCB has discretion to require Jurisdiction Urban Runoff Management Program item F.7 in Order No. 2001-193 under the broad and specific legal authority cited above.

F.9. FISCAL ANALYSIS COMPONENT

F.9. Fiscal Analysis Component of the Jurisdictional Urban Runoff Management Program states the following:

> *Each Copermittee shall secure the resources necessary to meet the requirements of this Order. As part of its individual Jurisdictional URMP, each Copermittee shall develop a strategy to*

conduct a fiscal analysis of its urban runoff management program in its entirety. In order to demonstrate sufficient financial resources to implement the conditions of this Order, each Copermittee shall conduct an annual fiscal analysis as part of its individual Jurisdictional URMP Annual Report. This analysis shall, for each fiscal year covered by this Order, evaluate the expenditures (such as capital, operation and maintenance, education, and administrative expenditures) necessary to accomplish the activities of the Copermittee's urban runoff management program. Such analysis shall include a description of the source(s) of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(vi) provides that "[The Copermittee must submit] for each fiscal year to be covered by the permit, a fiscal analysis of the necessary capital and operation and maintenance expenditures necessary to accomplish the activities of the programs under paragraphs (d)(2)(iii) and (iv) of this section. Such analysis shall include a description of the source of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds."

Discussion: A fiscal analysis can be an important planning tool. The US EPA finds that "examining the levels of proposed spending and funding allows the permitting authority to gauge the ability of the applicant to implement the program and predict its effectiveness. The fiscal analysis also will help the [SDRWQCB] determine whether the applicant has met the statutory requirement of reducing the discharge of pollutants to the MS4 to the maximum extent practicable. Finally, the estimates help the applicant evaluate the feasibility and cost-effectiveness of its program" (1992).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management item F.8 in Order No. 2001-193 under the broad and specific legal authority cited above.

G. IMPLEMENTATION OF JURISDICTIONAL URMP

G. Implementation of Jurisdictional URMP states the following:

*Each Copermittee shall have completed full implementation of all requirements of the Jurisdictional URMP section of this Order no later than **365 days after adoption** of this Order, except as stated as follows: Within 180 days of development of the model SUSMP, each Copermittee shall adopt its own local SUSMP, and amended ordinances consistent with the model SUSMP, and shall submit both (local SUSMP and amended ordinances) to the SDRWQCB.*

Following the adoption of the Order and prior to the full implementation of the ~~Watershed~~ Jurisdictional URMP, the Copermittees shall at a minimum implement the provisions and commitments of the proposed DAMP submitted in September 2000.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Discussion: The requirements of the NPDES regulations for urban runoff have been in place for many years. Falling under these regulations, the Copermittees should currently be implementing adequate urban runoff programs to be in compliance with the regulations. The requirements in Order No. 2001-193 are based on the NPDES regulations; therefore, the vast majority of the requirements in Order No. 2001-193 should already be implemented by the Copermittees. For this reason, implementation schedules of 180 days and 365 days should be more than adequate to meet the requirements of Order No. 2001-193.
The SDRWQCB has discretion to require Implementation of Jurisdictional URMP item G. in Order No. 2001-193 under the broad legal authority cited above.

H. SUBMITTAL OF JURISDICTIONAL URMP DOCUMENT

H. Submittal of Jurisdictional URMP Document states the following:

The written account of the overall program to be conducted by each Copermittee within its jurisdiction during the five-year life of this Order is referred to as the "Jurisdictional URMP Document".

1. *Individual – Each Copermittee shall submit to the Principal Permittee(s) an individual Jurisdictional URMP document which describes all activities it has undertaken or is undertaking to implement the requirements of each component of the Jurisdictional URMP section F. of this Order.*

a. *At a minimum, the individual Jurisdictional URMP document shall contain the following information for the following components:*

(1) *Construction Component*

(a) *Which pollution prevention methods will be required for implementation, and how and where they will be required*
(b) *Updated grading ordinances*
(c) *A description of the modified construction and grading approval process*
(d) *Updated construction and grading project requirements in local grading and construction permits*
(e) *A completed watershed-based inventory of all construction sites*
(f) *A completed prioritization of all construction sites based on threat to water quality*
(g) *Which BMPs will be implemented, or required to be implemented, for each priority category*
(h) *How BMPs will be implemented, or required to be implemented, for each priority category*
(i) *Planned inspection frequencies for each priority category*
(j) *Methods for inspection*
(k) *A description of enforcement mechanisms and how they will be used*
(l) *A description of how non-compliant sites will be identified and the process for notifying the SDRWQCB, including a list of current non-compliant sites*
(m) *A description of the construction education program and how it will be implemented*

(2) *Municipal (Existing Development) Component*

(a) *Which pollution prevention methods will be required for implementation, and how and where they will be required*
(b) *A completed watershed-based inventory of all municipal land use areas and activities*
(c) *A completed prioritization of all municipal areas and activities based on threat to water quality*
(d) *Which BMPs will be implemented, or required to be implemented, for each priority category*
(e) *How BMPs will be implemented, or required to be implemented, for each priority category*
(f) *Municipal maintenance activities and schedules*
(g) *Management strategy for pesticides, herbicides, and fertilizer use.*
(h) *Planned inspection frequencies for the high priority category*
(i) *Methods for inspection*
(j) *A description of enforcement mechanisms and how they will be used*

(3) Industrial (Existing Development) Component

(a) Which pollution prevention methods will be required for implementation, and how and where they will be required
(b) A completed watershed-based inventory of all industrial sites
(c) A completed prioritization of all industrial sites based on threat to water quality
(d) Which BMPs will be implemented, or required to be implemented, for each priority category
(e) How BMPs will be implemented, or required to be implemented, for each priority category
(f) A description of the monitoring program to be conducted, or required to be conducted
(g) Planned inspection frequencies for each priority category
(h) Methods for inspection
(i) A description of enforcement mechanisms and how they will be used
(j) A description of how non-compliant sites will be identified and the process for notifying the SDRWQCB, including a list of current non-compliant sites

(4) Commercial (Existing Development) Component

(a) Which pollution prevention methods will be required for implementation, and how and where they will be required
(b) A completed watershed-based inventory of high priority commercial sites
(c) Which BMPs will be implemented, or required to be implemented, for high priority sites
(d) How BMPs will be implemented, or required to be implemented, for high priority sites
(e) Planned inspection frequencies for high priority sites
(f) Methods for inspection
(g) *A description of enforcement mechanisms and how they will be used*

(5) Residential (Existing Development) Component

(a) Which pollution prevention methods will be encouraged for implementation, and how and where they will be encouraged
(b) A completed inventory of high priority residential areas and activities
(c) Which BMPs will be implemented, or required to be implemented, for high priority areas and activities
(d) How BMPs will be implemented, or required to be implemented, for high priority areas and activities
(e) A description of enforcement mechanisms and how they will be used

(6) Education Component

(a) A description of the content, form, and frequency of education efforts for each target community

(7) Illicit Discharges Detection and Elimination Component

(a) A description of the program to actively seek and eliminate illicit discharges and connections
(b) A description of dry weather monitoring to be conducted to detect illicit discharges and connections (see Attachment E)
(c) A description of investigation and inspection procedures to follow-up on dry weather monitoring results or other information which indicate potential for illicit discharges and connections
(d) A description of procedures to eliminate detected illicit discharges and connections
(e) A description of enforcement mechanisms and how they will be used
(f) A description of methods to prevent, respond to, contain, and clean up all sewage (including spills from private laterals and failing septic systems) and other spills in order to prevent entrance into the MS4
(g) A description of the mechanism to receive notification of spills from private laterals
(h) A description of efforts to facilitate public reporting of illicit discharges and connections, including a public hotline
(i) A description of efforts to facilitate proper disposal of used oil and other toxic materials
(j) A description of controls and measures to be implemented to limit infiltration of seepage from sanitary sewers to MS4s
(k) A description of routine preventive maintenance activities on the sanitary system (where applicable) and the MS4

(8) Public Participation Component

(a) A description of how public participation will be included in the implementation of the Jurisdictional URMP

(9) Assessment of Jurisdictional URMP Effectiveness Component

(a) A description of strategies to be used for assessing the long-term effectiveness of the individual Jurisdictional URMP.

(10) Fiscal Analysis Component

(a) A description of the strategy to be used to conduct a fiscal analysis of the urban runoff management program.

(11) Land-Use Planning for New Development and Redevelopment Component

(a) Workplan for inclusion in General Plan (or equivalent plan) of water quality and watershed protection principles and policies
(b) Development project requirements in local development permits
(c) Participation efforts conducted in the development of the Model SUSMP
(d) Environmental review processes revisions
(e) A description of the planning education program and how it will be implemented

(12) Fire Fighting

(a) A description of a program to reduce pollutants from non-emergency fire fighting flows identified by the Copermittee to be significant sources of pollutants.

(13) Common Interest Areas and Homeowners Associations

(a) A description of the program that will be implemented to ensure that urban runoff within common interest areas from private roads, drainage facilities, and other components of the storm water conveyance system including those managed by associations to meets the objectives of this Order.

c. Each Copermittee shall submit to the Principal Permittee each part of its individual Jurisdictional URMP document by the dates specified by the Principal Permittee.

d. In addition to submittal of the Jurisdictional URMP document, each Copermittee shall submit to the SDRWQCB its own adopted local SUSMP consistent with the approved submitted Model SUSMP, as described in section F.1.b.(2). of this Order. Each Copermittee's own local SUSMP, along with its amended ordinances, shall be submitted to the SDRWQCB within 180 days of the SDRWQCB's approval of the Model SUSMP submittal of the Model SUSMP to the SDRWQCB.

2. Unified – The Principal Permittee(s) shall submit the unified Jurisdictional URMP document to the SDRWQCB. The unified Jurisdictional URMP document shall be submitted in two parts (the collected Jurisdictional URMPs and the model SUSMP).

a. The unified Jurisdictional URMP document submittal shall address the requirements of the entire Jurisdictional URMP sections F.1 – F.8 F.1 – F.9. of this Order, with the exception of the local SUSMP requirements (which are to be implemented 180 days after approval of the model SUSMP by the SDRWQCB).

b. The unified Jurisdictional URMP document submittal shall contain a section covering common activities conducted collectively by the Copermittees including jointly developed reporting formats (section O.3), to be produced by the Principal Permittee(s), and the thirteen individual Jurisdictional URMP documents.

c. The Principal Permittee(s) shall be responsible for the development and production of a stand alone Model SUSMP document meeting the requirements of section F.1.b.(2) of this Order.

*d. The Principal Permittee(s) shall submit the unified Jurisdictional URMP document, including the Model SUSMP, to the SDRWQCB within **365 days of adoption** of this Order.*

3. Universal Reporting Requirements

All individual and unified Jurisdictional URMP document submittals shall include an executive summary, introduction, conclusion, recommendations, and signed certified statement. Each Copermittee shall submit its individual Jurisdictional Urban Runoff Management Program Document with a signed certified statement. The Principal Permittee(s) shall submit a signed certified statement referring to its individual Jurisdictional Urban Runoff Management Program Document, the section covering common activities conducted collectively by the Copermittees, and the Model SUSMP document meeting the requirements of section F.1.b.(2) of this Order as produced by the Principal Permittee(s).

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: California Water Code section 13267 provides that "the regional board may require than any person who has discharged […] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires."

Discussion: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv) require each Copermittee to develop and implement an urban runoff management program. The SDRWQCB must assess the urban runoff management program to ensure that it is adequate to prohibit non-storm water discharges and reduce pollutant discharges to and from the MS4 to the maximum extent practicable. In order for the SDRWQCB to assess the urban runoff management program, each Copermittee must submit to the SDRWQCB a description of their program. The description must detail all activities the Copermitee is undertaking to implement the requirements of each component of the Jurisdictional URMP section of Order No. 2001-193.

The submittal schedule of 180 and 365 days for Jurisdictional URMP documents is designed to provide each Copermittee some time to develop its Jurisdictional URMP. However, this time is limited since the Jurisdictional URMP requirements are based on NPDES regulations that have been in place for many years. The vast majority of the requirements in the Jurisdictional URMP should already be implemented by each Copermittee. Therefore, the provided submittal schedule should be more than adequate for each Copermittee to rework its Jurisdictional URMP to meet the Jurisdictional URMP requirements of Order No. 2001-193.

Compilation of the individual Jurisdictional URMP documents into a unified Jurisdictional URMP document by the Principal Permittee will ease the effort needed to assess and digest the information contained in the documents. The Principal Permittee's provision of a summary covering common activities conducted collectively by the Copermittees will provide a useful overview of urban runoff management efforts within the County of San Diego. This type of compilation of the Copermittees' documents has been recommended by the Copermittees in the past.

The SDRWQCB has discretion to require Submittal of Jurisdictional URMP Document item H. in Order No. 2001-193 under the broad and specific legal authority cited above.

I. SUBMITTAL OF JURISDICTIONAL URMP ANNUAL REPORT

I. Submittal of Jurisdictional URMP Annual Report states the following:

1. *Individual - Each individual Jurisdictional URMP Annual Report shall be a documentation of the activities conducted by each Copermittee during the past annual reporting period. Each Jurisdictional URMP Annual Report shall, at a minimum, contain the following*

   a. *Comprehensive description of all activities conducted by the Copermittee to meet all requirements of each component of the Jurisdictional URMP section of this Order;*

      F.1. Land-Use Planning for New Development and Redevelopment Component
      F.2. Construction Component
      F.3. Existing Development Component (Including Municipal, Industrial, Commercial, Residential, and Education)
      F.4. Education Component
      F.5. Illicit Discharge Detection and Elimination Component
      F.6 Common Interest Areas and Homeowners Associations
      F.7. Public Participation Component
      F.8. Assessment of Jurisdictional URMP Effectiveness Component
      F.9. Fiscal Analysis Component

   b. *Each Copermittee's accounting of all:*
      (1) Reports of illicit discharges (i.e., complaints) and how each was resolved (indicating referral source);
      (2) Inspections conducted;
      (3) Enforcement actions taken; and
      (4) Education efforts conducted.

   c. *Public participation mechanisms utilized during the Jurisdictional URMP implementation process;*

   d. *Proposed revisions to the Jurisdictional URMP;*

   e. *A summary of all urban runoff related data not included in the annual monitoring report (e.g., special investigations);*

   f. *Budget for upcoming year;*

   g. *Identification of management measures proven to be ineffective in reducing urban runoff pollutants and flow; and*

   h. *Identification of water quality improvements or degradation*

2. *Unified - The unified Jurisdictional URMP Annual Report shall contain a section covering common activities conducted collectively by the Copermittees, to be produced by the Principal Permittee(s), and the thirteen individual Jurisdictional URMP Annual Reports. Each Copermittee shall submit to the Principal Permittee(s) an individual Jurisdictional URMP Annual Report by the date specified by the Principal Permittee(s). The Principal Permittee(s) shall submit a unified Jurisdictional URMP Annual Report to the SDRWQCB by* ***January 31, 2003 and every January 31 thereafter.*** *The reporting period for these annual reports shall be the previous fiscal year. For example, the report submitted January 31, 2003 shall cover the reporting period July 1, 2001 to June 30, 2002.*

3. *Universal Reporting Requirements*

All individual and unified Jurisdictional URMP submittals shall include an executive summary, introduction, conclusion, recommendations, and signed certified statement. Each Copermittee shall submit its individual Jurisdictional Urban Runoff Management Program Annual Report with a signed certified statement. The Principal Permittee(s) shall submit a signed certified statement referring to its individual Jurisdictional Urban Runoff Management Program Annual Report and the section covering common activities conducted collectively by the Copermittees as produced by the Principal Permittee(s).

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.42(c) requires that "The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer system that has been designated by the director under § 122.26(a)(1)(v) of this part must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report shall include: (1) The status of implementing the components of the storm water management program that are established as permit conditions; (2) Proposed changes to the storm water management program that are established as permit condition. Such proposed changes shall be consistent with § 122.26(d)(2)(iii) of this part; (3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under § 122.26(d)(2)(iv) and (d)(2)(v) of this part; (4) A summary of data, including monitoring data, that is accumulated throughout the reporting year; (5) Annual expenditures and budget for year following each annual report; (6) A summary describing the number and nature of enforcement actions, inspections, and public education programs; (7) Identification of water quality improvements or degradation."

Discussion: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv) require each Copermittee to develop and implement an urban runoff management program. The SDRWQCB must assess the urban runoff management program to ensure that it is adequate to prohibit non-storm water discharges and reduce pollutant discharges to and from the MS4 to the maximum extent practicable. In order for the SDRWQCB to assess the urban runoff management program, each Copermittee must submit to the SDRWQCB an annual report describing all of the activities it undertook to meet the requirements of the Jurisdictional URMP section of Order No. 2001-193.

The Jurisdictional URMP Annual Reports can also be useful tools for the Copermittees. They provide a focus to review, update, or revise the URMPs on an annual basis. Successful and unsuccessful measures can be identified, helping to focus efforts on areas or issues that provide the greatest results. Areas or issues that have received insufficient efforts can also be identified and improved.

The SDRWQCB has the discretion to require Submittal of Jurisdictional URMP Annual Report item I. in Order No. 2001-193 under the broad and specific legal authority cited above.

J. WATERSHED URBAN RUNOFF MANAGEMENT PROGRAM

J.1. Watershed Urban Runoff Management Program states the following:

> *Each Copermittee shall collaborate with other Copermittees to review and revise as necessary the proposed Drainage Area Management Plan submitted in September 2000 to identify, address, and mitigate the highest priority water quality issues/pollutants in the six (Table 4) watersheds in the San Juan Creek Watershed Management Area.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Discussion: Urban runoff does not follow municipality boundaries, and often travels through many municipalities while flowing towards receiving waters. The actions of various municipalities within a watershed regarding urban runoff can therefore have a cumulative impact upon shared receiving waters. Due to the interrelated nature of urban runoff management, Copermittee collaboration is necessary to minimize shared receiving water quality degradation (see Finding 31). Copermittee collaboration of this type focuses water quality protection on watersheds, which is effective because it "more clearly identif[ies] critical areas and practices which need to be targeted for pollution prevention and corrective actions" (SDRWQCB, 1994). The highest priority water quality issues/pollutants in each watershed can be identified and addressed, providing the greatest water quality improvements for the amount of effort. The SWRCB Urban Runoff Technical Advisory Committee recommends Copermittee collaboration for watershed based water quality protection, stating "Municipal permits should have watershed specific components." Rather than duplicating requirements implemented at a Jurisdictional level, the watershed-level requirements of this section build upon and enhance the Jurisdictional programs and focus on water issues specific to each hydrologic unit of the San Juan Creek Watershed Management Area within Orange County.

The SDRWQCB has discretion to require Watershed Urban Runoff Management Program item J.1. in Order No. 2001-193 under the broad legal authority cited above.

