CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 93-117
NPDES PERMIT NO. CA0037842
REISSUING WASTE DISCHARGE REQUIREMENTS FOR:

CITIES OF SAN JOSE AND SANTA CLARA
SAN JOSE/SANTA CLARA WATER POLLUTION CONTROL PLANT
SAN JOSE
SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board) finds that:

1. The Cities of San Jose and Santa Clara (hereinafter the discharger) submitted a National Pollutant Discharge Elimination System (NPDES) permit application dated August 5, 1991, for reissuance and amendment of waste discharge requirements under NPDES Permit No. CA0037842.

2. The discharger is currently subject to NPDES Permit CA0037842 (Order No. 89-012, adopted January 18, 1989, and modified as follows: Order 90-033, adopted February 21, 1990; Order 90-068, adopted May 16, 1990; and, Order 91-066, adopted April 17, 1991), and Cease and Desist Order 89-013 (adopted January 18, 1989, as modified by Order No. 90-054, adopted April 18, 1990). Order 89-012 and 89-013 were appealed to the State Water Resources Control Board after their adoption, and the State Board ruled on the appeals in Order No. WQ 90-5, issued October 5, 1990.

3. The discharger currently (during a drought period) discharges an average dry weather flow of approximately 99 million gallons per day (mgd) from its advanced waste treatment facility at 700 Los Esteros Road, San Jose. A pre-drought average dry weather flow of 121 mgd was discharged in 1987. The discharger supplies reclaimed water (restricted use) at its facility, and also supplies treated wastewater to the City of Santa Clara reclaimed wastewater distribution facility. Treatment facilities consist of screening and grit removal, primary sedimentation, secondary (activated sludge) treatment, nitrification (separate, second stage activated sludge) treatment, filtration, chlorination, and dechlorination. Sludge is anaerobically digested and stabilized in sludge lagoons and drying beds. After solar drying to about 50% total solids, the sludge is stockpiled on site prior to reuse. The plant has a treatment capacity of 167 mgd average dry weather flow, and 271 mgd peak hourly flow capacity. The facility treats wastewater from the Cities of San Jose, Santa Clara, and Milpitas; County Sanitation Districts No. 2 and 3; and the West Valley,

Cupertino, Burbank, and Sunol Sanitary Districts.

Treated wastewater effluent from the treatment plant flows into Artesian Slough (37 deg. 26 min. 06 sec. latitude - 121 deg. 57 min. 08 sec. longitude) tributary to Coyote Creek and South San Francisco Bay, all waters of the United States.

4. The Board amended its Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on September 16, 1992, and the State Water Resources Control Board (State Board) approved it on April 27, 1993. The Regional Board amended the Basin Plan on October 21, 1992 to adopt a site-specific objective of 4.9 $\mu g/\ell$ for copper for San Francisco Bay and the shallow water marine effluent limit. The Regional Board amended the Basin Plan on June 16, 1993 to adopt a wasteload allocation for copper (Resolution 93-61). The provisions of this permit are consistent with the Basin Plan amendments adopted by the Regional Board. The State Board has not approved the Basin Plan amendments of October 1992 and June 1993 as of the date of this permit.

   Certain portions of the Basin Plan not yet approved by the State Board are included in this permit. Such limitations, specifications, and provisions are based on best professional judgment and staff evaluation of the presentations at the October 1992 (Item 6) and June 1993 (Item 6) Board meetings. The records from these hearings are incorporated by reference in this permit hearing. Specifically, the site-specific objective for copper is included based on the Regional Board study that employed the "water effect ratio" approach developed by the EPA. This approach provides a measure of the binding capacity of natural waters (dependent on particulate matter) relative to the binding capacity of reference (filtered oceanic water) waters. The mass loading limit for copper in this permit is from the region-wide wasteload allocation for copper, developed to implement the site-specific concentration limit by requiring reductions in copper mass discharged from riverine, non-point discharges, and municipal and industrial dischargers throughout the San Francisco Bay-Delta Estuary. An advantage of the site-specific objective is that it is protective of the most sensitive use of San Francisco Bay waters with respect to copper: habitat for aquatic organisms.

5. The beneficial uses of San Francisco Bay, South Bay (south of the Dumbarton Bridge) and contiguous water bodies are:

   Water contact recreation
   Non-contact water recreation
   Wildlife habitat
   Preservation of rare and endangered species
   Estuarine habitat

Fish migration
Fish spawning (potential use)
Industrial service supply
Shellfish harvesting
Navigation
Commercial and sport fishing

Contiguous water bodies of South Bay include freshwater and saltwater sloughs such as Artesian Slough, Coyote Slough, Mud Slough and Coyote Creek, into which the WPCP discharges. General uses of the sloughs have been established based on the beneficial uses formally identified for South Bay. However, beneficial uses specific to the sloughs have not yet been established.

6. The existing discharge location is contrary to Basin Plan policy. The Basin Plan prohibits discharges receiving less than 10:1 minimum initial dilution via a deep water diffuser, discharges to dead-end sloughs, and discharges south of the Dumbarton Bridge. The existing discharge location is also contrary to the State Water Resources Control Board Bays and Estuaries policy, which prohibits discharges south of the Dumbarton Bridge.

7. Exceptions to the three Basin Plan prohibitions may be considered where the discharger can show (1) a net environmental benefit as a result of the discharge, (2) that the project is part of a reclamation project, or (3), that the discharge will provide equivalent protection.

8. The 1986 Basin Plan did not include water quality objectives for San Francisco Bay south of the Dumbarton Bridge. The Basin Plan found that the South Bay had a unique hydrogeologic environment, and that site-specific water quality objectives for metals were appropriate for the water body. Order 89-012 contained requirements for studies to assess impacts from metals on the water body, to investigate controls on metals levels discharged in effluent, and to develop water quality objectives based on cost/impact. These studies have all been received by the Regional Board. The discharger was allowed to propose water quality objectives based on toxicity testing. A finding of net environmental benefit for the discharge could not be made in 1989 at the time waste discharge requirements were adopted because of impacts to endangered species habitat caused by the discharge. The Board found that conditional approval for discharge under a finding of net environmental benefit could be made if the discharge provided mitigation consistent with Cease and Desist Order 89-013. The discharger appealed this requirement to the State Board. State Board Order WQ 90-5 directed the discharger to mitigate for habitat loss and degradation caused by the discharge.

