California Regional Water Quality Control Board

San Francisco Bay Region

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Linda S. Adams
Secretary of Environmental Protection

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Governor

TENTATIVE ORDER NO. R2-2007-XXXX
NPDES PERMIT NO. CA0037711

WASTE DISCHARGE REQUIREMENTS FOR SEWERAGE AGENCY OF SOUTHERN MARIN, DISCHARGING TO CENTRAL SAN FRANCISCO BAY THROUGH DISCHARGE POINT 001

The following Discharger is authorized to discharge in accordance with the conditions set forth in this Order.

Table A. Discharger Information

Discharger	Sewerage Agency of Southern Marin
Name of Facility	Sewerage Agency of Southern Marin Wastewater Treatment Plant, its collection system and its satellite collection systems
Facility Address	450 Sycamore Avenue
	Mill Valley, CA 94941
	Marin County

The Discharger is authorized to discharge from the following discharge points as set forth below.

Table B. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Approximately 3.4 million gallons per day (MGD) of secondary-level treated wastewater	37º 52' 12″	112º 27' 05″	Raccoon Strait of Central San Francisco Bay

Table C. Administrative Information

This Order was adopted by the Regional Water Board on:	**XXXX**
This Order shall become effective on:	**October 1, 2007**
This Order shall expire on:	**September 30, 2012**
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Board have classified this discharge as a major discharge.	
The Discharger shall file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of the Order expiration date as application for issuance of new waste discharge requirements.	

IT IS HEREBY ORDERED, that Order No. 01-070 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in Division 7 of the California Water Code (CWC) and regulations adopted therein, and the

provisions of the federal Clean Water Act (CWA), and regulations and guidelines adopted therein, the Discharger shall comply with the requirements in this Order.

I, Bruce H. Wolfe, Executive Officer, do hereby certify the following is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on **<Adoption Date>**.

_____

Bruce H. Wolfe, Executive Officer

Table of Contents

I. Facility Information 1
II. Findings 1
III. Discharge Prohibitions 7
IV. Effluent Limitations and Discharge Specifications 7
V. Receiving Water Limitations 13
VI. Provisions 15
A. Standard Provisions 15
B. Monitoring and Reporting Program Requirements 15
C. Special Provisions 15
1. Reopener Provisions 15
2. Special Studies, Technical Reports and Additional Monitoring Requirements 16
3. Best Management Practices and Pollution Minimization Program 17
4. Action Plan for Cyanide 19
5. Action Plan for Copper 19
6. Construction, Operation and Maintenance Specifications 20
7. Special Provisions 21
VII. Compliance Determination 24

List of Tables

Table 1. Facility Information 1
Table 2. Plan Beneficial Uses of Central San Francisco Bay 4
Table 3. Effluent Limitations for Conventional and Non-Conventional Pollutants 8
Table 4. Final Effluent Limitations for Toxic Pollutants 9

List of Attachments

Attachment A – Definitions A-1
Attachment B – Topographic Map B-1
Attachment C – Flow Schematic C-1
Attachment D – Federal Standard Provisions D-1
Attachment E – Monitoring and Reporting Program (MRP) E-1
Attachment F – Fact Sheet F-1
Attachment G – The following documents are part of this Permit, but are not physically attached due to volume. They are available on the internet at www.waterboards.ca.gov/sanfranciscobay/
- Standard Provisions and Reporting Requirements, August 1993
- Self-Monitoring Program, Part A, adopted August 1993
- August 6, 2001 Staff Letter: Requirement for Priority Pollutant Monitoring in Receiving Water and Wastewater Discharges Resolution 74-10: Policy Regarding Waste Discharger's Responsibilities to Develop and Implement Contingency Plans

I. FACILITY INFORMATION

The following Discharger is authorized to discharge in accordance with the conditions set forth in this Order.

Table 1. Facility Information

Discharger	Sewerage Agency of Southern Marin
Name of Facility	Sewerage Agency of Southern Marin Wastewater Treatment Plant and its collection system
Facility Address	450 Sycamore Street
	Mill Valley, CA 94941
	Marin County
Facility Contact, Title, and Phone	Stephen J. Danehy, General Manager, 415-388-2402 ex. 16
Mailing Address	26 Corte Madera Avenue, Mill Valley, CA 94941
Type of Facility	POTW
Facility Design Flow	3.6 MGD (average dry weather flow)

II. FINDINGS

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

A. Background. Sewerage Agency of Southern Marin (SASM) (hereinafter the Discharger), submitted a Report of Waste Discharge (ROWD), dated November 15, 2005, and applied for an NPDES permit renewal to discharge treated wastewater from the SASM Wastewater Treatment Plant (plant or facility) located at 450 Sycamore Street, Mill Valley, Marin County. The ROWD was deemed complete on March 17, 2006. The Discharger is the owner and operator of the facility.

B. Facility Description

1. The plant provides secondary level treatment for domestic wastewater from the six SASM member agencies: City of Mill Valley, Almonte Sanitary District, Alto Sanitary District, Homestead Valley Sanitary District, Richardson Bay Sanitary District, and the Kay Park Area of the Tamalpais Community Sanitary District. The Discharger's service area has a present population of approximately 28,000. The treatment plant has an average dry weather capacity of 3.6 million gallons per day (MGD) and can treat up to 24.7 MGD during the wet weather flow period with flows in excess of this being diverted to equalization basins. The two earthen equalization basins have a total volume of 2.21 million gallons (MG). The plant presently discharges an average dry weather flow of 2.4 MGD and an annual average effluent flow of about 3.4 MGD. A location map of the Discharger's facilities is included as **Attachment B** of this Order.

2. Treated wastewater is currently discharged 840 feet offshore at an 84-foot depth below mean sea level, into Raccoon Strait (Central San Francisco Bay), through a

submerged diffuser located at Latitude 37 degrees, 52 minutes, 12 seconds, Longitude 112 degrees, 27 minutes, 5 seconds.

3. **Treatment Process.** The treatment process consists of screening facilities, Pista-Grit grit removal, primary sedimentation clarifiers, biological treatment using trickling filters (bio-towers with synthetic media), secondary clarification, disinfection (chlorination) and dechlorination (sulfonation). Chlorine contact is accomplished in the six-mile effluent force main and dechlorination is accomplished by Sanitary District No. 5 prior to entrance into the outfall. In wet weather conditions, when high influent flows exceeds 24.7 MGD (the capacity of the biological treatment processes), a portion of the flow is diverted to the equalization ponds. The diverted flow is pumped back to the headworks after the high influent flow subsides. A treatment process schematic diagram is included as **Attachment C** of this Order.

4. **Solids Handling and Disposal.** Solids removed from the wastewater stream are treated by gravity thickening, primary and secondary digestion, and dewatering by belt filter press. Dewatered biosolids are delivered to Redwood Sanitary Landfill in Novato approximately eight months out of the year (from October through May) where it is composted with yard wastes and used for daily cover at the landfill. From June through September, dewatered solids may be delivered to the Residuals Processing Inc. agricultural reuse site located on Lakeville Highway in Sonoma County. Residuals Processing Inc. operates this site under a Sonoma County permit. The Discharger currently generates and reclaims about 310 dry tons of biosolids per year.

5. **Collection System and Pump Stations.** The Discharger's wastewater collection system includes about 9 miles of sanitary sewer lines and six pump stations. The collection system consists of force mains, gravity lines and pump stations (a more detailed description can be found in the attached Fact Sheet).

6. **Satellite Collection Systems.** In addition to the Discharger owned collection system, wastewater is conveyed to the Discharger's system from six satellite collection systems, which include the City of Mill Valley, Almonte Sanitary District, Alto Sanitary District, Homestead Valley Sanitary District, Richardson Bay Sanitary District, and the Kay Park area of the Tamalpais Community Sanitary District. Each of the satellite systems is operated independently from the Discharger and collects wastewater from their respective service areas. The satellite systems each convey wastewater to a discreet location into the Discharger's collection system.

7. **Roles and Responsibilities of Satellite Collection Systems.** Each satellite collection system is responsible for an ongoing program of maintenance and capital improvements for sewer lines and pump stations within its respective jurisdiction in order to ensure adequate capacity and reliability of the collection system. Each satellite collection system shall ensure that its wastewater does not adversely impact the Discharger's treatment plant and/or collection system. The responsibilities include managing overflows, controlling Infiltration and Inflow (I&I) and implementing collection system maintenance.

8. **Treatment Plant Storm Water Discharges.** The Discharger is permitted to discharge storm water in accordance with "State Water Resources Control Board Water Quality Order No. 97-03-DWQ, NPDES General Permit No. CAS000001, Wastewater Discharge Requirements for discharges of storm water associated with industrial activities."

9. **Reclamation.** The Discharger reclaims wastewater under General Water Reuse Order 96-011, issued May 9, 1997. Seasonal reclaimed water reuse to parklands is about 5 MG (or 0.1 MGD during the reclamation season).

Attachment B to this Order is a Location Map showing the location of the facility within the region; and **Attachment C** is a flow schematic of the facility.

C. **Legal Authorities.** This Order is issued pursuant to CWA Section 402 and implementing regulations adopted by the USEPA and CWC Chapter 5.5, Division 7. It shall serve as an NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to CWC Article 4, Chapter 4 for discharges that are not subject to regulation under CWA Section 402.

D. **Background and Rationale for Requirements**. The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and through special studies. **Attachments A** through **H**, which contain background information and rationale for requirements of the Order, are hereby incorporated into this Order and, thus, constitute part of the Findings for this Order.

E. **California Environmental Quality Act (CEQA).** This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act in accordance with CWC Section 13389.

F. **Technology-Based Effluent Limitations***.* The Code of Federal Regulations (CFR) at 40 CFR §122.44(a) requires that permits include applicable technology-based limitations and standards. This Order includes technology-based effluent limitations based on Secondary Treatment Standards at 40 CFR Part 133. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (**Attachment F**).

G. **Water Quality-Based Effluent Limitations.** Section 122.44(d) requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) may be established: (1) using USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) on an indicator parameter for the pollutant of concern; or (3) using a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

H. Water Quality Control Plans. The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) is the Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives. The Basin Plan was duly adopted by the Water Board and approved by the State Water Resources Control Board, Office of Administrative Law and the U.S. EPA, where required. Beneficial uses applicable to Central San Francisco Bay within the San Francisco Bay Basin are as follows.

Table 2. Plan Beneficial Uses of Central San Francisco Bay

Discharge Point	Receiving Water Name	Beneficial Use(s) - Existing
001	Raccoon Strait of Central San Francisco Bay	• Ocean, Commercial, and Sport Fishing (COMM) • Estuarine Habitat (EST) • Industrial Service Supply (IND) • Fish Migration (MIGR) • Navigation (NAV) • Industrial Process Supply (PROC) • Preservation of Rare and Endangered Species (RARE) • Water Contact Recreation (REC-1) • Noncontact Water Recreation (REC-2) • Shellfish Harvesting (SHELL) • Fish Spawning (SPWN) • Wildlife Habitat (WILD)

Requirements of this Order implement the Basin Plan.

I. Thermal Plan. The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for surface waters.

J. National Toxics Rule (NTR) and California Toxics Rule (CTR). USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

K. State Implementation Policy. On March 2, 2000, the State Water Board adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Boards in their basin plans, with the exception of the provision on alternate test procedures for individual discharges that have been approved

by USEPA Regional Administrator. The alternate test procedures provision was effective on May 22, 2000. The SIP became effective on May 18, 2000. The State Water Board subsequently amended the SIP on February 24, 2005, and the amendments became effective on July 31, 2005. The SIP includes procedures for determining the need for and calculating WQBELs and requires dischargers to submit data sufficient to do so. Requirements of this Order implement the SIP.

L. Compliance Schedules and Interim Requirements. Section 2.1 of the SIP provides that, based on a discharger's request and demonstration that it is infeasible for an existing discharger to achieve immediate compliance with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in an NPDES permit. Unless an exception has been granted under Section 5.3 of the SIP, a compliance schedule may not exceed 5 years from the date that the permit is issued or reissued, nor may it extend beyond 10 years from the effective date of the SIP (or May 18, 2010) to establish and comply with CTR criterion-based effluent limitations. Where a compliance schedule for a final effluent limitation exceeds one year, the Order must include interim numeric limitations for that constituent or parameter. Where allowed by the Basin Plan, compliance schedules and interim effluent limitations or discharge specifications may also be granted to allow time to implement new or revised WQOs. This Order does not include compliance schedules and interim effluent limitations.

M. Alaska Rule. On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 C.F.R. § 131.21; 65 Fed. Reg. 24641; (April 27, 2000).) Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000 must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

N. Stringency of Requirements for Individual Pollutants. This Order contains restrictions on individual pollutants that are no more stringent than required by the federal CWA. Individual pollutant restrictions consist of technology-based restrictions and water quality-based effluent limitations. The technology-based effluent limitations consist of restrictions on biochemical oxygen demand (BOD), total suspended solids (TSS), and pH. Restrictions on these pollutants are specified in federal regulations and are no more stringent than required by the CWA. Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. Most beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR 131.21(c)(1). The remaining water quality objectives and

beneficial uses implemented by this Order [arsenic, cadmium, chromium (VI), copper (fresh water), lead, nickel, silver (1-hour), and zinc] were approved by USEPA on January 5, 2005, and are applicable water quality standards pursuant to 40 CFR 131.21(c)(2). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the technology-based requirements of the CWA and the applicable water quality standards for purposes of the CWA.

O. Antidegradation Policy. Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. As discussed in detail in the Fact Sheet (**Attachment F**) the permitted discharge is consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.

P. Anti-Backsliding Requirements. CWA Sections 402(o)(2) and 303(d)(4) and NPDES regulations at 40 CFR 122.44 (l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. As discussed in detail in the Fact Sheet (**Attachment F**), the prohibitions, limitations, and conditions of this Order are consistent with applicable federal and State anti-backsliding requirements.

Q. Monitoring and Reporting. Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in **Attachment E**. The MRP may be amended by the Executive Officer pursuant to USEPA regulation 40 CFR 122.62, 122.63, and 124.5.

R. Standard and Special Provisions. Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in **Attachment D**. The discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42. The Regional Water Board has also included in this Order special provisions applicable to the Discharger (**Attachment G**). A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.

S. Provisions and Requirements Implementing State Law. The provisions/requirements in subsections IV.C, V.B, and VI.C of this Order are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

T. Notification of Interested Parties. The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet (**Attachment F**) of this Order.

U. Consideration of Public Comment. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet (**Attachment F**) of this Order.

III. DISCHARGE PROHIBITIONS

A. The discharge of treated wastewater at a location or in a manner different from that described in this Order is prohibited.

B. Discharge of treated wastewater at any point where it does not receive an initial dilution of at least 10:1 is prohibited.

C. The discharge of average dry weather flows greater than 3.6 mgd is prohibited. The average dry weather flow shall be determined over three consecutive dry weather months each year.

D. The bypass of untreated or partially treated wastewater to waters of the United States is prohibited, except as provided for in the conditions stated in 40 CFR 122.41(m)(4) and in A.12 of the Standard Provisions and Reporting Requirements for NPDES Surface Water Discharge Permits, August 1993 (**Attachment G**).

Blended wastewater is biologically treated wastewater blended with primary treated wastewater that has been diverted around biological treatment units or advanced treatment units. Such discharges are approved (1) when the plant's peak wet weather influent flow volumes exceed the capacity of the secondary treatment unit of 32.7 MGD, (2) when the discharge complies with the effluent and receiving water limitations contained in this Order, and (3) provided the Discharger satisfies Provision VI.C.5.c. Furthermore, the Discharger shall operate its facility as designed and in accordance with the Operation & Maintenance Manual developed for its facility. This means that it shall optimize storage and use of equalization units, and shall fully utilize the biological treatment units and advanced treatment units, if applicable. The Discharger shall report incidents of the anticipated blended effluent discharges in routine monitoring reports, and shall conduct monitoring of this discharge as specified in the attached MRP (**Attachment E**).

E. Any sanitary sewer overflow that results in a discharge of untreated or partially treated wastewater to waters of the United States is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

Compliance with the effluent limitations shall be demonstrated at Discharge Point 001, with compliance measured at Monitoring Location M-001 as described in the attached Monitoring and Reporting Program (MPR, **Attachment E**).

A. Effluent Limitations for Conventional and Non-Conventional Pollutants

The Discharge shall not exceed the following effluent limitations as specified in Table 3:

Table 3. Effluent Limitations for Conventional and Non-Conventional Pollutants

Parameter	Unit	Effluent Limitations				
		Average monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
a. Biochemical Oxygen Demand 5-day @ 20°C (BOD_5)	mg/L	30	45	---	---	---
b. Total Suspended Solids (TSS)	mg/L	30	45	---	---	---
c. BOD_5 and TSS Percent removal (1)	%	85	---	---	---	---
d. pH (2)	standard unit	---	---	---	6.0	9.0
e. Oil and Grease	mg/L	10	---	20	---	---
f. Total Chlorine Residual (3)	mg/L	---	---	---	---	0.0

Footnotes for Table 3:

(1) The arithmetic mean of the BOD_5 and TSS values, by concentration, for effluent samples collected in each calendar month shall not exceed 15 percent of the arithmetic mean of the respective values for influent samples collected at approximately the same times during the same period.

(2) If the Discharger monitors pH continuously, pursuant to 40 CFR § 401.17, the Discharger shall be in compliance with the pH limitation specified herein, provided that both of the following conditions are satisfied: (i) the total time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and (ii) no individual excursion from the range of pH values shall exceed 60 minutes.

(3) Requirement defined as below the limit of detection in standard test methods defined in the latest edition of *Standard Methods for the Examination of Water and Wastewater.* The Discharger may elect to use a continuous on-line monitoring system(s) for measuring flows, chlorine residual and sodium bisulfite (or other dechlorinating chemical) dosage (including a safety factor) and concentration to prove that chlorine residual exceedances are false positives. If convincing evidence is provided, Regional Water Board staff may conclude that these false positive chlorine residual exceedances are not violations of this permit limitation.

B. Total Coliform Bacteria

The treated wastewater at Discharge Point 001, as monitored at M-001, shall meet the following limits of bacteriological quality:

1. The moving median value for the Most Probable Number (MPN) of total coliform bacteria in five (5) consecutive samples shall not exceed 240 MPN/100 ml; and,

2. Any single sample shall not exceed 10,000 MPN/100 ml.

C. Final Effluent Limitations for Toxics Substances

The discharge of effluent at Discharge Point 001 shall not exceed the following limitations.

Table 4. Final Effluent Limitations for Toxic Pollutants

Constituent	Units	Final Effluent Limitations [1][2]	
		Average Monthly (AMEL)	Maximum Daily (MDEL)
Copper [3]	µg/L	72	98
Mercury [4]	µg/L	0.021	0.040
Silver	µg/L	9.8	22
Zinc	µg/L	450	860
Cyanide [5][6]	µg/L	3.1	6.4
Dioxin-TEQ [7]	µg/L	1.4×10^{-8}	2.8×10^{-8}
Bis (2-ethylhexly) phthalate	µg/L	54	110
Total Ammonia	mg/L	12.3	32

Footnotes for Table 4:

[1] a. All analyses shall be performed using current USEPA methods, or equivalent methods approved in writing by the Executive Officer.

b. Limitations apply to the average concentration of all samples collected during the averaging period (daily = 24-hour period; monthly = calendar month).

c. All metal limitations are total recoverable.

[2] A daily maximum or average monthly value for a given constituent shall be considered noncompliant with the effluent limitations only if it exceeds the effluent limitation and the Reporting Level for that constituent. As outlined in Section 2.4.5 of the SIP, the table below indicates the Minimum Level (ML) upon which the Reporting Level is based for compliance determination purposes. A Minimum Level is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Constituent	ML	Units
Copper	2	µg/L
Mercury	0.0005	µg/L
Silver	0.25	µg/L
Zinc	1	µg/L
Cyanide	5	µg/L
Bis(2-ethylhexyl) phthalate	5	µg/L
Dioxin-TEQ	As specified below	
2,3,7,8-TetraCDD	5	pg/L
1,2,3,7,8-PentaCDD	25	pg/L
1,2,3,4,7,8-HexaCDD	25	pg/L
1,2,3,6,7,8-HexaCDD	25	pg/L

Constituent	ML	Units
1,2,3,7,8,9-HexaCDD	25	pg/L
1,2,3,4,6,7,8-HeptaCDD	25	pg/L
OctaCDD	50	pg/L
2,3,7,8-TetraCDF	5	pg/L
1,2,3,7,8-PentaCDF	25	pg/L
2,3,4,7,8-PentaCDF	25	pg/L
1,2,3,4,7,8-HexaCDF	25	pg/L
1,2,3,6,7,8-HexaCDF	25	pg/L
1,2,3,7,8,9-HexaCDF	25	pg/L
2,3,4,6,7,8-HexaCDF	25	pg/L
1,2,3,4,6,7,8-HeptaCDF	25	pg/L
1,2,3,4,7,8,9-HeptaCDF	25	pg/L
OctaCDF	50	pg/L

[3] **Alternate Effluent Limits for Copper:**

a. If a copper SSO for the receiving water becomes legally effective, resulting in adjusted saltwater chronic objective of 2.5 µg/L and acute objective of 3.9 µg/L as documented in the *North of Dumbarton Bridge Copper and Nickel Site-Specific Objective (SSO) Derivation (Clean Estuary Partnership December 2004)*, upon its effective date, the following limitations shall supersede those copper limitations listed in Table 4 (the rationale for these effluent limitations can be found in the Fact Sheet [**Attachment F**]).

   MDEL of 73 µg/L, and AMEL of 54 µg/L.

b. If a different copper SSO for the receiving water is adopted, the alternate WQBELs based on the SSO will be determined after the SSO effective date.

[4] Effluent mercury monitoring shall be performed using ultra-clean sampling and analysis techniques.

[5] Compliance may be demonstrated by measurement of weak acid dissociable cyanide.

[6] **Alternate Effluent Limits for Cyanide:**

a. If a cyanide SSO for the receiving water becomes legally effective, resulting in adjusted saltwater chronic objective of 2.9 µg/L and acute objective of 9.4 µg/L (based on the assumptions in *Draft Staff Report on Proposed Site-Specific Water Quality Objectives and Effluent Limit Policy for Cyanide for San Francisco Bay*, dated November 10, 2005), upon its effective date, the following limitations shall supersede those cyanide limitations, above (the rationale for these effluent limitations can be found in the Fact Sheet [**Attachment F**]).

   MDEL of 42 µg/L, and AMEL of 21 µg/L.

b. If a different cyanide SSO for the receiving water is adopted, the alternate WQBELs based on the SSO will be determined after the SSO effective date.