J.2. Watershed Urban Runoff Management Program states the following:

> *Each Copermittee shall collaborate with all other Copermittees discharging urban runoff into the same watershed to develop and implement a Watershed Urban Runoff Management Program (Watershed URMP) for the six watersheds in the San Juan Creek Watershed Management Area. The Watershed URMP shall, at a minimum contain the following:*
>
> a. *An accurate map of the watersheds of the San Juan Creek Watershed Management Area in Orange County (preferably in Geographical Information System [GIS] format) that identifies all receiving waters (including the Pacific Ocean); all Clean Water Act section 303(d) impaired receiving waters (including the Pacific Ocean); existing and planned land uses; MS4s, major highways; jurisdictional boundaries; and inventoried commercial, construction, industrial, municipal sites, and residential areas.*

b. *An assessment of the water quality of all receiving waters in the watershed-based watershed based upon (1) existing water quality data; and (2) annual dry weather monitoring that satisfies requirements of section F.5 and Attachment E of this Order; and (3) watershed receiving water quality monitoring that satisfies the watershed monitoring requirements of Attachment B;*

c. *An identification and prioritization of major water quality problems in the watershed caused or contributed to by MS4 discharges and the likely source(s) of the problem(s);*

d. *An implementation time schedule of short and long-term recommended activities (individual and collective) needed to address the highest priority water quality problem(s) identified in section J.2.c of this Order. For this section, "short-term activities" shall mean those activities that are to be completed during the life of this Order and "long-term activities" shall mean those activities that are to be completed beyond the life of this Order;*

e. *A mechanism for public participation throughout the entire watershed URMP process;*

f. *A watershed-based education program that builds on and expands upon the education activities conducted by each Copermittee in a given watershed and that can focus on water quality issues specific to that watershed;*

g. *A mechanism to facilitate collaborative "watershed-based" (i.e., natural resource-based) land use planning with neighboring local governments in the watershed.*

h. *Short-term strategy for assessing the effectiveness of the activities and programs implemented under the Watershed URMP. The short term assessment strategy shall identify methods to assess the Watershed URMP effectiveness and include specific direct and indirect performance measurements that will track the immediate progress and accomplishments of the Watershed URMP towards improving receiving water quality impacted by urban runoff discharges. The short-term strategy shall also discuss the role of monitoring data collected by the Copermittees in substantiating or refining the assessment.*

i. *Long-term strategy for assessing the effectiveness of the Watershed URMP. The long-term assessment strategy shall identify specific direct and indirect performance measurements that will track the long-term progress of Watershed URMP towards achieving improvements in receiving water quality impacted by urban runoff discharges. Methods used for assessing effectiveness shall include the following or their equivalent: surveys, pollutant loading estimations, and receiving water quality monitoring. The long-term strategy shall also discuss the role of monitoring data in substantiating or refining the assessment.*

Table 4. Orange County Copermittees by Watershed for the San Juan Creek Watershed Management Area

Watershed	***Major Receiving Water Bodies***	***Copermittees Receiving Water Bodies***
Orange County Coastal Streams - Laguna	*Moro Canyon Creek* *Emerald Canyon Creek* *Laguna Canyon Creek* *Blue Bird Canyon Creek* *Rim Rock Canyon Creek* *Hobo Canyon Creek*	*County of Orange* *Laguna Beach* *Laguna Woods* *Orange County Flood Control District* *Aliso Viejo*
Aliso Creek	*Aliso Creek* *English Canyon Creek* *Sulphur Canyon Creek* *Wood Canyon Creek*	*Aliso Viejo (inc. July 2001)* *Laguna Beach* *Laguna Hills* *Laguna Niguel* *Laguna Woods* *Lake Forest* *Mission Viejo* *County of Orange*

		Orange County Flood Control District
Dana Point *Coastal Streams*	*Salt Creek* *Arroyo Salada Creek* *San Juan Canyon Creek* *Arroyo Salada Creek*	*Dana Point* *Laguna Niguel* *Orange County Flood Control District*
San Juan Creek	*San Juan Creek* *Trampas Canyon Creek* *Canada Gobernadora* *Canada Chiquita* *Horno Creek* *Arroyo Trabuco Creek* *Tijeras Canyon Creek* *Live Oak Canyon Creek* *Oso Creek* *La Paz Creek* *Live Oak Canyon Creek* *Tijeras Canyon Creek* *Lucas Canyon Creek* *Verdugo Canyon Creek* *Bell Canyon Creek* *Dove Canyon Creek* *Crow Canyon Creek*	*San Juan Capistrano* *Mission Viejo* *Laguna Hills* *Laguna Niguel* *Dana Point* *Rancho Santa Margarita* *County of Orange* *Orange County Flood Control District* *San Clemente*
Orange County Coastal Streams - San Clemente	*Prima Deshecha Canada* *Segunda Deshecha Canada*	*San Clemente* *San Juan Capistrano* *County of Orange* *Orange County Flood Control District* *Dana Point*
San Mateo Creek	*Christianitos Creek* *Gambino Canyon Creek* *La Paz Canyon Creek* *Talega Canyon Creek*	*San Clemente* *Orange County*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Discussion: Management of urban runoff on a watershed basis is recommended by the SWRCB and the SDRWQCB. The SWRCB Urban Runoff Technical Advisory Committee (TAC) defines watershed based water quality protection as "the prevention/control of pollution and management of human activities in a geographically or other defined drainage area to protect, restore, and/or enhance the natural resources and beneficial uses within the watershed." The TAC recommends that "All NPDES permits and Waste Discharge Requirements should be considered for reissuance on a watershed basis." The SDRWQCB also recommends watershed based water quality protection, stating in its Basin Plan that "public agencies and private organizations concerned with water resources have come to recognize that a comprehensive evaluation of pollutant contributions on a watershed scale is the only way to realistically assess cumulative impacts and formulate workable strategies to truly protect our water resources. Both water pollution and habitat degradation problems can best be solved by following a basin-wide approach." Moreover, under the First and Second Term Permits, the Orange County Copermittees implemented a Drainage Area Management Plan

that embodied watershed concepts. However, in actual practice, most of the significant elements of the DAMP were implemented on a countywide basis rather than an actual watershed basis. The SDRWQCB has therefore required development of a Watershed URMP specific to the six hydrologic units of the San Juan Creek Watershed Management Area within Orange County by the Orange County Copermittees.

Development and implementation of the Watershed URMP will provide for more effective and focused receiving water quality protection. The Watershed URMP will provide for threatened or impaired receiving waters, including their pollutants or concern, to be identified. The entire watershed for the receiving water can then be assessed, allowing for critical areas and practices to be targeted for corrective actions. Known sources of pollutants of concern can be investigated for potential water quality impacts. Problem areas can then be addressed, leading to eventual improvements in receiving water quality. Management of urban runoff on a watershed basis allows for specific water quality problems to be targeted so that efforts result in maximized water quality improvements.

Regarding watershed-based land-use planning, see the discussion of Finding 30. For a more detailed discussion of the municipal storm water permitting and SDRWQCB watershed management approach, see the discussion in Attachment 4 and the Watershed Management Approach Chapter for the San Diego Region.

The SDRWQCB has discretion to require Watershed Urban Runoff Management Program item J.2. in Order No. 2001-193 under the broad legal authority cited above.

K. IMPLEMENTATION OF WATERSHED URMP

K. Implementation of Watershed URMP states the following:

Each Copermittee shall implement of all requirements of the Watershed URMP section of this Order by April 13, 2003 May 16, 2003. unless otherwise specified. Following the adoption of the Order and prior to the full implementation of the Watershed URMP, the Copermittees shall at a minimum collectively implement the provisions and commitments of the proposed DAMP submitted in September 2000.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Discussion: As discussed above in section J.2 and Attachment 4, the SDRWQCB finds watershed based urban runoff management to be an effective means for managing urban runoff. Watershed based urban runoff management focuses on the most pressing water quality concerns, so that management efforts result in the greatest water quality improvements. The SDWQCB is seeking to expand practical watershed based urban runoff management, including the potential for reissuance of municipal storm water permits on a watershed basis. In order to work towards this goal, the SDRWQCB is requiring implementation of a Watershed

URMP by the Copermittees. The SWRCB Urban Runoff Technical Advisory Committee supports watershed management of urban runoff, stating "Municipal permits should have watershed specific components" and "All NPDES permits and Waste Discharge Requirements should be considered for reissuance on a watershed basis." The SDRWQCB foresees the shift to extensive watershed management of urban runoff to be gradual; it is therefore providing the Copermittees with several years before Watershed URMP implementation is required.

The SDRWQCB has discretion to require Watershed Urban Runoff Management Program item K. in Order No. 2001-193 under the broad legal authority cited above.

L. SUBMITTAL OF WATERSHED URMP DOCUMENT

L. Submittal of Watershed URMP Document states the following:

The written account of the overall watershed program to be conducted by each Copermittee during the remaining life of this Order is referred to as the "Watershed URMP Document". The Watershed URMP is conducted concurrently with the Jurisdictional URMP.[104]

1. *The Watershed URMP document shall state how the member Copermittees within each watershed will develop and implement the requirements of the Watershed URMP section J. of this Order. The Watershed URMP document shall include:*

   (1) *A completed watershed map*
   (2) *A water quality assessment of the San Juan Creek Watershed Management Area within Orange County and watershed monitoring needed*
   (3) *Prioritization of water quality problems within Orange County in the San Diego Region*
   (4) *Recommended activities (short and long term) to be conducted jointly by the Copermittees and a timeline for implementation*
   (5) *Individual Copermittee implementation responsibilities and time schedules for implementation*
   (6) *A description of watershed public participation mechanisms*
   (7) *A description of watershed education mechanisms*
   (8) *A description of the mechanism and implementation schedule for watershed-based land use planning*
   (9) *A strategy for assessing the short-term effectiveness of the Watershed URMP*
   (10) *A strategy for assessing the long-term effectiveness of the Watershed URMP*
   (11) *A program to address common interest areas and homeowners associations*

2. *The Principal Permittee(s) shall submit the Watershed URMP document to the SDRWQCB by ~~April 13, 2003.~~May 16, 2003.*

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[104] As the Copermittees jointly revise and implement the submitted proposed DAMP and each Copermittee revises and implements its jurisdictional level program to satisfy the requirements of this Order, it is expected that many activities will be conducted on both a jurisdictional level (e.g., enforcement of local ordinances and permits) and a watershed level. Implementation of the Watershed URMP is not meant to replace, but to expand and complement implementation of the Jurisdictional URMP. For this reason, it is necessary to report management activities on both levels. This can be accomplished either by submitting both a Jurisdictional URMP Annual Report and a Watershed URMP Annual Report or by submitting a single Watershed URMP Annual Report that contains two separate sections (i.e., watershed activities and jurisdictional activities). Information need only be reported once (to the extent something is covered in the Watershed URMP Annual Report, it need not be covered again the Jurisdictional URMP Annual Report).

3. *Universal Reporting Requirements.*

All Watershed URMP submittals shall include an executive summary, introduction, conclusion, recommendations, and signed certified statement. Each Copermittee shall submit a signed certified statement covering its responsibilities in the Watershed URMP Document. The Principal Permittee(s) shall submit a signed certified statement referring to its responsibilities in the Watershed URMP Document and the section covering common activities conducted collectively by the Copermittees as produced by the Principal Permittee(s).

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: California Water Code section 13267 provides that "the regional board may require than any person who has discharged […] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires."

Discussion: Order No. 200-128 requires each Copermittee to participate in the development and implementation of the Watershed URMP under Federal NPDES regulation 40 CFR 122.26(d)(2)(iv). The SDRWQCB must assess the Watershed URMP to ensure that it is adequate to assess and address the specific water quality problems within the six hydrologic units in the San Juan Creek Watershed Management Area within Orange County. In order for the SDRWQCB to assess the Watershed URMP, a detailed description of the Watershed URMP must be submitted to the SDRWQCB. The descriptions must detail all activities the applicable Copermittees have undertaken under the 1993 DAMP, the commitments of the proposed DAMP, and the new activities they are undertaking to implement the requirements of Watershed URMP section of Order No. 2001-193.

The submittal schedule for Watershed URMP Document is designed to provide the Copermittees with adequate time to review and revise the proposed DAMP and develop, submit and implement the Watershed URMP. Based on their previous experience working at a watershed level under the First and Second Term Permits (i.e. the 1993 DAMP), the submittal schedule should be more than adequate for the Copermittees to collaborate for the development and implementation of the Watershed URMP.

The requirement for the Principal Permittee to provide a summary covering common activities conducted collectively by the Copermittees will provide a useful overview of watershed efforts within the San Juan Creek Watershed Management Area with Orange County. This type of compilation and submittal of the Copermittees' documents has been recommended by the Copermittees in the past.

The SDRWQCB has discretion to require Submittal of Watershed URMP Document item L. in Order No. 2001-193 under the broad and specific legal authority cited above.

M. SUBMITTAL OF WATERSHED URMP ANNUAL REPORT

M. Submittal of Watershed URMP Annual Report states the following:

1. *Each Watershed URMP Annual Report shall be a documentation of the activities conducted by watershed member Copermittees during the previous annual reporting period to meet the requirements of all components of the Watershed URMP section of this Order. Each Watershed URMP Annual Report shall, at a minimum, contain the following:*

   a. *Comprehensive description of all activities conducted by the watershed member Copermittees to meet all requirements of each component of Watershed URMP section J. of this Order*
   b. *A section covering common activities conducted collectively by the Copermittees, to be produced by the Principal Permittee(s)*
   c. *Public participation mechanisms utilized during the Watershed URMP implementation process;*
   d. *Mechanism for watershed-based land use planning;*
   e. *Assessment of effectiveness of Watershed URMP;*
   f. *Proposed revisions to the Watershed URMP;*
   g. *A summary of watershed effort related data not included in the annual monitoring report (e.g., special investigations); and*
   h. *Identification of water quality improvements or degradation.*

2. *The Principal Permittee(s) shall submit the Watershed URMP Annual Report to the SDRWQCB by January 31, 2004 and every January 31 thereafter. The reporting period for these annual reports shall be the previous fiscal year. For example, the report submitted January 31, 2004 shall cover the reporting period July 1, 2002 to June 30, 2003.*

3. *Universal Reporting Requirements*

   All Watershed URMP submittals shall include an executive summary, introduction, conclusion, recommendations, and signed certified statement. Each Copermittee shall submit a signed certified statement covering its responsibilities in the Watershed URMP Annual Report. The Principal Permittee(s) shall submit a signed certified statement referring to its responsibilities in the Watershed URMP Annual Report and the section covering common activities conducted collectively by the Copermittees as produced by the Principal Permittee(s).

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: California Water Code section 13267 provides that "the regional board may require than any person who has discharged […] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires."

Federal NPDES regulation 40 CFR 122.42(c) requires that "The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer system that has been designated by the director under § 122.26(a)(1)(v) of this part must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report shall include: (1) The status of implementing the components of the storm water management program that are established as permit conditions; (2) Proposed changes to the storm water management program that are established as permit condition. Such proposed

changes shall be consistent with § 122.26(d)(2)(iii) of this part; (3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under § 122.26(d)(2)(iv) and (d)(2)(v) of this part; (4) A summary of data, including monitoring data, that is accumulated throughout the reporting year; (5) Annual expenditures and budget for year following each annual report; (6) A summary describing the number and nature of enforcement actions, inspections, and public education programs; (7) Identification of water quality improvements or degradation."

Discussion: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv) require the Copermittees to develop and implement urban runoff management programs, of which the Watershed URMP is a part. The SDRWQCB must assess the Watershed URMP to ensure that is adequate to assess and address the specific water quality problems within the six hydrologic units of the San Juan Creek Watershed Management Area within Orange County. In order for the SDRWQCB to assess the Watershed URMP, the Copermittees must submit to the SDRWQCB annual reports describing all of the activities undertaken to meet the requirements of the Watershed URMP section of Order No. 2001-193.

The Watershed URMP Annual Reports can also be useful tools for the Copermittees. They provide a focus to review, update, or revise the URMPs on an annual basis. Successful and unsuccessful measures can be identified, helping to focus efforts on areas or issues that provide the greatest results. Areas or issues that have received insufficient efforts can also be identified and improved.

The SDRWQCB has the discretion to require Submittal of Watershed URMP Annual Report item M. in Order No. 2001-193 under the broad and specific legal authority cited above.

N. PROGRAM MANAGEMENT

N. Program Management states the following:

The Copermittees shall implement the Program Management activities and commitments as described in section 2 (Program Management) of the proposed DAMP.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(D) provides that "[The Copermittee must demonstrate that it can control] through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system."

Discussion: Storm water runoff does not follow municipality boundaries, and often travels through many municipalities while flowing towards receiving waters. Municipalities' actions towards storm water can therefore have a cumulative

impact upon shared receiving waters. Due to the interrelated nature of storm water management, Copermittee collaboration is necessary.

Copermittee collaboration results in more effective storm water management, while also aiding the process of complying with permit requirements. For example, formal agreements between Copermittees can help define Copermittee roles and ensure that all permit requirements are addressed. Agreements can also be made to share the costs necessary to maintain compliance with the permit. In addition, designation of a Principal Permittee, through which reporting tasks can be coordinated, provides for standardization and compilation of required reports, thereby easing reporting efforts. This in turn improves digestion and assessment of report information, making the reports more useful to the Copermittees, which in turn can result in more effective urban runoff management.

The US EPA recommends Copermittee collaboration when it suggests ”Coapplicants […] may use interjurisdictional agreements to show adequate legal authority and to ensure planning, coordination, and the sharing of the resource burden of permit compliance. When more than one entity is submitting an application for a MS4 (either as coapplicants or as individual applicants for different parts of a system), the role of each party must be well defined. Each applicant or coapplicant must show the ability to fulfill its responsibilities, including legal authority for the separate storm sewers it owns or operates” (1992).

In recognition of these factors, the Copermittees included a Program Management structure and commitments in their proposed DAMP. This section requires the Copermittees, at a minimum, to implement those activities and commitments in developing and implementing the various components of their Jurisdictional and Watershed Urban Runoff Management Programs.

The SDRWQCB has discretion to require the Program Management section N. in Order 2001-193 under the broad and specific legal authority cited above.