9. State Board Order WQ 90-5 found that consideration of a net environmental benefit exception for San Jose could not be made even if wetlands mitigation, and other special programs, were implemented. Order WQ 90-5 found that water quality objectives were needed for the South Bay, and directed the Board to adopt objectives by March, 1991, and to amend the permit to include water quality based metals limits by April, 1991. In addition, the Board was required to modify the mass loading limits for metals in the permit. On April 17, 1991, Order 91-066 was adopted by the Board, which included revised concentration and mass loading limits for metals. The discharger has submitted information on the South Bay waters and sediments that propose modest use of dilution in calculating effluent limits. No dilution allowance can be made for mercury at this time because of concerns regarding bioaccumulation and biomagnification effects.

A decision regarding the dilution calculation submitted by the discharger will be made by the Board in the future following a demonstration that an aggressive pre-treatment and source control program is in place and that the other Basin Plan conditions for an exception to the zero dilution requirement have been met. The concentration limits contained in this permit may be revised upwards at that time in conformance with the Basin Plan.

Order WQ 90-5 found that a finding of equivalent protection could be made if water quality based concentration limits for metals and revised mass loading limits for metals were placed in the permit, if the discharger continued an avian botulism control program, and if the discharger implemented mitigation for loss and degradation of endangered species habitat as required in Order WQ 90-5. Additionally, Order WQ 90-5 directed the Board to limit flows from the San Jose/Santa Clara treatment plant to 120 mgd or to flows that would not further impact endangered species. The discharger submitted an "Action Plan" to implement mitigation for past and future habitat losses to the Board. That "Action Plan" was accepted by the Board in Resolution 91-152, which is a request to the State Board to accept the "Action Plan" as fulfilling the intent of their requirement for a 120 mgd flow cap. By letter dated November 26, 1991, the State Board has concurred with Resolution 91-152. San Jose qualifies for a conditional exception from the three Basin Plan Prohibitions based on the requirements specified in State Board Order WQ 90-5.

10. In Resolution 91-152, the Board stated that the San Jose Action Plan (revised), dated September 30, 1991, fulfilled the intent of the State Board Order WQ 90-5 requirement to limit flows from the San Jose/Santa Clara Water Pollution Control Plant to a level that will halt any further loss or degradation of endangered species habitat. The Board also stated that it will hold a hearing to consider adopting a 120 mgd average dry weather effluent flow (ADWEF) discharge flow limit if delays occur that threaten the timely completion or

implementation of reclamation projects, or if flows exceed 120 mgd ADWEF. The tasks contained in the San Jose Action Plan are included as provisions in this permit. These tasks include: (1) 380-acre salt marsh conversion/endangered species habitat mitigation, (2) 45-50 mgd non-potable water reclamation project, (3) participation in a pilot potable water reclamation project with the Santa Clara Valley Water District, and (4) 12 mgd water conservation program.

11. The discharger completed the chronic toxicity testing requirements of the effluent characterization program. The results of that work show low levels of chronic toxicity associated with the effluent. The discharger is currently implementing a Toxicity Reduction Evaluation, including source control and waste minimization, aimed at controlling metals concentrations in effluent from the plant, and is conducting a Toxicity Identification Evaluation to determine specific causes of the chronic toxicity.

12. The discharger has conducted an avian botulism program by monitoring Artesian Slough, Coyote Creek, and Alviso Slough for the presence of avian botulism and controlled outbreaks through the prompt collection of sick and dead vertebrates.

13. The discharger has an approved EPA Local Pretreatment Program for source control and application of pretreatment standards. On July 1 and 2, 1991 (respectively), the EPA issued an Administrative Order and the Board issued Clean-up and Abatement Order 91-107 against the discharger for failure to implement the requirements of the program. The discharger is under a time schedule to rectify deficiencies in the program by 1993.

14. Effluent limitations for metals in this permit are based upon best professional judgment of Board staff as well as the Basin Plan and other applicable plans and policies. The discharger is conducting a source control program aimed at compliance with metals limits. Source control, including waste minimization, is a more desirable pollutant reduction technique than structural modification at the discharger's plant. Source control tasks are contained in the Cease and Desist Order that accompanies this Order.

15. Federal Regulations for storm water discharges were promulgated by EPA on November 19, 1990. The regulations [40 CFR 122, 123 and 124] require specific categories of industrial activities including Publicly Owned Treatment Works (POTWs) which discharge storm water associated with industrial activity (industrial storm water) to obtain a NPDES permit and to implement Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) to control pollutants in industrial storm water discharges.

16. The discharger has requested the Regional Board to address all storm water flows from the wastewater treatment facility process areas in this permit. These storm water flows are directed to the wastewater treatment plant headworks and are treated along with the wastewater discharged to the treatment plant. This permit now also regulates the discharge of industrial storm water from this facility.

17. In February 1993, EPA issued national standards regulating the use or disposal of sewage sludge. These standards were promulgated in 40 CFR Part 503, and in conjunction with the permitting requirements established in 40 CFR Parts 122, 123, and 501, make up the regulatory framework of the National Sewage Sludge Program. Part 503 is a self-implementing regulation; it is directly enforceable even in the absence of a permit. The City has proposed two alternatives for sludge reuse: landfill cover and/or land application. The discharger must comply with the general requirements and pollutant limits specified in Subparts B, C, and D of the Part 503 regulations.

18. The Residual Sludge Management Facility (RSMF) has the potential to discharge to surface or groundwater, and thus constitutes a threatened discharge pursuant to Section 13260 of the Water Code. The discharger was required by Order 89-12 to assess the potential impacts to water quality associated with the RSMF, and the results of that assessment were documented in a 28-volume hydrogeologic assessment report (HAR), received by the Regional Board on July 20, 1992. Board staff have not yet completed an internal review of the HAR for the RSMF.

19. This Order serves as an NPDES permit, reissuance of which is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Code.

20. The discharger and interested agencies and persons have been notified of the Board's intent to reissue the NPDES permit for this discharge and have been provided an opportunity to submit their written comments and appear at the public hearing.

21. The Board, at a properly noticed public meeting, heard and considered comments pertaining to the discharge.

IT IS HEREBY ORDERED, that the discharger, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder and the provisions of the Clean Water Act as amended and regulations and guidelines adopted thereunder, shall comply with the following:

A. **Discharge Prohibitions**

1. Discharge of waste to waters of San Francisco Bay south of the Dumbarton Bridge or tributaries is prohibited.

2. Discharge of waste not receiving initial dilution of at least 10 to 1 is prohibited.

3. Discharge of waste to dead-end sloughs or confined waterways is prohibited.

4. There shall be no bypass or overflow of untreated wastewater to waters of the State at the treatment plant or from the collection system under the control of the discharger.