[7] Final effluent limits for dioxin-TEQ shall become effective on September 1, 2017.

D. Whole Effluent Acute Toxicity

Representative samples of the discharge at Discharge Point 001 shall meet the following limits for acute toxicity. Compliance with these limits shall be achieved in accordance with Section V.A of the attached MRP (**Attachment E**).

1. The survival of bioassay test organisms in 96-hour flow-through bioassays of undiluted effluent shall be:

a. An eleven (11)-sample median value of not less than 90 percent survival; and

b. An eleven (11)-sample 90th percentile value of not less than 70 percent survival.

2. These acute toxicity limits are further defined as follows:

a. 11-sample median limit:

Any bioassay test showing survival of 90 percent or greater is not a violation of this limit. A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit, if five or more of the past ten or fewer bioassay tests also show less than 90 percent survival.

b. 90th percentile limit:

Any bioassay test showing survival of 70 percent or greater is not a violation of this limit. A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit, if one or more of the past ten or fewer bioassay tests also show less than 70 percent survival.

3. Bioassays shall be performed using the most up-to-date USEPA protocol and the most sensitive species as specified in writing by the Executive Officer based on the most recent screening test results. Bioassays shall be conducted in compliance with "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms," currently 5th Edition (EPA-821-R-02-012), with exceptions granted to the Discharger by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP) upon the Discharger's request with justification.

4. If the Discharger can demonstrate to the satisfaction of the Executive Officer that toxicity exceeding the levels cited above is caused by ammonia and that the ammonia in the discharge is not adversely impacting receiving water quality or beneficial uses, then such toxicity does not constitute a violation of this effluent limitation.

E. Whole Effluent Chronic Toxicity

1. Compliance with the Basin Plan narrative toxicity objective shall be demonstrated according to the following tiered requirements based on results from representative samples of the treated effluent at Discharge Point 001 meeting test acceptability criteria and Section V.B of the MRP (**Attachment E**):

a. Conduct routine monitoring;

b. Accelerate monitoring after exceeding a single sample maximum value of 10 TUc[1];

c. Return to routine monitoring if accelerated monitoring does not exceed the "trigger" in (2);

d. If accelerated monitoring confirms consistent toxicity above the "trigger" in (2), above, initiate toxicity identification evaluation/toxicity reduction evaluation (TIE/TRE) in accordance with a workplan submitted in accordance with Section V.B of the MRP (**Attachment E**), and that incorporates any and all comments from the Executive Officer;

e. Return to routine monitoring after appropriate elements of TRE workplan are implemented and either the toxicity drops below "trigger" level in (2), above, or, based on the results of the TRE, the Executive Officer authorizes a return to routine monitoring.

2. **Test Species and Methods.** The Discharger shall conduct routine monitoring with the most sensitive species determined during the most recent chronic toxicity screening performed by the Discharger or utilizing recent results from species screening testing conducted by a similar neighboring sanitary district and approved by the Executive Officer. Chronic Toxicity Monitoring Screening Phase Requirements, Critical Life Stage Toxicity Tests and definitions of terms used in the chronic toxicity monitoring are identified in **Appendices E-1 and E-2** of the MRP (**Attachment E**). In addition, bioassays shall be conducted in compliance with the most recently promulgated test methods, "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms," currently fourth Edition (EPA-821-R-02-013), with exceptions granted by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP).

F. Mercury Mass Emission Effluent Limitations

Until TMDL and WLA efforts for mercury provide enough information to establish a different WQBEL, the Discharger shall demonstrate that the current mercury mass loading to the receiving water does not increase by complying with the following:

1. **Mass Emission limit**. The 12-month moving average annual load for mercury shall not exceed 0.011 kilograms per month (kg/mo). Compliance shall be calculated using 12-month moving average loadings from Discharge 001 to the receiving water for the entire year.

[1] A TUc equals 100 divided by the no observable effect level (NOEL). The NOEL is determined from IC, EC, or NOEC values. These terms, their usage, and other chronic toxicity monitoring program requirements are defined in more detail in the MRP (**Attachment E**). Monitoring and TRE requirements may be modified by the Executive Officer in response to the degree of toxicity detected in the effluent or in ambient waters related to the discharge.

2. **Compliance determination method**. Compliance for each month will be determined based on the 12-month moving averages over the previous 12 months of monitoring calculated using the method described below:

   Monthly mass emission loading, in kg/mo = Flow, in MGD x Concentration, in µg/L x 0.1151

   12-month moving average Hg mass loading = Running average of last 12 monthly mercury mass loadings in kg/mo

   Where 0.1151 is a unit conversion factor.

   If more than one mercury measurement is obtained in a calendar month, the average of the calculated mass loadings for the sampling days is used as the monthly value for that month. If the results are less than the method detection limit used, the concentrations are assumed to be equal to the method detection limit.

3. **Mercury Final Limits.** The Regional Water Board intends to amend this Order in accordance with the mercury TMDL and WLAs. The Clean Water Act's anti-backsliding rule, Section 402(o), indicates that this Order may be modified to include a less stringent requirement following adoption of the TMDL and WLA, if the requirements for an exception to the rule are met.

G. Land Discharge Specifications

N/A

H. Reclamation Specifications

N/A

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

1. The discharge 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 in concentrations that cause nuisance or adversely affect beneficial uses;

   b. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;

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

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

e. Toxic or other deleterious substances to be present in concentrations or quantities, which will cause deleterious effects on wildlife, waterfowl, or other aquatic biota, 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 discharges shall not cause nuisance, or adversely affect the beneficial uses of the receiving water.

3. The discharges shall not cause the following limits to be exceeded in waters of the State at any one place within one foot of the water surface:

a. Dissolved Oxygen: 5.0 mg/L, minimum

The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause concentrations less than that specified above, then the discharges shall not cause further reduction in ambient dissolved oxygen concentrations.

b. Dissolved Sulfide: 0.1 mg/L, maximum

c. pH: The pH shall not be depressed below 6.5 nor raised above 8.5, nor caused to vary from normal ambient pH by more than 0.5 Standard Units.

e. Nutrients: Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.

4. The discharges shall not cause a violation of any particular water quality standard for receiving waters adopted by the Regional Water Board or the State Water Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to CWA Section 303, or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such more stringent standards.

B. Groundwater Limitations

N/A

VI. PROVISIONS

A. Standard Provisions

1. **Federal Standard Provisions.** The Discharger shall comply with all Standard Provisions included in **Attachment D** of this Order.

2. **Regional Water Board Standard Provisions.** The Discharger shall comply with all applicable items of the attached *Standard Provisions and Reporting Requirements for NPDES Surface Water Discharge Permits, August 1993* (the Standard Provisions, **Attachment G**), and any amendment thereto. Where provisions or reporting requirements specified in this Order are different from equivalent or related provisions or reporting requirements given in the Standard Provisions (**Attachment G**), the specifications of this Order shall apply. Duplicative requirements in the federal Standard Provisions in VI.A.1.2, above (**Attachment D**) and the regional Standard Provisions (**Attachment G**) are not separate requirements. A violation of a duplicative requirement does not constitute two separate violations.

B. Monitoring and Reporting Program Requirements

The Discharger shall comply with the Monitoring and Reporting Program, and future revisions thereto, in **Attachment E**. The Discharger shall also comply with the requirements contained in *Self-Monitoring Program, Part A, August 1993* (**Attachment G)**.

C. Special Provisions

1. Reopener Provisions

The Regional Water Board may modify or reopen this Order prior to its expiration date in any of the following circumstances as allowed by law:

a. If present or future investigations demonstrate that the discharge(s) governed by this Order will or have a reasonable potential to cause or contribute to, or will cease to, have adverse impacts on water quality and/or beneficial uses of the receiving waters.

b. If new or revised WQOs, or TMDLs come into effect for the San Francisco Bay estuary and contiguous water bodies (whether statewide, regional, or site-specific). In such cases, effluent limitations in this Order will be modified as necessary to reflect updated WQOs and waste load allocations in TMDLs. Adoption of effluent limitations contained in this Order is not intended to restrict in any way future modifications based on legally adopted WQOs, TMDLs, or as otherwise permitted under Federal regulations governing NPDES permit modifications.

c. If translator or other water quality studies provide a basis for determining that a permit condition(s) should be modified.

d. If administrative or judicial decision on a separate NPDES permit or WDR that addresses requirements similar to this discharge.

e. Or as otherwise authorized by law.

The Dischargers may request permit modification based on the above. The Dischargers shall include in any such request an antidegradation and antibacksliding analysis.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. **Effluent Monitoring**

The Discharger shall continue to monitor and evaluate the discharge from Outfall 001 (measured at M-001) for the constituents listed in Enclosure A of the Regional Water Board's August 6, 2001 Letter, according to the sampling frequency specified in the attached MRP **(Attachment E)**. Compliance with this requirement shall be achieved in accordance with the specifications stated in the Regional Water Board's August 6, 2001 Letter under Effluent Monitoring for Minor Discharger.

The Discharger shall evaluate on an annual basis if concentrations of any constituent increase over past performance. The Discharger shall investigate the cause of the increase. The investigation may include, but need not be limited to, an increase in the effluent monitoring frequency, monitoring of internal process streams, and monitoring of influent sources. This may be satisfied through identification of these constituents as "Pollutants of Concern" in the Discharger's Pollutant Minimization Program described in Provision VI.C.3, below. A summary of the annual evaluation of data and source investigation activities shall also be reported in the annual self-monitoring report.

Final report: A final report that presents all the data shall be submitted to the Regional Water Board no later than 180 days prior to the Order expiration date. This final report shall be submitted with the application for permit reissuance.

b. **Ambient Background Receiving Water Monitoring**

The Discharger shall collect or participate in collecting background ambient receiving water monitoring for priority pollutants that is required to perform a Reasonable Potential Analysis (RPA) and to calculate effluent limitations. The data on the conventional water quality parameters (pH, salinity, and hardness) shall also be sufficient to characterize these parameters in the receiving water at a point after the discharge has mixed with the receiving waters. This provision may be met through monitoring through the Collaborative Bay Area Clean Water Agencies (BACWA) Study, or a similar ambient monitoring program for San Francisco Bay. This permit may be reopened, as appropriate, to incorporate

effluent limits or other requirements based on Regional Water Board review of these data.

Final report: The Discharger shall submit a final report that presents all the data to the Regional Water Board 180 days prior to Order expiration. This final report shall be submitted with the application for permit reissuance.

c. **Optional Mass Offset**

If the Discharger can demonstrate that further net reductions of the total mass loadings of 303(d)-listed pollutants to the receiving water cannot be achieved through economically feasible measures such as aggressive source control, wastewater reuse, and treatment plant optimization, but only through a mass offset program, the Discharger may submit to the Regional Water Board for approval a mass offset plan to reduce 303(d)-listed pollutants to the same watershed or drainage basin. The Regional Water Board may modify this Order to allow an approved mass offset program.

3. Best Management Practices and Pollution Minimization Program

a. The Discharger shall continue to improve, in a manner acceptable to the Executive Officer, its existing Pollutant Minimization Program to reduce pollutant loadings to the treatment plant, and therefore, to the receiving waters.

b. The Discharger shall submit an annual report, acceptable to the Executive Officer, no later than February 28th of each calendar year. The annual report shall cover January through December of the preceding year. Each annual report shall include at least the following information:

(1) A brief description of its treatment facilities and treatment processes.

(2) A discussion of the current pollutants of concern. Periodically, the Discharger shall analyze its own situation to determine which pollutants are currently a problem and/or which pollutants may be potential future problems. This discussion shall include the reasons why the pollutants were chosen.

(3) Identification of sources for the pollutants of concern. This discussion shall include how the Discharger intends to estimate and identify sources of the pollutants. The Discharger shall also identify sources or potential sources not directly within the ability or authority of the Discharger to control, such as pollutants in the potable water supply and air deposition.

(4) Identification of tasks to reduce the sources of the pollutants of concern. This discussion shall identify and prioritize tasks to address the Discharger's pollutants of concern. The Discharger may implement tasks itself or participate in group, regional, or national tasks that will address its pollutants of concern. The Discharger is strongly encouraged to participate in group, regional, or national tasks that will address its pollutants of concern whenever

it is efficient and appropriate to do so. A time-line shall be included for the implementation of each task.

(5) Outreach to employees. The Discharger shall inform employees about the pollutants of concern, potential sources, and how they might be able to help reduce the discharge of these pollutants of concern into the treatment facilities. The Discharger may provide a forum for employees to provide input to the Program.

(6) Discussion of criteria used to measure the program's and tasks' effectiveness. The Discharger shall establish criteria to evaluate the effectiveness of its Pollution Minimization Program. This shall also include a discussion of the specific criteria used to measure the effectiveness of each of the tasks in item (b) (3, 4, and 5), above.

(7) Documentation of efforts and progress. This discussion shall detail all the Discharger's activities in the Pollution Minimization Program during the reporting year.

(8) Evaluation of program's and tasks' effectiveness. The Discharger shall use the criteria established in (b) (6) to evaluate the Program's and tasks' effectiveness.

(9) Identification of Specific Tasks and Time Schedules for Future Efforts. Based on the evaluation, the Discharger shall detail how it intends to continue or change its tasks to more effectively reduce the amount of pollutants to the treatment plant, and subsequently in its effluent.

c. Pollutant Minimization Program for Pollutants with Effluent Limitations.
The Discharger shall develop and conduct a Pollutant Minimization Program (PMP) as further described below when there is evidence (e.g., sample results reported as DNQ when the effluent limitation is less than the MDL, sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:

(1) A sample result is reported as DNQ and the effluent limitation is less than the RL; or

(2) A sample result is reported as ND and the effluent limitation is less than the MDL, using definitions described in the SIP.

d. If triggered by the reasons in c. above, the Discharger's PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:

(1) An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling, or alternative measures approved by the Executive Officer when it is demonstrated that source monitoring is unlikely to produce useful analytical data;

(2) Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system, or alternative measures approved by the Executive Officer, when it is demonstrated that influent monitoring is unlikely to produce useful analytical data;

(3) Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;

(4) Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and

(5) The annual report required by 3.b. above, shall specifically address the following items:

i. All PMP monitoring results for the previous year;

ii. A list of potential sources of the reportable priority pollutant(s);

iii. A summary of all actions undertaken pursuant to the control strategy; and

iv. A description of actions to be taken in the following year.

4. Action Plan for Cyanide

If and when the cyanide alternate limits in IV become effective, the Discharger shall implement an action plan for cyanide in accordance with the measures identified in Appendix I of *Staff Report on Proposed Site-Specific Water Quality Objectives for Cyanide for San Francisco Bay*, December 4, 2006.

5. Action Plan for Copper

If and when the copper alternate limits in IV become effective, the Discharger shall initiate implementation of an action plan for copper in accordance with the Basin Plan Copper Site-Specific Objective Amendment.

6. Construction, Operation and Maintenance Specifications

a. Wastewater Facilities, Review and Evaluation, and Status Reports

(1) The Discharger shall operate and maintain its wastewater collection, treatment, and disposal facilities in a manner to ensure that all facilities are adequately staffed, supervised, financed, operated, maintained, repaired, and upgraded as necessary, in order to provide adequate and reliable transport, treatment, and disposal of all wastewater from both existing and planned future wastewater sources under the Discharger's service responsibilities.

(2) The Discharger shall regularly review and evaluate its wastewater facilities and operation practices in accordance with section a.1 above. Reviews and evaluations shall be conducted as an ongoing component of the Discharger's administration of its wastewater facilities.

(3) The Discharger shall provide the Executive Officer, upon request, a report describing the current status of its wastewater facilities and operation practices, including any recommended or planned actions and an estimated time schedule for these actions. The Discharger shall also include, in each annual self-monitoring report, a description or summary of review and evaluation procedures, and applicable wastewater facility programs or capital improvement projects.

b. Operations and Maintenance Manual (O&M), Review and Status Reports

(1) The Discharger shall maintain an O&M Manual as described in the findings of this Order for the Discharger's wastewater facilities. The O&M Manual shall be maintained in usable condition and be available for reference and use by all applicable personnel.

(2) The Discharger shall regularly review, revise, or update, as necessary, the O&M Manual(s) so that the document(s) may remain useful and relevant to current equipment and operation practices. Reviews shall be conducted annually, and revisions or updates shall be completed as necessary. For any significant changes in treatment facility equipment or operation practices, applicable revisions shall be completed within 90 days of completion of such changes.

(3) The Discharger shall provide the Executive Officer, upon request, a report describing the current status of its O&M manual, including any recommended or planned actions and an estimated time schedule for these actions. The Discharger shall also include, in each annual self-monitoring report, a description or summary of review and evaluation procedures and applicable changes to its operations and maintenance manual.

c. **Contingency Plan, Review and Status Reports**

(1) The Discharger shall maintain a Contingency Plan as required by Regional Water Board Resolution 74-10 (**Attachment G**) and as prudent in accordance with current municipal facility emergency planning. The discharge of pollutants in violation of this Order where the Discharger has failed to develop and/or adequately 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 California Water Code.

(2) The Discharger shall regularly review and update, as necessary, the Contingency Plan so that the plan may remain useful and relevant to current equipment and operation practices. Reviews shall be conducted annually, and updates shall be completed as necessary.

(3) The Discharger shall provide the Executive Officer, upon request, a report describing the current status of its Contingency Plan review and update. The Discharger shall also include, in each annual self-monitoring report, a description or summary of review and evaluation procedures and applicable changes to its Contingency Plan.

7. Special Provisions

a. **Sludge Management Practices Requirements**

(1) All sludge generated by the Discharger must be disposed of in a municipal solid waste landfill, reused by land application, or disposed of in a sludge-only landfill in accordance with 40 CFR §503. If the Discharger desires to dispose of sludge by a different method, a request for permit modification must be submitted to USEPA 180 days before start-up of the alternative disposal practice. All the requirements in 40 CFR §503 are enforceable by USEPA whether or not they are stated in an NPDES permit or other permit issued to the Discharger. The Regional Water Board should be copied on relevant correspondence and reports forwarded to USEPA regarding sludge management practices.

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

(3) 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.

(4) The discharge of sludge shall not cause waste material to be in a position where it is or can be carried from the sludge treatment and storage site and deposited in waters of the State.

(5) The sludge treatment and 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 temporary 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.

(6) For sludge that is applied to the land, placed on a surface disposal site, or fired in a sludge incinerator as defined in 40 CFR §503, the Discharger shall submit an annual report to USEPA and the Regional Water Board containing monitoring results and pathogen and vector attraction reduction requirements as specified by 40 CFR §503, postmarked February 15 of each year, for the period covering the previous calendar year.

(7) Sludge that is disposed of in a municipal solid waste landfill must meet the requirements of 40 CFR §258. In the annual self-monitoring report, the Discharger shall include the amount of sludge disposed of and the landfill(s) to which it was sent.

(8) Permanent on-site sludge storage or disposal activities are not authorized by this permit. A report of Waste Discharge shall be filed and the site brought into compliance with all applicable regulations prior to commencement of any such activity by the Discharger.

(9) Sludge Monitoring and Reporting Provisions of this Regional Water Board's Standard Provisions (**Attachment G**), apply to sludge handling, disposal and reporting practices.

(10) The Regional Water Board may amend this permit prior to expiration if changes occur in applicable state and federal sludge regulations.

b. **Sanitary Sewer Overflows and Sewer System Management Plan**

The Discharger's collection system is part of the facility that is subject to this Order. As such, the Discharge must properly operate and maintain its collection system (**Attachment D**, Standard Provisions - Permit Compliance, subsection I.D). The Discharger must report any noncompliance (**Attachment D**, Standard Provision - Reporting, subsections V.E.1 and V.E.2), and mitigate any discharge from the Discharger's collection system in violation of this Order (**Attachment D**, Standard Provisions - Permit Compliance, subsection I.C). The General Waste Discharge Requirements for Collection System Agencies (Order No. 2006-0003 DWQ) has requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. While the Discharger must comply with both the General Waste Discharge Requirements for Collection System Agencies (General Collection System WDR) and this Order, the General Collection System WDR more clearly and specifically stipulates requirements for operation and maintenance and for reporting and mitigating sanitary sewer overflows. Implementation of the General Collection System WDR requirements

for proper operation and maintenance and mitigation of spills will satisfy the corresponding federal NPDES requirements specified in this Order. Following reporting requirements in the General Collection System WDR will satisfy NPDES reporting requirements for sewage spills. Furthermore, the Discharger shall comply with the schedule for development of sewer system management plans (SSMPs) as indicated in the letter issued by the Regional Water Board on July 7, 2005, pursuant to Water Code Section 13267. Until the statewide on-line reporting system becomes operational, the Discharger shall report sanitary sewer overflows electronically according to the Regional Water Board's SSO reporting program.

c. **Corrective Measures to Minimize Blending**
The Discharger shall comply with the following tasks and deadlines to minimize blending events.

Task	**Compliance Date**
1. *Infiltration/Inflow (I/I) Study Update.* The Discharger shall more fully evaluate the extent to which it maximizes its ability to reduce I/I throughout the entire collection system (i.e. including all satellite systems). To the extent feasible, including evaluation of the use of existing legal authorities and options for obtaining or expanding legal authorities to reduce I/I from satellite collection systems.	One year after the effective date of this Order
2. *Collection System Maintenance.* At a minimum, maintain current maintenance level of collection system and pump station. Include maintenance summary in annual completion report (see Task 3).	On-going
3. *Completion Report.* The Discharger shall provide annual updates on its progress in completing measures to reduce blending including I/I reduction efforts of member satellite agencies.	Annually with the Annual Self-Monitoring Report
5. *No Feasible Alternatives Analysis.* The Discharger shall complete a utility analysis if it seeks to continue to bypass peak wet weather flows around its secondary treatment units. The utility analysis must satisfy 40 CFR 122.41(m)(4)(i)(A)-(C), and any applicable policy or guidance such as the process set forth in Part 1 of USEPA's Peak Wet Weather Policy's No Feasible Alternatives Analysis Process (available at *http://cfpub.epa.gov/npdes/wetweather.cfm*) once it is finalized.	180 days prior to the Order expiration date

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in Section IV of this Order will be determined as specified below:

A. General

Compliance with effluent limitations for reportable pollutants shall be determined using sample reporting protocols defined in the MRP and **Attachment A** of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the reportable pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level (ML).

B. Multiple Sample Data

When determining compliance with a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses and the data set contains one or more reported determinations of “Detected, but Not Quantified” (DNQ) or “Not Detected” (ND), the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

ATTACHMENT A – DEFINITIONS

Acute Toxicity:

a. Acute Toxicity (TUa)

Expressed in Toxic Units Acute (TUa)

$$TUa = \frac{100}{\text{96-hr LC}_{50\%}}$$

b. Lethal Concentration 50% (LC 50)

LC 50 (percent waste giving 50% survival of test organisms) shall be determined by static or continuous flow bioassay techniques using standard marine test species as specified in Ocean Plan Appendix III. If specific identifiable substances in wastewater can be demonstrated by the discharger as being rapidly rendered harmless upon discharge to the marine environment, but not as a result of dilution, the LC 50 may be determined after the test samples are adjusted to remove the influence of those substances.