O. PRINCIPAL PERMITTEE RESPONSIBILITIES

O. Principal Permittee Responsibilities states the following:

Within 90 days of adoption of this Order, the Copermittees shall designate the Principal Permittee(s) and notify the SDRWQCB of the name(s) of the Principal Permittee(s). The Principal Permittee(s) may require the Copermittees to reimburse the Principal Permittee(s) for reasonable costs incurred while performing coordination responsibilities and other related tasks. The Principal Permittee(s) shall, at a minimum:

1. *Be responsible for implementing or coordinating the implementation of the Program Management activities and commitments described in section 2 (Program Management) of the proposed DAMP.*

2. *Serve as liaison(s) between the Copermittees and the SDRWQCB on general permit issues.*

3. *Coordinate permit activities among the Copermittees and facilitate collaboration on the development and implementation of programs required under this Order;*

4. *Coordinate the joint development by all of the Copermittees of standardized format(s) for all reports required under this Order (e.g., annual reports, monitoring reports, fiscal analysis reports, and program effectiveness reports, etc.). The standardized reporting format(s) shall be used by all Copermittees and shall include protocols for electronic reporting. The Principal Permittee(s) shall submit the standardized format(s) to the SDRWQCB as part of the unified Jurisdictional URMP document no later than **365 days after adoption** of this Order.*

5. *Integrate individual Copermittee documents and reports required under this Order into single unified documents and reports for submittal to the SDRWQCB as described below. If a reporting date falls on a non-working day or State holiday, then the report is to be submitted on the following working day.*

   a. *Unified Jurisdictional URMP Document – The Principal Permittee(s) shall submit the unified Jurisdictional URMP document in its entirety (including the model SUSMP) to the SDRWQCB within 365 days of the adoption of this Order.*

      The Principal Permittee(s) shall be responsible for producing the sections of the unified Jurisdictional URMP document submittals covering common activities conducted by the Copermittees. The Principal Permittee(s) shall be responsible for the development and production of a stand alone Model SUSMP document meeting the requirements of section F.1.b.(2). of this Order. The Principal Permittee(s) shall also be responsible for collecting and assembling the individual Jurisdictional URMP document submittals covering the activities conducted by each individual Copermittee.

   b. *Unified Jurisdictional URMP Annual Reports – The Principal Permittee(s) shall submit unified Jurisdictional URMP Annual Reports to the SDRWQCB by January 31 of each year, beginning on **January 31, 2003**. The reporting period for these annual reports shall be the previous fiscal year. For example, the report submitted January 31, 2003 shall cover the reporting period July 1, 2001 to June 30, 2002.*

      The Principal Permittee(s) shall be responsible for producing the section of the unified Jurisdictional URMP Annual Reports covering common activities conducted by the Copermittees. The Principal Permittee(s) shall also be responsible for collecting and assembling the individual Jurisdictional URMP Annual Reports covering the activities conducted by each individual Copermittee.

   c. *Watershed URMP Document – The Principal Permittee(s) shall prepare and submit the Watershed URMP document to the SDRWQCB by ~~**April 13**~~ **May 16, 2003**.*

   d. *Watershed URMP Annual Report - The Principal Permittee(s) shall prepare and submit the Watershed URMP Annual Reports to the SDRWQCB by January 31 of each year, beginning on **January 31, 2004**. The reporting period for these annual reports shall be the previous fiscal year. For example, the report submitted January 3, 2004 shall cover the reporting period July 1, 2002 to June 30, 2003.*

   e. *Receiving Waters Monitoring and Reporting Program - The Principal Permittee(s) shall be responsible for the production and submittal of the Previous Monitoring and Future Recommendations Report. The report shall be submitted to the SDRWQCB within 180 days of adoption of this Order.*

   f. *Receiving Waters Monitoring and Reporting Program - The Principal Permittee(s) shall be responsible for the development and production of the Receiving Waters Monitoring Program as it is outlined in Attachment B. The Principal Permittee(s) shall submit the Receiving Waters Monitoring Program to the SDRWQCB within 180 days of adoption of this Order.*

g. Receiving Waters Monitoring and Reporting Program – The Principal Permittee(s) shall be responsible for coordinating the joint development by all of the Copermittees of monitoring reporting formats (Section O.3) and for implementing the Receiving Waters Monitoring Program as outlined in Attachment B by June 1, 2002.

h. Receiving Waters Monitoring and Reporting Program - The Principal Permittee(s) shall submit the Receiving Waters Monitoring Annual Report to the SDRWQCB on January 31 of each year, beginning on January 31, 2003.

i. Formal Agreements/Standardized Formats - The Principal Permittee(s) shall submit to the SDRWQCB, within 365 days of adoption of this Order, a formal agreement between the Copermittees which provides a management structure for meeting the requirements of this Order (as described in section N.1.a.). The Principal Permittee(s) shall submit to the SDRWQCB, within 365 days of adoption of this Order, standardized formats for all reports and documents required under this Order.

j. Dry Weather Monitoring - The Principal Permittee(s) shall collectively submit the Copermittees' dry weather monitoring maps and procedures to the SDRWQCB within 365 days of adoption of this Order.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(a)(3)(iii)(C) provides that "A regional authority may be responsible for submitting a permit application."

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(D) provides that "[The Copermittee must demonstrate that it can control] through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system."

Discussion: Intergovernmental coordination is necessary in urban runoff management, given the transitory nature of urban runoff problems. A Principal Permittee will facilitate intergovernmental coordination, which will improve the development, implementation, and effectiveness of urban runoff management efforts within the region. One way in which a Principal Permittee will improve urban runoff management efforts is through the coordination of reporting tasks. This provides for the standardization and compilation of required reports, which in turn increases the ease with which report information can be digested and assessed. Standardized documents provide for easier assessment and application of report data, making reports more useful for Copermittees, which can result in more effective storm water management. In section 2.2.3 of the proposed DAMP, the role of the Principal Permittee is further described to include providing program management, budgeting, developing public education materials, and conducting water quality monitoring.

The SDRWQCB has discretion to require Principal Permittee Responsibilities item O. in Order No. 2001-193 under the broad and specific legal authority cited above.

P. RECEIVING WATERS MONITORING AND REPORTING PROGRAM

P. Receiving Waters Monitoring and Reporting Program states the following:

1. *Pursuant to California Water Code section 13267, each Copermittee shall comply with the Receiving Waters Monitoring and Reporting Program for Order No. 2001-193 contained in **Attachment B** of this Order.*

2. *Each Copermittee shall also comply with standard provisions, reporting requirements, and notifications contained in **Attachment C** of this Order.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Copermittees must conduct a comprehensive monitoring program as required under Federal NPDES regulations 40 CFR 122.26(d)(2)(iii). Standard provisions, reporting requirements, and notifications included in Attachment C are consistent to all NPDES permits and are generally found in Federal NPDES regulation 40 CFR 122.41 (Federal NPDES regulation citations are provided in the Attachment).

Discussion: A comprehensive monitoring program is an important aspect of an urban runoff management program. The primary objectives of the monitoring program include:

1) Assessing compliance with Order No. 2001-193;
2) Measuring the effectiveness of Urban Runoff Management Plans;
3) Assessing the chemical, physical, and biological impacts to receiving waters resulting from urban runoff; and
4) Assessing the overall health and evaluating long-term trends in receiving water quality.

Receiving waters monitoring programs are important and powerful regulatory and management tools. Using data collected from a monitoring program, urban runoff management efforts can be prioritized, helping limited resources be most effective in improving receiving water quality. For example, a monitoring program can provide data that can allow for specific receiving waters and watersheds to be targeted for urban runoff management efforts based on their need. Particular pollutants, contaminants, stressors, and their respective sources can also be identified and targeted using monitoring data. In addition, monitoring data can be useful in assessing the effectiveness of an urban runoff management program. Successful efforts that have resulted in receiving water quality improvements can be analyzed for application elsewhere, while areas that need greater efforts can also be identified. In general, a comprehensive monitoring program can supply a wealth of data that can be used in a wide range of applications for improving water quality. In recognition of these facts, the Orange County Copermittees initiated the Orange County Water Quality Monitoring Program (99-04 Plan) in 1999 to

assess the impact of urban runoff on receiving waters as well as to evaluate the methodologies underlying those assessments.

The Copermittees are directed to collaborate and prepare a technical report that summarizes and analyzes the water quality data collected under the previous Orders including the 99-04 Plan. This requirement is necessary to place the current monitoring program being implemented in the Orange County portion of the San Juan Creek Watershed Management Area into perspective. The 99-04 Plan was developed to assess urban runoff in Orange County as a whole, but a strong emphasis was placed on the northern parts of the County outside of the San Diego Region covered under this Order. Moreover, it is necessary to review and revise the 99-04 Plan and other monitoring efforts to include specific monitoring requirements of Attachment B. This technical report will provide the Copermittees as well as the public with an important summary and analysis of the monitoring data collected and a framework within which to develop a Receiving Waters Monitoring Program to be implemented under this Order.

The monitoring and reporting requirements in Attachment B and C of this Order address the need for a comprehensive, flexible, iterative monitoring approach that is focused on compliance issues relevant to the different conditions existing in Orange County within the San Diego Region. A number of monitoring tools and approaches are available to achieve the objectives of this compliance oriented monitoring program.

Order No. 2001-193 may be modified for a specified period of time to direct the Copermittees to participate in comprehensive regional monitoring activities conducted in the Southern California Bight during the term of the permit. This provision is consistent with other NPDES permits issued by the SDRWCB. Such participation maximizes scientific and financial resources using a wide ranging and cost-effective monitoring design to assess the chemical, physical and biological impacts of urban runoff on receiving waters throughout the Southern California Bight.

The following is a discussion of each of the principal aspects of the proposed monitoring program required in Attachment B of Tentative order No. 2001-193:

Within 180 days of the adoption of this Order the Copermittees shall submit to the SDRWQCB a Receiving Waters Monitoring Program Document, subject to SDRWQCB review, that incorporates the following components:

I. Previous Monitoring and Future Recommendations (Technical) Report; and
II. Receiving Waters Monitoring Program

I. Previous Monitoring and Future Recommendations (Technical) Report

The Orange County Copermittees have conducted dry and wet weather monitoring since 1990. Prior to the adoption of Order No. 90-38, Orange County routinely collected data from drainage facilities tributary to receiving waters. In addition,

numerous other studies have been conducted in the Southern California Bight that bear on the issue of impacts to receiving waters resulting from municipal urban runoff discharges. Although significant historic data exists in Orange County to characterize discharges of urban runoff, Orange County has also changed significantly in the last ten years. Because land use has changed and continues to change dramatically in Orange County, historic trends and characterizations identified during the previous monitoring efforts may have also changed. To adequately assess compliance with this Order, assess the chemical, physical, and biological impacts of urban runoff discharges on receiving waters, and better characterize historic trends, the data collected and the methods utilized in the previous monitoring programs must be re-evaluated in the San Diego Region with respect to urban runoff and receiving waters in Orange County.

As identified in the 99-04 Plan, the Receiving Waters Monitoring Program implemented by the Orange County Copermittees should be based on a sound understanding of urban runoff issues and the results of previous monitoring efforts to avoid duplicative or unproductive monitoring and to ensure that the data collected is the most scientifically valid and useful as practicable. This requirement will help establish that the Receiving Waters Monitoring Program to be implemented in Orange County within the San Diego Region will achieve those goals.

II. Receiving Waters Monitoring Program

As described above, the objectives of this program are assessment of compliance and assessment of the physical, chemical, and biological impacts of the discharge of urban runoff on receiving waters. This section requires the Copermittees to utilize the findings of the Previous Monitoring and Future Recommendations Report and the most recent 99-04 Plan monitoring results to collaborate, develop, conduct, and report on a year round Receiving Waters Monitoring Program.

The Receiving Waters Monitoring Program, at a minimum shall include, but is not limited to the following components:

A. Urban Stream Bioassessment Monitoring.

Bioassessment is the direct measurement of the biological and physical condition of receiving waters, such as rivers and streams, using benthic macroinvertebrates. It is a direct measurement of the attainment or maintenance of the beneficial uses[105] of a water body. This methodology utilizes in-situ biological endpoints as an integrative measure of receiving water integrity. Bioassessment monitoring integrates the effects of both water chemistry impacts and the physical habitat impacts (e.g. sedimentation or erosion) of various discharges on the biological community native to the receiving waters. Moreover, bioassessment is a direct measurement of the impact of cumulative, sub-lethal doses of

[105] Specifically COLD or WARM, and to a lesser extent WILD or RARE beneficial uses.

pollutants or contaminants that may be below reasonable water chemistry detection limits, but that are not without biological affect.

Because bioassessment focuses on communities of living organisms as integrators of cumulative impacts resulting from water quality or habitat degradation, it defines the ecological risks resulting from urban runoff that are as important to human health and well-being as the more obvious threats of toxic pollution or pathogens. Bioassessment not only identifies that an impact has occurred, but also measures the affect of the impact and tracks recovery when control or restoration measures have been taken. These features make bioassessment a powerful tool to assess compliance, evaluate the effectiveness of BMPs (e.g. artificial wetlands), and to track both short term and long term trends.

B. Long Term Mass Loading

For purposes of evaluating long-term trends and assessing the effectiveness of urban runoff management programs, the Copermittees shall continue to implement the long term mass loading sampling and analysis initiated under the Orange County Water Quality Monitoring Program (99-04 Plan) in Orange County in the San Diego Region. The 99-04 Plan shall be revised as necessary to ensure more complete coverage of the six hydrologic units in the Orange County portion of the San Juan Creek Watershed Management area of the San Diego Region. The program shall also be revised to specify that when findings or observations indicate the possible presence of toxicity, a Toxicity Identification Evaluation (TIE) shall be conducted to determine the cause(s) of the toxicity.

Wet weather monitoring by the Copermittees has focused on estimations of pollutant loadings in storm water runoff. Although this approach has drawbacks, it continues to represent the best long-term trend assessment of pollutant discharges to receiving waters from municipal storm water sewer systems.

C. Coastal Storm Drain Outfall Monitoring.

One of the primary impacts to coastal receiving waters is the loss of recreational beneficial uses resulting from urban runoff. This component of the monitoring program is meant to be integrated and coordinated with similar monitoring programs to address this issue. The Copermittees are provided with a significant degree of discretion in designing and implementing the Coastal Storm Drain Outfall Monitoring and are encouraged to collaborate with other agencies. The determination of the location of the sampling stations, frequency of sampling, and the criteria by which these factors are defined are left to the Copermittees and their collaborators in order to provide them with the flexibility to design the most scientifically applicable program. The program must, however, monitor the principle indicators (Total and Fecal Coliform Bacteria and Enterococcus Bacteria) used in assessing the public health impacts of urban runoff on

coastal receiving waters. It necessary to implement this program year-round in order to address the different seasonal recreational uses and potential public health impacts of urban runoff discharges. The Copermittees may also include any other pathogens or indicators that they conclude are useful to assess the recreational and public health impacts of urban runoff on coastal receiving waters.

D. Ambient Coastal Receiving Water Monitoring
This monitoring program component addresses the overall health of the receiving waters and assesses the impact on these water bodies from urban runoff. The Copermittees will develop a program for the coastal receiving waters that integrates measures of the physical, chemical, and biological conditions of the coastal waters as a function of urban runoff. Monitoring that is currently being performed under the 99-04 Plan may continue to be implemented under the Receiving Waters Monitoring Program, but the scope of the program will be significantly increased to include coverage of the entire coastline of the Orange County portion of the San Juan Creek Watershed Management area. The Ambient Coastal Receiving Waters Monitoring program may be required to include parameters and methods not presently part of the 99-04 Plan. The Copermittees have a wide degree of discretion in designing the Ambient Coastal Receiving Waters Monitoring component and are encouraged to collaborate with other agencies or organizations conducting similar monitoring.

Significant changes in the format and detail of the Receiving Waters Monitoring Program will be required to make the reports specific to the San Diego Region of Orange County and more readily useable by members of the public not familiar with the history and the specific details of water quality monitoring in Orange County. The monitoring reports shall provide the data and results, the methods of evaluating the data, graphical summaries of the data and an explanation and discussion of the data for each monitoring component listed above. The report will also provide an analysis of each component, prioritize water quality problems, identify the sources of the problems, and recommend future monitoring and BMP implementation measures. The Copermittees will be expected to make both long term and short term use of this data to refine and improve their Jurisdictional and Watershed Urban Runoff Management Programs. To this extent, the analysis shall also include an evaluation of the effectiveness of existing control measures with respect to water quality problems identified in the course of the review of previous monitoring methods and results as well as data collected under this Order. The Copermittees will also be required to clearly identify exceedances of receiving water quality objectives, provide ongoing analysis of short term and long term trends in urban runoff and receiving water quality, provide a three person committee review of the reports prior to submitting them to the SDRWQCB, and provide comprehensive interpretations and conclusions. These provisions are necessary to provide contextually and scientifically useful data regarding the impact of urban runoff discharges on the receiving waters of Orange County

within the San Juan Creek Watershed Management Area of the Diego Region.

The SDRWQCB has discretion to require Receiving Waters Monitoring and Reporting Program item P. in Order No. 2001-193 under the broad and specific legal authority cited above.