5. The average dry weather influent flow (ADWF) shall not exceed 167 mgd, determined during any five-weekday period during the months of June through October. The average dry weather effluent flow (ADWEF) is the lowest average effluent flow for any three consecutive months between the months of May and October.

6. Discharges of water, materials, or wastes other than storm water, which are not otherwise authorized by this NPDES permit, to a storm drain system or waters of the state are prohibited.

7. Consistent with State Board Order WQ 90-5, this Order contains water quality based effluent limits, mass loading limits for metals, and the requirement to continue the City's ongoing avian botulism control program. Regional Board Resolution 91-152 accepted the discharger's "Action Plan" to implement a water conservation and reclamation program in lieu of a 120 mgd ADWEF flow cap and to implement mitigation for loss and degradation of endangered species habitat. Therefore the discharger is granted a conditional exception to discharge prohibitions 1 through 3, based on the above, and provided the discharger complies with Provision E.4 (avian botulism) and the terms of the "Action Plan," as specified in Regional Board Resolution 91-152.

B. **Effluent Limitations**

1. The discharge of an effluent containing constituents in excess of the following limits is prohibited:

Constituent	Unit	Monthly Average	Daily Maximum	Instant-aneous Maximum
a. BOD	mg/ℓ	10	20	-
b. Ammonia-N	mg/ℓ	3.0	8.0	-
c. Suspended Solids	mg/ℓ	10	20	-
d. Oil and Grease	mg/ℓ	5	10	-
e. Settleable Matter	mg/ℓ-hr	0.1	-	0.2
f. Turbidity	NTU	-	-	10
g. Chlorine Residual	mg/ℓ	-	-	0.0

2. The discharge shall not have pH of less than 6.5 nor greater than 8.5.

3. Effluent Toxicity

3.1 Acute Toxicity

The survival of organisms in undiluted effluent shall be an 11-sample median value of not less than 90 percent survival, and a 90 percentile value of not less than 70 percent survival. The 11-sample median and 90th percentile effluent limitations are defined as follows:

11-sample median: If five or more of the past ten or fewer samples show less than 90 percent survival, then survival of less than 90 percent on the next sample represents a violation of the effluent limit;

90th percentile: If one or more of the past ten or fewer samples show less than 70 percent survival, then survival of less than 70 percent on the next sample represents a violation of the effluent limitation.

3.2 Chronic Toxicity

All permit amendments contained in Regional Board Order No. 92-104, the Blanket Chronic Toxicity Order, are hereby included in this Order.

4. Concentration Limits for Toxic Pollutants

4.1 The effluent shall not exceed the following concentration limits:

Constituent	1-day Average (µg/ℓ)†		4-day Average (µg/ℓ)†		Monthly Average (µg/ℓ)†	
Arsenic	16	(A,F)				
Cadmium	1.6	(A,F)				
Chromium (VI)*	4.0	(A,F)				
Copper	4.9	(C)				
Lead	4.0	(A,F)				
Mercury	2.1	(C)			0.012	(A,D)
Nickel			8.3	(A,C)		
Selenium	2.0	(A,F)				
Silver	2.3	(A,C)				
Tributyl tin	0.04	(B)			0.005	(E)
Zinc			86	(A,C)		
Chloroform					480	(D,E)
Halomethanes*					480	(D,E)
Hexachlorobenzene					0.00069	(D,E)
Phenol	5	(A,F)				
Aldrin					0.00014	(D,E)
Chlordane*	0.004	(C)			0.000081	(D,E)
DDT*	0.001	(C)			0.0006	(D,E)
Dieldrin	0.0019	(C)			0.00014	(D,E)
Endrin*	0.0023	(C)			0.8	(D,E)
Heptachlor	0.0036	(C)			0.00017	(D,E)
Heptachlor Epoxide					0.00007	(D,E)
PCBs*	0.014	(B)			0.00007	(D,E)
Toxaphene			0.00002	(C)	0.00069	(D,E)
Cyanide	5	(C)				
PAHs*	15	(C)			0.031	(D,E)
TCDD equivalents*					1.4E-08	(D,E)

Notes

* - Analytical definition of constituent found in Attachment 2 of this permit, "Organic Priority Pollutants Definitions"

† - Compliance determinations shall be based on available analyses for the time interval associated with the effluent limitation. When only one sample analysis is available in a specified time interval (e.g., 30-day average or 4-day average), that sample shall serve to characterize the discharge for the entire interval. For 4-day averages, compliance with the effluent limitation may be demonstrated by reporting concentrations of four 24-hour composite samples, as well as the average of the four.

A - Limit same as previous limit.

B - Limit same as fresh water quality objective / aquatic life.

C - Limit same as marine water quality objective / aquatic life.

D - Limit same as fresh water quality objective / human health for "other waters" besides existing or potential drinking water sources.

E - Limit same as marine water quality objective / human health.

F - Limit derived from 95th percentile concentration from 1989 plant performance. The discharger shall evaluate compliance with the 95th percentile limit monthly. The 95th percentile value is the highest concentration measured during a time period (two years maximum) after removing the top 5% of the results for that time period. After 5% of the measures for any toxin have exceeded the effluent limit, each additional exceedance shall constitute a violation for the measurement period of that toxin (e.g., for metals measurements that are measured weekly, each exceedance after the 5% allowed shall be counted as one week of violation).

4.2 Limit of Quantitation (LOQ), Method Detection Limit (MDL) and Practical Quantification Limit (PQL)

All metal effluent limits are above the associated PQL for that metal except for mercury. In July 1993, the discharger completed a task to determine the LOQ, MDL, and PQL for mercury and the constituents of the September 1992 Basin Plan amendment measured by the WPCP laboratory and to request the outside laboratories to identify their MDLs and PQLs for specific constituents. According to the State Board's Enclosed Bays and Estuaries Plan (91-13 WQ), the LOQ shall serve as the PQL where a discharger develops a LOQ specific to their matrix and satisfactory to the Regional Board.

When the effluent limitation is less than the PQL, compliance determinations based on analysis of a single sample shall only be undertaken if the concentration of the constituent of concern in the sample is greater than or equal to the PQL. When the effluent limitation is less than the PQL, and recurrent analytical responses between the PQL and the effluent limitation occur, compliance shall be determined by review of data and laboratory bench sheets to determine the method

detection limit, and, where appropriate, the statistical significance of these values.