When it is not possible to measure the 96-hour LC 50 due to greater than 50 percent survival of the test species in 100 percent waste, the toxicity concentration shall be calculated by the expression:

$$TUa = \frac{\log (100 - S)}{1.7}$$

where:

S = percentage survival in 100% waste. If S > 99, TUa shall be reported as zero.

Average Monthly Effluent Limitation (AMEL): the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL): the highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Chronic Toxicity: This parameter shall be used to measure the acceptability of waters for supporting a healthy marine biota until improved methods are developed to evaluate biological response.

a. Chronic Toxicity (TUc)

Expressed as Toxic Units Chronic (TUc)

$$TUc = \frac{100}{NOEL}$$

b. No Observed Effect Level (NOEL)

The NOEL is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test listed in Ocean Plan Appendix II.

Daily Discharge: Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Detected, but Not Quantified (DNQ) are those sample results less than the reported Minimum Level, but greater than or equal to the laboratory's MDL.

Enclosed Bays are indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. This definition includes but is not limited to: Humboldt Bay, Bodega Harbor, Tomales Bay, Drakes Estero, San Francisco Bay, Morro Bay, Los Angeles Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay.

Initial Dilution is the process that results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge.

For a submerged buoyant discharge, characteristic of most municipal and industrial wastes that are released from the submarine outfalls, the momentum of the discharge and its initial buoyancy act together to produce turbulent mixing. Initial dilution in this case is completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally.

For shallow water submerged discharges, surface discharges, and non-buoyant discharges, characteristic of cooling water wastes and some individual discharges, turbulent mixing results primarily from the momentum of discharge. Initial dilution, in these cases, is considered to be completed when the momentum induced velocity of the

discharge ceases to produce significant mixing of the waste, or the diluting plume reaches a fixed distance from the discharge to be specified by the Regional Board, whichever results in the lower estimate for initial dilution.

Instantaneous Maximum Effluent Limitation: the highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation: the lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Maximum Daily Effluent Limitation (MDEL): the highest allowable daily discharge of a pollutant.

MDL (Method Detection Limit) is the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, PART 136, Appendix B.

Minimum Level (ML) is the concentrations at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method-specified sample weights, volumes and processing steps have been followed.

Natural Light: Reduction of natural light may be determined by the Regional Water Board by measurement of light transmissivity or total irradiance, or both, according to the monitoring needs of the Regional Water Board.

Not Detected (ND) are those sample results less than the laboratory's MDL.

Ocean Waters are the territorial marine waters of the state as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. If a discharge outside the territorial waters of the state could affect the quality of the waters of the state, the discharge may be regulated to assure no violation of the Ocean Plan will occur in ocean waters.

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.

Pollutant Minimization Program (PMP) means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream

recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of Ocean Plan Table B pollutants through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Reported Minimum Level is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix II of the Ocean Plan in accordance with section III.C.5.a. of the Ocean Plan or established in accordance with section III.C.5.b. of the Ocean Plan. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the reported ML.

Satellite Collection System is the portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

Shellfish are organisms identified by the California Department of Health Services as shellfish for public health purposes (i.e., mussels, clams and oysters).

Significant Difference is defined as a statistically significant difference in the means of two distributions of sampling results at the 95 percent confidence level.

State Water Quality Protection Areas (SWQPAs) are non-terrestrial marine or estuarine areas designated to protect marine species or biological communities from an undesirable alteration in natural water quality. All AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE (ASBS) that were previously designated by the State Water Board in Resolution No.s 74-28, 74-32, and 75-61 are now also classified as a subset of State Water Quality Protection Areas and require special protections afforded by the Ocean Plan.

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 factors, as shown in the table below.

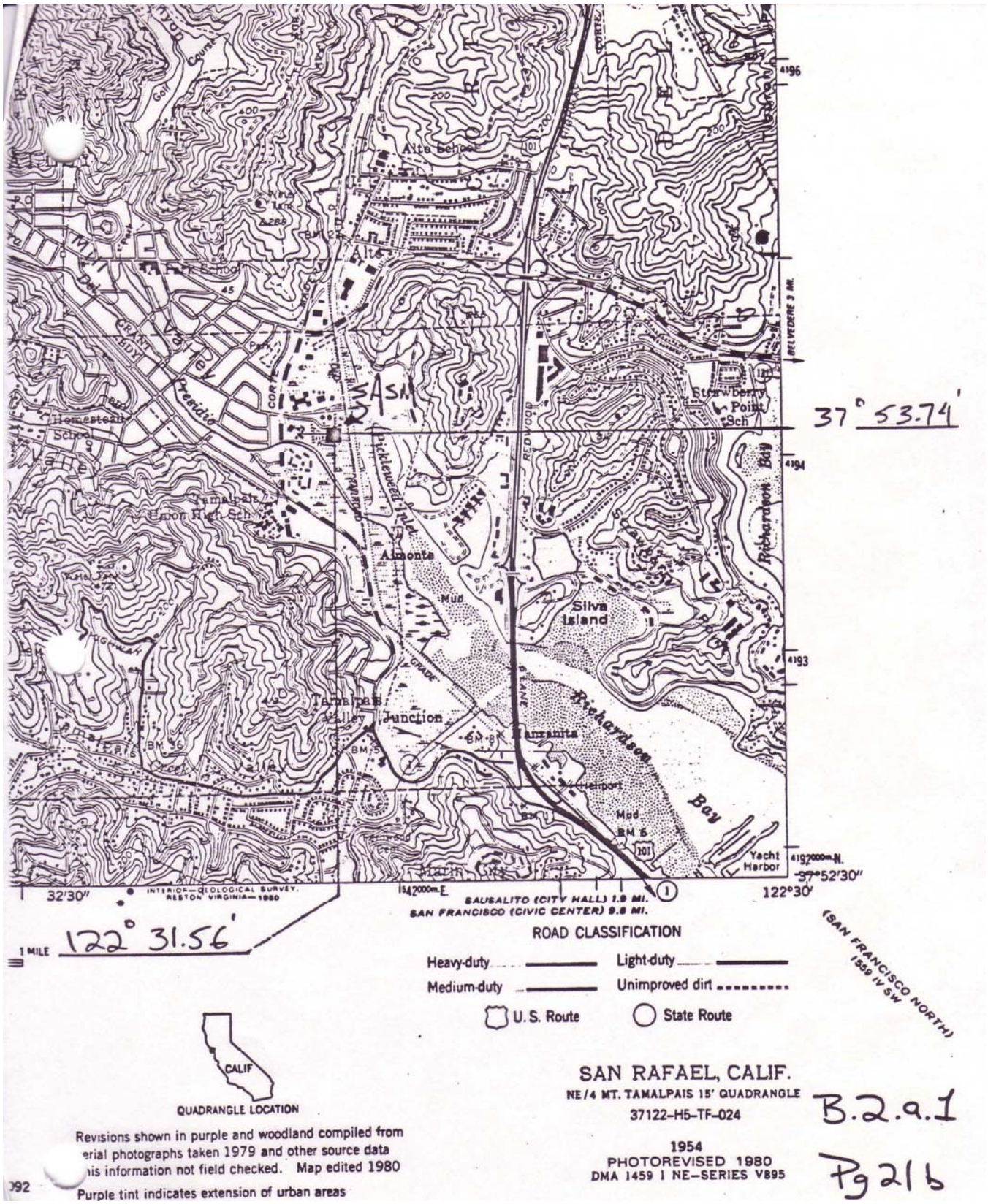
Isomer Group	Toxicity Equivalence Factor
2,3,7,8-tetra CDD	1.0
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDDs	0.1
2,3,7,8-hepta CDD	0.01
octa CDD	0.001
2,3,7,8 tetra CDF	0.1
1,2,3,7,8 penta CDF	0.05
2,3,4,7,8 penta CDF	0.5
2,3,7,8 hexa CDFs	0.1
2,3,7,8 hepta CDFs	0.01
octa CDF	0.001

Toxicity Reduction Evaluation (TRE) is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A TOXICITY IDENTIFICATION EVALUATION (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

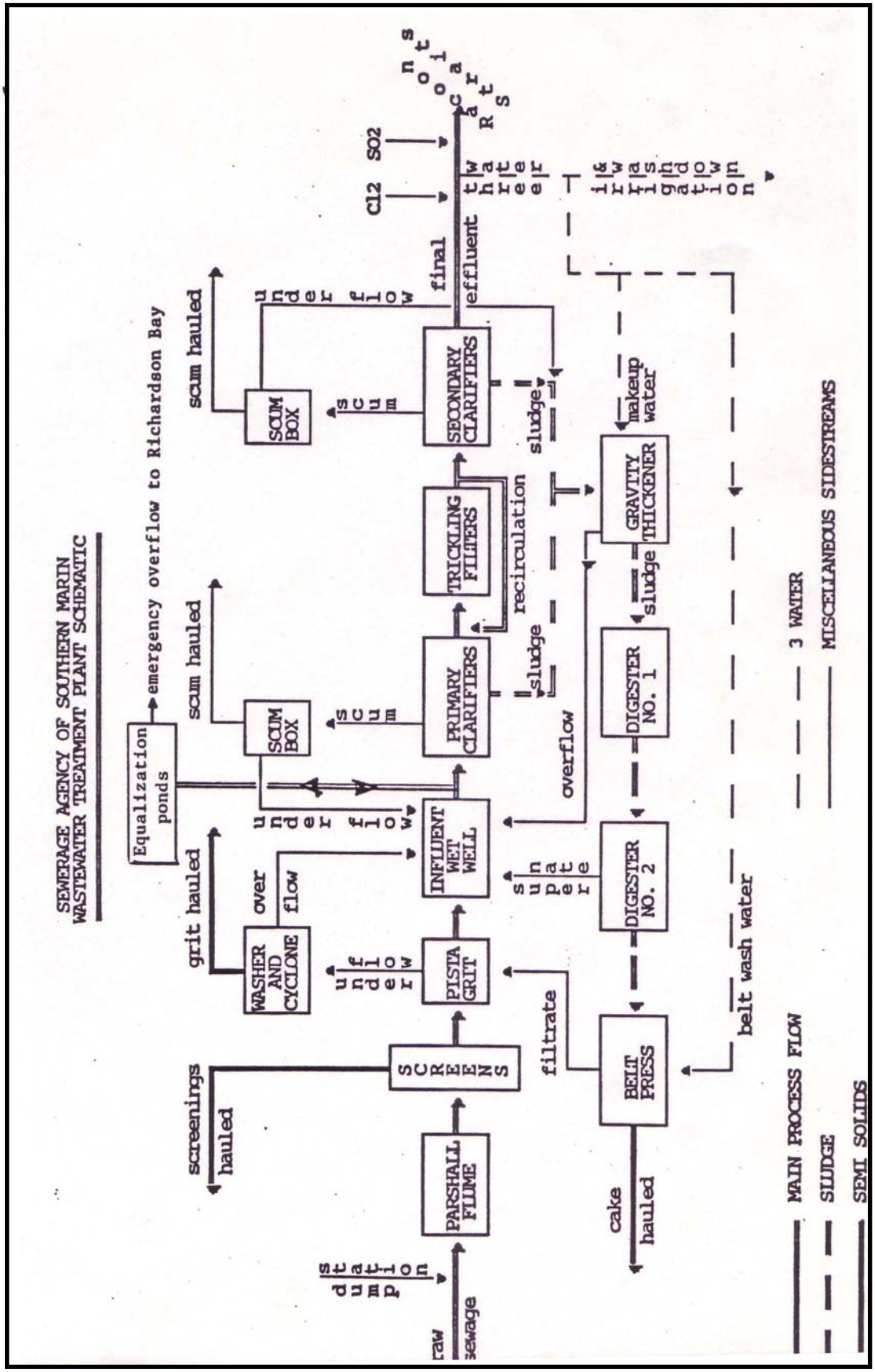
Waste: As used in the Ocean Plan, waste includes a Discharger's total discharge, of whatever origin, i.e., gross, not net, discharge.

Water Reclamation: The treatment of wastewater to render it suitable for reuse, the transportation of treated wastewater to the place of use, and the actual use of treated wastewater for a direct beneficial use or controlled use that would not otherwise occur.

ATTACHMENT B – SITE LOCATION MAP



ATTACHMENT C – FLOW SCHEMATIC



ATTACHMENT D – FEDERAL STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code (CWC) and is grounds for enforcement action, for permit termination, revocation and reissuance, or denial of a permit renewal application [*40 CFR §122.41(a)*].

2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not been modified to incorporate the requirement [*40 CFR §122.41(a)(1)*].

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order [*40 CFR §122.41l*].

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment [*40 CFR §122.41(d)*].

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order [*40 CFR §122.41(e)*].

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges [*40 CFR §122.41(g)*].

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations [*40 CFR §122.5l*].

F. Inspection and Entry

The Discharger shall allow the Regional Water Quality Control Board (RWQCB), State Water Resources Control Board (SWRCB), United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to [*40 CFR §122.41(i)*] [*CWC 13383I*]:

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order [*40 CFR §122.41(i)(1)*];

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order [*40 CFR §122.41(i)(2)*];

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order [*40 CFR §122.41(i)(3)*];

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the CWC, any substances or parameters at any location [*40 CFR §122.41(i)(4)*].

G. Bypass

1. Definitions

   a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility [*40 CFR §122.41(m)(1)(i)*].

   b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production [*40 CFR §122.41(m)(1)(ii)*].

2. Bypass not exceeding limitations – The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3 and I.G.5 below [*40 CFR §122.41(m)(2)*].

3. Prohibition of bypass – Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless [*40 CFR §122.41(m)(4)(i)*]:

   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage [*40 CFR §122.41(m)(4)(A)*];

b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance [*40 CFR §122.41(m)(4)(B)*]; and

c. The Discharger submitted notice to the Regional Water Board as required under Standard Provision – Permit Compliance I.G.5 below [*40 CFR §122.41(m)(4)I*].

4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above [*40 CFR §122.41(m)(4)(ii)*].

5. Notice

a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass [*40 CFR §122.41(m)(3)(i)*].

b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions – Reporting V.E below [*40 CFR §122.41(m)(3)(ii)*].

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation [*40 CFR §122.41(n)(1)*].

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph H.2 of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review [*40 CFR §122.41(n)(2)*].

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that [*40 CFR §122.41(n)(3)*]:

a. An upset occurred and that the Discharger can identify the cause(s) of the upset [*40 CFR §122.41(n)(3)(i)*];

b. The permitted facility was, at the time, being properly operated [*40 CFR §122.41(n)(3)(i)*];

c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b [*40 CFR §122.41(n)(3)(iii)*]; and

d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above [*40 CFR §122.41(n)(3)(iv)*].

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof [*40 CFR §122.41(n)(4)*].

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition [*40 CFR §122.41(f)*].

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit [*40 CFR §122.41(b)*].

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the CWC [*40 CFR §122.41(l)(3)*] [*40 CFR §122.61*].

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity [*40 CFR §122.41(j)(1)*].

B. Monitoring results must be conducted according to test procedures under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503 unless other test procedures have been specified in this Order [*40 CFR §122.41(j)(4)*] [*40 CFR §122.44(i)(1)(iv)*].

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), the Discharger

shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time [*40 CFR §122.41(j)(2)*].

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements [*40 CFR §122.41(j)(3)(i)*];

2. The individual(s) who performed the sampling or measurements [*40 CFR §122.41(j)(3)(ii)*];

3. The date(s) analyses were performed [*40 CFR §122.41(j)(3)(iii)*];

4. The individual(s) who performed the analyses [*40 CFR §122.41(j)(3)(iv)*];

5. The analytical techniques or methods used [*40 CFR §122.41(j)(3)(v)*]; and

6. The results of such analyses [*40 CFR §122.41(j)(3)(vi)*].

C. Claims of confidentiality for the following information will be denied [*40 CFR §122.7(b)*]:

1. The name and address of any permit applicant or Discharger [*40 CFR §122.7(b)(1)*]; and

2. Permit applications and attachments, permits and effluent data [*40 CFR §122.7(b)(2)*].

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, SWRCB, or USEPA within a reasonable time, any information which the Regional Water Board, SWRCB, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, SWRCB, or USEPA copies of records required to be kept by this Order [*40 CFR §122.41(h)*] [*CWC 13267*].

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, SWRCB, and/or USEPA shall be signed and certified in accordance with paragraph (2.) and (3.) of this provision [*40 CFR §122.41(k)*].

2. All permit applications shall be signed as follows:

a. For a corporation: By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures [*40 CFR §122.22(a)(1)*];

b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively [*40 CFR §122.22(a)(2)*]; or

c. For a municipality, State, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA) [*40 CFR §122.22(a)(3)*].

3. All reports required by this Order and other information requested by the Regional Water Board, SWRCB, or USEPA shall be signed by a person described in paragraph (b) of this provision, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described in paragraph (2.) of this provision [*40 CFR §122.22(b)(1)*];

   b. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company (a duly authorized representative may thus be either a named individual or any individual occupying a named position) [*40 CFR §122.22(b)(2)*]; and

   c. The written authorization is submitted to the Regional Water Board, SWRCB, or USEPA [*40 CFR §122.22(b)(3)*].

4. If an authorization under paragraph (3.) of this provision is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (3.) of this provision must be submitted to the Regional Water Board, SWRCB or USEPA

prior to or together with any reports, information, or applications, to be signed by an authorized representative [40 CFR §122.22l].

5. Any person signing a document under paragraph (2.) or (3.) of this provision shall make the following certification:

   "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations" [*40 CFR §122.22(d)*].

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program in this Order [*40 CFR §122.41(l)(4)*].

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or SWRCB for reporting results of monitoring of sludge use or disposal practices [*40 CFR §122.41(l)(4)(i)*].

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board [*40 CFR §122.41(l)(4)(ii)*].

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order [*40 CFR §122.41(l)(4)(iii)*].

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date [*40 CFR §122.41(l)(5)*].

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, 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 [*40 CFR §122.41(l)(6)(i)*].

2. The following shall be included as information that must be reported within 24 hours under this paragraph [*40 CFR §122.41(l)(6)(ii)*]:

   a. Any unanticipated bypass that exceeds any effluent limitation in this Order [*40 CFR §122.41(l)(6)(ii)(A)*].

   b. Any upset that exceeds any effluent limitation in this Order [*40 CFR §122.41(l)(6)(ii)(B)*].

   c. Violation of a maximum daily discharge limitation for any of the pollutants listed in this Order to be reported within 24 hours [*40 CFR §122.41(l)(6)(ii)I*].

3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours [*40 CFR §122.41(l)(6)(iii)*].

F. Planned Changes

The Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when [*40 CFR §122.41(l)(1)*]:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR §122.29(b) [*40 CFR §122.41(l)(1)(i)*]; or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in this Order nor to notification requirements under 40 CFR Part 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1) [*40 CFR §122.41(l)(1)(ii)*].

3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan [*40 CFR §122.41(l)(1)(iii)*].

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or SWRCB of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements [*40 CFR §122.41(l)(2)].*

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting E.3, E.4, and E.5 at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E [*40 CFR §122.41(l)(7)*].

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, SWRCB, or USEPA, the Discharger shall promptly submit such facts or information [*40 CFR §122.41(l)(8)*].

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The CWA provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed $25,000 per day for each violation. The CWA provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the Clean Water Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions [*40 CFR §122.41(a)(2)*] [*CWC 13385 and 13387*].

B. Any person may be assessed an administrative penalty by the Regional Water Board for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this

Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000 [*40 CFR §122.41(a)(3)*].

C. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both [*40 CFR §122.41(j)(5)*].

D. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Order, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six months per violation, or by both [*40 CFR §122.41(k)(2)*].

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural dischargers shall notify the Regional Water Board as soon as they know or have reason to believe [*40 CFR §122.42(a)*]:

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following “notification levels” [*40 CFR §122.42(a)(1)*]:

    a. 100 micrograms per liter (µg/L) [*40 CFR §122.42(a)(1)(i)*];

    b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony [*40 CFR §122.42(a)(1)(ii)*];

    c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [*40 CFR §122.42(a)(1)(iii)*]; or

    d. The level established by the Regional Water Board in accordance with 40 CFR §122.44(f) [*40 CFR §122.42(a)(1)(iv)*].

2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following “notification levels” [*40 CFR §122.42(a)(2)*]:

a. 500 micrograms per liter (µg/L) [*40 CFR §122.42(a)(2)(i)*];

b. 1 milligram per liter (mg/L) for antimony [*40 CFR §122.42(a)(2)(ii)*];

c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [*40 CFR §122.42(a)(2)(iii)*]; or

d. The level established by the Regional Water Board in accordance with 40 CFR §122.44(f) [*40 CFR §122.42(a)(2)(iv)*].

B. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Regional Water Board of the following [*40 CFR §122.42(b)*]:

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to Sections 301 or 306 of the CWA if it were directly discharging those pollutants [*40 CFR §122.42(b)(1)*]; and

2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order [*40 CFR §122.42(b)(2)*].

3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW [*40 CFR §122.42(b)(3)*].

Attachment E – Monitoring and Reporting Program

Table of Contents

I. General Monitoring Provisions E-2
II. Monitoring Locations E-4
III. Influent water Monitoring Requirements E-4
IV. Effluent Monitoring Requirements E-5
V. Whole Effluent Toxicity Testing Requirements E-7
A. Whole Effluent Acute Toxicity E-7
B. Whole Effluent Chronic Toxicity E-7
VI. Land Discharge Monitoring Requirements E-10
VII. Reclamation Monitoring Requirements E-10
VIII. Receiving Water Monitoring Requirements – Surface Water and Groundwater E-10
IX. Modifications to Part A of Self-Monitoring Program (Attachment G) E-10
X. Other Monitoring Requirements E-11
A. Regional Monitoring Program E-11
XI. Reporting Requirements E-11
A. General Monitoring and Reporting Requirements E-11
B. Self Monitoring Reports (SMRs) E-12
C. Discharge Monitoring Reports (DMRs) E-13
D. Other Reports E-14

List of Tables

Table E-1. Test Methods and Minimum Levels for Pollutants with Effluent Limits E-3
Table E-2. Monitoring Station Locations E-4
Table E-3. Influent Water Monitoring (M-INF-001) E-4
Table E-4. Effluent Monitoring (M-001) E-5
Table E-5. Monitoring Periods and Reporting Schedule E-12

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (CFR) at 40 CFR §122.48 requires that all NPDES permits specify monitoring and reporting requirements. CWC sections 13267 and 13383 also authorize the Regional Water Board to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements which implement the Federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. The Discharger shall comply with the MRP for this Order as adopted by the Regional Water Board, and with all of the requirements contained in Self-Monitoring Program, Part A, adopted August 1993 (SMP, **Attachment G**). The MRP and SMP may be amended by the Executive Officer pursuant to USEPA regulations 40 CFR122.62, 122.63, and 124.5. If any discrepancies exist between the MRP and SMP, the MRP prevails.