Q. TASKS AND SUBMITTAL SUMMARY

Q. Tasks and Submittal Summary states the following:

The tasks and submittals required under this Order are summarized in Tables 5 and 6 below:

Table 5. Task Summary

Task No.	Task	Permit Section	Completion Date	Frequency
1	Identify discharges not to be prohibited and BMPs required for treatment of discharges not prohibited	B.3.	365 days after adoption of Order	One Time
2	Examine field screening results to identify water quality problems resulting from non-prohibited non-storm water discharges, including follow-up of problems	B.5	January 31, 2003	Annually
3	Notify SDRWQCB of discharges causing or contributing to an exceedance of water quality standards	C.2.a.	Immediate	As Needed
4	Establish adequate legal authority to control pollutant discharges into and from MS4	D.1.	365 days after adoption of Order	One Time
5	Assess General Plan to incorporate water quality and watershed protection principles	F.1.a.	365 days after adoption of Order	One Time
6	Include Development Project Requirements in local permits	F.1.b.(1).	365 days after adoption of Order	One Time
7	Develop Model SUSMP	F.1.b.(2).	365 days after adoption of Order	One Time
8	Develop and adopt individual local SUSMP and amended ordinances	F.1.b.(2).	180 days after development of Model SUSMP	One Time
9	Implement individual jurisdictional SUSMP	F.1.b.(2).	180 days after approval of Model SUSMP by SDRWQCB	Continuous
10	Revise environmental review processes	F.1.c.(1).	365 days after adoption of Order	One Time
11	Conduct education program for municipal planning and development review staff, project applicants, developers, contractors, community planning groups, and property owners	F.1.d.(1). And F.1.d.(2).	365 days after adoption of Order	Ongoing
12	Implement all requirements of Construction Component of Jurisdictional URMP	F.2.a. – F.2.j.	365 days after adoption of Order	Ongoing
13	Notify SDRWQCB of non-compliant construction sites that pose a threat to human or environmental health	F.2.i	Within 24 hours of discovery of noncompliance	As Needed

14	*Implement all requirements of Municipal Existing Development Component of Jurisdictional URMP*	*F.3.a.(1). – F.3.a.(8).*	*365 days after adoption of Order*	*Ongoing*
15	*Implement all requirements of Industrial Existing Development Component of Jurisdictional URMP*	*F.3.b.(1) – F.3.b.(8)*	*365 days after adoption of Order*	*Ongoing*
16	*Notify SDRWQCB of non-compliant industrial sites that pose a threat to human or environmental health*	*F.3.b.8*	*Within 24 hours of discovery of noncompliance*	*As Needed*
17	*Implement all requirements of Commercial Existing Development Component of Jurisdictional URMP*	*F.3.c.(1) – F.3.c.(5)*	*365 days after adoption of Order*	*Ongoing*
18	*Implement all requirements of Residential Existing Development Component of Jurisdictional URMP*	*F.3.d.(1) – F.3.d.(4)*	*365 days after adoption of Order*	*Ongoing*
19	*Implement all requirements of Education Component of Jurisdictional URMP*	*F.4.a. – F.4.c.*	*365 days after adoption of Order*	*Ongoing*
20	*Implement all requirements of Illicit Discharge Detection and Elimination Component of Jurisdictional URMP*	*F.5.a. – F.5.i.*	*365 days after adoption of Order*	*Ongoing*
21	*Develop a plan to manage urban runoff from common interest areas, private roads, drainage facilities, and other components of the storm water conveyance system, including those managed by homeowners associations.*	*F.6*	*365 days after adoption of Order*	*One Time*
22	*Implement all requirements of Public Participation Component of Jurisdictional URMP*	*F.7.*	*365 days after adoption of Order*	*Ongoing*
23	*Develop strategy for assessment of Jurisdictional URMP effectiveness*	*F.8.a.*	*365 days after adoption of Order*	*One Time*
24	*Assess Jurisdictional URMP effectiveness*	*F.8.b.*	*January 31, 2003*	*Annually*
25	*Develop strategy for fiscal analysis of urban runoff management program*	*F.9.*	*365 days after adoption of Order*	*One Time*
26	*Conduct fiscal analysis of urban runoff management program in entirety*	*F.9.*	*January 31, 2003*	*Annually*
27	*Develop and implement Watershed URMP*	*J.2.*	*~~January 31, 2003~~ May 16, 2003*	*Ongoing*
28	*Implement Program Management activities and commitments in proposed DAMP*	*N.1*	*Immediately*	*Ongoing*
29	*Develop standardized formats for all required reports of this Order*	*O.3 .*	*365 days after adoption of Order*	*One Time*
30	*Develop Receiving Waters Monitoring Document*	*Attachment B*	*180 days after adoption of Order*	*One Time*
31	*Implement Receiving Waters Monitoring Program*	*Attachment B*	*Upon approval by the SDRWQCB*	*Continuous*
32	*Develop Dry Weather Monitoring Program Document*	*Attachment E*	*365 days after adoption of Order*	*One Time*
33	*Conduct Dry Weather Monitoring Program*	*Attachment E*	*Begins May 1, 2003 Thereafter conducted May 1st to September 30th*	*Annually*
34	*Complete NPDES applications for*	*Attachment C*	*At least 180 days*	*One Time*

	issuance of renewal watershed-based permits		*prior to expiration of Order*	
35	*Notify SDRWQCB of any incidence of non-compliance with this Order that poses a threat to human or environmental health.*	*R.1, B.6 of Attachment C*	*Within 24 hours of discovery of non-compliance*	*As Needed*
36	*Designate Principal Permittee(s) and notify SDRWQCB*	*O.*	*90 days after adoption of the Order*	*One Time*

Table 6. Submittal Summary

Submittal No.	***Submittal***	***Permit Section***	***Completion Date***	***Frequency***
1	*Submit identification of discharges not to be prohibited and BMPs required for treatment of discharges not prohibited*	*B.3.*	*365 days after adoption of Order*	*One Time*
2	*Report on discharges causing or contributing to an exceedance of water quality standards, including description of BMP implementation*	*C.2.a.*	*With individual Jurisdictional URMP Annual Reports*	*As Needed*
3	*Submit Certified Statement of Adequate Legal Authority*	*D.2.*	*365 days after adoption of Order*	*One Time*
4	*Submit certified statement if particular high priority construction sites are to be inspected monthly rather than weekly in the rainy season*	*F.2.g.(2).*	*365 days after adoption of Order and as needed thereafter*	*As Needed*
5	*Submit report on non-compliant construction sites that pose a threat to human or environmental health.*	*F.2.i.*	*Within 5 Days of discovery of non-compliance*	*As Needed*
6	*Submit report on non-compliant industrial sites that pose a threat to human or environmental health.*	*F.3.b.8.*	*Within 5 days of discovery of non compliance*	*As Needed*
7	*Submit to Principal Permittee(s) individual Jurisdictional URMP document covering requirements for all Components*	*H.1.a.*	*Prior to 365 days after adoption of Order (Principal Permittee(s) specifies date of submittal)*	*One Time*
8	*(This space reserved).*			
9	*Principal Permittee(s) shall submit to SDRWQCB unified Jurisdictional URMP document covering requirements for all Components, including Model SUSMP*	*H.2.a.*	*365 days after adoption of Order*	*One Time*
10	*(This space reserved).*			
11	*Submit to SDRWQCB local SUSMP and amended ordinances*	*F.1.b.(2). and H.1.d.*	*180 days after development of Model SUSMP*	*One Time*
12	*Submit to Principal Permittee(s) individual Jurisdictional URMP Annual Report*	*I.1.*	*Prior to January 31, 2003 (Principal Permittee(s) specifies date of submittal)*	*Annually*
13	*Principal Permittee(s) shall submit 1st unified Jurisdictional URMP Annual*	*I.2.*	*January 31, 2003*	*One Time and*

	Report to SDRWQCB			*Annually Thereafter*
14	*Submit to Principal Permittee(s) Watershed Specific URMP document*	*L.1.*	*Prior to January 31, 2003 May 16, 2003 (Principal Permittee(s) specifies date of submittal)*	*One Time*
15	*Principal Permittee(s) shall submit Watershed URMP document to SDRWQCB*	*L.2.*	*April 13, 2004 May 16, 2003*	*One Time*
16	*Principal Permittee(s) shall submit 2nd unified Jurisdictional URMP Annual Report to SDRWQCB*	*I.2.*	*January 31, 2004*	*One Time*
17	*(This space reserved).*			
18	*Principal Permittee(s) shall submit 1st Watershed URMP Annual Report to SDRWQCB*	*M.2.*	*January 31, 2004*	*One Time and Annually Thereafter*
19	*Principal Permittee(s) shall submit 3rd unified Jurisdictional URMP Annual Report to SDRWQCB*	*I.2.*	*January 31, 2005*	*One Time*
20	*Principal Permittee(s) shall submit 2nd Watershed URMP Annual Report to SDRWQCB*	*M.2.*	*January 31, 2005*	*One Time*
21	*Principal Permittee(s) shall submit 4th unified Jurisdictional URMP Annual Report to SDRWQCB*	*I.2.*	*January 31, 2006*	*One Time*
22	*Principal Permittee(s) shall submit 3rd Watershed URMP Annual Report to SDRWQCB*	*M.2.*	*January 31, 2006*	*One Time*
23	*Principal Permittee(s) shall submit 5th unified Jurisdictional URMP Annual Report to SDRWQCB*	*I.2.*	*January 31, 2007*	*One Time*
24	*Principal Permittee(s) shall submit standardized formats for all reports required under this Order*	*O.3 .*	*365 days after adoption of Order*	*One Time*
25	*Principal Permittee(s) submits Receiving Waters Monitoring Program Document*	*Attachment B*	*180 days after adoption of Order*	*One Time*
26	*Principal Permittee(s) submits Receiving Waters Monitoring Annual Report to SDRWQCB*	*Attachment B*	*January 31, 2003*	*Annually*
29	*Submit to Principal Permittee(s) Dry Weather Monitoring Program Document*	*Attachment E*	*Prior to 365 days after adoption of Order*	*One Time*
30	*Principal Permittee(s) submits collective Dry Weather Monitoring Program Documents*	*Attachment E*	*365 days after adoption of Order*	*One Time*
31	*Submit to Principal Permittee(s) Dry Weather Monitoring Program results as part of individual Jurisdictional URMP Annual Report*	*Attachment E*	*Prior to January 31, 2003, as part of individual Jurisdictional URMP Annual Report*	*Annually*
32	*Principal Permittee(s) shall submit NPDES applications for issuance of renewal watershed-based permits*	*Attachment C*	*At least 180 days prior to expiration of this Order*	*One Time*

33	*Submit reports of any incidence of non-compliance with this Order that poses a threat to human or environmental health.*	*R.1, B.6 of Attachment C*	*Within 5 days of discovery of non compliance*	*As Needed*

Discussion: See the legal authority citations and discussions of the applicable permit sections.

R. STANDARD PROVISIONS, REPORTING REQUIREMENTS AND NOTIFICATIONS

R. Standard Provisions, Reporting Requirements and Notifications states the following:

1. *Each Copermittee shall comply with Standard Provisions, Reporting Requirements, and Notifications contained in **Attachment C** of this Order. This includes 24 hour/5day reporting requirements for any instance of non-compliance with this Order as described in section B.6 of Attachment C.*

2. *All plans, reports and subsequent amendments submitted in compliance with this Order shall be implemented immediately (or as otherwise specified) and shall be an enforceable part of this Order upon submission to the SDRWQCB. All submittals by Copermittees must be adequate to implement the requirements of this Order.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Standard provisions, reporting requirements, and notifications included in Attachment C are consistent to all NPDES permits and are generally found in Federal NPDES regulation 40 CFR 122.41 (Federal NPDES regulation citations are provided in the Attachment).

Federal NPDES regulation 40 CFR 122.44(l)(6) states "The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of non-compliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance."

Discussion: Implementation of plans, reports, and subsequent amendments by the Copermittees is an important requirement of Order No. 2001-193. Many of the requirements of Order No. 2001-193 rely upon the Copermittees' development and implementation of plans and programs. Without implementation, plans and programs will not improve water quality. For this reason, the plans must be implemented and shall be enforceable upon submission to the SDRWQCB. Incidences of noncompliance with the requirements of this Order must be reported

to the SDRWCB within 24 hours, as required for all NPDES permits under Federal NPDES regulation 40 CFR 122.44(l)(6).

The SDRWQCB has discretion to require Standard Provisions, Reporting Requirements and Notifications item R. in Order No. 2001-193 under the broad and specific legal authority cited above.

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Attachment 1

NPDES Municipal Storm Water Permit Justifications

Copermittee	Large or Medium MS4?	Contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the U.S[1]?
Aliso Viejo	No	Yes. Pacific Ocean Shoreline, Aliso Beach HA 901.13; Aliso Beach; Aliso Creek; Aliso Creek (Mouth)
Dana Point	No	Yes. Pacific Ocean Shoreline, Dana Point HA, Salt Creek (large), Salt Creek Service Rd, Dana Strand, North Beach Creek, Capo Beach, San Juan Creek(Lower), San Juan Creek (Mouth)
Laguna Beach	No	Yes. Pacific Ocean Shoreline, Laguna Beach HA 901.12; Laguna Beach, Irvine Cove-Riveria, Heisler Park-North, Main Beach (large), Laguna Ave., Cleo Street, Bluebird Canyon Rd., Ocean Way, Dumond Dr, Lagunita/Blue Lagoon, South Coast Hwy at Hospital, West St, Aliso Beach; Aliso Creek; Aliso Creek (Mouth)
Lake Forest	No	Yes. Pacific Ocean Shoreline, Aliso Beach HAS 901.13; Aliso Beach; Aliso Creek; Aliso Creek (Mouth)
Laguna Hills	No	Yes. Pacific Ocean Shoreline, Aliso Beach HAS 901.13; Aliso Beach; Aliso Creek; Aliso Creek (Mouth)
Laguna Niguel	No	Yes. Pacific Ocean Shoreline, Dana Point HA 901.14, Salt Creek (large), Salt Creek Service Rd, Dana Strand, North Beach Creek, Capo Beach, San Juan Creek(Lower), San Juan Creek (Mouth), Aliso Beach; Aliso Creek; Aliso Creek (Mouth)
Laguna Woods	No	Yes. Pacific Ocean Shoreline, Aliso Beach HAS 901.13; Aliso Beach; Aliso Creek; Aliso Creek (Mouth)
Mission Viejo	No	Yes. Pacific Ocean Shoreline, San Juan HU 901.10, San Juan Creek (Lower), San Juan Creek (Mouth), Aliso Beach, Aliso Creek; Aliso Creek (Mouth)
Rancho Santa Margarita	No	Yes. Pacific Ocean Shoreline, San Juan HU 901.10, San Juan Creek (Lower), San Juan Creek (Mouth)
San Juan Capistrano	No	Yes. Pacific Ocean Shoreline, San Juan HU 901.10, San Juan Creek (Lower), San Juan Creek (Mouth)
San Clemente	No	Yes. Pacific Ocean Shoreline, San Clemente HA 901.30; Poche Beach (large), Pico Drain (large), El Portal Stairs, Mariposa, Linda Lane, South Linda Lane, Lifeguard Headquarters, Trafalgar Canyon, Under Pier, La Ladera, Riveria Beach, Salem Tressel, , San Juan Creek (Lower), San Juan Creek (Mouth)
Orange, Co	Yes, by population.[2]	Yes. See Attachment 2, 1998 Clean Water Act Section 303(d) List. San Juan Creek WMA and Aliso Creek WMA.
Orange County Flood Control District	Yes, Interrealtionaship[1] with Aliso Viejo, Dana Point, Laguna Beach, Lake Forest, Laguna Hills, Laguna Niguel, Laguna Woods, Mission Viejo, Rancho Santa Margarita, San Juan Capistrano, San Clemente, and Orange County.	Pacific Ocean Shoreline, San Juan HU 901.10, San Juan Creek (Lower), San Juan Creek (Mouth), Aliso Beach , Aliso Creek; Aliso Creek (Mouth)

[1] See 40 CFR 122.26(b)(4)(iii) and (7)(iii).

[2] See Attachment 3, Copermittee Populations.

Attachment 2 1998 Clean Water Act Section 303(d) Impaired Waterbody List

Waterbody[1]	Watershed Management Area	HU, HA, or HSA[2]	Total Size[3]	Non Support[4]	Partially Support[5]	Exceeds Standard[6]	Sources[7]	Impairment[8]	Beneficial Uses[9]	TMDL Priority[10]	Level [11]	Start[12]	End[13]
Aliso Creek	Aliso Creek WMA	901.13	7.2 mi			1 mi	Point/ Nonpoint	Coliform	Rec-1, Rec-2	Medium	1	7/97	7/01
Aliso Creek, mouth of	Aliso Creek WMA	901.13	0.3 ac			0.3 ac	Point/ Nonpoint	Coliform	Rec-1, Rec-2	Medium	1	7/97	7/01
Pacific Ocean Shoreline, Aliso Beach HSA 901.13; Aliso Beach	Aliso Creek WMA	901.13	1 mi		0.01 mi		Point/ Nonpoint	Coliform	Rec-1, Rec-2	Medium	1	7/97	7/01
Agua Hedionda Lagoon	Carlsbad WMA	904.31	320 ac		5 ac		Point/ Nonpoint	Sediment	Aquatic life	Medium	3	7/04	7/07
						5 ac	Point/ Nonpoint	Coliform	Rec-1, Rec-2	Low	2	7/99	7/09
					5 ac		Point/ Nonpoint	Coliform	Shellfish harvest	Low	2	7/99	7/09
Buena Vista Lagoon	Carlsbad WMA	904.21	350 ac		350 ac		Point/ Nonpoint	Sediment	Aquatic life	Medium	3	7/04	7/07
					150 ac		Point/ Nonpoint	Nutrients	Aquatic life	Low	3	7/04	7/07
						350 ac	Point/ Nonpoint	Coliform	Rec-1, Rec-2	Low	2	7/99	7/09
Loma Alta Slough	Carlsbad WMA	904.10	8 ac	8 ac			Nonpoint	Eutrophication	Aquatic life	Low	2	7/99	7/09
						8 ac	Nonpoint	Coliform	Rec-1, Rec-2	Low	2	7/99	7/09
Pacific Ocean Shoreline, Loma Alta HA 904.10; Loma Alta Creek Mouth	Carlsbad WMA	904.10	1.5 mi	0.01 to 1 mi*			Point/ Nonpoint	Coliform	Rec-1, Rec-2, Shellfish harvest	Low	2	7/99	7/09
Pacific Ocean Shoreline, Buena Vista Creek HA 904.20; Pine Street (Carlsbad), Carlsbad Village Pkwy (Carlsbad)	Carlsbad WMA	904.20	2.2 mi	0.02 mi			Point/ Nonpoint	Coliform	Rec-1, Rec-2, Shellfish harvest	Low	2	7/99	7/09
Pacific Ocean Shoreline, San Marcos HA 904.50; Moonlight State Beach	Carlsbad WMA	904.50	5.8 mi	0.01 mi			Point/ Nonpoint	Coliform	Rec-1, Rec-2, Shellfish harvest	Low	2	7/99	7/09
Pacific Ocean Shoreline, Escondido Creek HA 904.60; Solana Beach, San Elijo Lagoon	Carlsbad WMA	904.60	3.0 mi	0.02 mi			Point/ Nonpoint	Coliform	Rec-1, Rec-2, Shellfish harvest	Low	2	7/99	7/09

Waterbody[1]	Watershed Management Area	HU, HA, or HSA[2]	Total Size[3]	Non Support[4]	Partially Support[5]	Exceeds Standard[6]	Sources[7]	Impairment[8]	Beneficial Uses[9]	TMDL Priority[10]	Level [11]	Start[12]	End[13]
San Elijo Lagoon	Carlsbad WMA	904.61	330 ac	330 ac			Point/ Nonpoint	Eutrophication	Aquatic life	Low	2	7/99	7/09
					150 ac		Point/ Nonpoint	Sediment	Aquatic life	Medium	3	7/04	7/07
						150 ac	Point/ Nonpoint	Coliform	Rec-1,Rec-2, Shellfish harvest, Fish consumption	Low	2	7/99	7/09
Famosa Slough	Mission Bay WMA	906.40	28 ac		28 ac		Nonpoint	Eutrophication	Aquatic life	Medium	3	7/05	7/08
Los Penasquitos Lagoon	Mission Bay WMA	906.10	385 ac	385 ac			Point/ Nonpoint	Sediment	Aquatic life	Medium	3	7/05	7/08
Mission Bay	Mission Bay WMA	906.30	1540 ac	1 ac			Point/ Nonpoint	Eutrophication, Lead	Aquatic life	Medium	3	7/05	7/08
		906.40	906.50	1540 ac			Point/ Nonpoint	Coliform	Rec-1, Rec-2, Shellfish harvest	Low	2	7/99	7/09
Pacific Ocean Shoreline, Scripps HA 906.30, El Paseo Grande, Del Oro, Vallecitos, Avenida de la Playa, Coast Blvd, Children's Pool, Ravina, Vista de la Playa, Bonair, Playa del Norte, Palomar (La Jolla); Tourmaline, Grand Avenue (Pacific Beach)	Mission Bay WMA	906.30	13 mi	0.13 mi			Point/ Nonpoint	Coliform	Rec-1, Rec-2, Shellfish harvest	Low	2	7/99	7/09
Tecolote Creek	Mission Bay WMA	906.50	6 mi		6 mi		Point/ Nonpoint	Stormwater (Cadmium, Copper, Lead, Zinc, Toxicity)	Aquatic life	Medium	3	7/05	7/08
						6 mi	Point/ Nonpoint	Coliform	Rec-1, Rec-2	Low	2	7/99	7/09
Chollas Creek	San Diego Bay WMA	908.22	4.8 mi		1 mi		Point/ Nonpoint	Stormwater (Cadmium, Copper, Lead, Zinc, Toxicity)	Aquatic life	High	1	1/98	7/03
						1 mi	Point/ Nonpoint	Coliform	Rec-1, Rec-2	Low	2	7/99	7/09