5. Mass Limits for Toxic Pollutants

5.1 Mass Limits for Copper

a. The copper wasteload allocation Basin Plan Amendment, adopted by the Board on June 16, 1993, calls for the three South Bay POTWs to reduce copper mass discharges by a minimum of 25%. The mass limit for copper in Section B.5.2 of this permit reflects this required reduction. Concurrently, a minimum of 20% reduction in storm water loadings to South Bay is required.

b. In addition to the above required reductions, the San Jose/Santa Clara WPCP, the other two South Bay POTWs, and the Santa Clara Valley Nonpoint Source Pollution Control Program are required to reduce their combined discharge of copper into South Bay by an additional 950 pounds per year, to be accomplished by 1998. This required reduction is not reflected in the copper mass limit of Section B.5.2.

5.2 The effluent mass loadings shall not exceed the following mass loading limits:

Constituent	Annual Limit (lb/yr) (1,2)
Arsenic	2848
Cadmium	356
Chromium (VI)	712
Copper	1760
Lead	712
Mercury	71
Nickel	4272
Selenium	712
Silver	1068
Zinc	22784
Cyanide	14240
Phenols	1068
PAHs	4628

Notes

(1) Metals limits based on average flow data from 1985-1988 and average concentration data from 1989, except for copper which is based on the

wasteload allocation adopted by the Board on June 16, 1993. According to the Basin Plan, after a wasteload allocation (for copper) is implemented in permits and load reductions consistent with that allocation are occurring, the Board will reevaluate the effluent concentration limitations for copper. Limits for cyanide, phenols, and PAHs are based on 1985-1988 average flow data and 1989 performance data.

(2) In calculating compliance, the discharger shall count all non-detect measures at the detection level. If a mass limit violation is observed, and non-detects contribute to the violation, the discharger shall improve monitoring capabilities for the specific constituent, and the violations will be evaluated with consideration of the detection limits.

Mass loading shall be calculated for each analytical result (e.g., for weekly measures, calculate loadings weekly using average weekly flow data. The discharger shall submit a cumulative total of mass loadings for the previous twelve months with each Self-Monitoring Report). Compliance shall be determined based on the previous twelve months of monitoring, and shall be calculated weekly for weekly measures, and monthly for monthly measures. Monitoring data collected under accelerated schedules shall be time-weighted when calculating the average annual loading.

For performance-based mass limits: Because mass may increase during heavy rainfall years and wet year data were not considered in the development of these limits, exceedances during wet weather years will be evaluated separately.

6. The arithmetic mean of values for BOD and suspended solids in effluent samples collected in each monthly reporting period shall not exceed 15% of the arithmetic mean of respective values for influent samples collected at approximately the same times during the same monthly period (i.e. 85% removal).

7. The effluent shall not exceed a median MPN for total coliform organisms of 23/100 ml, nor a maximum of 240/100 ml, as determined from the results of the previous consecutive five (5) days for which analyses have been completed.

C. <u>Receiving Water Limitations</u>

1. The discharge of waste shall not cause the following conditions to exist in waters of the state at any place:

a. Floating, suspended, or deposited macroscopic particulate matter, or foam;

b. Bottom deposits or aquatic growths;

c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;

e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the state within one foot of the water surface:

Constituent	Limit
a. Dissolved Oxygen	5.0 mg/L minimum. Median of any three consecutive months shall not be less than 80% saturation. When natural factors cause lesser concentrations than those indicated above, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.
b. Dissolved Sulfide	0.1 mg/L maximum
c. pH	Variation from natural ambient pH causing unreasonable effects on beneficial uses.
d. Un-ionized Ammonia	0.025 mg/L as N, annual median. 0.4 mg/L as N, maximum

3. Any applicable receiving water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board, as required by the Clean Water Act or amendments thereto, including the chronic toxicity objective, shall be met within 250 feet of the point of discharge. In the case of marine water quality objectives, the standard shall be met where the salinity is greater than or equal to 5 parts per thousand.

If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments

thereto, the Board will revise or modify this Order in accordance with such more stringent standards.

D. <u>Sludge Requirements</u>

1. The discharge of sewage sludge shall not cause waste material to be in a position where it is, or can be carried from the sludge storage site and deposited in the waters of the state.

2. The sludge storage site shall have facilities adequate to divert surface runoff from adjacent areas, to protect boundaries of the site from erosion, and to prevent any conditions that would cause drainage from the materials in the storage site. Adequate protection is defined as protection from at least a 100-year storm and protection from the highest possible tidal stage that may occur.

3. Discharge to the sludge storage site of waste other than sewage sludge produced by the discharger's facility is prohibited.

4. Sludge treatment, storage, and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, or result in groundwater contamination.

5. Duty to mitigate: The discharger shall take all reasonable steps to prevent or minimize any sludge use or disposal which has a likelihood of adversely affecting human health or the environment.

6. All sludge generated by the discharger must be reused or disposed of in accordance with 40 CFR Part 503. Reuse may include land application, use in place of fill (e.g., landfill cover), or other appropriate reuse as specified in this section or allowed by Part 503. Disposal shall be limited to disposal in a municipal solid waste landfill or sludge-only landfill in accordance with 40 CFR Part 503. If the discharger desires to dispose of sludge by a different method, an application must be submitted to the EPA 180 days before start-up of the alternate disposal practice. All the requirements in 40 CFR 503 are enforceable by EPA whether or not they are stated in an NPDES permit or other permit issued to the permittee.

7. The discharger shall submit an annual report to the EPA and the Regional Board containing monitoring results and pathogen and vector attraction reduction requirements as specified by 40 CFR 503, postmarked February 19 of each year, for the period covering the previous calendar year.

8. a. As required by 40 CFR 503, sludge shall be monitored at the following frequency:

0-290 metric tons sludge/365 days	Once per year
290-1500 metric tons/365 days	Quarterly
1500-15000 metric tons/365 days	Six times per year
Over 15000 metric tons/365 days	Monthly

(Metric tons are on a dry weight basis)

b. Sludge shall be monitored for the following constituents:

Land Application: As, Cd, Cr, Cu, Hg, Mo, Ni, Pb, Se, Zn.