B. Sampling is required during the entire year when discharging. All analyses shall be conducted using current USEPA methods, or that have been approved by the USEPA Regional Administrator pursuant to 40 CFR 136.4 and 40 CFR 136.5, or equivalent methods that are commercially and reasonably available, and that provide quantification of sampling parameters and constituents sufficient to evaluate compliance with applicable effluent limits and to perform reasonable potential analysis. Equivalent methods must be more sensitive than those specified in 40 CFR 136, must be specified in the permit, and must be approved for use by the Executive Officer, following consultation with the State Water Resources Control Board's Quality Assurance Program.

C. Sampling and analysis of additional constituents is required pursuant to Table 1 of the Regional Water Board's August 6, 2001 Letter titled Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy (**Attachment G**).

D. **Minimum Levels**. For compliance and reasonable potential monitoring, analyses shall be conducted using the commercially available and reasonably achievable detection levels that are lower than the WQOs/WQC or the effluent limitations, whichever is lower. The objective is to provide quantification of constituents sufficient to allow evaluation of observed concentrations with respect to the Minimum Levels given below. All Minimum Levels are expressed as µg/L approximately equal to parts per billion (ppb).

Table E-1. Test Methods and Minimum Levels for Pollutants with Effluent Limits

CTR #	Constituent	Types of Analytical Methods [a] Minimum Levels (µg/L)											
		GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVAA	DCP
6	Copper								0.5	2			
8	Mercury [b]								0.0005			0.0002	
11	Silver						1		0.25	2			
13	Zinc								1.0	10			
14	Cyanide				5								
	Dioxin-TEQ [c]												
68	Bis(2-ethylhexyl)phthalate		5										

[a] Analytical Methods / Laboratory techniques are defined as follows:
GC - Gas Chromatography
GCMS - Gas Chromatography/Mass Spectrometry
LC - High Pressure Liquid Chromatography
COLOR – Colorimetric
FAA - Flame Atomic Absorption
GFAA - Graphite Furnace Atomic Absorption
ICP - Inductively Coupled Plasma
ICPMS - Inductively Coupled Plasma/Mass Spectrometry
SPGFAA - Stabilized Platform Graphite Furnace Atomic Absorption (i.e., EPA 200.9)
HYDRIDE - Gaseous Hydride Atomic Absorption
CVAA - Cold Vapor Atomic Absorption
DCP - Direct Current Plasma

[b] Use ultra-clean sampling (USEPA 1669) to the maximum extent practicable and ultra-clean analytical methods (USEPA 1631) for mercury monitoring.

[c] The minimum levels for 2,3,7,8-TCDD and all other 16 congeners using U.S. EPA 1613 range from 5-50 pg/L. These MLs were developed in collaboration with BACWA as levels that were achievable by BACWA participants (BACWA letter dated April 23, 2003).

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order.

Table E-2. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
Influent	M-INF-001 (A-001)	At any point in the treatment facilities headworks at which all waste tributary to the treatment system is present, and preceding any phase of treatment.
Effluent	M-001 (E-001)	Central San Francisco Bay Discharge (via Raccoon Strait) At any point in the outfall between the point of discharge and the point at which all waste tributary to the outfall is present. (May be the same as M-001-D)
	M-001-D (E-001-D)	At a point in the treatment facility at which all effluent to be discharged to the outfall is present, and at which point adequate contact with the disinfectant has been achieved. (May be the same as M-001)

III. INFLUENT WATER MONITORING REQUIREMENTS

The Discharger shall monitor influent water as follows.

Table E-3. Influent Water Monitoring (M-INF-001)

Parameter	Units[1]	Sample Type	Minimum Sampling Frequency	Analytical Method
Flow [2]	MGD/MG	Continuous	1/day	meter
BOD_5 and TSS	mg/L and lbs/day	24-hour composite (C-24)	1/week	---

[1] Unit Abbreviations
MGD = million gallons per day
MG = million gallons
mg/L = milligrams per liter
lbs/day = pounds per day

[2] Flows shall be monitored continuously and the following shall be reported in monthly self-monitoring reports:
a. Daily average flow rate (MGD).
b. Daily total flow volume (MG).
c. Monthly average flow rate (MGD).
d. Monthly total flow volume (MG).
e. Average daily maximum and average daily minimum flow rates (MGD) in a month.

IV. EFFLUENT MONITORING REQUIREMENTS

The Discharger shall monitor effluent at Monitoring Location M-001 as follows.

Table E-4. Effluent Monitoring (M-001)

Parameter[1]	Units[2]	Sample Type[3]	Min. Sampling Frequency
Flow[4]	MGD/MG	Continuous	1/day
BOD_5[5]	mg/L and lbs/day	C-24	1/week
TSS[5]	mg/L and lbs/day	C-24	1/week
Oil and Grease[6]	mg/L	Grab	Quarterly
pH[7]	Standard Units	Continuous	daily
Dissolved Oxygen	mg/L	Grab	1/week
Sulfides (total and dissolved, when DO<2 mg/L)	mg/L	Grab	1/ week
Total Ammonia as N	mg/L	Grab	1/month
Total Residual Chlorine[8]	mg/L	Continuous	Continuous/H
Total Coliform Bacteria	MPN/100 mL	Grab	1/week
Acute Toxicity[9]	% survival	Flow through	1/month
Chronic Toxicity [10]	TUc	C-24	1/5 years
Copper	µg/L	C-24	1/month
Mercury [11]	µg/L and kg/month	C-24/ grab	1/ month
Silver	µg/L	C-24	1/month
Zinc	µg/L	C-24	1/month
Cyanide [12]	µg/L	Grab	1/month
Dioxin-TEQ [13]	µg/L	Grab	2/year
Bis (2-ethylhexyl) phthalate	µg/L	C-24	2/year
All other priority inorganic pollutants	µg/L	[14]	2/year
All other priority organic pollutants	µg/L	[14]	1/year
All Applicable Standard Observations	---	Visual observation	1/month

[1] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136. For priority pollutants, the methods must meet the lowest minimum levels (MLs) specified in Attachment 4 of the SIP. Where no methods are specified for a given pollutant, the methods must be approved by this Regional Water Board or the State Board.

[2] Unit Abbreviations

MGD = million gallons per day
MG = million gallons
°C = degrees Celsius
mg/L = milligrams per liter
µg/L = micrograms per liter
MPN/100 mL = most probable number per 100 milliliters
kg/d = kilograms per day
mls/L/hr = milliliters per liter per hour

TUc = chronic toxic units

[3] Sample Type Abbreviations
Continuous = measured continuously, and recorded and reported daily
C-24 = 24-hour composite
Flow through = continuously pumped sample during duration of toxicity test

[4] Flow Monitoring.
Flows shall be monitored continuously and the following shall be reported in monthly self-monitoring reports:
a. Daily average flow rate (MGD).
b. Daily total flow volume (MG).
c. Monthly average flow rate (MGD).
d. Monthly total flow volume (MG).
e. Average daily maximum and average daily minimum flow rates (MGD) in a month.

[5] BOD and TSS. The percent removal for BOD and TSS shall be reported for each calendar month in accordance with Effluent Limitation IV.A.

[6] Oil & Grease Monitoring. Each oil & grease sampling event shall consist of a composite sample comprised of three grab samples taken at equal intervals during the sampling date, with each grab sample being collected in a glass container. Each glass container used for sample collection or mixing shall be thoroughly rinsed with solvent rinsings as soon as possible after use, and the solvent rinsings shall be added to the composite sample for extraction and analysis.

[7] pH. If pH is monitored continuously, the minimum and maximum pH values for each day shall be reported in monthly self-monitoring reports.

[8] Chlorine residual. The Discharger may record discrete readings from the continuous monitoring every hour on the hour, and report, on a daily basis, the maximum concentration observed following dechlorination. Total chlorine dosage (kg/day) shall be recorded on a daily basis.

[9] Acute Bioassay. Test shall be performed and reported in accordance with the Acute Toxicity Requirements specified in Section V.A of this MRP.

[10] Chronic Toxicity. Test shall be performed and reported in accordance with the Chronic Toxicity Requirements specified in Section V.B of this MRP.

[11] Mercury. The Discharger shall use ultra-clean sampling methods (USEPA 1669) to the maximum extent practicable, and ultra-clean analytical methods (USEPA 1631) for mercury monitoring. The Discharger may use alternative methods of analysis (such as USEPA 245), if that alternate method has a method detection limit (MDL) of 2 ng/L (0.002 µg/L) or less.

[12] Cyanide. Compliance may be demonstrated by measurement of weak acid dissociable cyanide.

[13] Dioxin-TEQ. Chlorinated dibenzodioxins and chlorinated dibenzofurans shall be analyzed using the latest version of USEPA Method 1613; the analysis shall be capable of achieving one half the USEPA method 1613 Minimum Levels. Alternative methods of analysis must be approved by the Executive Officer. In addition to reporting results for each of the 17 congeners, the dioxin-TEQ shall be calculated and reported using 1998 USEPA Toxicity Equivalent Factors for dioxin and furan congeners.

[14] The sample type and analytical method should be as described in the August 6, 2001 letter.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Whole Effluent Acute Toxicity

Compliance with whole acute toxicity requirements of this Order shall be achieved in accordance with the following:

1. Acute toxicity of effluent limits shall be evaluated by measuring survival of test organisms exposed to 96-hour flow through bioassays.

2. One of the following test species must be used: fathead minnow (*Pimephales promelas*) or rainbow trout (*Oncorhynchus mykiss*) unless specified otherwise in writing by the Executive Officer.

3. All bioassays shall be performed according to 40 CFR 136, currently the "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms," 5th Edition. Exceptions may be granted to the Discharger by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP).

4. If specific identifiable substances in the discharge can be demonstrated by the Discharger as being rapidly rendered harmless upon discharge to the receiving water, compliance with the acute toxicity limit may be determined after the test samples are adjusted to remove the influence of those substances. Written approval from the Executive Officer must be obtained to authorize such an adjustment.

5. Effluent used for fish bioassays must be dechlorinated prior to testing. Monitoring of the bioassay water shall include, on a daily basis, the following parameters: pH, dissolved oxygen, ammonia (if toxicity is observed), temperature, hardness, and alkalinity. These results shall be reported. If the fish survival rate in the effluent is less than 70 percent or if the control fish survival rate is less than 90 percent, the bioassay test shall be restarted with new batches of fish and shall continue back to back until compliance is demonstrated.

B. Whole Effluent Chronic Toxicity

1. **Chronic Toxicity Monitoring Requirements**

   a. **Sampling.** The Discharger shall collect 24-hour composite samples of the treatment facility's effluent at the compliance point specified in Table E-3 of the MRP for critical life stage toxicity testing as indicated below. For toxicity tests requiring renewals, 24-hour composite samples collected on consecutive days are required.

   b. **Test Species.** Chronic toxicity shall be monitored by using critical life stage test(s) and the most sensitive test species identified by screening phase testing described in **Attachment E-1** of the MRP or utilizing recent results from species screening testing conducted by a similar neighboring sanitary district. The Discharger shall conduct routine monitoring with the species approved by the Executive Officer. The approved species at this time is *Mysidopsis bahia*.

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

c. **Conditions for Accelerated Monitoring.** The Discharger shall accelerate the frequency of monitoring to **monthly**, or as otherwise specified by the Executive Officer, after exceeding a single sample maximum of 10 TUc.

d. **Methodology.** Sample collection, handling and preservation shall be in accordance with USEPA protocols. The test methodology used shall be in accordance with the references cited in the Permit, or as approved by the Executive Officer. A concurrent reference toxicant test shall be performed for each test.

e. **Dilution Series.** The Discharger shall conduct tests at 40%, 20%, 10%, 5%, and 2.5%. The "%" represents percent effluent as discharged.

2. Chronic Toxicity Reporting Requirements

a. **Routine Reporting.** Toxicity test results for the current reporting period shall include the following, at a minimum, for each test.

(1) Sample date(s)

(2) Test initiation date

(3) Test species

(4) End point values for each dilution (e.g., number of young, growth rate, percent survival)

(5) NOEC value(s) in percent effluent

(6) IC15, IC25, IC40, and IC50 values (or EC15, EC25 ... etc.) in percent effluent

(7) TUc values (100/NOEC, 100/IC25, and 100/EC25)

(8) Mean percent mortality (+ s.d.) after 96 hours in 100% effluent

(9) NOEC and LOEC values for reference toxicant test(s)

(10) IC50 or EC50 value(s) for reference toxicant test(s)

(11) Available water quality measurements for each test (i.e., pH, D.O., temperature, conductivity, hardness, salinity, ammonia)

b. **Compliance Summary.** The results of the chronic toxicity testing shall be provided in the most recent self monitoring report and shall include a summary table of chronic toxicity data from at least three of the most recent samples. The

information in the table shall include the items listed below under V.B.3, items a, c, e, f (IC25 or EC25), g, and h.

3. Chronic Toxicity Reduction Evaluation (TRE)

a. **Generic TRE Work Plan.** To be prepared for responding to toxicity events, the Discharger shall prepare a generic TRE work plan within **90 days** of the effective date of this Order. The Discharger shall review and update the work plan as necessary to remain current and applicable to the discharge and discharge facilities.

b. **Specific TRE Work Plan***.* Within **30 days** of exceeding either trigger for accelerated monitoring, the Discharge shall submit to the Regional Water Board a TRE work plan, which should be the generic work plan revised as appropriate for this toxicity event after consideration of available discharge data.

c. **Initiate TRE.** Within 30 days of the date of completion of the accelerated monitoring tests observed to exceed either trigger, the Discharger shall initiate a TRE in accordance with a TRE work plan that incorporates any and all comments from the Executive Officer.

d. The TRE shall be specific to the discharge and be in accordance with current technical guidance and reference materials, including USEPA guidance materials. The TRE shall be conducted as a tiered evaluation process, such as summarized below:

   i. Tier 1 consists of basic data collection (routine and accelerated monitoring).
   ii. Tier 2 consists of evaluation of optimization of the treatment process, including operation practices and in-plant process chemicals.
   iii. Tier 3 consists of a toxicity identification evaluation (TIE).
   iv. Tier 4 consists of evaluation of options for additional effluent treatment processes.
   v. Tier 5 consists of evaluation of options for modifications of in-plant treatment processes.
   vi. Tier 6 consists of implementation of selected toxicity control measures, and follow-up monitoring and confirmation of implementation success.

e. The TRE may be ended at any stage if monitoring finds there is no longer consistent toxicity (complying with Effluent Limitations Section IV.E.1).

f. The objective of the TIE shall be to identify the substance or combination of substances causing the observed toxicity. All reasonable efforts using currently available TIE methodologies shall be employed.

g. As toxic substances are identified or characterized, the Discharger shall continue the TRE by determining the source(s) and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with chronic toxicity evaluation parameters.

h. Many recommended TRE elements parallel required or recommended efforts of source control, pollution prevention and storm water control programs. TRE efforts should be coordinated with such efforts. To prevent duplication of efforts, evidence of complying with requirements or recommended efforts of such programs may be acceptable to comply with TRE requirements.

i. The Regional Water Board recognizes that chronic toxicity may be episodic and identification of causes of and reduction of sources of chronic toxicity may not be successful in all cases. Consideration of enforcement action by the Regional Water Board will be based in part on the Discharger's actions and efforts to identify and control or reduce sources of consistent toxicity.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

Not applicable.

VII. RECLAMATION MONITORING REQUIREMENTS

Not applicable.

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

Not applicable.

IX. MODIFICATIONS TO PART A OF SELF-MONITORING PROGRAM (ATTACHMENT G)

Modify Section F.4 as follows:

Self-Monitoring Reports

[Add the following to the beginning of the first paragraph:]

For each calendar month, a self-monitoring report (SMR) shall be submitted to the Regional Water Board in accordance with the requirements listed in Self-Monitoring Program, Part A. The purpose of the report is to document treatment performance, effluent quality and compliance with waste discharge requirements prescribed by this Order, as demonstrated by the monitoring program data and the Discharger's operation practices.

[And add at the end of Section F.4 the following:]

g. If the Discharger wishes to invalidate any measurement, the letter of transmittal will include a formal request to invalidate the measurement; the original measurement in question, the reason for invalidating the measurement, all relevant documentation that supports the invalidation (e.g., laboratory sheet, log entry, test results, etc.), and discussion of the corrective actions taken or planned (with a time schedule for completion), to prevent recurrence of the sampling or

measurement problem. The invalidation of a measurement requires the approval of Water Board staff and will be based solely on the documentation submitted at that time.

h. Reporting Data in Electronic Format

The Discharger has the option to submit all monitoring results in an electronic reporting format approved by the Executive Officer. If the Discharger chooses to submit SMRs electronically, the following shall apply:

1) **Reporting Method:** The Discharger shall submit SMRs electronically via the process approved by the Executive Officer in a letter dated December 17, 1999, Official Implementation of Electronic Reporting System (ERS) and in the Progress Report letter dated December 17, 2000, or in a subsequently approved format that the Permit has been modified to include.

2) **Monthly or Quarterly Reporting Requirements:** For each reporting period (monthly or quarterly as specified in SMP Part B), an electronic SMR shall be submitted to the Regional Water Board in accordance with Section F.4 of SMP, Part A. However, until USEPA approves the electronic signature or other signature technologies, Dischargers that are using the ERS must submit a hard copy of the original transmittal letter, an ERS printout of the data sheet, a violation report, and a receipt of the electronic transmittal.

3) **Annual Reporting Requirements:** Dischargers who have submitted data using the ERS for at least one calendar year are exempt from submitting an annual report electronically, but a hard copy of the annual report shall be submitted according to Section F.5 of SMP, Part A.

X. OTHER MONITORING REQUIREMENTS

A. Regional Monitoring Program

The Discharger has agreed to continue to participate in the Regional Monitoring Program, which involves collection of data on pollutants and toxicity in water, sediment and biota of the Estuary. The Discharger's participation and support of the RMP is used in consideration of the level of receiving water monitoring required by this Order.

XI. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (**Attachment D** and **G**) related to monitoring, reporting, and recordkeeping.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit self-monitoring reports. Until such notification is given, the Discharger shall submit self-monitoring reports in accordance with the requirements described below.

2. The Discharger shall submit monthly Self Monitoring Reports including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. Monthly reports shall be due 30 days after the end of each calendar month**.**

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-5. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Continuous	Effective date of permit	All	30 days after the end of each calendar month
1/week	Effective date of permit	Sunday through Saturday	30 days after the end of each calendar month
1/month	Effective date of permit	1st day of calendar month through last day of calendar month	30 days after the end of each calendar month
2/year	Effective date of permit	Once during November 1 through April 30 One during May 1 through October 31	30 days after the end of calendar month during which sampling occurs
1/year	Effective date of permit	Alternate between once during November 1 through April 30 (one year), and once during May 1 through October 31 (following year)	30 days after the end of each calendar month
1/5 years	Effective date of permit	Once during the permit term	30 days after the end of calendar month during which sampling occurs

4. The Discharger shall report with each sample result the applicable Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 136.

   The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

   a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

   b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (+ a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

d. The Dischargers shall instruct laboratories to establish calibration standards so that the RL value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. The Discharger shall not use analytical data derived from *extrapolation* beyond the lowest point of the calibration curve.

5. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations.

6. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

7. SMRs must be submitted to the Regional Water Board, signed and certified as required by the standard provisions (**Attachment D** and **H**), to the address listed below:

   Executive Officer
   California Regional Water Quality Control Board
   San Francisco Bay Region
   1515 Clay Street, Suite 1400
   Oakland, CA 94612
   ATTN: NPDES Permit Division

8. The Discharger has the option to submit all monitoring results in an electronic reporting format approved by the Executive Officer. The Electronic Reporting System (ERS) format includes, but is not limited to, a transmittal letter, summary of violation details and corrective actions, and transmittal receipt. If there are any discrepancies between the ERS requirements and the "hard copy" requirements listed in the MRP, then the approved ERS requirements supersede.

C. Discharge Monitoring Reports (DMRs)

1. As described in Section XIII.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the discharger to electronically submit self-monitoring reports. Until such notification is given, the Discharger shall submit

discharge monitoring reports (DMRs) in accordance with the requirements described below.

2. DMRs must be signed and certified as required by the standard provisions (**Attachment D**). The Discharge shall submit the original DMR and one copy of the DMR to the address listed below:

   State Water Resources Control Board
   Discharge Monitoring Report Processing Center
   Post Office Box 671
   Sacramento, CA 95812

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated or modified cannot be accepted.

D. Other Reports

Annual Reports. By February 1st of each year, the Discharger shall submit an annual report to the Regional Water Board covering the previous calendar year. The report shall contain the items described in Standard Provisions and Reporting Requirements, and SMP Part A, August 1993 (**Attachment H**).

ATTACHMENT E-1 – CHRONIC TOXICITY – DEFINITIONS OF TERMS AND SCREENING PHASE REQUIREMENTS

CHRONIC TOXICITY

DEFINITION OF TERMS & SCREENING PHASE REQUIREMENTS

I. DEFINITION OF TERMS

A. **No observed effect level** (NOEL) for compliance determination is equal to IC_{25} or EC_{25}. If the IC_{25} or EC_{25} cannot be statistically determined, the NOEL shall be equal to the NOEC derived using hypothesis testing.

B. **Effective concentration** (EC) is a point estimate of the toxicant concentration that would cause an adverse effect on a quantal, "all or nothing," response (such as death, immobilization, or serious incapacitation) in a given percent of the test organisms. If the effect is death or immobility, the term lethal concentration (LC) may be used. EC values may be calculated using point estimation techniques such as probit, logit, and Spearman-Karber. EC_{25} is the concentration of toxicant (in percent effluent) that causes a response in 25% of the test organisms.

C. **Inhibition Concentration** (IC) is a point estimate of the toxicant concentration that would cause a given percent reduction in a non-lethal, non-quantal biological measurement, such as growth. For example, an IC_{25} is the estimated concentration of toxicant that would cause a 25% reduction in average young per female or growth. IC values may be calculated using a linear interpolation method such as USEPA's Bootstrap Procedure.

D. **No observed effect concentration** (NOEC) is the highest tested concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specific time of observation. It is determined using hypothesis testing.