Waterbody[1]	Watershed Management Area	HU, HA, or HSA[2]	Total Size[3]	Non Support[4]	Partially Support[5]	Exceeds Standard[6]	Sources[7]	Impairment[8]	Beneficial Uses[9]	TMDL Priority[10]	Level [11]	Start[12]	End[13]
Pacific Ocean Shoreline, Coronado HA 910.10; North Beach, Loma Avenue, Pine Street, Sunset Park (Coronado)	San Diego Bay WMA	910.00	10.2 mi	.04 mi			Point/ Nonpoint	Coliform	Rec-1, Rec-2, Shellfish harvest	Low	2	7/99	7/09
San Diego Bay; Near Sub Base	San Diego Bay WMA	900.00	12000 ac	16 ac			Point/ Nonpoint	Benthic community degradation*, Toxicity*	Aquatic life	High	1	1/98	7/03
San Diego Bay; Shelter Island Yacht Basin	San Diego Bay WMA	900.00	12000 ac			50 ac	Point/ Nonpoint	Dissolved copper	Aquatic life	High	1	1/98	7/03
San Diego Bay; Near Grape Street	San Diego Bay WMA	900.00	12000 ac	7 ac			Point/ Nonpoint	Benthic community degradation*, Toxicity*	Aquatic life	High	1	1/98	7/03
San Diego Bay; Downtown Piers	San Diego Bay WMA	900.00	12000 ac	10 ac			Point/ Nonpoint	Benthic community degradation*, Toxicity*	Aquatic life	High	1	1/98	7/03
San Diego Bay; Near Switzer Creek	San Diego Bay WMA	900.00	12000 ac	6 ac			Point/ Nonpoint	Benthic community degradation*, Toxicity*	Aquatic life	High	1	1/98	7/03
San Diego Bay; Near Coronado Bridge	San Diego Bay WMA	900.00	12000 ac	30 ac			Point/ Nonpoint	Benthic community degradation*, Toxicity*	Aquatic life	High	1	1/98	7/03
San Diego Bay; Near Chollas Creek	San Diego Bay WMA	900.00	12000 ac	14 ac			Point/ Nonpoint	Benthic community degradation*, Toxicity*	Aquatic life	High	1	1/98	7/03
San Diego Bay; San Diego Naval Station	San Diego Bay WMA	900.00	12000 ac	76 ac			Point/ Nonpoint	Benthic community degradation*, Toxicity*	Aquatic life	High	1	1/98	7/03
San Diego Bay; Seventh Street Channel	San Diego Bay WMA	900.00	12000 ac	9 ac			Point/ Nonpoint	Benthic community degradation*, Toxicity*	Aquatic life	High	1	1/98	7/03

Waterbody[1]	Watershed Management Area	HU, HA, or HSA[2]	Total Size[3]	Non Support[4]	Partially Support[5]	Exceeds Standard[6]	Sources[7]	Impairment[8]	Beneficial Uses[9]	TMDL Priority[10]	Level [11]	Start[12]	End[13]
San Diego Bay; North of 24th Street Marine Terminal	San Diego Bay WMA	900.00	12000 ac	10 ac			Point/ Nonpoint	Benthic community degradation*, Toxicity*	Aquatic life	High	1	1/98	7/03
San Diego Bay Shoreline, Lindbergh HSA 908.21; G St, B St Pier	San Diego Bay WMA	908.21	8.7 mi	0.2 mi			Point/ Nonpoint	Coliform	Rec-1, Rec-2	Low	2	7/99	7/09
San Diego Bay Shoreline, Telegraph HSA 909.11; Chula Vista Marina	San Diego Bay WMA	909.11	0.5 mi	0.01 mi			Point/ Nonpoint	Coliform	Rec-1, Rec-2	Low	2	7/99	7/09
Pacific Ocean Shoreline, San Diego HU 907.00, San Diego River Mouth, (Ocean Beach)	San Diego River WMA	907.00	1.4 mi	0.02 to 0.5 mi*			Point/ Nonpoint	Coliform	Rec-1, Rec-2, Shellfish harvest	Low	2	7/99	7/09
Pacific Ocean Shoreline, San Dieguito HU 905.00; Del Mar (Anderson Canyon), San Dieguito Lagoon Mouth	San Dieguito River WMA	905.00	3.0 mi	0.02 mi			Point/ Nonpoint	Coliform	Rec-1, Rec-2, Shellfish harvest	Low	2	7/99	7/09
Pacific Ocean Shoreline, Laguna Beach HSA 901.12; Laguna Beach, Irvine Cove-Riveria, Heisler Park -North, Main Beach (large), Laguna Ave, Cleo Street, Bluebird Canyon Road, Ocean Way, Dumond Dr, Lagunita/ Blue Lagoon, South Coast Hwy at Hospital, West St,	San Juan Creek WMA	901.12	2.5 mi		0.15 mi		Point/ Nonpoint	Coliform	Rec-1, Rec-2, Shellfish harvest	Low	2	7/00	7/10
1000 Steps, Table Rock													
Pacific Ocean Shoreline, Dana Point HSA 901.14, Salt Creek (large), Salt Creek Service Rd, Dana Strand, North Beach Creek, Capo Beach	San Juan Creek WMA	901.14	6.5 mi		0.06 mi		Point/ Nonpoint	Coliform	Rec-1, Rec-2, Shellfish harvest	Low	2	7/00	7/10
Pacific Ocean Shoreline, Lower San Juan HSA 901.27; San Juan Creek (large)	San Juan Creek WMA	901.3	1 mi		0.02 mi		Point/ Nonpoint	Coliform	Rec-1, Rec-2, Shellfish harvest	Low	2	7/00	7/10

Waterbody[1]	Watershed Management Area	HU, HA, or HSA[2]	Total Size[3]	Non Support[4]	Partially Support[5]	Exceeds Standard[6]	Sources[7]	Impairment[8]	Beneficial Uses[9]	TMDL Priority[10]	Level [11]	Start[12]	End[13]
Pacific Ocean Shoreline, San Clemente HA 901.30; Poche Beach (large), Pico Drain (large), El Portal Stairs, Mariposa, Linda Lane, South Linda Lane, Lifeguard Headquarters, Trafalgar Canyon, Under Pier, La Ladera, Riveria Beach, Salem Tressel,	San Juan Creek WMA	901.30	7 mi		0.15 mi		Point/ Nonpoint	Coliform	Rec-1, Rec-2, Shellfish harvest	Low	2	7/00	7/10
Cypress Shores													
San Juan Creek, Lower	San Juan Creek WMA	901.20	3.4 mi			1 mi	Point/ Nonpoint	Coliform	Rec-1, Rec-2	Low	2	7/00	7/10
San Juan Creek, Mouth	San Juan Creek WMA	901.20	2 ac			2 ac	Point/ Nonpoint	Coliform	Rec-1, Rec-2	Low	2	7/00	7/10
Guajome Lake	San Luis Rey River WMA	903.11	25 ac	25 ac			Point/ Nonpoint	Eutrophication	Aquatic life	Medium	3	7/08	7/11
Pacific Ocean Shoreline, San Luis Rey HU 903.00; San Luis Rey River Mouth	San Luis Rey River WMA	903.00	1 mi	0.01 mi			Point/ Nonpoint	Coliform	Rec-1, Rec-2, Shellfish harvest	Low	2	7/99	7/09
Rainbow Creek	Santa Margarita River WMA	902.20	11 mi	5 mi			Point/ Nonpoint	Rec-1, Rec-2, Eutrophication	Aquatic life	High	1	7/98	7/00
Santa Margarita Lagoon	Santa Margarita River WMA	902.11	268 ac	1 ac			Point/ Nonpoint	Eutrophication	Aquatic life, Rec-1, Rec-2	High	2	7/96	7/05
Pacific Ocean Shoreline, Tijuana HU 911.00; Tijuana	Tijuana River WMA	911.00	3.2 mi	3.2 mi			Point/ Nonpoint	Coliform	Rec-1, Rec-2	Low	2	7/98	7/11
River			3.2 mi		3.2 mi		Point/ Nonpoint	Coliform	Shellfish harvest, Fish consumption	Low	2	7/98	7/11
Tijuana River	Tijuana River WMA	911.11	7 mi	7 mi			Point/ Nonpoint	Coliform	Rec-1, Rec-2, Fish consumption	Low	2	7/98	7/11
				7 mi			Point/ Nonpoint	Eutrophication, Low dissolved oxygen, Solids, Trace metals, Synthetic organics, Pesticides	Aquatic life	Low	3	7/98	7/11

Waterbody[1]	Watershed Management Area	HU, HA, or HSA[2]	Total Size[3]	Non Support[4]	Partially Support[5]	Exceeds Standard[6]	Sources[7]	Impairment[8]	Beneficial Uses[9]	TMDL Priority[10]	Level [11]	Start[12]	End[13]
				7 mi			Point/ Nonpoint	Eutrophication, Trash, Pesticides, Synthetic organics, Trace metals	Fish consumption	Low	3	7/98	7/11
Tijuana River Estuary	Tijuana River WMA	911.11	150 ac		1 ac		Point/ Nonpoint	Nickel, Thallium, Lead, Pesticides, Eutrophication, Trash	Aquatic life	Low	3	7/98	7/11
				1 ac			Point/ Nonpoint	Pesticides	Fish consumption	Low	3	7/98	7/11
				150 ac			Point/ Nonpoint	Coliform	Rec-1, Rec-2, Fish consumption, Shellfish harvest	Low	2	7/98	7/11

Attachment 3

Copermittee Populations (2000 U.S. Census Bureau)

Copermittee	Population
Aliso Viejo	40,200
Dana Point	35,100
Laguna Beach	23,750
Lake Forest	58,700
Laguna Hills	31,200
Laguna Niquel	61,900
Laguna Woods	16,500
Mission Viejo	93,100
Rancho Santa Margarita	47,200
San Clemente	49,950
San Juan Capistrano	33,800
County of Orange	2,846,300
Orange County Flood Control District	N/A

Attachment 4

Discussion of Municipal Storm Water Permitting and the Watershed Approach

Municipal Storm Water Requirements, Order No. 2001-193

Under the municipal storm water requirements, municipalities are responsible for pollutant discharges into and out of storm water conveyance systems from land uses within their jurisdiction and watershed. This responsibility is based in large part on land use and permitting authority, and underscores the direct link between land use decisions and the resulting long-term water quality consequences of those decisions. Accordingly, the municipal storm water requirements require municipalities to impose controls on existing and future development as necessary to reduce pollutant discharges. A critical provision of this Order is that Copermittees' required to obtain and enforce the legal authorities (i.e., local ordinances, permits) as necessary to maintain (or restore) compliance with the municipal storm water requirements contained in this Order.

Municipal storm water requirements contained in the Federal Regulations and this Order also specifically direct permittees to prohibit illicit discharges[106] from entering into their storm water conveyance systems. This means ongoing requirements to detect (actively seek out) polluted runoff entering the systems, identify the source(s) causing the problem, and eliminate the problem(s).

SDRWQCB's Watershed Approach

The term "watershed approach" can mean different things to different people. It often involves several agencies, organizations, and communities addressing numerous

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[106] The term "illicit discharge" is defined in the federal storm water regulations at 40 CFR 122.26 in very board terms. An illicit discharge is any discharge that is not composed entirely of "storm water". Storm water is one of two components of "urban runoff". Urban runoff is the correct term for any and all flows in a municipal storm water conveyance system. Storm water is defined as any flow that originated from precipitation only. Non-storm water is the "catch-all" phrase referring to all flows in the system that originated from any source other than precipitation.

Technically, uncontaminated rainwater is the only "allowable" flow in the storm water conveyance system. As a practical matter, we are currently assuming a rather lenient enforcement position against municipalities for discharging precipitation that has picked up urban pollutants. We have however assumed a much more aggressive enforcement position against municipalities that have failed to enforce their own legal authorities or implement appropriate source control and structural best management practices (BMPs) to the maximum extent practicable. Such BMPs must effectively reduce or eliminate pollutants that would otherwise be available for transport to receiving waters by precipitation. The SDRWQCB has also taken a much more stringent view of runoff originating from sources other than precipitation (e.g., excess irrigation, car washing, etc.) which convey urban pollutants. Such non-storm water flows are prohibited under the municipal storm water requirements. In all cases, the SDRWQCB looks to see if the responsible municipality(s) have truly demonstrated a "good faith" and thorough effort to find, reduce or eliminate pollutants, and their sources. Such good faith efforts must include enforcement of local ordinances and permits, education efforts that are focused on pollutant(s) of concern, and implementation of effective source control and structural BMPs. These efforts should concentrate on man-made, man-accelerated, or "controllable" sources, rather than on uncontrollable sources (e.g., focus on eliminating pet waste rather than wild animal waste).

environmental concerns. When the SDRWQCB defines a watershed approach, as it has in the document entitled "Watershed Management Approach for the San Diego Region,"[107] it is limiting its concerns exclusively to water quality issues.

The SDRWQCB's watershed approach considers each geographic watershed (or subwatershed) as a whole and seeks to identify and mitigate all sources of pollutants (both point and non-point sources) throughout the watershed which contribute to the impairment of common downstream receiving waters. This definition emphasizes the important contribution (of pollutants and flow) from "inland sources" to "coastal problems", such as those that have historically plagued San Diego and Orange County Beaches. Like the municipal storm water requirements, one of the most important steps in the SDRWQCB's watershed effort is the identification and elimination of the sources causing such water quality impairments.

A word about what a watershed approach is "not" is also in order. The SDRWQCB's (or any one else's) watershed approach is not:

1. A reduction in the responsibility or authority of the SDRWQCB;
2. An abdication of responsibility or authority by the SDRWQCB;
3. A reduction in the tools at the disposal of the SDRWQCB;
4. A reduction in or limit on the discretion of the SDRWQCB; or
5. A substitution for compliance with regulatory requirements (i.e. NPDES permits or Waste Discharge Requirements).

Nexus Between Municipal Storm Water Permit and Watershed Approach

The municipal storm water requirements and the SDRWQCB's watershed approach are fully consistent with each other. Both have the same overall objectives and both direct many of the same specific actions; for example identification and elimination sources of pollutants. The municipal storm water requirements is a traditional regulatory measure. These are addressed in the form of NPDES permits and Waste Discharge Requirements issued to dischargers. In actual practice, the "watershed approach" is, at the moment, largely a non-regulatory measure.

It should be emphasized that regulatory and non-regulatory measures are not mutually exclusive. The premise that the watershed approach "contrasts" with regulation is incorrect. The best way to explain the relationship between the two is to say that a "watershed approach" includes, but is not limited to, the issuance of regulatory requirements by the SDRWQCB and regulatory compliance on the part of permitted dischargers. Waste Discharge Requirements and NPDES Permits may or may not include a watershed effort. While a community watershed effort often involves issues beyond the scope of complying with waste discharge requirements, compliance with applicable requirements is always an essential component of any watershed effort. Furthermore, because urban runoff pollution is inextricably linked to cumulative

[107] "Watershed Management Approach for the San Diego Region"; Sixth version (draft). Regional Water Quality Control Board, San Diego Region; January 7, 2000.

pollutants in runoff contributed by all sources in a watershed, it makes a great deal of sense that Copermittees would choose to implement the requirements of the municipal storm water permit in the context of a watershed approach. This was the objective of the 1993 Drainage Area Management Plan (DAMP) implemented under the First and Second Term Permits. Nonetheless, a municipal storm water permit is issued to each Copermittee and each Copermittee is individually responsible for implementing the requirements of the permit. Within the context of a watershed effort (e.g. the Watershed Urban Runoff Management Plan or Watershed URMP), the watershed-wide efforts undertaken by a set of Copermittees in a given drainage builds upon and enhances the jurisdictional efforts of each Copermittee. Under the First and Second Term Permits, significant elements of the DAMP were actually implemented on a countywide basis within in two watershed areas within two different Regional Boards with little actual emphasis on specific watershed issues or programs. The implementation of solid Jiurisdictional level programs, the program management component of the proposed DAMP, and the Watershed URMP focused on the San Juan Creek Watershed Management Area within Orange County, will bring the implementation of the concepts expressed in the proposed DAMP to fruition.

In addition to fully supporting a watershed approach for protecting water quality, the SDRWQCB is engaged in a gradual process to shifting it's regulatory efforts towards a watershed (rather than programmatic[108]) basis. This means that in the future waste discharge requirements may be issued on a watershed basis. Indeed, the renewal of this Order represents a true watershed level application of the municipal storm water regulatory tool envisioned in the DAMP, since the provisions of this Order will be specifically applied by the Copermittees to that part of the San Juan Creek Watershed Management Area within Orange County. The remaining part of that watershed management area lies within Camp Pendleton and a small part of unincorporated San Diego County between Camp Pendleton and Orange County. These areas will be addressed in the future renewal of this Order under the Phase II storm water regulations.

At this time, a few waste discharge requirements "encourage" required activities to be conducted on a watershed basis. In the future, it is likely that waste discharge requirements will "require" that activities be conducted on a watershed basis by all dischargers within the watershed in order to address common water quality problems. The fact that many watershed efforts today are voluntary, but may soon be required under waste discharge requirements, illustrates the "three-tiered" watershed approach described in the SDRWQCB's "Watershed Management Approach for the San Diego Region". The three-tiered concept embodies the gradual shift from "tier one" stakeholder driven voluntary watershed efforts to "tier three" efforts mandated by waste discharge requirements.