Sludge-only Landfill: As, Cd, Ni (if no liner and leachate system)

Municipal Landfill Disposal: Paint filter test per 40 CFR 258

9. The sludge must meet the following requirements prior to land application. The discharger must either demonstrate compliance or, if it sends the sludge to another party for further treatment and/or distribution, must give the recipient the information necessary to assure compliance.

a. Exceptional quality sludge: Sludge that meets the pollutant concentration limits in Table III of §503.13, Class A pathogen limits, and one of the vector attraction reduction requirements in §503.33(b)(1)-(b)(8) is exceptional quality sludge and does not have to be tracked further for compliance with general requirements (§503.12) and management practices (§503.14).

b. Sludge used for agricultural land, forest, or reclamation shall meet the pollutant limits in Table I (ceiling concentrations) and either Table II or Table III (cumulative loadings or pollutant concentration limits) of §503.13. It shall also meet the general requirements (§503.12) and management practices (§503.14) (if not exceptional quality), Class A or Class B pathogen levels with associated access restrictions (§503.32) and one of the 10 vector attraction reduction requirements in §503.33(b)(1)-(b)(10).

c. Sludge used for lawn or home gardens must meet exceptional quality sludge limits.

d. Sludge that is sold or given away in a bag or other container shall meet the pollutant limits in either Table III or Table IV (pollutant concentration limits or annual pollutant loading rate limits) of §503.13. If Table IV is used, a label or information sheet must be attached that explains Table IV (see §503.14). The

sludge must also meet the Class A pathogen limits and one of the vector attraction reduction requirements in §503.33(b)(1)-(b)(8).

10. Sludge that is disposed of in a sludge-only landfill (surface disposal site) must meet the general requirements, pollutant limits (if no liner and leachate system), management practices, operational standards, and monitoring, reporting, and recordkeeping requirements described in 503 Subpart C.

11. The Board may amend this permit prior to expiration if changes occur in applicable state and federal sludge regulations.

E. **Provisions**

1. The requirements of this Order supersede the requirements of Orders 89-012, 90-033, 90-068, and 91-066, and of Cease and Desist Order 89-013. Orders 89-012, 90-033, 90-068, and 91-066, and Cease and Desist Order 89-013 are hereby rescinded.

2. The discharger shall comply with all sections of this Order immediately upon adoption.

3. Effluent Toxicity

3.1 Acute Toxicity

Compliance with the acute toxicity limitation in effluent limitation B.3 of this Order shall be evaluated by measuring survival of test fishes exposed to undiluted effluent of 96 hours. Each fish species represents a single sample. The toxicity tests shall be performed according to protocols approved by the U. S. EPA or State Board or published by the American Society for Testing and Materials (ASTM) or American Public Health Association. Two fish species shall be tested concurrently. These shall be the most sensitive two species determined from concurrent screening(s) of three species: three-spine stickleback, rainbow trout and fathead minnow. If concurrent screenings have been conducted prior to this permit reissuance, the existing data may be submitted to the Board. If such information is found to meet the requirements of the Basin Plan, further screenings would not be required.

The Regional Board may consider allowing compliance monitoring with only one (the most sensitive, if known) fish species, if the following condition is met: the discharger can document that the acute toxicity limitation, specified above, has not been exceeded during the previous three years, or that acute toxicity has been observed in only one of two

fish species.

3.2 Chronic Toxicity

All permit amendments contained in Regional Board Order No. 92-104, the Blanket Chronic Toxicity Order, are hereby included in this Order.

4. Avian Botulism Control Program

The discharger shall continue to monitor Artesian Slough, Coyote Creek, and Alviso Slough for the presence of avian botulism, and control outbreaks through the prompt collection of sick and dead vertebrates. The discharger shall continue to submit annual reports to the Regional Board, the California Department of Fish and Game, and the U.S. Fish and Wildlife Service. Annual reports shall be due on February 1 each year.

5. Salt Marsh Conversion Assessment

The discharger shall continue to document any new conversion of salt marsh habitat to fresh or brackish marsh habitat during the life of this permit in areas that are or could possibly be influenced by the San Jose/Santa Clara discharge. These areas include, but are not limited to, Artesian Slough, Coyote Creek downstream to Calaveras Point and upstream to Fremont airport, Coyote Slough, and Mud Slough downstream from the former Union Sanitary District wastewater facility. The discharger will also monitor conversion at a reference site unaffected by their discharge. The discharger shall also continue to study habitat utilization by endangered species in these areas in accordance with the Habitat Evaluation Procedure (HEP) of the Action Plan requirements. The discharger shall submit a report to the Regional Board, the California Fish and Game Department, and the U.S. Fish and Wildlife Service every five years. Since the most recent report was submitted in July 1989, the next report shall be received on July 31, 1994.

5.1 Task	Due Date
Submit a conversion assessment and habitat utilization plan, incorporating reference sites, acceptable to the Executive Officer.	July 31, 1994

6. San Jose Action Plan

Compliance with Resolution 91-152 shall be achieved in accordance with the tasks and time schedules below. The tasks are taken from the City of San Jose Action Plan as revised, December 22, 1992. For each of the following tasks, a technical report, acceptable to the Executive Officer, documenting completion of the task shall be submitted by the due date. Annual progress reports shall be submitted for the Water Conservation and Reclamation tasks.

6.1	Task	Due Date
	Wetlands Mitigation	
A.	Acquire or make funds available to acquire 380 acres of land that is considered suitable by the Executive Officer for salt marsh restoration to mitigate for past conversion of salt marsh to freshwater marsh.	June 30, 1994
B.	Begin as necessary restoration of marsh area, for instance by providing assistance to USFWS in breaching dikes in appropriate locations.	June 30, 1995
C.	Establish a salt water marsh bank that will contain sufficient acreage to mitigate any potential conversion of endangered species' habitat due to future treatment plant discharge increases as described in State Board Order WQ 90-5 and the San Jose Action Plan (September 1991).	Submit annual progress reports
	Phase I, Golden Triangle, 21.1 MGD Non-potable Water Reclamation	
D.	Award Construction Contract	April 1, 1995
E.	Complete Construction, Testing, and Startup	November 1, 1997

Phase II, Expanded Area, 24-30 MGD Non-potable Water Reclamation

F.	Award Construction Contract	December 31, 1997
G.	Complete Construction, Testing, and Startup	December 31, 2000

12 MGD Water Conservation Program

H.	Complete 12 MGD Phase I Water Conservation Program	December 31, 1996
I.	If POTW flows exceed 115 MGD (ADWEF) before non-potable reclamation project is operational then Complete Phase II Water Conservation Program	(According to flow)