II. CHRONIC TOXICITY SCREENING PHASE REQUIREMENTS

A. The Discharger shall perform screening phase monitoring:

1. Subsequent to any significant change in the nature of the effluent discharged through changes in sources or treatment, except those changes resulting from reductions in pollutant concentrations attributable to source control efforts, or

2. Prior to Permit reissuance. Screening phase monitoring data shall be included in the NPDES Permit application for reissuance. The information shall be as recent as possible, but may be based on screening phase monitoring conducted within 5 years before the permit expiration date.

B. Design of the screening phase shall, at a minimum, consist of the following elements:

1. Use of test species specified in Tables 1 and 2 (attached), and use of the protocols referenced in those tables, or as approved by the Executive Officer;

2. Two stages:

   a. **Stage 1** shall consist of a minimum of one battery of tests conducted concurrently. Selection of the type of test species and minimum number of tests shall be based on Table 3 (attached); and

   b. **Stage 2** shall consist of a minimum of two test batteries conducted at a monthly frequency using the three most sensitive species based on the Stage 1 test results and as approved by the Executive Officer.

3. Appropriate controls; and

4. Concurrent reference toxicant tests.

5. The Discharger shall submit a screening phase proposal to the Executive Officer for approval. The proposal shall address each of the elements listed above.

Table E-1. Critical Life Stage Toxicity Tests for Estuarine Waters

Test Species	Scientific Name	Effect	Duration	Reference
alga	*(Skeletonema costatum)* *(Thalassiosira pseudonana)*	growth rate	4 days	1
red alga	*(Champia parvula)*	number of cystocarps	7-9 days	3
Giant kelp	*(Macrocystis pyrifera)*	percent germination; germ tube length	48 hours	2
abalone	*(Haliotis rufescens)*	abnormal shell development	48 hours	2
Oyster mussel	*(Crassostrea gigas)* *(Mytilus edulis)*	{abnormal shell development; {percent survival	48 hours	2
Echinoderms (urchins (sand dollar - Dendraster excentricus	*Strongylocentrotus purpuratus, S. franciscanus);*	percent fertilization	1 hour	2
shrimp	*(Americamysis bahia)*	percent survival; growth	7 days	3
shrimp	*(holmesimysis costata)*	percent survival; growth	7 days	2
topsmel	*(Atherinops affinis)*	percent survival; growth	7 days	2
silversides	*(Menidia beryllina)*	larval growth rate; percent survival	7 days	3

Toxicity Test References:

1. American Society for Testing Materials (ASTM). 1990. Standard Guide for conducting static 96-hour toxicity tests with microalgae. Procedure E 1218-90. ASTM Philadelphia, PA.

2. Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine and Estuarine Organisms. USEPA/600/R-95/136. August 1995

3. Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to Marine and Estuarine Organisms as specified in 40CFR 136. Currently, this is USEPA/600/4-90/003, July 1994. Later editions may replace this version.

Table E-2. Critical Life Stage Toxicity Tests For Fresh Waters

Species	Scientific Name	Effect	Test Duration	References
fathead minnow	*(Pimephales promelas)*	survival growth rate	7 days	4
water flea	*(Ceriodaphnia dubia)*	survival; number of young	7 days	4
alga	*(Selenastrum capricornutum)*	cell division rate	4 days	4

Toxicity Test Reference:

Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms as specified in 40CFR 136. Currently, this is the third edition, USEPA/600/4-91/002, July 1994. Later editions may replace this version.

Table E-3. Toxicity Test Requirements for Stage One Screening Phase

Requirements	Receiving Water Characteristics		
	Discharges to Coast	Discharges to San Francisco Bay ‡	
	Ocean	Marine/Estuarine	Freshwater
Taxonomic Diversity:	1 plant 1 invertebrate 1 fish	1 plant 1 invertebrate 1 fish	1 plant 1 invertebrate 1 fish
Number of tests of each salinity type: Freshwater (†): Marine/Estuarine:	0 4	1 or 2 3 or 4	3 0
Total number of tests:	4	5	3

† The fresh water species may be substituted with marine species if:

1) The salinity of the effluent is above 1 parts per thousand (ppt) greater than 95% of the time, or

2) The ionic strength (TDS or conductivity) of the effluent at the test concentration used to determine compliance is documented to be toxic to the test species.

‡ Marine/Estuarine refers to receiving water salinities greater than 1 ppt at least 95% of the time during a normal water year.

Fresh refers to receiving water with salinities less than 1 ppt at least 95% of the time during a normal water year.

Attachment F – Fact Sheet

Table of Contents

I. Permit Information F-3
II. Facility Description F-4
A. Description of Wastewater and Biosolids Treatment or Controls F-4
B. Discharge Point and Receiving Water F-7
C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data F-7
D. Compliance Summary F-9
E. Planned Changes F-10
III. Applicable Plans, Policies, and Regulations F-10
A. Legal Authorities F-10
B. California Environmental Quality Act (CEQA) F-10
C. State and Federal Regulations, Policies, and Plans F-10
D. Impaired Water Bodies on CWA 303 (d) List F-12
E. Other Plans, Polices and Regulations F-13
IV. Rationale For Effluent Limitations and Discharge Specifications F-13
A. Discharge Prohibitions F-14
B. Technology-Based Effluent Limitations for Discharge Point 001 ..... F-16
1. Scope and Authority F-16
2. Applicable Technology-Based Effluent Limitations F-16
3. Summary of Technology-based Effluent Limitations Discharge Point 001 ..... F-17
C. Water Quality-Based Effluent Limitations (WQBELs) F-18
1. Scope and Authority F-18
2. Applicable Beneficial Uses and Water Quality Criteria and Objectives F-19
3. Determining the Need for WQBELs F-21
4. WQBEL Calculations F-26
D. Interim Effluent Limitations F-38
1. SIP and Basin Plan Compliance Schedule Requirements F-38
2. Feasibility Evaluation F-39
E. Land Discharge Specifications F-42
F. Reclamation Specifications F-42
G. Antidegradation Analysis F-42
V. Rationale for Receiving Water Limitations F-43
A. Surface Water F-43
B. Groundwater F-43
VI. Rationale for Monitoring and Reporting Requirements F-43
A. Influent Monitoring F-44
B. Effluent Monitoring F-44
C. Receiving Water Monitoring F-44
1. Surface Water F-44
2. Groundwater F-45
D. Other Monitoring Requirements F-45
VII. Rationale for Provisions F-45
A. Standard Provisions F-45
B. Monitoring and Reporting Requirements F-45
C. Special Provisions F-45
1. Reopener Provisions F-45

2. Special Studies and Additional Monitoring Requirements F-45
3. Pollution Minimization F-46
4. Construction, Operation, and Maintenance Specifications F-46
5. Special Provisions for Municipal Facilities (POTWs Only) F-46
VIII. Public Participation F-47
A. Notification of Interested Parties F-47
B. Written Comments F-47
C. Public Hearing F-47
D. Waste Discharge Requirements Petitions F-48
E. Information and Copying F-48
F. Register of Interested Persons F-48
G. Additional Information F-48
IX. Appendices F-49

List of Tables

Table F-1. Facility Information F-3
Table F-2. Discharge Point F-7
Table F-3. Historic Effluent Limitations and Monitoring Data - Conventional and Non-Conventional Pollutants F-8
Table F-4. Summary of Historical Toxic Pollutant Effluent Limitations and Data F-9
Table F-5. Summary of Effluent Violations (2002-2006) F-9
Table F-6. Summary of Technology-based Effluent Limitations F-17
Table F-7. Basin Plan Beneficial Uses of Central San Francisco Bay F-19
Table F-8. RPA Summary F-23
Table F-9. Water Quality Criteria/Objectives for Toxics F-26
Table F-10. Final WQBELs for Toxics F-30
Table F-11. Summary of Feasibility Analysis F-40

ATTACHMENT F – FACT SHEET

As described in Section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	**2 215015001**
Discharger	**Sewerage Agency of Southern Marin**
Name of Facility	**Sewerage Agency of Southern Marin Wastewater Treatment Plant and its collection system**
Facility Address	**450 Sycamore Avenue**
	Mill Valley, CA 94941
	Marin County
Facility Contact, Title and Phone	**Stephen J. Danehy, General Manager, 415-388-2402**
Authorized Person to Sign and Submit Reports	**Stephen J. Danehy**
Mailing Address	**26 Corte Madera Avenue, Mill Valley, CA 94941**
Billing Address	**Same as mailing address**
Type of Facility	**POTW**
Major or Minor Facility	**Major**
Threat to Water Quality	**2**
Complexity	**A**
Pretreatment Program	**NA**
Reclamation Requirements	**Order 96-011, General Water Reuse WDR**
Facility Permitted Flow	**3.6 million gallons per day (MGD)**
Facility Design Flow	**3.6 MGD (average dry weather design capacity)** **24.7 MGD (wet weather peak capacity)**
Watershed	**San Francisco Bay Basin**
Receiving Water	**Raccoon Strait within Central San Francisco Bay**
Receiving Water Type	**Surface Water**

A. Sewerage Agency of Southern Marin (SASM, hereinafter Discharger) is the owner and operator of the SASM Wastewater Treatment Plant (hereinafter facility or plant), a POTW. SASM owns the property at 450 Sycamore Avenue, Mill Valley, Marin County, on which the facility is located.

   For the purposes of this Order, references to the “discharger” or “permittee” in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. The facility discharges wastewater to Raccoon Strait of Central San Francisco Bay, a water of the United States.

C. The Discharger filed a Report of Waste Discharge and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and NPDES permit on November 20, 2005. Order No. 01-070 (the previous permit or previous Order), which was adopted on June 20, 2001, automatically continued in effect after its expiration date on May 30, 2006.

II. FACILITY DESCRIPTION

A. Description of Wastewater and Biosolids Treatment or Controls

1. **Treatment Process and Capacity.** The treatment process consists of screening facilities, Pista-Grit grit removal, primary sedimentation clarifiers, biological treatment using trickling filters (bio-towers with synthetic media), secondary clarification, disinfection (chlorination) and dechlorination (sulfonation). Chlorine contact is accomplished in the six-mile effluent force main and dechlorination is accomplished by Sanitary District No. 5 prior to entrance into the outfall.

   The plant provides secondary level treatment for domestic wastewater from the six SASM member agencies: City of Mill Valley, Almonte Sanitary District, Alto Sanitary District, Homestead Valley Sanitary District, Richardson Bay Sanitary District, and the Kay Park Area of the Tamalpais Community Sanitary District. The Discharger's service area has a present population of approximately 28,000.

   The plant has an average dry weather capacity of 3.6 million gallons per day (MGD), and can treat up to 24.7 MGD during the wet season. The actual average dry weather flows during the past four years (2002 – 2005) were in the range of 2.2-2.6 MGD. The average effluent flow was 3.3 MGD. The maximum daily influent flow was 37 MGD, which occurred in December 2005. In wet weather conditions, when high influent flows exceeds 24.7 MGD (the capacity of the biological treatment processes), a portion of the flow is diverted to two earthen (clay soil) un-lined equalization ponds with a combined capacity of 2.2 million gallons. The diverted flow is pumped back to the headworks after the high influent flow subsides. This operation of the treatment system during wet weather is consistent with the design concepts for the treatment plant and is consistent with the operational approach described in the Operations and Maintenance manual for the plant. The Discharger's two largest member agencies, the City of Mill Valley and Richardson Bay Sanitary District, currently contribute 51% and 32%, respectively of the total flow.

2. **Solids Handling and Disposal.** Solids removed from the wastewater stream are treated by gravity thickening; primary and secondary digestion, and dewatering by belt filter press. Dewatered biosolids are delivered to Redwood Sanitary Landfill in Novato approximately eight months out of the year (from October through May) where it is composted with yard wastes and used for daily cover at the landfill. From June through September, dewatered solids are delivered to the Residuals Processing Inc. agricultural reuse site located on Lakeville Highway in Sonoma County. Residual Processing Inc. operates this site under a Sonoma County permit. The Discharger currently generates and reclaims about 310 dry tons of biosolids per year.

3. **Collection System and Pump Stations.** The Discharger's wastewater collection system includes about 9 miles of sanitary sewer lines and six pump stations. The collection system consists of force mains, gravity lines and pump stations.

   a. **Force Mains.** The Discharger owns and operates approximately 3.5 miles of force mains. 90% of the Discharger's force mains are constructed of corrosion-proof polyethylene material and were installed in 1983. A new force main from the Rosemont Pump Station located near the Kay Park service area of the Tamalpais Community Services District is currently under construction. This force main will connect the Rosemont Pump Station on Almonte Boulevard directly to the Discharger's wastewater treatment plant. This project is scheduled for completion in March 2007. An operation and maintenance manual is maintained for these systems. Routine maintenance includes periodic inspections, scheduled maintenance for air/vacuum relief structures, annual flushing and semi-annual cleaning of wet wells at select stations.

   b. **Gravity Lines**. The Discharger currently owns approximately 5.5 miles of gravity lines. This system includes gravity sewer mains that convey wastewater from the Alto, Almonte and Homestead Valley Sanitary Districts, as well as the City of Mill Valley and the Kay Park area of the Tamalpais Community Services District via the Rosemont Pump Station to the Discharger's wastewater treatment plant. The Discharger has developed a maintenance program for these systems as well as a maintenance budget of $50,000 per year for repairs and inspections.

   c. **Pump Stations.** The Discharger owns and operates six pump stations. Operation and maintenance manuals are maintained for each pump station. Equipment maintenance is scheduled through the use of the Discharger's Computerized Maintenance Management System. Five of these six pump stations have received major upgrades or expansions over the course of the past five years. No further modifications or upgrades are currently planned.

4. **Satellite Collection Systems.**

   a. The Discharger owns and operates the collection system as described above. Additionally, wastewater is conveyed to the Discharger's system from six satellite collection systems, which include the City of Mill Valley, Almonte Sanitary District, Alto Sanitary District, Homestead Valley Sanitary District, Richardson Bay Sanitary District, and the Kay Park area of the Tamalpais Community Sanitary District. Each of the satellite systems is operated independently from the Discharger and collects wastewater from their respective service areas. The satellite systems each convey wastewater to a discreet location into the Discharger's collection system.

   b. **Roles and Responsibilities of Satellite Collection Systems.** Each satellite collection system is responsible for an ongoing program of maintenance and capital improvements for sewer lines and pump stations within its respective jurisdiction in order to ensure adequate capacity and reliability of the collection

system. Each satellite collection system is to ensure that its wastewater does not adversely impact the Discharger's treatment plant and/or collection system. The responsibilities include managing overflows, controlling Infiltration and Inflow (I&I) and implementing collection system maintenance.

5. **Infiltration/Inflow (I&I) Correction and Collection System Improvement Programs.** The Discharger and its member agencies continue to make improvements to the sewer system that are intended to reduce I&I. The Discharger's largest member agency, the City of Mill Valley, continues to budget approximately $590,000 per year for sewer line maintenance and improvements. The Discharger's second largest member agency, Richardson Bay Sanitary District, is completing a system-wide video inspection and repair program. The Discharger has also commissioned a study to update the I&I study completed in 1984. The goal of this study will be to update all the member agency sewer maps, list completed repairs and improvements and identify areas were improvements will be needed. This study is scheduled to be completed by mid-2007.

6. **Treatment Plant Storm Water Discharges.**

   a. **Regulations.** Federal Regulations for storm water discharges were promulgated by the USEPA on November 19, 1990. The regulations [40 CFR Parts 122, 123, and 124] require specific categories of 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.

   b. **Permit.** The Discharger is permitted to discharge storm water in accordance with "State Water Resources Control Board Water Quality Order No. 97-03-DWQ, NPDES General Permit No. CAS000001, Wastewater Discharge Requirements for discharges of storm water associated with industrial activities." The Discharger identification number is WDID 2 21S000240.

7. **Reclamation.** The Discharger reclaims wastewater under General Water Reuse Order 96-011, issued May 9, 1997. The reclaimed water meets the requirements of Part B, "Reuse Water Quality Requirements and Limitations", Section 6, "Tertiary Recycled Water" and Section 7, "Recycled Water Storage Limitations."

   The Reclaimed Water System consists of coagulation – addition of alum and polymer upstream of the filter influent; filtration – fluid bed sand filter with a maximum throughput of 135 gallons per minute with continuous backwash; disinfection – sodium hypochlorite addition to the filter effluent followed by contact chambers with a CT (total chlorine residual concentration x modal contact time) of 1200 mg-min/L; continuous monitoring – for Influent and effluent turbidity (NTU), chlorine residual, flow, pH, and conductivity; storage – 104,000 gallons covered above ground tank; distribution – irrigation pump station with computer controlled distribution to Bay Front Park and Hauke Park within the City of Mill Valley. Seasonal reclaimed water reuse to these parklands is about 5 million

gallons. Expansion is planned to the Mill Valley Public Safety Building and the Mill Valley ball fields (2) adjacent to the Community Center.

B. Discharge Point and Receiving Water

The Facility discharges wastewater through a submerged diffuser 840 feet offshore at an 84-foot depth below mean sea level, to Raccoon Strait of Central San Francisco Bay, a water of the United States. The Discharger conducted a dilution study in March 1980 (*Dilution and Dispersion Study, Point Tiburon Sewerage Outfall, Marin County, California, San Francisco Bay-Delta Model*). According to the Discharger's study, which involved experimental evaluation of both shallow and deep water diffuser scenarios, the discharge received a dilution of greater than 200 to 1 in the far field (i.e. greater than 1200 yards from the diffuser) when limited to 20 MGD. However, the experimental design did not allow for determination of near field critical initial dilution. Therefore, where appropriate, as further detailed in Section IV.C.4.b of this Fact Sheet, a conservative dilution is used. This Order regulates discharges from the facility through Discharge Point 001 as briefly described below.

Table F-2. Discharge Point

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Approximately 3.4 million gallons per day (MGD) of secondary-level treated wastewater	37º 52' 12″	112º 27' 05″	Raccoon Strait of Central San Francisco Bay

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

Effluent limitations/Discharge Specifications contained in the previous Order (01-070) for discharges from 001 (Monitoring Location M-001) and representative monitoring data from the term of the previous Order are as follows in Tables F-3 and F-4. The summary is based on the effluent data collected during October 2002 through November 2006. For priority pollutants, the data summary is based on the effluent data collected during January 2002 through September 2006.

Table F-3. Historic Effluent Limitations and Monitoring Data - Conventional and Non-Conventional Pollutants

Parameter (units) – Conventional and non-conventional pollutants	Effluent Limitation			Monitoring Data (From October 2002 – To November 2006)		
	Average Monthly	**Average Weekly**	**Maximum Daily**	**Highest Average Monthly Discharge**	**Highest Average Weekly Discharge**	**Highest Daily Discharge**
BOD_5 (mg/L)	30	45	60	20	27	27
BOD_5 Monthly Removal (%)	85%	--	--	85 (lowest)	--	--
TSS (mg/L)	30	45	60	22	42	42
TSS Monthly Removal (%)	85%	--	--	82 (lowest)	--	--
Oil and Grease (mg/L)	10	--	20	6.3	--	11
Settleable matter	0.1	--	0.2	<0.1	--	1.3
pH (s.u.)	--	**Instant-aneous minimum**	**Instant-aneous maximum**	**Lowest daily discharge**	**--**	**Highest daily Discharge**
	--	6.0	9.0	6.0	--	7.8
Chlorine residual (mg/L)	--	--	0.0	--	--	0
Total coliform (mpn/100 ml)	--	**5-sample median maximum**	**single sample maximum**	**Highest 5-sample median**	**--**	**Highest daily Discharge**
	--	240	10,000	240	--	16,000
Acute Toxicity (% survival)	11-sample median not to fall below 90% and 11-sample 90th percentile not to fall below 70% survival			**Lowest 11-sample median**	**Lowest 11-sample 90th percentile**	**Lowest single sample**
	Fathead minnow (minimum survival)			100	95	95
Chronic toxicity (TUc)	3-sample median 10 TUc, 1-sample maximum 20 TUc [1]			**Single sample test results**		
	Survival			2.0 (dry season)/ 2.0 (wet season)		
	Growth			1.0 (dry season)/ 1.1 (wet season)		

[1] Only two tests were performed, once during dry season, once during wet season. It is not possible to determine a 3-sample median.

Table F-4. Summary of Historical Toxic Pollutant Effluent Limitations and Data

Parameters (units) - Priority pollutants	Effluent Limitation	Monitoring Data (From January 2002 – To September 2006)		
	Daily Max./Monthly Avg.	Average [1]	Range	No. of Data
Antimony (µg/L)	--	0.8	0.2-1.5	34
Arsenic (µg/L)	--	2.5	0.7-5.9	36
Beryllium (µg/L)	--	All ND	0.6-0.6	35
Cadmium (µg/L)	--	0.07	<0.03-0.1	37
Copper (µg/L)	**29 (daily max)**	14	8.1-21	52
Lead (µg/L)	--	0.56	0.31-1.3	36
Mercury (µg/L)	**1.0/0.087**	0.019	0.0098-0.079	56
Nickel (µg/L)	--	4.6	3.6-6.0	36
Selenium (µg/L)	**18 (daily max)**	0.89	<0.3-4.8	56
Silver (µg/L)	--	1.23	0.1-3.3	38
Thallium (µg/L)	--	0.035	<0.03-0.2	34
Zinc (µg/L)	**858/449**	100	57-140	38
Cyanide (µg/L)	**25 (daily max)**	1.9	<0.6-4.7	41
Dioxin-TEQ (pg/L)	--	1.33×10^{-7}	4.85×10^{-8}-2.27×10^{-7}	6
Bis(2-ethylhexyl)phthalate (µg/L)	--	5.1	2-8.8	6

[1] If data contains non-detected values (ND), average was calculated using half detection limits. If data contain all NDs, average was not calculated.

D. Compliance Summary

The following table lists the effluent violations that occurred during the previous permit term.

Table F-5. Summary of Effluent Violations (2002-2006)

Pollutants	Effluent limits	Units	Date of Violation	Values
Settleable Solids	0.2 (Instant Maximum)	ml/l-hr	8-Dec-04	1.3
			21-Dec-05	0.5
			29-Mar-06	0.5
			13-Dec-06	0.9
TSS Monthly Removal	85	%	31-Mar-06	82
			30-Apr-06	84
Total Coliform	10,000 (daily maximum)	MPN/100ml	17-Feb-04	16,000

E. Planned Changes

N/A

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this Order are based on the requirements and authorities described in this section.

A. Legal Authorities

1. This Order is issued pursuant to CWA Section 402 and implementing regulations adopted by the USEPA and CWC Chapter 5.5, Division 7. It shall serve as an NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to CWC Article 4, Chapter 4 for discharges that are not subject to regulation under CWA Section 402.