To the extent that a watershed stakeholder is also subject to waste discharge requirements, a tier one, or voluntary watershed effort can only exist in conjunction with, and acknowledgment of, the mandatory requirements of the waste discharge

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108 Our office is currently organized into a combination of discrete program units (e.g. Land Discharge, Site Mitigation, and Tank Mitigation and Cleanup Units) and two watershed protection units (Northern and Southern Watershed Protection Units).

requirements. This is the current situation for the Orange County Copermittees that will be emphasized under this Order. It is the responsibility of the SDRWQB to ensure that the Copermittees are complying with the municipal storm water requirements and to the extent that they are not, to take appropriate enforcement action.

Damp Analysis for Tentative Order 2001-193

Tentative Order 2001-193 Draft Orange County Municipal Storm Water Permit Component	***tative Order 2001-193*** *Section*	Proposed Orange County **DAMP** Section	Tentative Order 2001-193 Draft Orange County Permit Requirements	Proposed Orange County DAMP Discussion
Findings	1-43	Not Addressed	Findings	Not applicable
Prohibitions – Discharges	A.1	4.0 Appendix E1	Prohibit all discharges into and from MS4s that cause or threaten to cause conditions of pollution, contamination or nuisance in waters of the State.	Neither the DAMP nor the Model Water Quality Ordinance (Appendix E1 Water Quality Ordinance) adequately addresses this requirement. The Water Quality Ordinance should be updated to better detail the specific language as well as the intent already implied in sections II and IV of the ordinance.
Prohibitions – Discharges	A.2	4.0 Appendix E1	Prohibit all discharges from MS4s that cause or contribute to exceedances of receiving water quality objectives.	Neither the DAMP nor the Water Quality Ordinance (Appendix E1) adequately addresses this requirement. Sections II, III, and IV of the Water Quality Ordinance should be updated to better detail the specific language as well as the intent already implied in sections II and IV of the ordinance to include and implement this prohibition.
Prohibitions – Discharges	A.3	1.2; 4.0 Appendix E1	Prohibit all discharges containing pollutants not reduced to the MEP.	The DAMP does specifically address this prohibition requirement in several sections. The Water Quality Ordinance, however, does not address this requirement.
Prohibitions – Discharges	A.4	4.0 Appendix E1	Discharges from MS4s are subject to Basin Plan Prohibitions.	This prohibition is not addressed in either the DAMP or the Water Quality Ordinance. Both should be updated to include and implement this prohibition.

Prohibitions – Non-Storm Water Discharges	B.1	1.2; 4.2; 4.3; 4.4; Appendix E1	Copermittees prohibit all non - storm water discharges into MS4s unless separately authorized by NPDES or are not prohibited as per B.2 or B.3.	DAMP and Water Quality Ordinance (Appendix E1) effectively prohibits all non storm water discharges not separately authorized by NPDES permits or that are not prohibited as per B.2 and B.3 of the Tentative Order 2001-193.
Prohibitions – Non-Storm Water Discharges	B.2	1.2; 4.2; 4.3; 4.4; Appendix E1	Non-Storm Water, Non-Prohibited Discharges that are not a significant source of pollutants.	The list in the Water Quality Ordinance (App. E1) is incomplete and includes exemptions not identified in the Federal Regulations or the Tentative Order (e.g. sewage spills, roof runoff, agricultural irrigation runoff, and reclaimed water runoff).
Prohibitions – Non-Storm Water Discharges	B.3	1.2; 4.2; 4.3; 4.4; Appendix E1	Procedures to address non-storm, non-prohibited discharges that are a significant source of pollutants.	The DAMP and the Water Quality Ordinance do not adequately address the B.2 non-storm water discharges that are determined by the Copermittee(s) to be a significant source of pollutants. The Water Quality Ordinance (section IV.D) only addresses the prohibition of otherwise exempted discharges on a case by case basis as determined by an Authorized Inspector. The DAMP and the Water Quality Ordinance does not address the requirement that the discharge category be prohibited from entering the MS4; OR that the Copermittee shall not prohibit the discharge category and implement or require the implementation of BMPs; AND a file report with the SDRWQCB within 365 days of the adoption of the Tentative Order describing the discharge category and the BMPs to be required by the Copermittee. Section IV.D of the Water Quality Ordinance details only site specific instances in which B.2 allowable discharges may be prohibited, but does not discuss the permissible discharge conditions, the implementation of BMPs, nor the report to the RWQCB describing the above. Both the DAMP and the Water Quality Ordinance should be updated to completely address this

				requirement.
Prohibitions – Non-Storm Water Discharges	B.4	1.2 4.0 5.0 10.0 Appendix E1	Emergency fire fighting flows are not prohibited. Copermittees develop and implement a program within 365 days to reduce pollutants from non-emergency fire fighting flows identified as significant sources of pollutants.	A program to reduce pollutants from non-emergency fire fighting flows identified by the Copermittees to be a significant source of pollutants is not specified in the DAMP. The Water Quality Ordinance does not specifically address the issue of non-emergency fire fighting activities. The Water Quality Ordinance should be revised to address this requirement.
Prohibitions – Non-Storm Water Discharges	B.5	4.0; 10.0; Appendix K	Examine all dry weather monitoring results collected in accordance with section F.5 and Attachment E to identify water quality problems resulting from non-storm water, non-prohibited discharges. Follow-up investigations to be conducted as necessary to identify and control such discharges when they are found to be significant sources of pollutants.	The DAMP discusses historical efforts conducted under the First and Second Term Permits, but does not specify how Dry Weather Monitoring will be performed and the data evaluated by each Copermittee as per section B.5 of the Tentative Order. Nor does Appendix K provide sufficient specific detail on the monitoring and inspections to be performed in each jurisdiction that would satisfy the requirements of section B.5 of the Tentative Order. See section F.5 for more discussion on the inadequacy of Dry Weather Monitoring Program to be implemented under the proposed DAMP.
Receiving Water Limitations	C.1	Not Addressed	Discharges from MS4s that cause or contribute to the violation of water quality standards are prohibited.	Neither the DAMP nor the Water Quality Ordinance specifically prohibits discharges that cause or contribute to exceedances of receiving water quality objectives. The DAMP and the Water Quality Ordinance should be updated to include and implement this prohibition.
Receiving Water Limitations	C.2	1.0; 1.2; 1.3; 1.4; 2.2; 2.3; 3.2; 3.3;	Requirement that each Copermittee shall comply with section C.1 above through the timely implementation of the Jurisdictional Urban Runoff Management Program (i.e. BMPs and programs). Procedure to address MS4	The DAMP does not specifically address how the Copermittees will prohibit and respond to discharges that cause or contribute to exceedances of receiving water quality objectives. The DAMP sections that address discharge prohibitions, BMP implementation, legal authority, and regulatory requirements do not include or implement the requirement that discharges do not cause or contribute to receiving water quality

		3.5; 4.0 4.1; 4.2; 4.3; 4.4	discharges that are causing or contributing to an exceedance of receiving water quality objectives. The Copermittees are required to notify the SDRWQCB and thereafter submit a report that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance of water quality standards. Modifications to the report must be reported to the SDRWQCB within 30 days of notification. The requirement also includes a provision that the Copermittee(s) revise and implement the revised Jurisdictional Urban Runoff Management Program to incorporate the approved BMPs, the implementation schedule, and any monitoring required. The revised Jurisdictional Urban Runoff Management Program, monitoring program, and implementation schedule must be implemented within 30 days of approval by the SDRWQCB.	objectives as a condition of the DAMP implementation and permit compliance. This section, which contains precendential language required by the State Board and USEPA, is a one of the most important components of the Tentative Order that is inadequately addressed in the DAMP. The DAMP provides only general discussions of iterative BMP implementation/evaluation that lack specific performance measures or time lines sufficient to address protection of beneficial uses and compliance with receiving water quality objectives. The DAMP describes limitations to their ability to evaluate BMPs and states that several years would be required to evaluate the effectiveness of BMPs (section 3.3.2). The DAMP does not specify how the requirements of section C of the Tentative Order, which contains precendential language required by the State Board and USEPA, will be implemented at a jurisdictional or a collective level by the Copermittees.
Receiving Water Limitations	C.3	Not Addressed	SDRWQCB has authority to enforce any provision of the Order while the Copermittee prepares and implements the	The DAMP does not address this provision of section C of the Tentative Order.

			report required in C.2.	
Legal Authority	D.1	4.0; 4.1; 4.2; Appendix E1	Each Copermittee establishes, maintains, and enforces adequate legal authority to control pollutant discharges into and from its MS4.	The DAMP and the Water Quality Ordinance generally satisfies the requirements of section D of the Tentative Order.
Legal Authority	D.1.a	4.2; 8.0; 8.1; 8.2; 8.3; 8.4; 8.6; 8.7; Appendix H	Legal authority to control contribution of pollutants to MS4 from construction and industrial sites.	The DAMP addresses the requirement of each Copermittee to certify legal authority to control contribution of pollutants to the MS4 from industrial activity, but does not address construction (section 4.2). Section 8.2 of the proposed DAMP discusses the regulatory requirements pertaining to construction sites, but does not acknowledge Copermittee responsibility to certify legal authority to control the contribution of pollutants to the MS4 from construction sites apart from coordinating enforcement actions under the Water Quality Ordinance with the SDRWQCB. Section 8.3 discusses Public Works Construction Practices, but does not address the responsibility of the Copermittees to certify legal authority to control contribution of pollutants to the MS4. Section 8.4 discusses Copermittee oversight of private construction practices through enforcement of grading codes to protect slopes from erosion and failure, but does not adequately address the requirement of the Copermittees to certify legal authority to control the contribution of pollutants to the MS4 from construction sites. Appendix H and the new commitments of section 8.7

				of the proposed DAMP do not adequately address the requirement of the Copermittees to certify their legal authority to control the contribution of pollutants to the MS4 from construction sites.
Legal Authority	D.1.b		Prohibit all identified illicit discharges not exempted under B.2 including list of discharges 1-9.	The DAMP and the Water Quality Ordinance adequately addresses the requirement to prohibit all illicit discharges not exempted under B.2. The DAMP, however, does not describe in sufficient detail how the Copermittees will address sewage, discharges of wash water resulting from the hosing or cleaning of gas stations, auto repair garages, or other types of automotive facilities; Discharges resulting from the cleaning, repair, or maintenance of any type of equipment, machinery, or facility including motor vehicles, cement-related equipment, and portable toilet servicing, etc.; Discharges of wash water from mobile operations such as mobile automobile washing, steam cleaning, power washing, and carpet cleaning, etc.; Discharges of wash water from the cleaning or hosing of impervious surfaces in municipal, industrial, commercial, and residential areas including parking lots, streets, sidewalks, driveways, patios, plazas, work yards and outdoor eating or drinking areas, etc.; Discharges of runoff from material storage areas containing chemicals, fuels, grease, oil, or other hazardous materials; Discharges of pool or fountain water containing chlorine, biocides, or other chemicals; discharges of pool or fountain filter backwash water; Discharges of sediment, pet waste, vegetation clippings, or other landscape or construction-related wastes; and Discharges of food-related wastes (e.g., grease, fish processing, and restaurant kitchen mat and trash bin wash water, etc.).

Legal Authority	D.1.c	4.2	Prohibit all illicit connections to MS4.	The DAMP and the Water Quality Ordinance adequately address the requirement to prohibit all illicit connections to MS4. With respect to Jurisdictional Urban Runoff Management Program requirements required under the Tentative Order, the DAMP, however, lacks the specificity necessary for successful implementation and assessment of compliance.
Legal Authority	D.1.d	4.2	Control discharge of spills, dumping, or disposal of materials to MS4.	The DAMP and the Water Quality Ordinance adequately address the requirement to control of discharges (i.e. spills, dumping, or disposal of materials) into the MS4. With respect to Jurisdictional Urban Runoff Management Program requirements required under the Tentative Order, the DAMP, however, lacks the specificity necessary for successful implementation and assessment of compliance.
Legal Authority	D.1.e	4.2; Appendix E1	Require compliance with conditions of Copermittee ordinances, permits, contracts, or Orders.	The DAMP includes the requirement of compliance with conditions in ordinances, permits, contracts or orders. Although, the Water Quality Ordinance (Appendix E1) generally implements the prohibitions of the Tentative Order, it lacks significant elements (see above) that should be included. The Enforcement Consistency Guide (Appendix E2) provides guidance for enforcement activities to be undertaken by Copermittee inspectors. The Water Quality Ordinance and the Enforcement Consistency Guide, however, are somewhat dated and should be updated to include and implement requirements of the Tentative Order.

Legal Authority	D.1.f	4.2; Appendix E1	Utilize enforcement tools to require compliance with Copermittee ordinances, permits, contracts or orders.	The DAMP includes the requirement of compliance with conditions in ordinances, permits, contracts or orders. Although, the Water Quality Ordinance (Appendix E1) generally implements the prohibitions of the Tentative Order, it lacks significant elements (see above) that should be included. The Enforcement Consistency Guide (Appendix E2) provides guidance for enforcement activities to be undertaken by Copermittee inspectors. The Water Quality Ordinance and the Enforcement Consistency Guide, however, are somewhat dated and should be updated to include and implement requirements of the Tentative Order.
Legal Authority	D.1.g	2.2.9; 4.1; 4.2 Appendix C	Interagency agreements to control contribution of pollutants from one portion of a shared MS4 to another portion of the MS4.	The DAMP adequately addresses the requirement, but fails to provide sufficient detail with regards to the implementation by the Copermittees of the interagency agreement that controls the contribution of pollutants from one portion of a shared MS4 to another portion of the MS4.
Legal Authority	D.1.h	4.2	Carry out inspections, surveillance, and monitoring necessary to determine compliance and noncompliance with local ordinances and permits under the Order.	The DAMP adequately addresses the requirement for inspections, surveillance, and monitoring necessary to determine compliance and non-compliance with permit conditions. However, the DAMP lacks specificity in regards to various program components, inspection frequencies, time-lines for implementation, assessment of program effectiveness, and follow-up activities by Copermittees individually and collectively.
Legal Authority	D.1.i	1.2; 1.3; 1.4; 3.1; 3.2; 3.3; 3.4;	Require use of BMPs to prevent or reduce discharge of pollutants to MS4s.	The DAMP adequately addresses the requirement for BMP implementation, but lacks specificity in regards to BMP implementation, program components, time lines for implementation, assessment of program effectiveness, and follow-up activities by Copermittees individually and collectively.

		3.5; 4.1; 4.2; 4.3		
Legal Authority	D.2	4.2	Submit statement within 365 days certified by chief legal counsel that the Copermittee has adequate legal authority to implement and enforce each of the requirements in 40 CFR 122.26(d)(2)(I)(A-F) and this Order.	The DAMP states that the Copermittees submitted certification of legal authority to regulate the discharge of pollutants to the MS4 system (40 CFR 122.26(d)(2)(I)(A-F)) as of July 31, 1997. The DAMP does not commit the Copermittees to submitting an updated certification of legal authority that reflects the requirements of the Tentative Order.
Technology Based Standards	E (Table 3)	Not Addressed	Copermittee implements or requires implementation of BMPs to ensure that pollutant discharges into and from its MS4 are reduced to the applicable technology based standard.	The DAMP does not specify the Technology Based Standards applicable to pollutant discharges from industrial activities owned by the Copermittee, or general industrial and construction activity. The DAMP incorrectly identifies MEP as the standard for construction activity owned by the Copermittee (Appendix H.3.1). The standard to be applied under the terms of the Tentative Order is the BAT/BCT standard applicable to construction activities authorized under the Statewide General Construction Storm Water Permit. It should be noted, in fact, that Order No. 96-03 did not specifically exempt the Copermittees from implementing BMPs at the BAT/BCT level at municipal construction sites > 5 acres. The Order only exempted the Copermittees from applying for coverage under the statewide permit. Provision No. 24 stated "All other terms and conditions of the latest version of the State's General Construction Activity Storm Water Permit shall be applicable." Tentative Order 2001-193 does not continue the provisions (Nos. 19-24) of Order No. 96-03 that exempted municipal construction activities from coverage under the Statewide General Construction

				Storm Water Permit.
Jurisdictional Urban Runoff Management Program	F	Sections 1-12	Each Copermittee reduces discharges of pollutants and runoff flow during each of the three major phases of urban development (planning, construction, and land-use phases). Each Copermittee shall implement the provisions and commitments of proposed DAMP until full implementation of the Jurisdictional Urban Runoff Management Program.	The proposed DAMP and appendices does not adequately address in specific detail how the Copermittees will reduce the discharge of pollutants and runoff flow during each of the three major phases of urban development. The various sections of the proposed DAMP provides general and over-arcing discussion of the need to address these issues through the implementation of BMPs, but fails to provide sufficient detail and implementation timelines by which to assess compliance with the Tentative Order. The proposed DAMP also fails entirely to address the requirement to prevent or respond to exceedances of receiving water quality objectives resulting from the discharge of urban runoff from these three phases of land-use through the implementation of pollution prevention, source identification and elimination, enforcement, education, and other structural and non structural BMPs and programs. Specific deficiencies of the DAMP are discussed below with respect to the Tentative Order.
Land-Use Planning for New Development and Redevelopment Component	F.1	7.0; Appendix G	Minimize short-term and long-term impacts on receiving waters from new development and redevelopment.	
Land-Use Planning for New Development and Redevelopment Component	F.1.a	7.0; Appendix G	Assess General Plan	The DAMP does not indicate that the Copermittees will assess their general plans or equivalent to include watershed protection principles.

Land-Use Planning for New Development and Redevelopment Component	F.1.b.1	7.0; Appendix G	Modify Development Project Approval Processes	The DAMP has requirements for all projects to develop a water quality management plan that include BMPs to be used at the site. However, the DAMP does not require all projects meet the minimum requirements listed in the Tentative Order (e.g., source control).
Land-Use Planning for New Development and Redevelopment Component	F.1.b.2	7.0; Appendix G	Modify Development Project Approval Processes	The DAMP does not include the development of Standard Urban Storm Water Mitigation Plans on watershed (model) and jurisdictional (local) levels.
Land-Use Planning for New Development and Redevelopment Component	F.1.b.2.a	7.0; Appendix G	Standard Urban Storm Water Mitigation Plans (SUSMPs)	The DAMP does not include the priority development categories listed in the Tentative Order. The DAMP has BMP requirements at all development projects regardless of size or land use. However, the BMP requirements in the DAMP do not meet the minimum SUSMP requirements. The Copermittees do have discretion to require all projects meet SUSMP requirements.
Land-Use Planning for New Development and Redevelopment Component	F.1.b.2.b	7.0; Appendix G	SUSMPs - BMP Requirements	The BMPs listed in the DAMP are inadequate and do not meet the minimum requirements of this Section. The Copermittees must develop their own list of recommended source control and structural BMPs to be implemented at least the priority development projects listed in the order. The recommended BMPs must also meet minimum performance criteria.
Land-Use Planning for New Development and Redevelopment Component	F.1.b.2.c	7.0; Appendix G	SUSMPs – Numeric Sizing Criteria	The DAMP does not include numeric sizing criteria for structural BMPs
Land-Use Planning for New Development and Redevelopment Component	F.1.b.2.d	7.0 Appendix G	SUSMPs – Equivalent Numeric Sizing Criteria	The DAMP does not include a process for developing as part of the Model SUSMP an equivalent method for calculating the volume or flow which must be mitigated (i.e. an equivalent method for calculating numeric sizing criteria) by post construction BMPs.
Land-Use Planning for New Development and Redevelopment Component	F.1.b.2.e	7.0; Appendix G	SUSMPs- Pollutants or Conditions of Concern	The DAMP does not include a specific procedure for identifying pollutants or conditions of concern.
Land-Use Planning for New Development and Redevelopment Component	F.1.b.2.f	7.0; Appendix G	SUSMPs – Implementation Process	The DAMP does not include a procedure for implementation of SUSMP requirements.