Potable Water Reclamation Demonstration Project

J.	Continue to work with the Santa Clara Valley Water District to develop a project to use reclaimed water for groundwater recharge and potable water supply.	Submit annual progess reports

7. The discharger shall comply with the requirement of B.5.1.b of this permit to reduce the combined discharge of copper from the discharger, the Palo Alto RWQCP, the Sunnyvale WPCP, and the Santa Clara Valley Nonpoint Source Pollution Control Program by 950 pounds per year. The discharger shall submit a joint plan, acceptable to the Executive Officer, with the Palo Alto RWQCP, the Sunnyvale WPCP, and the Santa Clara Valley Nonpoint Source Pollution Control Program for developing a proposal to achieve compliance with B.5.1.b of this permit. The joint proposal, acceptable to the Executive Officer, shall be submitted according to the time schedule below.

7.1	Task	Due Date
	Joint proposal to achieve compliance with B.5.1.b	January 30, 1994

8. The discharger shall comply with the attached Self-Monitoring Program. The Executive Officer may make minor amendments to the Self-Monitoring Program pursuant to federal regulations (40 CFR 122.63).

9. The discharger shall comply with all items in the attached "Standard Provisions, Reporting Requirements, and Definitions" dated August 1993.

10. The discharger shall review and update its Operation and Maintenance Manual annually, or in the event of significant facility or process changes, shortly after such changes occur. Annual revisions, or letters stating that no such changes are needed shall be submitted to the Board by April 15 of each year.

11. The discharger shall annually review and update its Contingency Plan. The discharge of pollutants in violation of this Order, where the discharger has failed to develop and/or implement a contingency plan will be the basis for considering such discharge a willful and negligent violation of this Order, pursuant to Section 13387 of the Water Code.

12. The discharger shall implement and enforce its approved pretreatment program in accordance with Board Order 89-179 and its amendments thereafter. The discharger's responsibilities include, but are not limited to:

    a. Enforcement of National Pretreatment Standards (e.g., prohibited discharges, Categorical Standards) as provided in 40 CFR 403.5 and 403.6;

    b. Development and enforcement of local limits that implement the requirements of 40 CFR 403.5(c);

    c. Implementation of the pretreatment program in accordance with legal authorities, policies, procedures, and financial provisions described in the General Pretreatment regulations (40 CFR 403) and its approved pretreatment program.

    d. Submission of annual and quarterly reports to EPA and the State as described in Board Order 89-179, and its amendments thereafter.

13. This Order expires on October 20, 1998. The discharger must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days before this expiration date as application for reissuance of waste discharge requirements.

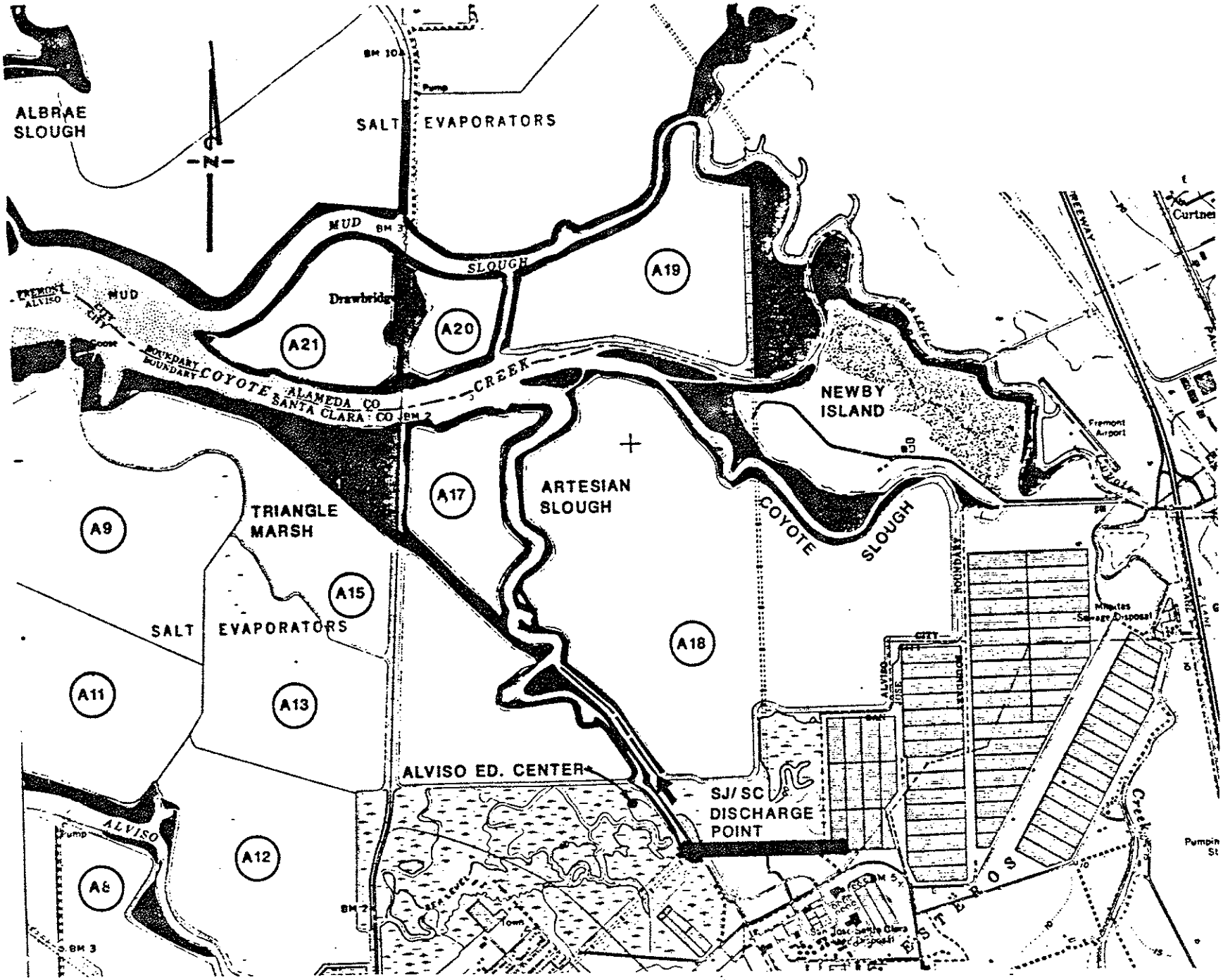
14. This Order shall serve as a National Pollutant Discharge Elimination System (NPDES) permit pursuant to Section 402 of the Clean water Act or amendments thereto, and shall become effective 10 days after the date of its adoption provided the Regional Administrator, U.S. EPA, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on October 20, 1993.