2. NPDES Permit/USEPA concurrence is based on 40 CFR 123.

3. Order expiration and reapplication are based on 40 CFR 122.46 (a).

B. California Environmental Quality Act (CEQA)

This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act in accordance with CWC Section 13389.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) is the Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives. The Basin Plan was duly adopted by the Water Board and approved by the State Water Resources Control Board, Office of Administrative Law and the U.S. EPA, where required.

2. **Thermal Plan.** The State Water Board adopted a Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for inland surface waters.

3. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, amending it on May 4, 1995 and November 9, 1999, and adopted the CTR on May 18, 2000, amending it on February 13, 2001. These rules include water quality criteria for priority pollutants and are applicable to discharges from this facility

4. **State Implementation Policy.** On March 2, 2000, State Water Board adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Boards in their basin plans, with the exception of the provision on alternate test procedures for individual discharges that have been approved by USEPA Regional Administrator. The alternate test procedures provision was effective on May 22, 2000. The SIP became effective on May 18, 2000. The State Water Board amended the SIP on February 24, 2005, and the amendments became effective on May 31, 2005. The SIP includes procedures for determining the need for and calculating water quality-based effluent limitations (WQBELs), and requires dischargers to submit data sufficient to do so.

5. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. [40 C.F.R 131.21; 65 Fed. Reg. 24641 (April 27, 2000)] Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000 may be used for CWA purposes, whether or not approved by USEPA.

6. **Stringency of Requirements for Individual Pollutants.** This Order contains restrictions on individual pollutants that are no more stringent than required by the federal CWA. Individual pollutant restrictions consist of technology-based restrictions and water quality-based effluent limitations. The technology-based effluent limitations consist of restrictions on biochemical oxygen demand (BOD), total suspended solids (TSS), and pH. Restrictions on these pollutants are specified in federal regulations and are no more stringent than required by the CWA. Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. Most beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless “applicable water quality standards for purposes of the CWA” pursuant to 40 CFR 131.21 (c) (1). The remaining water quality objectives and beneficial uses implemented by this Order [arsenic, cadmium, chromium (VI), copper (fresh water), lead, nickel, silver (1-hour), and zinc] were approved by USEPA on January 5, 2005, and are applicable water quality standards pursuant to 40 CFR 131.21 (c) (2). Collectively, this Order’s restrictions on individual

pollutants are no more stringent than required to implement the technology-based requirements of the CWA and the applicable water quality standards for purposes of the CWA.

7. **Antidegradation Policy.** NPDES regulations at 40 CFR 131.12 require that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16, incorporating the requirements of the federal antidegradation policy and requiring that existing quality of waters be maintained unless degradation is justified based on specific findings. As discussed in detail in Section IV.G of this Fact Sheet the permitted discharge is consistent with the antidegradation provision of 40 CFR 131.12 and State Water Board Resolution 68-16.

8. **Antibacksliding Requirements.** CWA Sections 402 (o) (2) and 303 (d) (4) and NPDES regulations at 40 CFR 122.44 (l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. In this order, all effluent limitations are at least as stringent as those in the previous order.

9. **Monitoring and Reporting Requirements.** 40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. CWC Sections 13267 and 13383 authorize the Regional Water Boards to require technical and monitoring reports. The MRP, included as **Attachment E** to this Order, establishes monitoring and reporting requirements to implement federal and State requirements. The MRP may be amended by the Executive Officer pursuant to USEPA regulation 40 CFR 122.62, 122.63, and 124.5.

D. Impaired Water Bodies on CWA 303 (d) List

On June 6, 2003, the USEPA approved a revised list of impaired water bodies prepared by the State pursuant to CWA section 303(d) - specific water bodies where it is expected that water quality standards will not be met after implementation of technology-based effluent limitations on point sources. The pollutants impairing Central San Francisco Bay include chlordane, DDT, diazinon, dieldrin, dioxin compounds, exotic species, furan compounds, mercury, PAHs, PCBs, dioxin-like PCBs, and selenium. The SIP requires final effluent limitations for all 303 (d)-listed pollutants to be based on total maximum daily loads (TMDLs) and associated waste load allocations (WLAs).

1. **Total Maximum Daily Loads.** The Regional Water Board plans to adopt TMDLs for pollutants on the 303 (d) list in the San Francisco Bay within the next ten years. Future review of the 303 (d)-list for the Bay may result in revision of the schedules, provide schedules for other pollutants, or both.

2. **Waste Load Allocations.** TMDLs will establish waste load allocations (WLAs) for point sources and load allocations (LAs) for non-point sources, and will result in achieving applicable water quality standards for the impaired waterbodies. Final

effluent limitations for impairing pollutants for this Discharger will ultimately be based on WLAs that are derived from the TMDLs.

3. **Implementation Strategy.** The Regional Water Board's strategy to collect water quality data and to develop TMDLs is summarized below.

   a. **Data Collection.** The Regional Water Board has provided dischargers to the Bay an option to, collectively, assist in developing and implementing analytical techniques capable of detecting 303 (d)-listed pollutants to, at least, their respective levels of concern or to levels of the applicable WQOs/WQC. This collective effort may include development of sample concentration techniques for approval by the USEPA. The Regional Water Board will require dischargers to characterize pollutant loads from their facilities into water-quality limited receiving waters. Results will be used in the development of TMDLs and may be used to update or revise the 303(d) list or to change WQOs/WQC for the impaired waterbodies, including Central San Francisco Bay.

   b. **Funding Mechanism.** The Regional Water Board has received, and anticipates continuing to receive, resources from federal and State agencies for TMDL development. To ensure timely development of TMDLs, the Regional Water Board intends to supplement these resources by allocating development costs among dischargers through the RMP or other appropriate funding mechanisms.

E. Other Plans, Polices and Regulations

N/A

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: section 122.44(a) requires that permits include applicable technology-based limitations and standards; and section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) may be established: (1) using USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) on an indicator parameter for the pollutant of concern; or (3) using a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

Several specific factors affecting the development of limitations and requirements in this Order are discussed as follows:

A. Discharge Prohibitions

1. **Prohibition III. A (No discharge other than as described in this Order).** This prohibition is the same as in the previous permit and is based on CWC Section 13260, which requires filing of a report of waste discharge (ROWD) before discharges can occur. The Discharger submitted a ROWD for the discharges described in this Order; therefore discharges not described in this Order are prohibited.

2. **Prohibition III. B (No discharge except where a minimum initial dilution of 10 to 1 is provided).** This prohibition is the same as in the previous permit. The basis for this prohibition is two-fold. First, the Basin Plan prohibits discharges with constituents of concern not receiving a minimum 10:1 initial dilution (Chapter 4, Discharge Prohibition No. 1). Second, this Order grants a 10:1 dilution credit to for the discharge (see later sections). Some effluent limits are calculated based on this credit. As such, these limits would not be protective if the discharge did not achieve 10:1 dilution, therefore necessitating the prohibition.

3. **Prohibition III. C (average dry weather flows greater than 3.6 MGD is prohibited):** This prohibition is based on the historic and tested reliable treatment capacity of the plant. Exceedance of the treatment plant's average dry weather flow design capacity may result in lowering the reliability of achieving compliance with water quality requirements.

4. **Prohibition III. D (No bypasses of untreated wastewater, except under the conditions at 40 CFR 122.41(m)(4)(i)(A), (B) and (C)):** This prohibition is based on 40 CFR 122.41(m)(4). This prohibition grants bypass of peak wet weather flows above 32.7 MGD that are recombined with secondary treatment flows and discharged at the combined outfall 001, which meets the conditions at 40 CFR 122.41(m)(4)(i)(A)-(C). According to the Discharger, effluent flows have not exceeded 26 MGD during storm events because of the use of equalization ponds during peak wet weather periods. Only three reported overflow events from the equalization ponds were reported between 1985 and 2005.

a. Background

During significant storm events, high flows can overwhelm certain parts of the wastewater treatment process and may cause damage or failure of the system. Operators of wastewater treatment plants must manage these high flows to both ensure the continued operation of the treatment process and to prevent backups and overflows of raw wastewater in basements or on city streets. USEPA recognized that peak wet weather flow diversions around secondary treatment units at POTW treatment plants serving separate sanitary sewer conveyance systems may be necessary in some circumstances.

In December 2005, USEPA invited public comment on its proposed Peak Wet Weather Policy that interprets 40 CFR 122.41(m) to apply to wet weather diversions that are recombined with flow from secondary treatment. The policy provides guidance under which NPDES permits may be approved by the Regional Water Board. This policy requires that dischargers must meet all the

requirements of NPDES permits and encourages municipalities to make investments in ongoing maintenance and capital improvements to improve their system's long-term performance.

b. Criteria of 40 CFR 122.41(m)(4)(i)(A)-(C)

If the criteria of 40 CFR 122.41(m)(4)(i)(A)-(C) are met, the Regional Water Board can approve peak wet weather flow diversions that are recombined with flow from the secondary treatment. The criteria of 40 CFR 122.41(m)(4)(i) (Federal Standard Provisions, **Attachment D**) are (A) bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; (B) there were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime; and (C) the Discharger submitted notice to the Regional Water Board as required under Federal Standard Provision – Permit Compliance I.G.5. The Discharger has satisfied the criteria of 40 CFR 122.41(m)(4)(i)(A-C) as described below.

(A) The Discharger diverts wastewater around secondary treatment units (bypasses) for peak wet weather flows above 32.7 MGD to avoid severe damage to its treatment facility. The Federal Standard Provisions define severe property damage as "substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass."

(B) On March 30, 2007, the Discharger submitted a no feasible alternatives analysis that addresses measures it has taken and plans to take to reduce and eliminate bypasses during peak wet weather events. The Discharger determined that no feasible alternative exists at this time. The Discharger has proposed measures that should eliminate the need to bypass once they have been fully implemented. This Order requires the Discharger to further evaluate feasible alternatives to bypasses (Provision C.7.c.).

The Discharger is conducting an Infiltration/Inflow (I/I) Study to update collection system maps for each member agency, update repairs and improvements made to the collection systems, and identify areas in need of improvement. The I/I Study will provide information for collection system enhancements for each of the member agency systems and will also assist the Discharger in development of storage strategies within the collection system. The Discharger also plans to commission an equalization pond evaluation to determine current storage capacity in the two ponds and options for expanding the capacity.

(C) By submitting its March 30, 2007 study, the Discharger has notified the Regional Water Board of its need to bypass as required under Federal Standard Provision – Permit Compliance I.G.5. The Discharger plans to review possible methods of future notification that could be used to document specifically when wastewater flows are blended.

5. **Discharge Prohibition III.E. (No sanitary sewer overflows (SSO) to waters of the United States)**: The Clean Water Act prohibits the discharge of wastewater to surface waters except as authorize under an NPDES permit. POTWs must achieve secondary treatment, at a minimum, and any more stringent limitations that are necessary to achieve water quality standards. (33U.S.C. §1311(b)(1)(B) and (C).) Thus, an SSO that results in the discharge of raw sewage, or sewage not meeting secondary treatment, to surface waters is prohibited under the Clean Water Act.

B. Technology-Based Effluent Limitations for Discharge Point 001

1. Scope and Authority

Regulations promulgated in section 125.3(a)(1) require technology-based effluent limitations for municipal Dischargers to be placed in NPDES permits based on Secondary Treatment Standards or Equivalent to Secondary Treatment Standards.

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) established the minimum performance requirements for POTWs [defined in section 304(d)(1)]. Section 301(b)(1)(B) of that Act requires that such treatment works must, as a minimum, meet effluent limitations based on secondary treatment as defined by the USEPA Administrator.

Based on this statutory requirement, USEPA developed secondary treatment regulations, which are specified in Part 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of biochemical oxygen demand (BOD_5), total suspended solids (TSS), and pH.

2. Applicable Technology-Based Effluent Limitations

Permit effluent limitations for conventional pollutants are technology-based. Technology-based effluent limits are put in place to ensure that full secondary treatment is achieved by the wastewater treatment facility, as required under 40 CFR §133.102. Effluent limits for these conventional pollutants are defined by the Basin Plan.

- Biochemical oxygen demand (BOD),
- BOD percent removal,
- Total suspended solids (TSS),
- TSS percent removal,
- pH,
- Oil and grease,
- Total chlorine residual, and
- Total coliform organisms.

3. Summary of Technology-based Effluent Limitations Discharge Point 001

Technology-based effluent limitations are summarized in Table F-6 below.

Table F-6. Summary of Technology-based Effluent Limitations

Parameter	Unit	Effluent Limitations				
		Average monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
BOD_5[a]	mg/L	30	45	---	---	---
TSS[a]	mg/L	30	45	---	---	---
BOD_5 and TSS Percent removal[b]	%	85	---	---	---	---
pH[c]	standard unit	---	---	---	6.0	9.0
Oil and Grease[a]	mg/L	10	---	20	---	---
Total Chlorine Residual[d]	mg/L	---	---	---	---	0.0
Total Coliform	Footnote (e)					

a) The effluent limitations for BOD_5, TSS, and Oil and Grease are technology-based limitations representative of, and intended to ensure, adequate and reliable secondary level wastewater treatment. These limitations are unchanged from the previous permit and are based on Basin Plan (Chapter 4, Table 4-2), except the daily maximum limitations for BOD_5 and TSS are no longer required because they are inconsistent with 40 CFR 122.45(d).

b) The effluent limitations for BOD_5 and TSS monthly removal are technology-based. They are unchanged from the previous permit and are based on Basin Plan requirements, derived from federal requirements (40 CFR §133.102; definition in §133.101).

c) The effluent limitations for pH are technology-based and are unchanged from the previous permit. These limitations are based on the Basin Plan (Chapter 4, Table 4-2) for deep water discharges, which are derived from federal requirements (40 CFR §133.102). The Discharger may elect to use continuous on-line monitoring system(s) for measuring pH. In this case, 40 CFR §401.17 (pH Effluent Limitations under Continuous Monitoring) and best professional judgment (BPJ) are the basis for the compliance provisions for pH limitations. Excursions of the pH effluent limitations are permitted, provided that both of the following conditions are satisfied: (i) the total time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and (ii) no individual excursion from the range of pH values shall exceed 60 minutes.

d) The effluent limitation for total chlorine residual is from Chapter 4 of the Basin Plan. The Discharger may use a continuous on-line monitoring system(s) for measuring flow, chlorine, and sodium bisulfite concentration and dosage (including a safety factor) to prove that chlorine residual exceedances are false positives. If

convincing evidence is provided, Regional Water Board staff may conclude that these false positives of chlorine residual exceedances are not violations of the permit limitation.

e) The total coliform limitations require that the moving median value for the total coliform bacteria in any five consecutive samples shall not exceed 240 MPN/100ml and any single sample shall not exceed 10,000 MPN/100mL. These limitations are unchanged from the previous permit and are based on Basin Plan Table 4-2 for deep water dischargers with an initial dilution of 10:1. The purpose of these effluent limitations is to ensure adequate disinfection of the discharge in order to protect beneficial uses of the receiving waters.

C. Water Quality-Based Effluent Limitations (WQBELs)

WQBELs have been derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law. The scientific procedures for calculating individual WQBELs are based on the CTR-SIP, which was approved by USEPA prior to May 1, 2001, or Basin Plan provisions approved by USEPA on May 29, 2000. Most beneficial uses and water quality objectives contained in the Basin Plan were approved under State law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the [Clean Water] Act" pursuant to 40 CFR 131.21(c)(1). Other water quality objectives and beneficial uses implemented by this Order (specifically arsenic, copper, lead, mercury, nickel, and zinc) were approved by USEPA on January 5, 2005, and are applicable water quality standards pursuant to 40 CFR 131.21(c)(2). Collectively, this Order's restrictions on individual pollutants are no more stringent than the applicable water quality standards for purposes of the Clean Water Act.

1. Scope and Authority

a. As specified in 40 CFR 122.44(d)(1)(i), permits are required to include WQBELs for all 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." The process for determining "Reasonable Potential" and calculating WQBELs, when necessary, is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other State plans and policies, the CTR, and NTR.

b. NPDES regulations and the SIP provide the basis to establish Maximum Daily Effluent Limitations (MDELs).

(1) NPDES Regulations. NPDES regulations at 40 CFR Part 122.45(d) state:

"For continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards,

shall *unless impracticable* be stated as maximum daily and average monthly discharge limitations for all discharges other than publicly owned treatment works."

(2) SIP. The SIP (page 8, Section 1.4) requires WQBELs be expressed as MDELs and average monthly effluent limitations (AMELs).

c. MDELs are used in this Order to protect against acute water quality effects. The MDELs are necessary for preventing fish kills or mortality to aquatic organisms.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

a. **Applicable Beneficial Uses.** Beneficial uses applicable to Central San Francisco Bay are from the Basin Plan and are as follows:

Table F-7. Basin Plan Beneficial Uses of Central San Francisco Bay

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Raccoon Strait of Central San Francisco Bay	• Ocean, Commercial, and Sport Fishing (COMM) • Estuarine Habitat (EST) • Industrial Service Supply (IND) • Fish Migration (MIGR) • Navigation (NAV) • Industrial Process Supply (PROC) • Preservation of Rare and Endangered Species (RARE) • Water Contact Recreation (REC-1) • Noncontact Water Recreation (REC-2) • Shellfish Harvesting (SHELL) • Fish Spawning (SPWN) • Wildlife Habitat (WILD)

b. The WQC and WQOs applicable to the receiving waters for this discharge are from the Basin Plan, the CTR, and the NTR.

(1) **Basin Plan.** The Basin Plan specifies numeric WQOs for 10 priority toxic pollutants, as well as narrative WQOs for toxicity and bioaccumulation in order to protect beneficial uses. The pollutants for which the Basin Plan specifies numeric objectives are arsenic, cadmium, chromium (VI), copper in freshwater, lead, mercury, nickel, silver, zinc, and cyanide (see also c., below). The narrative toxicity objective states in part "[a]ll waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms." The bioaccumulation objective states in part "[c]ontrollable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered." Effluent limitations and provisions contained in this Order are designed to implement these objectives, based on available information.

(2) **CTR.** The CTR specifies numeric aquatic life criteria for 23 priority toxic pollutants and numeric human health criteria for 57 priority toxic pollutants. These criteria apply to inland surface waters and enclosed bays and estuaries such as here, except that where the Basin Plan's Tables 3-3 and 3-4 specify numeric objectives for certain of these priority toxic pollutants, the Basin Plan's numeric objectives apply over the CTR (except in the South Bay south of the Dumbarton Bridge).

(3) **NTR.** The NTR established numeric aquatic life criteria for selenium, numeric aquatic life and human health criteria for cyanide, and numeric human health criteria for 34 toxic organic pollutants for waters of San Francisco Bay upstream to, and including, Suisun Bay and the Sacramento-San Joaquin Delta. This includes the receiving water for this Discharger.

c. Narrative Objectives for Water Quality-Based Toxics Controls

Where numeric objectives have not been established or updated in the Basin Plan, NPDES regulations at 40 CFR Part 122.44(d) require that WQBELs be established based on USEPA criteria, supplemented where necessary by other relevant information, to attain and maintain narrative WQOs to fully protect designated beneficial uses.

To determine the need for and establish WQBELs, when necessary, the Regional Water Board staff has followed the requirements of applicable NPDES regulations, including 40 CFR Parts 122 and 131, as well as guidance and requirements established by the Basin Plan; USEPA's *Technical Support Document for Water Quality-Based Toxics Control* (the TSD, EPA/505/2-90-001, 1991); and the State Water Resources Control Board's *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (the SIP, 2005).

d. Basin Plan and CTR Receiving Water Salinity Policy

The Basin Plan and CTR state that the salinity characteristics (i.e., freshwater versus saltwater) of the receiving water shall be considered in determining the applicable WQOs/WQC. Freshwater criteria shall apply to discharges to waters with salinities equal to or less than 1 ppt at least 95 percent of the time. Saltwater criteria shall apply to discharges to waters with salinities equal to or greater than 10 ppt at least 95 percent of the time in a normal water year. For discharges to waters with salinities in between these two categories, or tidally influenced fresh waters that support estuarine beneficial uses, the criteria shall be the lower of the salt- or freshwater criteria (the freshwater criteria for some metals are calculated based on ambient hardness) for each substance.

The receiving waters for the discharges regulated by this Order are the waters of Central San Francisco Bay. Salinity data indicate that the receiving waters of subject discharge are marine. Therefore, this Order's effluent limitations are based on the marine water quality objectives or criteria (WQOs/WQC).

3. Determining the Need for WQBELs

Assessing whether a pollutant has Reasonable Potential is the fundamental step in determining whether or not a WQBEL is required.

a. Reasonable Potential Analysis (RPA) Methodology

The RPA identifies the observed MEC in the effluent for each pollutant, based on effluent concentration data. There are three triggers in determining Reasonable Potential according to Section 1.3 of the SIP.

- The first trigger is activated if the MEC is greater than or equal to the lowest applicable WQO (MEC $\geq$ WQO), which has been adjusted, if appropriate, for pH, hardness, and translator data. If the MEC is greater than the adjusted WQO, then that pollutant has reasonable potential, and a WQBEL is required.

- The second trigger is activated if the observed maximum ambient background concentration (B) is greater than the adjusted WQO (B>WQO) and the pollutant was detected in any of the effluent samples.

- The third trigger is activated if a review of other information determines that a WQBEL is required to protect beneficial uses, even though both MEC and B are less than the WQO/WQC. A limitation may be required under certain circumstances to protect beneficial uses.

b. Effluent Data

The Regional Water Board's August 6, 2001 letter titled Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy (hereinafter referred to as the August 6, 2001 Letter - available online; see Standard Language and Other References Available Online, below) to all permittees, formally required the Discharger (pursuant to Section 13267 of the CWC) to initiate or continue to monitor for the priority pollutants using analytical methods that provide the best detection limits reasonably feasible. Regional Water Board staff analyzed this effluent data and the nature of upper San Francisco Bay to determine if the discharge has Reasonable Potential. The RPA was based on the effluent monitoring data from January 2002 through September 2006 for metals, inorganic priority pollutants, and organic priority pollutants.

c. Ambient Background Data

(1) Ambient background values are used in the RPA and in the calculation of effluent limitations. Ambient background concentrations are the observed maximum detected water column concentrations. The SIP allows background to be determined on a discharge-by-discharge or water body-by-water body basis (SIP section 1.4.3). Consistent with the SIP, Regional Water Board staff has chosen to use a water body-by-water body basis

because of the uncertainties inherent in accurately characterizing ambient background in a complex estuarine system on a discharge-by-discharge basis. The SIP states that for calculating WQBELs, ambient background concentrations are either the observed maximum ambient water column concentrations or, for criteria/objectives intended to protect human health from carcinogenic effects, the arithmetic mean of observed ambient water concentrations.