Land-Use Planning for New Development and Redevelopment Component	F.1.b.2.g	7.0 Appendix H	SUSMPs – Waiver Provision	The DAMP does not include a procedure for developing and implementing a waiver provision.
Land-Use Planning for New Development and Redevelopment Component	F.1.b.2.h	7.0; Appendix G	SUSMPs – Infiltration and Groundwater Protection	The DAMP does not include groundwater protection restrictions for use with infiltration structural BMPs.
Land-Use Planning for New Development and Redevelopment Component	F.1.b.2.i	7.0; Appendix G	SUSMPs – Downstream Erosion	The DAMP does not address downstream erosion from development and redevelopment projects.
Land-Use Planning for New Development and Redevelopment Component	F.1.c	7.0; Appendix G	Revise Environmental Review Processes	The DAMP does not include clear and specific language that indicates water quality and mitigation measures will be evaluated during the Copermittees environmental review processes.
Land-Use Planning for New Development and Redevelopment Component	F.1.d	7.0; Appendix G	Conduct Education Efforts Focused on New Development and Redevelopment	The DAMP adequately addresses the education requirements of the Tentative Order, but additional specific detail regarding implementation should be included with respect to the requirements of this section of the Tentative Order.
Construction Component	F.2	8.0 Appendix H	Implement a construction component of the Jurisdictional URMP to reduce pollutants in runoff from construction sites during all construction phases.	The Construction section of the DAMP is generally inadequate to address the requirements of Tentative Order 2001-193. It focuses mainly on Public Works construction projects, and does not address requirements for private construction projects.
Construction Component	F.2.a	Not addressed	Pollution Prevention	The DAMP does not include pollution prevention methods for construction, and should be updated to include and implement these methods.
Construction Component	F.2.b	8.4 8.7	Grading Ordinance Update	The DAMP does include a new commitment to review grading/erosion control ordinances on an as needed basis to achieve consistency with other regulatory requirements, but it does not contain language requiring the implementation of BMPs to be include in the update.
Construction Component	F.2.c	Not addressed	Modify Construction and Grading Approval Process	The DAMP does not include clear and specific language that indicates the construction and grading approval process will be modified to ensure that pollutants will be reduced to MEP.
Construction Component	F.2.d	Not addressed	Source Identification	The DAMP does not address the development of a watershed-based construction site inventory of all sites

				within their jurisdiction.
Construction Component	F.2.e	Not addressed	Threat to Water Quality Prioritization	The DAMP does not address the threat to water quality prioritization of construction sites.
Construction Component	F.2.f	8.6; Appendix H	BMP Implementation	The DAMP does not set minimum BMP requirements based on threat to water quality prioritization. The DAMP does set minimum BMP requirements, but only for public works construction projects and not private construction sites.
Construction Component	F.2.g	8.4	Inspection of Construction Sites	Although the DAMP does address inspection frequencies of construction sites by construction and grading inspectors, these frequencies are not based on the threat to water quality prioritization, and are not adequate to comply with the requirements of Tentative Order 2001-193.
Construction Component	F.2.h	8.2	Enforcement of Construction Sites	The DAMP includes provisions for coordination of enforcement efforts between Regional Board and the Copermittees. However, the DAMP lacks specific reference to the enforcement efforts of Copermittees' ordinances with respect to construction activities within their jurisdiction.
Construction Component	F.2.i	Not addressed	Reporting of Non-Compliant Sites	The DAMP does not include criteria for Copermittee evaluation and notification to the Regional Board of non-compliant construction sites.
Construction Component	F.2.j	8.7	Education Focused on Construction Activities.	The DAMP provides for adequate educational efforts for Municipal staff, developers and project proponents.
Existing Development Component	F.3		Minimize short-term and long-term impacts on receiving water quality from all types of existing development.	As the proposed DAMP attempts to broadly address countywide storm water discharges, the specificity required to manage discharges locally and on a watershed basis is compromised. As a result, for the region of Orange County subject to the San Diego Regional Water Quality Control Board, the DAMP does not result in a plan to reduce pollutants in urban runoff discharges from existing municipal, industrial, commercial, and residential areas to the maximum extent practicable (MEP). For instance, although the

				Permit allows for a BMP-based approach to reaching MEP, an assessment of BMP effectiveness (DAMP section 3.3) at the jurisdictional level is not effectively attainable under the current monitoring program.
Municipal (Existing Development)	F.3.a.1 F.3.a.2 F.3.a.3 F.3.a.4 F.3.a.5 F.3.a.6 F.3.a.7 F.3.a. 8	5.0; Appendix M	Pollution Prevention Source Identification Threat to Water Quality Prioritization BMP Implementation Maintenance of MS4 Management of Pesticides, Herbicides, and Fertilizers Inspection of Municipal Areas and Activities Enforcement of Municipal Areas and Activities	Although the DAMP describes a Hazardous Waste Management/Environmental Performance Report (section 5.3.6), the program description does not provide sufficient detail to evaluate the pollution prevention and source identification (Inventory) components of this report. With respect to public agency (Municipal – Existing Development) land uses, the DAMP and Appendices F and M provide sufficient detail concerning the pollution prevention, source identification, and threat to water quality prioritization for many of the categories identified in the Tentative Order. However, it is not apparent that the source identification included the active landfills, publicly owned treatment works, the MS4 systems, incinerators, land application sites, or uncontrolled sanitary landfills. To the extent that these public agency land use activities or areas are present, the DAMP and Appendix M should be updated to address these areas and activities. Also, it is not apparent in Appendix 3 of Appendix M that San Juan Capistrano, Rancho Santa Margarita, Laguna Woods, and Lake Forest have complied with this requirement of the DAMP. The BMP Reference Manual provided in Appendix 2 of Appendix M is dated and should be updated by the Copermittees. Furthermore, the DAMP and Appendices do not establish minimum required BMPs to be implemented by public agencies with respect to the municipal areas and activities. This section and the Appendices should

				be updated to address all of the municipal areas and activities identified as high priority categories and include the required designated minimum BMPs for the public agency areas and activities inventoried and identified as low, medium, or high priorities. The MS4 maintenance activities described by the Copermittees in sections 5.3.3 and 5.4 satisfy the requirements of section F.3.a.5. The new commitment by the Copermittees to annually inspect and clean out as necessary (to be determined by criteria under development) is in particular a significant commitment. The commitment to update MS4 maps both on paper and electronically following significant changes is also a noteworthy commitment that satisfies requirements in the Tentative Order.
Industrial (Existing Development)	F.3.b.1 F.3.b.2 F.3.b.3 F.3.b.4 F.3.b.5 F.3.b.6 F.3.b.7 F.3.b.8	9.0;	Pollution Prevention Source Identification Threat to Water Quality Prioritization BMP Implementation Monitoring of Industrial Sites Inspection of Industrial Sites Enforcement of Industrial Sites Reporting of Non-Compliant Sites	The proposed DAMP is insufficient to effectively identify industrial sources of discharges to the municipal separate storm sewer system (MS4). The proposed DAMP commitment to assess the feasibility of establishing a mechanism to ensure coverage under the State's Industrial General Permit prior to issuance of a business license does address an action (identification) that is required under Federal regulations (40 CFR 122.26(d)(2)(ii)), yet does not actually commit the Copermittees to providing an inventory of industrial facilities (DAMP section 9). Given the relatively small size and limited industrial activity within most of the municipalities subject to the Tentative Order, the DAMP commitment seems to unnecessarily delay compliance with the Federal regulations. The proposed DAMP does not provide for effective inspection, surveillance, and monitoring procedures to determine compliance with permit conditions, including illicit discharges to the MS4. Inspections of

				industrial facilities for local compliance are performed by various County agencies, but there is no documentation of visits, findings, monitoring, or follow-up actions, thus, there is no means for assessing whether high priority sites within a local jurisdiction are in compliance with prohibitions on illicit discharges (DAMP sections 9 and 10).
Commercial (Existing Development)	F.3.c.1 F.3.c.2 F.3.c.3 F.3.c.4 F.3.c.5	3.0; 3.1; 3.2; 10.0	Pollution Prevention Source Identification BMP Implementation Inspection of Commercial Sites and Sources Enforcement of Commercial Sites and Sources.	The proposed DAMP does not base development of BMP guidance, education, or selection of target commercial activities on jurisdictional needs and does not propose to address many commercial activities known to be threats to water quality (DAMP section 6 and Appendix L). Commercial activities targeted for BMP guidance and education are selected on Countywide criteria, regardless of the threat a targeted commercial activity poses in a specific municipality. The proposed DAMP does not adequately ensure that high priority commercial activities are inspected for compliance with local storm water ordinances. Inspections of commercial facilities for local compliance are performed by various County agencies, but there is no documentation of visits, findings, or follow-up actions, thus, there is no means for assessing whether high priority sites within a local jurisdiction are being inspected or for assessing the effectiveness of the inspection procedures (DAMP sections 3.0 and 10.0).
Residential (Existing Development)	F.3.d.1 F.3.d.2 F.3.d.3 F.3.d.4		Pollution Prevention Threat to Water Quality Prioritization BMP Implementation Enforcement of Residential Areas and Activities	Although the proposed DAMP would continue a strong educational effort targeting residential activities, it neglects to prioritize particular residential activities for action (DAMP section 6). Furthermore, it does provide a framework from which to assess the need or feasibility of structural BMPs. Given the proliferation of residential development and the documented

				contribution of pollutants from residential activities that enter receiving waters via the MS4, the DAMP provides inadequate commitments for ensuring that pollutants in urban runoff from residential activities are reduced to the maximum extent practicable.
Education Component	F.4	6.0; 6.3.2 6.4; Appendix L	Implement the Education Component of the Jurisdictional URMP to measurably increase the knowledge of target communities and change behavior of target communities.	The proposed DAMP continues a strong commitment to public education shown by the Copermittees during the first two Permit periods. Two notable new commitments are the formation of a public education committee and the implementation of the Public and Business Education Strategy. The Copermittees should review the various educational programs to ensure that they satisfy all the requirements of the Tentative Order in sections F.1.d, F.2.j, F.4.a, F.4.b, and F.4.c., especially with respect to the target audiences and contents of the Educational Components. The DAMP correctly emphasizes "effective" education programs, but could provide more specific information regarding the criteria that have been found to characterize effective educational programs.
Illicit Discharge Detection and Elimination Component	F.5.	10.0; Appendix K	Implement the Illicit Discharge and Elimination Component of the Jurisdictional URMP to actively seek and eliminate illicit discharges and connections.	See comments regarding industrial and commercial facility inspections (DAMP section 10.3). In addition, investigation and enforcement measures in the proposed DAMP appear to be insufficient to implement and enforce means to prevent illicit discharges to the MS4 (DAMP section 10). For example, as reported in the Report of Waste Discharge and NPDES Annual Progress Reports, the overwhelming majority of enforcement actions consist of educational letters in response to complaints and actual observances of discharges that violate local ordinances. There is no proposed mechanism, however, for determining the effectiveness of such letters. For example, there is no attempt to assess whether a recipient of an educational letter understands

				the content of the letter, any enclosed storm water brochures, or the actual liability of continuing to discharge illegally to the MS4. The proposed DAMP calls for reviewing and revising coordinated spill response procedures with sewering agencies, but there is no timeframe (DAMP section 10). In addition, although spills from private laterals are a threat to water quality, there is no indication of a plan to address this source of pollution.
Illicit Discharge Detection and Elimination Component	F.5.a	10.0	Illicit Discharges and Connections	Section 10.1 incorrectly identifies illicit discharges as "any intentional discharge...that is not entirely composed of storm water…" (emphasis added). The DAMP does not adequately address unintentional discharges not composed entirely of storm water that enter the MS4 system. In fact, the Water Quality Ordinance specifically provides an exception for accidental sewage spills, roof runoff, and reclaimed water runoff from enforcement as illicit discharges.
Illicit Discharge Detection and Elimination Component	F.5.b	10.0; Appendix K	Dry Weather Monitoring Program	The discussion of the dry weather monitoring component of the Orange County Water Quality Monitoring Program in Appendix K provides a general description of the program development and goals, but leaves unanswered, or insufficiently described, how the program will be implemented year by year at a jurisdictional level. The monitoring proposal in Appendix K is insufficiently detailed and where detail is provided, the program appears to be too rigid and focused on specific locations to detect episodic illicit discharges in a broader, watershed context. Only three "warm spot" stations and three "reconnaissance warm spot" sampling stations are located in the San Juan Creek Watershed Management Area covered under this Tentative Order. It is not clear in Appendix K from sections 5.1, 5.1.2, Table 5.1, and Figure 5.2 that these reconnaissance stations

				are included in the 5 year plan for Source Identification for Warm Spots and CARs (Critical Aquatic Resources). Furthermore, the San Juan Creek watershed, the largest hydrologic unit in the San Juan Creek Watershed Management Area, does not seem to be included in this program. Moreover, the section (5.1.4) of Appendix K discussing Aliso Creek is very dated (even with respect to information available in September 2000) and does not describe in any detail how the results of the previous investigations will be addressed in the Dry Weather Monitoring Program or the implementation of the proposed DAMP. Section 5.2.2 of Appendix K provides only very general description of monitoring tools and techniques that may be used to identify sources. Although the use of a mobile lab on a monthly basis is proposed, the section lacks clearly presented, specific information with respect to the sites to be sampled, parameters to be analyzed at each, and the follow-up mechanisms and investigative measures to be employed. The sampling parameters and frequencies are not sufficiently detailed, and where described, they may be insufficient to detect incidental, episodic, and short duration illicit discharges even in these drainages. The monitoring program described does not provide enough information to the Copermittees in a timely enough manner to result in the detection and elimination of illicit discharges and illegal connections. The monitoring program is insufficiently linked to the jurisdictional level program. Where land use investigation studies are proposed, these focus only on various, select, BMPs (i.e. trash dumpster areas, street sweeping efficiencies, inlet trash racks, and motor fuel concrete dispensing area

				interruptible drainages). To the extent that land use investigations are performed, they should include each of the major categories of land use. Land use investigations may not provide adequate, timely information regarding episodic illicit discharges or illegal connections. Finally, the program revaluation period of five years for this monitoring effort (ending June 2003) is too long to provide timely information and adaptive management opportunities to a Dry Weather Monitoring Program intended to detect and eliminate illicit discharges and illegal connections. The Dry Weather Monitoring Program should be extensively reviewed and revised to address the requirements of the Tentative Order and to provide a broader scope for reconnaissance and surveillance Dry Weather Monitoring that considers the entire San Juan Creek Watershed Management Area within Orange County.
Illicit Discharge Detection and Elimination Component	F.5.c F.5.d F.5.e	10.0; Appendix K	Investigation/Inspection and Follow-up Elimination of Illicit Discharges and Connections Enforce Ordinances	DAMP does not provide necessary detail for detection and elimination of Illicit Discharges and Illegal Connections (IC/IDs). It does provide for training of inspectors and regular meetings to discuss compliance inspections, but only for industrial inspections. This should be expanded to include municipal, residential, and commercial land uses and to address detection and elimination of IC/IDs. The dry weather monitoring program should be describe specific minimum frequencies of inspections, monitoring requirements, trigger thresholds for further investigation, and minimum response and enforcement actions.
Illicit Discharge Detection and Elimination Component	F.5.f	10.0	Prevent and Respond to Sewage Spills (Including Private Laterals and Failing Septic Systems) and Other Spills	The New Commitment to coordinate with major sewering agencies the review and revision of procedures and practices for sewage spill response does not have sufficient detail by which to evaluate the

				compliance by the Copermittees with the Tentative Order. For example, the new commitment does not address the Copermittee level prevention, response, and clean up of all sewage and other spills from any source, including private laterals and failing septic systems. Also, the new commitment does not address the prevention of entry of sills into the MS4 and contamination of surface water, ground water, and soil to the MEP. Finally, the new commitment and section 10 in general does not address in sufficient detail how the Copermittees will satisfy the requirement to coordinate spill prevention, containment, and response activities throughout all appropriate departments, programs, and agencies.
Illicit Discharge Detection and Elimination Component	F.5.g	10.0	Facilitate Public Reporting of Illicit Discharges and Connections – Public Hotline	The proposed DAMP includes very good countywide programs to facilitate public reporting of illicit discharges and connections. Additional specific detail is necessary at a jurisdictional level regarding the implementation of this requirement.
	F.5.h	5.1; 5.3.2; 5.3.7; 10.0	Facilitate Public Disposal of Used Oil and Toxic Materials	The DAMP adequately describes the programs implemented to facilitate the public disposal of used oil and toxic materials. These programs have been very successfully implemented by the Copermittees and should be continued.
	F.5.i	5.1; 5.4; 10.0	Limit Infiltration from Sanitary Sewer to MS4	Although the DAMP discusses the extensive inspection and clean out program proposed for the MS4 system, the DAMP does not adequately describe the measures undertaken by the Copermittees to limit infiltration from sanitary sewers to the MS4. For example, the DAMP proposes an annual inspection rate 80% of the MS4 system, but does not describe measures to be implemented that would provide for the thorough, preventative maintenance of the MS4. Moreover, the role of the Copermittees that own or operate both a sanitary sewer and a MS4 system is not adequately described in the DAMP.