STEVEN R. RITCHIE
Executive Officer

Attachments:
- Location Maps
- Organic and Priority Pollutants Definitions
- Standard Provisions, Reporting Requirements, and Definitions (dated August 1993)
- Self-Monitoring Program
- Pretreatment Order No. 89-179
- Chronic Toxicity Order No. 92-104

File No. 2189.8014



San Jose/Santa Clara WPCP Discharge Point

ORGANIC AND PRIORITY POLLUTANTS SPECIAL DEFINITIONS

(from Appendix 1 of the California Enclosed Bays and Estuaries Plan 91-13 WQ)

CHLORDANE shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

CHROMIUM VI limit may be met by analysis for total or hexavalent chromium.

DDT shall mean the sum of the p,p' and o,p' isomers of DDT, DDD (TDE), and DDE.

ENDOSULFAN shall mean the sum of endosulfan-alpha, endosulfan-beta, and endosulfan sulfate.

ENDRIN shall mean the sum of endrin and endrin aldehyde.

HALOMETHANES shall mean the sum of bromoform, bromomethane (methyl bromide), chloromethane (methyl chloride), chlorodibromomethane, and dichlorobromomethane.

PAHs (polynuclear aromatic hydrocarbons) shall mean the sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene, and pyrene.

PCBs (polychlorinated biphenyls) shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

TCDD EQUIVALENTS shall mean the sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity equivalence factors, as shown in the table below.

Isomer Group	Toxicity Equivalence Factor
2,3,7,8-tetra CDD	1.0
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDD	0.1
2,3,7,8-hepta CDD	0.01
octa CDD	0.001
2,3,7,8-tetra CDF	0.1
1,2,3,7,8-penta CDF	0.05
2,3,4,7,8-penta CDF	0.5
2,3,7,8-hexa CDFs	0.1
2,3,7,8-hepta CDFs	0.01
octa CDFs	0.001

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR
CITIES OF SAN JOSE AND SANTA CLARA

SAN JOSE/SANTA CLARA WATER POLLUTION CONTROL PLANT

SANTA CLARA COUNTY

NPDES NO. CA0037842

ORDER NO. 93-117

CONSISTING OF
PART A (Dated August 1993) and PART B

SELF-MONITORING PROGRAM
FOR
CITIES OF SAN JOSE AND SANTA CLARA

PART B

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT AND INTAKE

Station	Description
A-001	At any point in the treatment facilities headworks at which all waste tributary to the system is present.

B. EFFLUENT

Station	Description
E-001	At any point in the outfall from the treatment facilities between the point of discharge and the point at which all waste tributary to that outfall is present (May be the same as E-001-D).
E-001-D	At any point in the disinfection facilities for waste at which point adequate contact with the disinfectant is assured.

C. RECEIVING WATERS

Station	Description
C-3-0	At a point in Coyote Creek at the Southern Pacific Railroad crossing over Coyote Creek.
C-7-0	At a point on the south mudflat of Coyote Creek between the mouths of Alviso Slough and Guadalupe Slough.

D. LAND OBSERVATIONS

Station	Description
P-1 thru P-'n'	Located at the corners and midpoints of the perimeter fenceline surrounding the treatment facilities. (A sketch of the locations of these facilities will accompany each report)

L-1 thru L-'n'	Located along the perimeter levee at equidistant intervals not to exceed 500 feet. (A sketch of the locations of these stations will accompany each report)

E. OVERFLOWS AND BYPASSES

Station	Description
OV-1 thru OV-'n'	Bypasses or overflows from manholes, pump stations, or collection systems.

F. SLUDGE

The discharger shall continue to analyze sludge pursuant to the pretreatment requirements of Order 89-179.

II. SCHEDULE OF SAMPLING

The schedule of sampling and analysis shall be that given in Table 1, except for sludge. Sludge sampling shall follow the schedule and analyses specified by Order 89-179, as amended.

III. MODIFICATIONS TO PART A

Add to Section F.4.e:

Include in each monthly report the following:

Annual tabulations of all data collected through the year up to the reported month to date for acute toxicity, monthly flow, and influent and effluent metals and cyanide. For metals and cyanide, include influent and effluent concentration and mass data. On a monthly basis, report the minimum, maximum, 95th percentile, and average metals and cyanide concentration values for the year, through the reported month. Report most recent twelve months total mass discharged for metals and cyanide.

Receiving water data shall be summarized and reported to the Board annually. Annual reporting shall be consistent with Regional Monitoring Program reporting format and shall be coordinated with the receiving water monitoring programs of the Palo Alto RWQCP and the Sunnyvale WPCP.

I, Steven R. Ritchie, Executive Officer, hereby certify that the following Self-Monitoring Program:

1. Has been developed in accordance with the procedures set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Board Order 93-117.

2. Has been amended by the Executive Officer on 6/8/94.

3. May be revised by the Executive Officer pursuant to federal regulations (40 CFR 122.36); other revisions may be ordered by the Board.

STEVEN R. RITCHIE
Executive Officer

Attachments:
Table 1
Part A (dated August 1993)

TABLE 1
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS (3,6)
Cities of San Jose and Santa Clara

SAMPLING STATION	A-001	E-001			L	C-3-0 (5)	C-7-0 (7)	P	OV
TYPE OF SAMPLE	C-24	G (2)	Cont.	C-24	G	G	G	G	O
Flow Rate (mgd)			D						
BOD, 5-day, 20 C (1) (mg/L & lb/day)	3/W			3/W					
Total Suspended Solids (1) (mg/L & lb/day)	3/W			3/W					
Chlorine Residual & Dosage (mg/L & lb/day) (4)			Cont.						
Oil & Grease (mg/L & lb/day)		Q							
Total Coliform (MPN/100 ml)					3/W				
Acute Toxicity-96 hr, Flow-thru (% survival in undiluted effluent)				W		3/Y (11)			
Chronic Toxicity (10)				M					
Dissolved Oxygen (mg/L & % saturation)		D							
Dissolved Sulfides (mg/L if DO<5.0 mg/L)		W							
pH (units)		D							
Ammonia Nitrogen (mg/L & lb/day)				W					
Nitrate Nitrogen (mg/L & lb/day)				2W					
Total Organic Nitrogen (mg/L & lb/day)				M					
Total Phosphate (mg/L & lb/day)				M					
Turbidity, Nephelometric (NTU)				M					