(2) The RMP station at Yerba Buena Island, located in the Central Bay, has been monitored for most of the inorganic (CTR constituent numbers 1–15) and some of the organic (CTR constituent numbers 16–126) toxic pollutants, and these data from the RMP, for the period March 1993 – August 2003, were used as background data in performing the RPA for this Discharger. Not all the constituents listed in the CTR were analyzed by the RMP during this time.

(3) These data gaps are addressed August 6, 2001 Letter. The Board's August 6, 2001 Letter formally requires the Dischargers (pursuant to Section 13267 of the California Water Code) to conduct ambient background monitoring and effluent monitoring for those constituents not currently sampled by the RMP and to provide this technical information to the Board.

On May 15, 2003 and June 15, 2004, a group of several San Francisco Bay Region Dischargers (known as the Bay Area Clean Water Agencies, or BACWA) submitted a collaborative receiving water study, entitled the San Francisco Bay Ambient Water Monitoring Interim Report, and Final CTR Sampling Update. These studies include monitoring results from sampling events in 2002 and 2003 for the remaining priority pollutants not monitored by the RMP.

The RPA was conducted and the WQBELs were calculated using RMP data from 1993 through 2003 for inorganics and organics at the Yerba Buena Island RMP station, and additional data from the BACWA Ambient Water Monitoring: Final CTR Sampling Update Report for the Yerba Buena Island RMP station. The Dischargers may utilize the receiving water study provided by BACWA to fulfill all requirements of the August 6, 2001 letter for receiving water monitoring in this Order.

d. RPA Determination

Using the method prescribed in Section 1.3 of the SIP, Regional Water Board staff compared the effluent data and ambient background data with numeric and narrative WQOs in the Basin Plan and numeric WQC from USEPA, the NTR, and the CTR. The Basin Plan objectives and CTR criteria are shown in **Attachment F-2** of this Fact Sheet. The MECs, WQOs/WQC, bases for the WQOs/WQC, background concentrations used, and Reasonable Potential conclusions from the RPAs for Discharge Point 001 are listed in the following tables for all constituents analyzed. Some of the constituents in the CTR were

not determined because of the lack of an objective/criteria or effluent data. Based on the RPA methodology in the SIP, some constituents did not demonstrate Reasonable Potential. The RPA results are shown below and **Attachment F-2** of this Fact Sheet. The pollutants that exhibit Reasonable Potential are copper, mercury, silver, zinc, cyanide, dioxin-TEQ, bis(2-ethylhexyl) phthalate, and ammonia.

Table F-8. RPA Summary

CTR #	Priority Pollutants (µg/L)	Governing WQO/WQC (µg/L)	MEC or Minimum DL (µg/L)	Maximum Background or Minimum DL[1, 2] (µg/L)	RPA Results[3]
1	Antimony	4300	**1.5**	**1.8**	No
2	Arsenic	36	**5.9**	**2.46**	No
3	Beryllium	No Criteria	0.06	**0.215**	Undetermined
4	Cadmium	9.4	**0.1**	**0.1268**	No
5a	Chromium (III or Total)	No Criteria	1.4	Not Available	No
5b	Chromium (VI)	50	Not Available	**4.4**	No
6	Copper	4.2	**21**	**2.55**	**Yes**
7	Lead	8.5	**1.3**	**0.804**	No
8	Mercury	0.025	**0.079**	**0.0086**	**Yes**
9	Nickel	13	**6**	**3.73**	No
10	Selenium	5	**4.8**	**0.39**	No
11	Silver	2.2	**3.3**	**0.052**	**Yes**
12	Thallium	6.3	**0.2**	**0.21**	No
13	Zinc	86	**140**	**5.1**	**Yes**
14	Cyanide	1	**4.7**	**0.4**	**Yes**
15		No Criteria	Not Available	Not Available	Undetermined
16	2,3,7,8-TCDD	1.4E-08	6.37E-07	Not Available	No
16-TEQ	Dioxin-TEQ	1.4E-08	**2.27E-07**	**7.1E-08**	**Yes**
17	Acrolein	780	1	0.5	No
18	Acrylonitrile	0.66	1	**0.03**	No
19	Benzene	71	0.27	0.05	No
20	Bromoform	360	0.1	0.5	No
21	Carbon Tetrachloride	4.4	0.42	**0.06**	No
22	Chlorobenzene	21000	0.19	0.5	No
23	Chlorodibromomethane	34	0.18	0.05	No
24	Chloroethane	No Criteria	0.34	0.5	Undetermined
25	2-Chloroethylvinyl Ether	No Criteria	0.31	0.5	Undetermined
26	Chloroform	No Criteria	**0.4**	0.5	Undetermined
27	Dichlorobromomethane	46	0.2	0.05	No
28	1,1-Dichloroethane	No Criteria	0.28	0.05	Undetermined
29	1,2-Dichloroethane	99	0.18	**0.04**	No
30	1,1-Dichloroethylene	3.2	0.37	0.5	No
31	1,2-Dichloropropane	39	0.2	0.05	No
32	1,3-Dichloropropylene	1700	0.2	Not Available	No
33	Ethylbenzene	29000	0.3	0.5	No
34	Methyl Bromide	4000	0.42	0.5	No
35	Methyl Chloride	No Criteria	0.36	0.5	Undetermined
36	Methylene Chloride	1600	0.38	**0.5**	No
37	1,1,2,2-Tetrachloroethane	11	0.3	0.05	No
38	Tetrachloroethylene	8.85	0.32	0.05	No
39	Toluene	200000	**2.1**	0.3	No

CTR #	Priority Pollutants (µg/L)	Governing WQO/WQC (µg/L)	MEC or Minimum DL (µg/L)	Maximum Background or Minimum DL[1, 2] (µg/L)	RPA Results[3]
40	1,2-Trans-Dichloroethylene	140000	0.3	0.5	No
41	1,1,1-Trichloroethane	No Criteria	0.35	0.5	Undetermined
42	1,1,2-Trichloroethane	42	0.27	0.05	No
43	Trichloroethylene	81	0.29	0.5	No
44	Vinyl Chloride	525	0.34	0.5	No
45	2-Chlorophenol	400	0.4	1.2	No
46	2,4-Dichlorophenol	790	0.3	1.3	No
47	2,4-Dimethylphenol	2300	0.3	1.3	No
48	2-Methyl-4,6-Dinitrophenol	765	0.4	1.2	No
49	2,4-Dinitrophenol	14000	0.3	0.7	No
50	2-Nitrophenol	No Criteria	0.3	1.3	Undetermined
51	4-Nitrophenol	No Criteria	0.2	1.6	Undetermined
52	3-Methyl-4-Chlorophenol	No Criteria	0.3	1.1	Undetermined
53	Pentachlorophenol	7.9	0.4	1	No
54	Phenol	4600000	0.4	1.3	No
55	2,4,6-Trichlorophenol	6.5	0.2	1.3	No
56	Acenaphthene	2700	0.17	**0.0015**	No
57	Acenaphthylene	No Criteria	0.03	**0.00053**	Undetermined
58	Anthracene	110000	0.16	**0.0005**	No
59	Benzidine	0.00054	0.3	0.0015	No
60	Benzo(a)Anthracene	0.049	0.12	**0.0053**	No
61	Benzo(a)Pyrene	0.049	0.09	**0.00029**	No
62	Benzo(b)Fluoranthene	0.049	0.11	**0.0046**	No
63	Benzo(ghi)Perylene	No Criteria	0.06	**0.0027**	Undetermined
64	Benzo(k)Fluoranthene	0.049	0.16	**0.0015**	No
65	Bis(2-Chloroethoxy)Methane	No Criteria	0.3	0.3	Undetermined
66	Bis(2-Chloroethyl)Ether	1.4	0.3	0.3	No
67	Bis(2-Chloroisopropyl)Ether	170000	0.6	Not Available	No
68	Bis(2-Ethylhexyl)Phthalate	5.9	**8.8**	0.5	**Yes**
69	4-Bromophenyl Phenyl Ether	No Criteria	0.4	0.23	Undetermined
70	Butylbenzyl Phthalate	5200	0.4	0.52	No
71	2-Chloronaphthalene	4300	0.3	0.3	No
72	4-Chlorophenyl Phenyl Ether	No Criteria	0.4	0.3	Undetermined
73	Chrysene	0.049	0.14	**0.0024**	No
74	Dibenzo(a,h)Anthracene	0.049	0.4	**0.00064**	No
75	1,2 Dichlorobenzene	17000	0.12	0.8	No
76	1,3 Dichlorobenzene	2600	0.16	0.8	No
77	1,4 Dichlorobenzene	2600	**0.2**	0.8	No
78	3,3-Dichlorobenzidine	0.077	0.3	0.001	No
79	Diethyl Phthalate	120000	0.4	0.24	No
80	Dimethyl Phthalate	2900000	0.4	0.24	No
81	Di-n-Butyl Phthalate	12000	0.4	0.5	No
82	2,4-Dinitrotoluene	9.1	0.3	0.27	No
83	2,6-Dinitrotoluene	No Criteria	0.3	0.29	Undetermined
84	Di-n-Octyl Phthalate	No Criteria	0.4	0.38	Undetermined
85	1,2-Diphenylhydrazine	0.54	0.3	**0.0037**	No
86	Fluoranthene	370	0.03	**0.011**	No
87	Fluorene	14000	0.02	**0.00208**	No
88	Hexachlorobenzene	0.00077	0.4	**0.0000202**	No
89	Hexachlorobutadiene	50	0.2	0.3	No

CTR #	Priority Pollutants (µg/L)	Governing WQO/WQC (µg/L)	MEC or Minimum DL (µg/L)	Maximum Background or Minimum DL[1, 2] (µg/L)	RPA Results[3]
90	Hexachlorocyclopentadiene	17000	0.1	0.31	No
91	Hexachloroethane	8.9	0.2	0.2	No
92	Indeno(1,2,3-cd) Pyrene	0.049	0.04	**0.004**	No
93	Isophorone	600	0.3	0.3	No
94	Naphthalene	No Criteria	0.05	**0.0023**	Undetermined
95	Nitrobenzene	1900	0.3	0.25	No
96	N-Nitrosodimethylamine	8.1	0.4	0.3	No
97	N-Nitrosodi-n-Propylamine	1.4	0.3	0.001	No
98	N-Nitrosodiphenylamine	16	0.4	0.001	No
99	Phenanthrene	No Criteria	0.03	**0.0061**	Undetermined
100	Pyrene	11000	0.03	**0.0051**	No
101	1,2,4-Trichlorobenzene	No Criteria	0.3	0.3	Undetermined
102	Aldrin	0.00014	0.01	Not Available	No
103	alpha-BHC	0.013	0.01	**0.000496**	No
104	beta-BHC	0.046	0.01	**0.000413**	No
105	gamma-BHC	0.063	0.01	**0.0007034**	No
106	delta-BHC	No Criteria	0.01	**0.000042**	Undetermined
107	Chlordane	0.00059	0.01	**0.00018**	No
108	4,4'-DDT	0.00059	0.01	**0.000066**	No
109	4,4'-DDE	0.00059	0.01	**0.000693**	No
110	4,4'-DDD	0.00084	0.01	**0.000313**	No
111	Dieldrin	0.00014	0.01	**0.000264**	No
112	alpha-Endosulfan	0.0087	0.01	**0.000031**	No
113	beta-Endosulfan	0.0087	0.01	**0.000069**	No
114	Endosulfan Sulfate	240	0.01	**0.0000819**	No
115	Endrin	0.0023	0.01	**0.000036**	No
116	Endrin Aldehyde	0.81	0.01	Not Available	Undetermined
117	Heptachlor	0.00021	0.01	**0.000019**	No
118	Heptachlor Epoxide	0.00011	0.01	**0.00002458**	No
119-125	PCBs sum	0.00017	0.03	Not Available	No
126	Toxaphene	0.0002	0.2	Not Available	Undetermined
	Tributylin	0.01	Not Available	0.001	No
	Total PAHs	15	Not Available	**0.26**	No
	Total Ammonia[4]	1.19 mg/L	11.6 mg/L	**0.17 mg/L**	**Yes**

[1] Concentration in bold is the actual detected maximum concentration, otherwise the concentration shown is the maximum detection level.
[2] Maximum Background = Not Available, if there is not monitoring data for this constituent.
[3] RPA Results = Yes, if MEC > WQO/WQC,
= No, if MEC or all effluent concentration non-detect < WQO/WQC,
= Undetermined, if no objective promulgated.
[4] See section 4.d.8 of this Fact Sheet for an explanation of the WQOs for ammonia.

e. **Constituents with Limited Data**. The Discharger has performed sampling and analysis for the constituents listed in the CTR. This data set was used to perform the RPA. In some cases, Reasonable Potential cannot be determined because effluent data or ambient background concentrations are not available. The Discharger will continue to monitor for these constituents in the effluent using analytical methods that provide the best feasible detection limits. When additional data become available, further RPA will be conducted to determine whether to add numeric effluent limitations to this Order or to continue monitoring.

f. **Pollutants with No Reasonable Potential.** WQBELs are not included in this Order for constituents that do not demonstrate Reasonable Potential; however, monitoring for those pollutants is still required. If concentrations of these constituents are found to have increased significantly, the Discharger will be required to investigate the source(s) of the increase(s). Remedial measures are required if the increases pose a threat to water quality in the receiving water.

4. WQBEL Calculations

a. Applicable WQC/WQOs for Pollutants with Reasonable Potential

WQBELs were developed for the toxic and priority pollutants that were determined to have reasonable potential to cause or contribute to exceedances of the WQOs or WQC. The WQOs or WQC used for each pollutant with Reasonable Potential and the basis for the WQOs/WQC is indicated in the following table.

Table F-9. Water Quality Criteria/Objectives for Toxics

Pollutant	Water Quality Criterion or Objective (µg/L)			Basis
	Aquatic Life Chronic	Aquatic Life Acute	Human Health	
Copper	4.2	5.5	---	Basin Plan (salt water aquatic life)
Mercury	0.025	2.1	0.051	Basin Plan (salt water aquatic life)
Silver	---	2.2	---	Basin Plan (salt wate aquatic life)
Zinc	86	95	---	Basin Plan (salt water aquatic life)
Cyanide	1.0	1.0	220000	NTR criteria for the Bay
Dioxin-TEQ	---	---	1.4×10^{-8}	Basin Plan narrative for human health
Bis (2-ethylhexyl) phthalate	---	---	5.9	CTR Human Health
Total Ammonia[1]	4.65 mg/L	1.19 mg/L	---	Basin Plan (salt water aquatic life)

1 The Basin Plan un-ionized WQOs were translated to total ammonia WQOs as described in Section 4.d.8 of this Fact Sheet.

b. Dilution Credit

The SIP provides the basis for the dilution credit granted. SASM outfall 001 is designed to achieve a minimum of 10:1 dilution. A review of RMP data (local and Central Bay stations) shows that there is variability in the receiving water,

and the hydrology of the receiving water is very complex. Therefore, there is uncertainty associated with the representative nature of the appropriate ambient background data for effluent limit calculations. Pursuant to Section 1.4.2.1 of the SIP, "dilution credit may be limited or denied on a pollutant-by-pollutant basis…." The Regional Water Board finds that a conservative 10:1 dilution credit for non-bioaccumulative priority pollutants, a zero dilution credit for bioaccumulative priority pollutants, and actual initial dilution for total ammonia are necessary for protection of beneficial uses. The detailed basis for each are explained below.

(1) For certain bioaccumulative pollutants, based on best professional judgment (BPJ), dilution credit is not included in calculating the final WQBELs. This determination is based on available data on concentrations of these pollutants in aquatic organisms, sediment, and the water column. The Regional Water Board placed selenium, mercury, and polychlorinated biphenyls (PCBs) on the CWA Section 303(d) list. U.S. EPA added dioxin and furan compounds, chlordane, dieldrin, and 4,4'-DDT to the CWA Section 303(d) list. Dilution credit is not included for mercury and dioxin-TEQ. The following factors suggest that there is no more assimilative capacity in the Bay for these pollutants.

San Francisco Bay fish tissue data show that these pollutants exceed screening levels. The fish tissue data are contained in *Contaminant Concentrations in Fish from San Francisco Bay 1997* (May 1997). Denial of dilution credits for these pollutants is further justified by fish advisories for San Francisco Bay. The Office of Environmental Health and Hazard Assessment (OEHHA) performed a preliminary review of the data from the 1994 San Francisco Bay pilot study, *Contaminated Levels in Fish Tissue from San Francisco Bay*. The results of the study showed elevated levels of chemical contaminants in the fish tissues. Based on these results, OEHHA issued an interim consumption advisory covering certain fish species from the Bay in December 1994. This interim consumption advice was issued and is still in effect owing to health concerns based on exposure to sport fish from the Bay contaminated with mercury, dioxins, and pesticides (e.g., DDT).

(2) Furthermore, Section 2.1.1 of the SIP states that for bioaccumulative compounds on the 303(d) list, the Regional Water Board should consider whether mass-loading limits should be limited to current levels. The Regional Water Board finds that mass-loading limits are warranted for mercury for the receiving waters of this Discharger. This is to ensure that this Discharger does not contribute further to impairment of the narrative objective for bioaccumulation.

(3) For certain non-bioaccumulative constituents (except ammonia), a conservative allowance of 10:1 dilution for discharges to the Bay has been assigned for protection of beneficial uses. The basis for using 10:1 is that it was granted in the previous permit. This 10:1 is also based on the Basin

Plan's prohibition number 1, which prohibits discharges like those from 001 with less than 10:1 dilution. Limiting the dilution credit is based on SIP provisions in Section 1.4.2. The following outlines the basis for derivation of the dilution credit.

i. A far-field background station is appropriate because the receiving water body (the Bay) is a very complex estuarine system with highly variable and seasonal upstream freshwater inflows and diurnal tidal saltwater inputs. The SIP allows background to be determined on a discharge-by-discharge or water body-by-water body basis (SIP 1.4.3). Consistent with the SIP, Regional Water Board staff has chosen to use a water body-by-water body basis because of the uncertainties inherent in accurately characterizing ambient background in a complex estuarine system on a discharge-by-discharge basis.

   The Yerba Buena Island Station fits the guidance for ambient background in the SIP compared to other stations in the RMP. The SIP states that background data are applicable if they are "representative of the ambient receiving water column that will mix with the discharge." Regional Water Board staff believes that data from this station are representative of water that will mix with the discharge from 001. Although this station is located near the Golden Gate, it would represent the typical water flushing in and out of the Bay each tidal cycle. For most of the Bay, the waters represented by this station make up a large part of the receiving water that will mix with the discharge.

ii. Because of the complex hydrology of San Francisco Bay, a mixing zone has not been established. There are uncertainties in accurately determining the mixing zones for each discharge. The models that have been used to predict dilution have not considered the three-dimensional nature of the currents in the estuary resulting from the interaction of tidal flushes and seasonal fresh water outflows. Salt water is heavier than fresh water, colder salt water from the ocean flushes in twice a day generally under the warmer fresh river waters that flow out annually. When these waters mix and interact, complex circulation patterns occur due to the different densities of these waters. These complex patterns occur throughout the estuary but are most prevalent in the San Francisco Bay areas. The locations change depending on the strength of each tide and the variable rate of delta outflow. Additionally, sediment loads to the bay from the Central Valley also change on a longer-term basis. These changes can result in changes to the depths of different parts of the bay making some areas more shallow and/or other areas more deep. These changes affect flow patterns that in turn can affect the initial dilution achieved by a diffuser.

iii. The SIP allows limiting a mixing zone and dilution credit for persistent pollutants (e.g., copper, silver, nickel, and lead). Discharges to the bay are defined in the SIP as incompletely mixed discharges. Thus, dilution

credit should be determined using site-specific information. The SIP 1.4.2.2 specifies that the Regional Water Board "significantly limit a mixing zone and dilution credit as necessary… For example, in determining the extent of a mixing zone or dilution credit, the RWQCB shall consider the presence of pollutants in the discharge that are …persistent." The SIP defines persistent pollutants to be "substances for which degradation or decomposition in the environment is nonexistent or very slow." The pollutants at issue here are persistent pollutants (e.g. copper). The dilution studies that estimate actual dilution do not address the effects of these persistent pollutants in the Bay environment, such as their long-term effects on sediment concentrations. Though this concern would not apply to non-persistent pollutants like cyanide and some organic compounds, a conservative dilution credit is still appropriate because of the lack of near field receiving water data for these pollutants.

(4) In calculating WQBELs for total ammonia, Water Board staff believes it is appropriate to use actual initial dilution. This is because ammonia is not a persistent pollutant and the Basin Plan states, "In most instances, ammonia will be diluted or degraded to a nontoxic state fairly rapidly." As such, there is unlikely to be cumulative toxicity effects associated with discharges containing elevated concentrations of ammonia. Therefore, granting dilution credits based on actual initial dilution is protective of water quality.

Information on the actual initial dilution of the Discharger's treated wastewater was not available at the time of permit reissuance; therefore WQBELs for total ammonia were calculated based on the conservative 10:1 dilution used for non-bioaccumulative pollutants. Because it was determined to be feasible for the Discharger to comply with the final WQBELs calculated based on the 10:1 dilution, the Discharger did not seek to conduct a dilution study at the time of permit reissuance. Because actual initial dilution was not considered, Regional Water Board staff believes the final WQBELs established by this Order are more protective than necessary. Additionally, it is not the intent of the Regional Water Board to impose performance based limitations for ammonia. For these reasons, future permit reissuances will consider information on actual initial dilution in establishing WQBELs for ammonia, as long as antibacksliding requirements are satisfied.

c. Final Effluent Limitation Calculations

The following tables summarize the WQBELs calculated for each toxic and priority pollutants that were determined to have reasonable potential to cause or contribute to exceedances of the WQOs or WQC. The WQBELs were calculated based on appropriate WQOs/WQC and the procedures specified in Section 1.4 of the SIP, as shown in **Attachment F-3** of this Fact Sheet.