Common Interest Areas and Homeowners Associations	F.6.a F.6.b	7.0; Appendix G	Each Copermittee develops and implements a plan to ensure that urban runoff originating within common interest areas meets the objectives of the Order. Each Copermittee describes in its Annual Report measures taken to ensure that urban runoff discharged from common interest areas into its MS4 meets the objectives of the Order.	The DAMP addresses new developments subject to ownership and management by common interest associations (DAMP section 7 and Appendix G), but does not provide adequate means for assuring that existing development in common interest areas are reducing pollutants to the MEP.
Public Participation Component	F.7	3.3.4	Each Copermittee incorporates a mechanism for public participation in the implementation of the Jurisdictional URMP.	The proposed DAMP encourages public participation in accordance with the NPDES Storm Water Permits, but does not specifically describe a mechanism for public participation in the implementation of the Jurisdictional Urban Runoff Management Program (or DAMP).
Assessment of Jurisdictional URMP Effectiveness Component	F.8.a F.8.b	Section 5.0 (ROWD); 3.1; 3.2; 3.3.1; 3.3.2; 3.4; 3.5	Each Copermittee develops a long-term strategy to assess the effectiveness of its Jurisdictional URMP. Strategy shall include direct and indirect measurements. Strategy shall consider the role of monitoring data in substantiating or refining the assessment. Each Copermittee shall include an assessment of the effectiveness of the Jurisdictional URMP in its Annual Report as described above.	Although the DAMP relies on a BMP-based approach to reducing pollutants in storm water discharges to the maximum extent practicable, an assessment of BMP effectiveness (DAMP section 3.3) at the jurisdictional level is not effectively attainable under the current monitoring program (see comments for F.3 above). Section 5.0 of the Report of Waste Discharge and section 3.3.2 of DAMP lacks specificity with regard to the assessment of the effectiveness of all of the general programs or individual BMP implemented to reduce pollutant loading to the MS4 and receiving waters. These sections, rather, discusses why the Copermittees feel they are unable to evaluate BMPs and a list of studies that have or will be performed, mostly by non-Copermittees. Section 3.3.2 refers to a number of programs that are currently contributing to the assessment of individual project BMP performance, but does not list, refer to, or describe these programs.

				Where the DAMP commits to the assessment BMP effectiveness, the DAMP fails to provide sufficient information regarding how the assessments will be performed, what the time lines for the assessments will be followed, and how the implementation of the DAMP will incorporate the data collected from the assessments. Section 3.3.3 of the DAMP states that the DAMP will be revised and submitted as the proposed plan for each Report of Waste Discharge. Section 3.5 includes as a new commitment the assessment and evaluation of data from site-specific BMPs in order to determine effectiveness of the BMP implementation. It is not clear from section 3.3.3 that the DAMP will be revised and updated as data from the assessments of program and BMP implementation is made available. The DAMP proposes to be a dynamic document subject to revision and improvement on an annual basis, but review of previously submitted DAMPs does not indicate that this has in practice been accomplished. The 1993 DAMP and the 2001 DAMP are very similar in structure and content. Section 3.3.2 states that the BMPs implemented under the previous permits will be largely continued and indicates that in many instances, changes have been included to further improve the effectiveness over the Third Permit Term and to increase Copermittee commitment to their implementation. However, it is not clear in the subsequent sections of the DAMP where or how these changes have been made. Section 3.3.2 also includes two statements that make it appear unlikely that the DAMP will be significantly updated annually: "Assessing the cumulative effect of BMPs employed countywide on the water quality of receiving waters may take a number of years" and "it has not proven

				possible to characterize the effects of …BMPs." Given the lack of specificity in these sections, and the apparent inability to asses the effectiveness of the BMPs implemented, the DAMP approaches to assessing program effectiveness as required in sections F.8 and J.2.h and J.2.i is considered inadequate.
Fiscal Analysis Component	F.9	2.2.2; 2.2.5; 3.4; Appendix C; Appendix D	Each Copermittee shall secure the resources necessary to meet the requirements of the Order Each Copermittee shall develop a strategy to conduct a fiscal analysis of its Jurisdictional URMP in its entirety. Each Copermittee shall conduct an annual fiscal analysis as part of its Jurisdictional URMP Annual Report. The fiscal analysis shall evaluate the expenditures necessary to accomplish the activities of the Jurisdictional URMP. The fiscal analysis shall include a description of the source(s) of funds that are proposed to the meet the necessary expenditures including legal restrictions on the use of such funds.	Federal NPDES regulations require the Copermittees to estimate the funds required to carry out the capital and operations and maintenance activities of their programs and to provide a description of the source(s) of funds to be used. The DAMP calls for the Copermittees to report each year on their non-shared expenditures for the previous fiscal year, the budget for the current fiscal year and a description of the source of funds. In addition, shared costs fund activities performed by the County of Orange as Principal Permittee on behalf of the Copermittees. In general this fiscal analysis approach satisfies the requirements of the Tentative Order. In the 2000 NPDES Annual Report, however, where 8 cities and the County of Orange provide fiscal analyses in a table format corresponding to DAMP section commitments, we are concerned about the following trends. "Drainage facility maintenance" is the only element projected for funding by every Copermittee. Four cities (50%) and the County project no funds for "public property and street chemical spill response." Six cities (75%) and the county project no spending on "environmental performance," which is an evaluation of municipal facilities. Four cities (50%) and the County project no spending on "nonpoint source pollution awareness" and six cities (75%) and the County project no spending on "household hazardous waste collection." Four cities (50%) and the County project no spending on "requiring new development BMPs (supportive of planning, etc.)," and "requiring

				construction BMPs (supportive of plan check and inspection)." In addition, three cities (38%) project no spending on "facility inspection," although this may presumably be attributed to some cities delegating inspection to the Principal Permittee. Yet, seven cities (88%) and the County project no spending on "other efforts to identify and eliminate illicit connections." Taken together, these spending projections imply that either the reporting system should be modified or there is a systemic lack of commitment to addressing DAMP elements at the jurisdictional level.
Implementation of Jurisdictional URMP	G		Each Copermittee shall have completed full implementation of the requirements of the Jurisdictional URMP no later than 365 days following adoption of the Order. Full implementation does not include the implementation of the model SUSMP. Within 180 days of the development of the model SUSMP, each Copermittee shall adopt its own local SUSMP and amended ordinances consistent with the model SUSMP. Within 180 days of the development of the model SUSMP, each Copermittee shall submit its local SUSMP and amended ordinances consistent with the model SUSMP. Following the adoption of the Order and prior to the	The DAMP does not adequately address the requirements of section G as described in the preceding section (F) of the Tentative Order.

			implementation of the Jurisdictional URMP, each Copermittee shall at a minimum implement the provisions and commitments of the proposed DAMP.	
Submittal of Jurisdictional URMP Document	H	Not Addressed	Each Copermittee shall submit to the Principal Permittee(s) an individual Jurisdictional URMP Document. The Jurisdictional URMP Document shall contain a written account of the overall program to be conducted by the Copermittee within its jurisdiction.	The DAMP does not adequately address the requirements of section H of the Tentative Order since it is specific to the requirements of sections F and G of the Tentative Order. See discussion of these sections above.
Submittal of Jurisdictional URMP Annual Report	I	Not Addressed	Requirements for the submittal of each Copermittee's Jurisdictional URMP Report.	The DAMP does not adequately address the requirements of section I of the Tentative Order since it is specific to the requirements of sections F, G, and H of the Tentative Order. See discussion of these sections above.
Watershed Urban Runoff Management Program (Watershed URMP)	J.1	1.3; 3.3.1; 11.4	Copermittees collaborate to review and revise as necessary the proposed DAMP to identify, address, and mitigate the highest priority water quality issues/pollutants in the six hydrologic units in the San Juan Creek Watershed Management Area.	The DAMP indicates that water quality problems have been and will be identified and prioritized. However, the water quality planning initiatives referred to in section 1.3 and described in sections 3.3.1 and 11.4 consist primarily of monitoring activities Section 11.4 describes water quality planning initiatives underway in Orange County, only one of which is located in the San Juan Creek Watershed Management Area. The DAMP does not adequately address the other five hydrologic units. Moreover, most of the section discussing the Aliso Creek watershed focuses on the 205(j) grant study and the SDRWQCB directives for increased monitoring in the Aliso Creek watershed. The activities or plans of the Copermittees to identify and eliminate sources of the elevated bacteria levels

				and toxicity identified in the Aliso Creek watershed are not addressed. None of the new commitments in 11.5 address the requirement to identify and eliminate sources and to implement BMPs to reduce pollutants in the discharges.
Watershed Urban Runoff Management Program (Watershed URMP)	J.2	1.3; 3.3.1; 11.4	Copermittees collaborate to develop and implement a Watershed Urban Runoff Management program for the six hydrologic units of the San Juan Creek Watershed Management Area.	The DAMP does not specifically address the requirement to collaborate to develop and implement a Watershed URMP or equivalent for each of the six hydrologic units of the San Juan Creek Watershed Management Area within Orange County. See also the discussion above for section J.1.
Watershed Urban Runoff Management Program (Watershed URMP)	J.2.a	1.3; 3.3.1; 11.4	Prepare an accurate map of the watersheds in the San Juan Creek Watershed Management Area that identifies all receiving waters, all 303(d) listed water bodies, existing and planned land uses, MS4s, major highways, jurisdictional boundaries, and inventoried commercial, construction, industrial, municipal sites, and residential areas.	Although the Copermittees have prepared maps of the Aliso Creek watershed in response to directives from the SDRWQCB, the preparation of these maps as described in section J.2.a is not addressed in the DAMP.
Watershed Urban Runoff Management Program (Watershed URMP)	J.2.b	3.3.1; 3.3.2; 10.0; 11.0; 11.4; Appendix K	An assessment of water quality of all receiving waters in the watershed based on existing water quality data, annual dry weather monitoring, and watershed receiving water quality monitoring.	It is not apparent that the water quality monitoring program discussed in the DAMP and Appendix K will adequately assess water quality of all receiving waters in the San Juan Creek Watershed Management Area. The DAMP and monitoring programs should be updated to comply with this requirement of the Tentative Order.
Watershed Urban Runoff Management Program (Watershed URMP)	J.2.c	3.3.1; 3.3.2; 10.0; 11.0; 11.3.3 11.4;	Identify and prioritize major water quality problems caused or contributed to by MS4 discharges and the likely source(s) of the problem(s).	This requirement is not adequately addressed in the DAMP or Appendix K. The DAMP states that one purpose of the monitoring is to determine the role "if any" that storm water discharges in the impairment of beneficial uses. However, it is not clear that the monitoring plan described in Appendix K and the

		Appendix K		DAMP is adequate in scope to address this question in the San Juan Creek Watershed Management Area. See the discussion for section P below.
Watershed Urban Runoff Management Program (Watershed URMP)	J.2.d		Implementation time schedule for short and long term recommended activities (individual and collective) needed to address the highest priority water quality problems identified above.	The DAMP does not include an implementation time schedule for short or long term recommended activities (individual or collective) needed to address the highest water quality problems in the San Juan Creek Watershed Management Area. It should be noted here that many of the new commitments proposed in the DAMP are activities that were logically required under both the First Term and Second Term Permits (e.g. attendance at workshops, training seminars, and Copermittee TAC meetings) rather than implementation of specific BMPs to address either watershed level or jurisdictional level water quality impacts from MS4 discharges.
Watershed Urban Runoff Management Program (Watershed URMP)	J.2.e		Mechanism for public participation	The proposed DAMP encourages public participation in accordance with the NPDES Storm Water Permits, but does not specifically describe a mechanism for public participation in the implementation of the Watershed Urban Runoff Management Program (or the DAMP water quality planning initiatives such as the one on Aliso Creek).
Watershed Urban Runoff Management Program (Watershed URMP)	J.2.f		Watershed based education program that builds on and expands upon the education activities conducted by each Copermittee.	The proposed DAMP continues a strong commitment to public education shown by the Copermittees during the first two Permit periods. Two notable new commitments are the formation of a public education committee and the implementation of the Public and Business Education Strategy. The Copermittees should review the various educational programs to ensure that they satisfy all the requirements of the Tentative Order, especially with respect to the target audiences and contents of the Educational Component at both a jurisdictional as well as a watershed level. The DAMP correctly emphasizes “effective” education

				programs, but does could provide more specific information regarding the criteria for effective educational programs.
Watershed Urban Runoff Management Program (Watershed URMP)	J.2.g	Not Addressed	A Mechanism to facilitate collaborative watershed-based land use planning with neighboring governments in the watershed.	The DAMP does not address this requirement of the Tentative Order.
Watershed Urban Runoff Management Program (Watershed URMP)	J.2.h	Not Addressed	Short-term strategy for assessing the effectiveness of the activities and programs implemented under the Watershed URMP. The short-term assessment strategy shall identify methods to assess Watershed URMP effectiveness and include specific direct and indirect performance measures that will track the immediate progress and accomplishments of the Watershed URMP towards improving water quality impacted by urban runoff discharges. The short-term strategy shall address the use of monitoring data collected by the Copermittees in substantiating and refining the assessment.	The DAMP does not address this requirement of the Tentative Order. As discussed above, the DAMP fails in most sections to adequately describe a detailed strategy for assessing program effectiveness on either a jurisdictional or watershed level.
Watershed Urban Runoff Management Program (Watershed URMP)	J.2.i		Long- term strategy for assessing the effectiveness of the activities and programs implemented under the Watershed URMP. The long-term assessment strategy shall identify include specific direct and indirect performance measures that will track the long-term progress of the Watershed URMP towards improving water	The DAMP does not address this requirement of the Tentative Order. As discussed above, the DAMP fails in most sections to adequately describe a detailed strategy for assessing program effectiveness on either a jurisdictional or watershed level.

			quality impacted by urban runoff discharges. The measures shall include surveys, pollutant loading estimations, and receiving water quality monitoring (or their equivalents). The long-term strategy shall address the use of monitoring data collected by the Copermittees in substantiating and refining the assessment.	
Implementation of Watershed URMP	K	Not Addressed	Requirements for the implementation of the requirements of the Watershed URMP for the San Juan Creek Watershed Management Area.	The DAMP does not adequately address the requirements of section G as described in the preceding section (J) of the Tentative Order.
Submittal of Watershed URMP Document	L	Not Addressed	Requirements for the submittal of the Watershed URMP Document for the San Juan Creek Watershed Management Area.	The DAMP does not adequately address the requirements of section L of the Tentative Order since it is specific to the requirements of sections J and K of the Tentative Order. See discussion of these sections above.
Submittal of Watershed URMP Annual Report	M	Not Addressed	Requirements for the submittal of the Watershed URMP Annual Report for the San Juan Creek Watershed Management Area.	The DAMP does not adequately address the requirements of section L of the Tentative Order since it is specific to the requirements of sections J, K, and L of the Tentative Order. See discussion of these sections above.
Program Management	N	2.0; Appendix C; Appendix D	The Copermittees shall implement the Program Management activities and commitments as described in section 2 (Program Management) of the proposed DAMP.	The DAMP contains adequate information and commitments by the Copermittees with regard to program management. See also the discussion below regarding the Principal Permittee Responsibilities.
Principal Permittee Responsibilities	O	2.0; Appendix C;	Description of the designation of the Principal Permittee by the Copermittees and the responsibilities of the Principal Permittee.	The DAMP adequately describes the Principal Permittee Responsibilities, but does address the provision in the Tentative Order for the selection of more than one Principal Permittee.
Receiving Waters Monitoring and	P	10.0;	The Copermittees shall comply	The monitoring program described in the DAMP is not

Reporting Program		11.0; Appendix K	with the Receiving Water Monitoring and Reporting Program for Tentative Order No. 2001-193 (Attachment B).	adequate to assess compliance with the Order. Section 11.0 of the DAMP describes the objectives of previous monitoring efforts and indicates that the results of the monitoring will be used to "provide technical information to support effective stormwater management program activities…"but does not sufficiently describe what technical information is being collected in the monitoring program or how that information will be used. Other sections of the DAMP where this information might be employed are also vague and non-committal. The DAMP should include specific detail in this regard, especially with respect to identifiable performance standards and time lines for implementation. Two of the four "new commitments," in which the Copermittees propose to review and revise elements of the water quality monitoring program, are activities that should have been implemented and continue to be implemented as a matter of course. They do not represent significant new commitments. The new commitments to participate in the Southern California Bight Regional Monitoring Programs and Southern California Stormwater Monitoring/Research Cooperative Program are supportive of section B. 2.b.5 of Attachment B of the Tentative Order. The DAMP, however, should identify how role the Copermittees will specifically participate in these activities and what the anticipated products or results will be. Notably absent in section 11 as a whole, and sections 11.2 and 11.3 in particular, is the assessment of compliance objective of the monitoring program. Since the Second Term Permit monitoring program will carry over into the Third Term, it is necessary that the monitoring also be designed to assess compliance

				with the Tentative Order. This is a critical component of an NPDES and WDR Monitoring and Reporting Program and should be addressed in the DAMP and Appendix K. As discussed in section F.5, only three warm spots and three reconnaissance sites will be monitored under the program. The main effort of the monitoring program described in section 11 and Appendix K is focused in northern Orange County. Significant areas of the San Juan Creek Watershed Management Area covered under the Tentative Order are not adequately addressed in the Orange County Water Quality Monitoring Program as it is now described. Also, the monitoring to be performed will not adequately assess the biological, physical and chemical impacts to the receiving waters resulting from the discharge of urban runoff. In particular, coastal storm drain outfall monitoring, ambient coastal receiving waters (apart from Dana Harbor) monitoring, and urban stream bioassessment are not adequately addressed in the DAMP and Appendix K. The DAMP and Appendix K should be updated to satisfy the requirements of section P and Attachment B of the Tentative Order.
Task and Submittal Summary	Q	Not Addressed	Tables of Tasks and Submittals required specifically under Tentative Order 2001-193.	The DAMP does not adequately specify the tasks and deliverables apart from the Annual Reports, next Report of Waste Discharge and submittal of the proposed DAMP at the end of the Third Term Permit cycle. Also, the DAMP does not adequately address reporting of events of non-compliance.
Standard Provisions, Reporting Requirements and Notifications	R	Not Addressed	Requirement for each Copermittee to comply with Standard Provisions, Reporting Requirements, and Notifications contained in Attachment C of the	The DAMP does not adequately address all of the Standard Provisions and Reporting Requirements and Notifications. In particular, the DAMP fails to address the reporting of events of non-compliance. Also, it is not clear that the DAMP meets the requirements in

			Tentative Order.	section R.2 that all plans reports, and subsequent amendments submitted in compliance with the Tentative Order will be implemented immediately unless otherwise specified and that they will be an enforceable part of the Tentative Order upon submission to the SDRWQCB.
Attachment A – Basin Plan Prohibitions		Not Addressed		The DAMP does not adequately address implementation of the Basin Plan Prohibitions under the Third Term Permit as required in the Tentative Order.
Attachment B – Receiving Waters Monitoring and Reporting Program for Order No. 2001-01		10.0; 11.0; Appendix K		See discussion in section P above.
Attachment C – Standard Provisions, Reporting Requirements, and Notifications		Not Addressed		Not specifically addressed by the DAMP.
Attachment D – Glossary		Glossary (pp. vi-ix)		The DAMP includes a glossary, but it does not define all of the terms contained in Attachment D of the Tentative Order.
Attachment E – Dry Weather Analytical and Field Screening Monitoring Specifications – Urban Runoff		10.0; Appendix K		See discussion in section F.5 above.