TABLE 1 (continued)
Cities of San Jose and Santa Clara

SAMPLING STATION	A-001	E-001			L	C-3-0 (5)	C-7-0 (7)	P	OV
TYPE OF SAMPLE	C-24	G (2)	Cont.	C-24	G	G	G	G	O
Aluminum (mg/kg)						3/Y	3/Y		
Iron (mg/kg)						3/Y	3/Y		
Manganese (mg/kg)						3/Y	3/Y		
Arsenic (µg/L, lb/d, or mg/kg)	M			M		3/Y	3/Y		
Cadmium (µg/L, lb/d, or mg/kg)	M			M		3/Y	3/Y		
Chromium (µg/L, lb/d, or	M			M		3/Y	3/Y		
Copper (µg/L, lb/d, or mg/kg)	W			W		3/Y	3/Y		
Cyanide (µg/L, lb/d, or mg/kg)	W			W		3/Y	3/Y		
Lead (µg/L, lb/d, or mg/kg)	M			M		3/Y	3/Y		
Mercury (µg/L, lb/d, or mg/kg)	M			M		3/Y	3/Y		
Nickel (µg/L, lb/d, or mg/kg)	W			W		3/Y	3/Y		
Selenium (µg/L, lb/d, or mg/kg)	M			M		3/Y	3/Y		
Silver (µg/L, lb/d, or mg/kg)	W			W		3/Y	3/Y		
Zinc (µg/L, lb/d, or mg/kg)	W			W		3/Y	3/Y		
Phenolic Compounds (µg/L & lb/day)	M			M					
PAHs (µg/L & lb/day) (8)	Q			Q					
All applicable Standard Observations		D						D	D
Organic Priority Pollutants (µg/L & lb/day) (9)	Y			Y					
Total Organic Carbon (mg/kg)							3/Y		
Sediment Grain Size Analysis (% of total)							3/Y		
Eh (at 5 cm depth)							3/Y		

TABLE 1 (continued)
Cities of San Jose and Santa Clara

LEGEND

TYPES OF SAMPLES

G	=	grab sample
C-24	=	composite sample (24-hour)
Cont.	=	continuous sampling
O	=	observation

TYPES OF STATIONS

A = treatment facility influent station
E = waste effluent stations
L = basin and/or pond levee stations
C-3-0 = receiving water monitoring station
C-7-0 = receiving water monitoring station
P = treatment facilities perimeter stations
OV = bypasses or overflows from manholes, pump stations, or collection systems

FREQUENCY OF SAMPLING

E = each occurrence
H = once each hour
D = once each day
W = once each week
M = once each month
Y = once each year

2/H = twice per hour
2/W = 2 days per week
5/W = 5 days per week
2/M = 2 days per month
2/Y = twice per year
3/Y = three times per year, coincident with timing of the Regional Monitoring Program
Q = quarterly

2H = every 2 hours
2D = every 2 days
2W = every 2 weeks
2M = every 2 months
Cont = continuous

NOTES FOR TABLE 1:

(1) Percent removal (effluent vs. influent) shall also be reported.

(2) Grab samples shall be taken on day(s) of composite sampling.

(3) If any effluent sample is in violation of limits, except those for metals, cyanide, and organics, sampling shall be increased for that parameter to at least daily or greater until compliance is demonstrated in two successive samples. Receiving water violations shall be reported in the annual report. Compliance measurements represent compliance status for the time period between measurements.

(4) Chlorine residual analyzers shall be calibrated against grab samples as frequently as necessary to maintain accurate control and reliable operation. If an effluent violation is detected, grab samples shall be taken every 30 minutes until compliance is achieved.

(5) C-3-0 is the water/sediment station in the WPCP's receiving water monitoring program. Monitoring for metals, water column toxicity, and other specified parameters in water and/or sediment must follow applicable protocols described in the Regional Monitoring Program.

TABLE 1 (continued)
Cities of San Jose and Santa Clara

LEGEND (continued)

(6) All flow other than to the outfall (e.g., sludge) shall be reported monthly. Daily records shall be kept of the quantity and solids content of dewatered sludge disposed of and the location of disposal.

(7) C-7-0 is the tissue/sediment station in the WPCP's receiving water monitoring program. Monitoring for metals and other specified parameters in *Macoma balthica* tissue and/or sediment must follow applicable protocols described in the Regional Monitoring Program. Monitoring efforts shall be coordinated with the U.S. Geological Survey (USGS). Although the discharger is responsible for a sampling frequency of 3/Y, the actual sampling frequency will be a minimum of 2M (or 6/Y), due to the USGS's policy of matching funds.

(8) PAHs = Polynuclear Aromatic Hydrocarbons. PAHs shall mean the sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[a,h]anthracene, fluorene, indeno[1,2,3-c,d]pyrene, phenanthrene, and pyrene. PAH analysis must be done by EPA Method 610 or 625.

(9) The frequency of sampling will revert to once per year, as indicated in Table 1, for constituents that were determined by focused sampling efforts to be non-detectable, with the exception of TCDD equivalents, for which the frequency of sampling will revert to once per permit reissuance. If focused sampling efforts showed that concentrations of a specific pollutant are near or above its effluent limit, the Board may require sampling frequencies greater than once per year.

(10) While the discharger is conducting its TIE/TRE study, effluent chronic toxicity monitoring will be twice per year, once during the wet season and once during the dry season. Upon completion of the TIE/TRE study, monitoring will revert to the frequency indicated in Table 1. Chronic toxicity monitoring is to be carried out on the species determined by the TIE study as the most appropriately sensitive test organism. See Order 92-104 (attached) for monitoring and reporting requirements.

After at least twelve test rounds, the discharger may request the Executive Officer to decrease the required frequency of chronic toxicity testing, and/or to reduce the number of compliance species to one. Such a request may be made only if toxicity exceeding the TU_C values specified in the effluent limitations was never observed using that test species.

(11) The water column at C-3-0 will be monitored for water column toxicity to two marine species. This monitoring shall be coincident with water column and sediment monitoring at Station C-3-0. No sediment toxicity monitoring is required.