Table F-10. Final WQBELs for Toxics

Pollutants	Units	AMEL	MDEL
Copper	µg/L	72	98
Copper (alternate Limits)	µg/L	54	73
Mercury	µg/L	0.021	0.040
Silver	µg/L	9.8	22
Zinc	µg/L	450	860
Cyanide	µg/L	3.1	6.4
Cyanide (alternate limits)	µg/L	21	42
Dioxin - TEQ	µg/L	1.4×10^{-8}	2.8×10^{-8}
Bis (2-ethylhexy) phthalate	µg/L	54	110
Total Ammonia	mg/L	12.3	32

d. Development of Effluent Limitations for Specific Pollutants

(1) Copper

i. **Copper WQC***.* The marine chronic and acute criteria for dissolved copper adopted in the CTR and Basin Plan are defined as 3.1 and 4.8 µg/L multiplied by a water effects ratio (WER) (40 CFR 131.38 (b) and (c)(4)(i) and (iii)). The default value for the WER is 1.0 unless a WER has been developed as set forth in USEPA's WER guidance (Interim Guidance on Determination and Use of Water Effect Ratios, USEPA Office of Water, EPA-823-B-94-001, February 1994). WERs have been developed for San Francisco Bay in accordance with this USEPA guidance as documented in *North of Dumbarton Bridge Copper and Nickel Site-Specific Objective (SSO) Derivation (Clean Estuary Partnership December 2004)*. Based on the data in this report, a WER of 2.4 is appropriate for this discharge. In addition, Regional Water Board developed copper site-specific translators along with the study using RMP data for Central San Francisco Bay. The translators are 0.74 and 0.88 for converting chronic and acute dissolved WQC into total WQC, respectively. The resulting adjusted WQC for this discharge, 10 µg/L for chronic protection and 13 µg/L for acute protection, are used in the WQBELs calculation. However, when determining reasonable potential, a WER value of 1.0 was used. The WQC based on a WER of 1.0, 5.5 µg/L for chronic protection and 4.2 µg/L for acute protection, were used in the RPA.

ii. **RPA Results.** From January 2002 through March 2006, the maximum observed effluent concentration (MEC) of copper was 21 µg/L. Because the MEC exceeds the most stringent applicable criterion of 4.2 µg/L, there is reasonable potential for this discharge to cause or contribute to exceedances of applicable WQC (Trigger 1), and this Order, therefore, establishes effluent limitations for copper.

iii. **Copper WQBELs.** The copper WQBELs calculated according to SIP procedures are 98 μg/L as the maximum daily effluent limit (MDEL) and 72 μg/L as the average monthly effluent limit (AMEL). A dilution credit of 10:1 was incorporated into the calculation of WQBELs.

iv. **Plant Performance and Attainability.** During the period from January 2002 through March 2006, the Discharger's effluent concentrations were in the range of 8.1 μg/L to 21 μg/L (52 samples). A statistical analysis shows that the Discharger can comply with these final effluent limitations.

v. **Copper SSO and Alternate WQBELs.** During the permit term, the Regional Water Board may amend the copper WQBELs based on the site-specific objectives (SSOs) being developed for the San Francisco Bay as depicted in the documents cited in subsection i. above. The SSOs proposed are 6.0 μg/L as a four-day average and 9.4 μg/L as a one-hour average (dissolved metal). Using the site-specific translators and WER of 2.4, the WQOs in total recoverable metal are 8.1 μg/L as a four-day average and 11 μg/L as a one-hour average. Based on the Discharger's current copper data, the alternate WQBELs for copper will be 73 μg/L as an MDEL, and 54 μg/L as an AMEL. These alternative limits will become effective only if the site-specific objective adopted contains the same assumptions in the report cited in subsection i. above. Based on the performance data, the Discharger can comply with these alternate effluent limits.

vi. **Antibacksliding.** The previous permit included an interim effluent limit of 29 µg/L as a daily maximum. Antibacksliding does not apply to interim limits and since there were no final WQBELs in the previous permit to which to compare the new final WQBELs, there is no backsliding.

(2) Mercury

i. **Mercury WQOs/WQC.** Both the Basin Plan and the CTR include objectives and criteria that govern mercury in the receiving water. The Basin Plan specifies objectives for the protection of saltwater aquatic life of 0.025 µg/L as a 4-day average and 2.1 µg/L as a 1-hour average. The CTR specifies a long-term average criterion for protection of human health of 0.051 µg/L.

ii. **RPA Results.** From January 2002 through September 2006, the MEC of mercury was 0.079 µg/L. Because the MEC exceeds the most stringent applicable objective of 0.025 µg/L, there is reasonable potential for the discharge to cause or contribute to exceedances of applicable WQOs (Trigger 1), and this Order establishes effluent limitations for mercury.

iii. **Mercury WQBELs.** The mercury WQBELs calculated according to SIP procedures are 0.040 μg/L as MDEL and 0.021 μg/L as AMEL. Mercury is a bioaccumulative pollutant, and therefore credit for dilution cannot be justified in developing effluent limitations in light of the fact that the Bay is impaired for mercury due to levels in fish tissue.

iv. **Plant Performance and Attainability.** During the period from January 2002 through September 2006, the Discharger's effluent concentrations were in the range of 0.0098 μg/L to 0.079 μg/L (56 samples). As detailed in a section below, it is infeasible for the Discharger to comply with the final WQBELs. Based on State Water Board Order WQ 2007-0004, the Regional Water Board has no authority to grant a compliance schedule for mercury in this Order. Because there is threatened violation of the WQBELs, a Cease and Desist Order specifying corrective measures is appropriate and is proposed concurrent with this Order.

v. **Mercury Control Strategy.** The Regional Water Board is developing a TMDL to control mercury levels in San Francisco Bay. The Regional Water Board, together with other stakeholders, will cooperatively develop source control strategies as part of the TMDL development. Municipal discharge point sources do not represent a significant mercury loading to San Francisco Bay. Therefore, the currently preferred strategy is to apply interim mass loading limits to point source discharges while focusing mass reduction efforts on other more significant and controllable sources. While the TMDL is being developed, the Discharger will cooperate in maintaining ambient receiving water conditions by complying with performance-based mercury mass emission limits.

vi. **Antibacksliding.** The previous permit did not specify final WQBELs for mercury and only contained interim effluent limitations, which were 1 μg/L as a daily maximum and 0.087 μg/L as a monthly average limit. Therefore, there is no backsliding because the limits in this Order are more stringent than the previous Order.

(3) Silver

i. **Silver WQO/WQC.** The most stringent water quality objective for silver applicable to the discharge is 2.2 µg/L, from both Basin Plan and CTR for the protection of salt water acute aquatic life.

ii. **RPA Results.** From January 2002 through February 2006, the MEC for silver was 3.3 µg/L. Because the MEC exceeds the most stringent applicable WQO/WQC of 2.2 µg/L, there is reasonable potential for the discharge to cause or contribute to exceedances of applicable WQO/WQC (Trigger 1), and this Order, therefore, establishes effluent limitations for silver.

iii. **Silver WQBELs.** The silver WQBELs calculated according to SIP procedures are 22 μg/L as MDEL and 9.8 μg/L as AMEL. A dilution credit of 10:1 was incorporated into the calculation of WQBELs.

iv. **Plant Performance and Attainability.** During the period from January 2002 through February 2006, the Discharger's effluent concentrations were in the range of 0.1 μg/L to 3.3 μg/L (38 samples). A statistical analysis shows that the Discharger can comply with these final effluent limitations.

v. **Antibacksliding.** The previous permit did not include an effluent limitation for silver; therefore, antibacksliding requirements are satisfied.

(4) Zinc

i. **Zinc WQOs/WQC.** The most stringent WQOs/WQC for zinc applicable to the discharge is 86 µg/L, which is a chronic objective/criterion from the Basin Plan and the CTR for the protection of salt water aquatic life.

ii. **RPA Results.** From January 2002 through February 2006, the MEC of zinc was 140 µg/L. Because the MEC exceeds the most stringent applicable objective/criterion of 86 µg/L, there is reasonable potential for the discharge to cause or contribute to exceedances of applicable WQOs/WQC (Trigger 1), and this Order establishes effluent limitations for zinc.

iii. **Zinc WQBELs.** The zinc WQBELs calculated according to SIP procedures are 910 μg/L as MDEL and 690 μg/L as AMEL. A dilution credit of 10:1 was incorporated into the calculation of WQBELs. However, the previous permit included final effluent limits of 860 μg/L as MDEL and 450 μg/L as AMEL, which are more stringent. Therefore, the previous permit limits are retained as the effluent limits for zinc.

iv. **Plant Performance and Attainability.** During the period from January 2002 through February 2006, the Discharger's effluent concentrations were in the range of 57 μg/L to 140 μg/L (38 samples). A statistical analysis shows that the Discharger can comply with the final effluent limits.

v. **Antibacksliding.** The effluent limits are unchanged from the previous permit limits; therefore, antibacksliding requirements are satisfied.

(5) Cyanide

i. **Cyanide WQC.** The most stringent water quality criterion for cyanide applicable to the discharge is 1.0 µg/L, which is both the chronic and acute criterion from the NTR for the protection of aquatic life in the San Francisco Bay.

ii. **RPA Results.** From January 2002 through November 2005, the MEC of cyanide was 4.7 µg/L. Because the MEC exceeds the most stringent applicable criterion of 1.0 µg/L, there is reasonable potential for the discharge to cause or contribute to exceedances of applicable WQC (Trigger 1), and this Order establishes effluent limitations for cyanide.

iii. **Cyanide WQBELs.** The cyanide WQBELs calculated according to SIP procedures are 6.4 µg/L as MDEL and 3.2 µg/L as AMEL. A dilution credit of 10:1 was incorporated into the calculation of WQBELs.

iv. **Plant Performance and Attainability.** During the period January 2002 through November 2005, the Discharger's effluent concentrations were in the range of <0.6 µg/L to 4.7 µg/L (41 samples). The Discharger's Infeasibility Analysis asserts the Discharger cannot immediately comply with these WQBELs for cyanide. A statistical analysis of the effluent data was conducted, and the Regional Water Board concurs with the Discharger's assertion of infeasibility to comply with these final cyanide WQBELs. Based on State Water Board Order WQ 2007-0004, the Regional Water Board has no authority to grant a compliance schedule for cyanide in this Order. Because there is threatened violation of the WQBELs, a Cease and Desist Order specifying corrective measures is appropriate and is proposed concurrent with this Order.

v. **Alternate Effluent Limits for Cyanide.** As described in *Draft Staff Report on Proposed Site-Specific Water Quality Objectives and Effluent Limit Policy for Cyanide for San Francisco Bay*, dated November 10, 2005, the Regional Water Board is proposing to develop site-specific criteria for cyanide. In this report, the proposed site-specific criteria for marine waters are 2.9 µg/L as a four-day average and 9.4 µg/L as a one-hour average. Based on the Discharger's current cyanide data, final WQBELs for cyanide would be 42 µg/L as an MDEL and 21 µg/L as an AMEL. These alternative limits will become effective only if the site-specific objective adopted for cyanide contains the same assumptions in the staff report, dated November 10, 2005. Based on the Discharger's performance data, they can comply with these alternate effluent limits.

vi. **Antibacksliding.** The previous permit did not specify final WQBELs for cyanide and only contained an interim effluent limitation of 25 µg/L as a daily maximum. Therefore, there is no backsliding because the limits in this Order are more stringent than the previous Order.

(6) Dioxin-TEQ

i. **WQOs for Dioxin-TEQ**

a) The Basin Plan contains a narrative WQO for bioaccumulative substances:

"Many pollutants can accumulate on particulates, in sediments, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered."

This narrative WQO applies to dioxin and furan compounds, based in part on the consensus of the scientific community that these compounds associate with particulates, accumulate in sediments, and bioaccumulate in the fatty tissue of fish and other organisms.

b) USEPA's 303(d) listing determined that the narrative objective for bioaccumulative pollutants was not met in San Francisco Bay because of the levels of dioxins and furans in fish tissue.

c) The CTR establishes a numeric human health WQC of 0.014 picogram per liter (pg/L) for 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (2,3,7,8-TCDD) based on consumption of aquatic organisms. The preamble of the CTR states that California NPDES permits should use toxicity equivalents (TEQs) where dioxin-like compounds have a reasonable potential with respect to narrative criteria. In USEPA's National Recommended WQOs, December 2002, USEPA published the 1998 World Health Organization Toxicity Equivalence Factor (TEF)[1] scheme. In addition, the CTR preamble states USEPA's intent to adopt revised WQC guidance subsequent to their health reassessment for dioxin-like compounds. The SIP applies to all toxic pollutants, including dioxins and furans. Staff used TEQs to translate the narrative Basin Plan WQO to a numeric WQC for the 16 dioxin congeners.

ii. **RPA Results.** From 2002 through 2004, the MEC of dioxin-TEQ was 2.27×10^{-7} µg/L. Because the MEC exceeds the most stringent applicable objective of 1.4×10^{-8} µg/L, there is reasonable potential for the discharge to cause or contribute to exceedances of applicable water quality criteria (Trigger 1), and this Order establishes effluent limitations for dioxin-TEQ.

iii. **Dioxin Final Effluent Limits.** Final WQBELs for dioxin-TEQ, calculated according to methods presented in Section 1.4 of the SIP, are 2.8×10^{-8} and 1.4×10^{-8} µg/L as MDEL and AMEL, respectively. Dioxin-TEQ is a bioaccumulative pollutant, and therefore credit for dilution cannot be justified in developing effluent limitations. These final effluent limits will become effective on September 1, 2017. The Regional Water Board may amend these limits based on new information or a TMDL.

[1] The 1998 WHO scheme includes TEFs for dioxin-like PCBs. Since dioxin-like PCBs are already included within "Total PCBs," for which the CTR has established a specific standard, dioxin-like PCBs are not included in this Order's version of the TEF scheme.

iv. **Plant Performance and Attainability.** During 2002 through 2004, the Discharger's effluent concentrations for dioxin-TEQ were in the range of 4.85×10^{-8} µg/L to 2.27×10^{-7} µg/L (6 samples). The Discharger's Infeasibility Analysis asserts the Discharger cannot immediately comply with these WQBELs for dioxin-TEQ. Due to limited data, it is not possible to perform a meaningful statistical analysis to determine compliance feasibility. Since the MEC exceeds the AMEL, Regional Water Board staff concurred with the Discharger's assertion.

v. **Antibacksliding.** The previous permit did not include a dioxins effluent limit; therefore, antibacksliding requirements are satisfied.

(7) Bis (2-ethylhexyl) phthalate (BEHP)

i. **BEHP WQC.** The most stringent applicable WQC for bis (2-ethylhexyl) phthalate or BEHP is 5.9 µg/L, which is from the CTR for the protection of human health, when organisms only (not water) are consumed from the receiving water.

ii. **RPA Results.** From 2002 through 2005, the MEC of BEHP was 8.8 µg/L. Because the MEC exceeds the most stringent applicable criterion of 5.9 µg/L, there is reasonable potential for the discharge to cause or contribute to exceedances of applicable water quality criteria (Trigger 1), and this Order establishes effluent limitations for BEHP.

iii. **WQBELs.** The final WQBELs for BEHP calculated according to SIP procedures are 110 µg/L as MDEL and 54 µg/L as AMEL. A dilution credit of 10:1 was incorporated into the calculation of WQBELs.

iv. **Plant Performance and Attainability.** During the period 2002 through 2004, the Discharger's BEHP effluent concentrations were in the range of 2 µg/L to 8.8 µg/L (6 samples). Since there are limited data to perform a meaningful statistical analysis to determine compliance attainability, a direct comparison between the MEC and AMEL was conducted. Since the MEC does not exceed the AMEL, it is expected that the Discharger can comply with these final effluent limitations.

v. **Antibacksliding.** The previous permit did not include a BEHP effluent limit; therefore, antibacksliding requirements are satisfied.

(8) Total Ammonia

i. **Ammonia WQC**. The Basin Plan contains WQOs for un-ionized ammonia of 0.025 milligrams per liter (mg/L) as an annual median, 0.16 mg/L as a maximum north of the Golden Gate Channel, and 0.4 mg/L as a maximum south of the Golden Gate Channel. The WQOs are translated from un-ionized ammonia objectives to equivalent total

ammonia concentrations (as nitrogen), since sampling and lab methods are not available to analyze for un-ionized ammonia and because the fraction of total ammonia that is converted to the toxic un-ionized form is dependent on pH, salinity and temperature of the receiving water.

To translate the Basin Plan unionized ammonia objective, Regional Water Board staff used pH, salinity and temperature from March 1993 to August 2003 from the Richardson Bay station, the closest Regional Monitoring Program (RMP) station to the outfall. The following equations for estuarine and marine waters are used to determine the percentage of total ammonia in a discharge that will be converted to the toxic un-ionized phase in receiving waters (U.S. EPA. 1989. *Ambient Water Quality Criteria for Ammonia (Saltwater)–1989*. EPA Publication No. 440/5-88-004).

For salinity > 10 ppt: fraction of $NH_3 = 1/1+10^{(pk-pH)}$

Where:

pK = 9.245 + 0.116*(I) + 0.0324*(298-T) + 0.0415*(P)/(T+273)
I = the molal ionic strength of saltwater
= 19.9273*(S)/(1000-1.005109*S)
S = Salinity (parts per thousand)
T = temperature in °C
P = Pressure (one atmosphere)

To convert the chronic un-ionized ammonia WQO to an equivalent total ammonia concentration, the median un-ionized ammonia fraction at Richardson Bay station was used. To convert the acute un-ionized ammonia WQO to an equivalent total ammonia concentration, the 90th percentile un-ionized ammonia fraction at Richardson Bay station was used. Using the median and 90th percentile to translate the chronic and acute un-ionized ammonia WQOs for un-ionized ammonia to equivalent total ammonia concentrations is consistent with US Environmental Protection Agency (U.S. EPA) Guidance on translating dissolved metal WQOs to total recoverable metal WQOs (U.S. EPA. 1996. *The Metals Translator: Guidance for Calculating a Total Recoverable Limit from a Dissolved Criterion*, EPA Publication Number 823-B-96-007). The equivalent total ammonia acute and chronic concentrations are 4.93 mg/L and 1.27 mg/L, respectively.

ii. **RPA Results**. The SIP methodology was used to perform the RPA and to calculate effluent limitations, which is consistent with the methodology to calculate WQBELs for other toxic pollutants. To set limits for toxic pollutants (section 4.5.5.2), the Basin Plan indicates that water quality-based effluent limits shall be calculated according to this SIP. As Section 3.3.20 of the Basin Plan refers to ammonia as a toxic pollutant, the use of the SIP to determine and establish limits for ammonia is consistent with the Basin Plan. This Order establishes effluent limitations

for total ammonia, because the MEC of 11.6 mg/L exceeds the applicable water quality criteria for this pollutant, demonstrating reasonable potential by Trigger 1, as defined previously.

iii. **WQBELs**. The total ammonia WQBELs calculated according to SIP procedures are 32 mg/L as MDEL and 12.3 mg/L as AMEL. To calculate limits based on the chronic aquatic life criterion, statistical adjustments were conducted, because the Basin Plan's value is based on an annual median instead of a 4-day average. For chronic criterion, the SIP assumes a monthly sampling frequency of 4 days per month to calculate effluent limits. To use the SIP methodology to calculate effluent limits for a Basin Plan objective that is based on an annual median, an averaging period of 365 days and a monitoring frequency of 30 days per month are used. These statistical adjustments are supported by U.S. EPA's *Water Quality Criteria; Notice of Availability; 1999 Update of Ambient Water Quality Criteria for Ammonia;* published on December 22, 1999, in the Federal Register.

Following SIP methodology as guidance, the maximum ambient background total ammonia concentration was used to calculate effluent limits based on the acute criterion. For chronic criterion calculation, the median background total ammonia concentration was used because the Basin Plan's chronic un-ionized ammonia objective is an annual median. It is more representative to use the central tendency of ambient conditions than a daily maximum since the time-scale of this objective is over such a long period.

The newly calculated limitations are being established as final effluent limitations for total ammonia. Although a dilution credit of 10 to 1 was incorporated into the calculation of the final WQBELs, it is the opinion of Regional Water Board staff that these ammonia limitations are overly protective as described in section IV.C.4.b of this Fact Sheet.

(d) **Plant Performance and Attainability.** Statistical analysis of effluent data for total ammonia, collected over the period of January 2002 through March 2007, shows that immediate compliance with final effluent limitations for total ammonia is feasible, and final effluent limitations will become effective upon adoption of this Order.

D. Interim Effluent Limitations

1. SIP and Basin Plan Compliance Schedule Requirements

The SIP and the Basin Plan authorize compliance schedules in a permit if an existing discharger cannot immediately comply with new and more stringent objectives. Compliance schedules for limitations derived from CTR WQC are based on Section 2.2 of the SIP, and compliance schedules for limitations derived from Basin Plan narrative objectives are based on the Basin Plan. Both the SIP and the Basin Plan require the discharger to demonstrate the infeasibility of

achieving immediate compliance with the new limitation to qualify for a compliance schedule. The SIP and Basin Plan require the following documentation to be submitted to the Regional Water Board to support a finding of infeasibility:

- Descriptions of diligent efforts the Discharger has made to quantify pollutant levels in the discharge, sources of the pollutant in the waste stream, and the results of those efforts.
- Descriptions of source control and/or pollutant minimization efforts currently under way or completed.
- A proposed schedule for additional or future source control measures, pollutant minimization, or waste treatment.
- A demonstration that the proposed schedule is as short as practicable.

The Basin Plan provides for a 10-year compliance schedule to implement measures to comply with new standards as of the effective date of those standards. This provision applies to objectives adopted in the 2004 Basin Plan Amendment. Additionally, the provision authorizes compliance schedules for new interpretations of other existing standards if the new interpretation results in more stringent limitations. The basis for compliance schedules is given in **Appendix F-4** of this Fact Sheet.

2. Feasibility Evaluation

On March 15, 2007, the Discharger submitted an infeasibility analysis (**Attachment F-6**), asserting it is infeasible to immediately comply with the WQBELs, calculated according to SIP Section 1.4, for mercury, cyanide, and dioxin-TEQ. Regional Water Board staff performed statistical analysis using self-monitoring data from January 2002 through September 2006 to compare the mean, 95th percentile, and 99th percentile with the long-term average (LTA), AMEL, and MDEL, respectively, to confirm if it is feasible for the Discharger to comply with the WQBELs. If any LTA, AMEL, or MDEL exceed the mean, 95th percentile, or 99th percentile, respectively, the infeasibility for the Discharger to comply with WQBELs is confirmed statistically. When a statistical analysis is not meaningful due to lack of data, or due to lack of appropriate distribution fit to the effluent data, a direct comparison between MEC and AMEL is made; infeasibility is confirmed when the MEC is greater than the AMEL. If infeasibility is confirmed, interim effluent limitations are established. The table below shows these comparisons in μg/L. Immediate compliance is infeasible for mercury, cyanide, and dioxin-TEQ.

Table F-11. Summary of Feasibility Analysis

Pollutants	Mean vs. LTA	95th vs. AMEL	99th vs. MDEL	Feasible to Comply	Distribution
Copper	14<61	19<72	22<98	Yes	Normal
Copper (alternate)	14<45	19<53	22<77	Yes	Normal
Mercury	0.019>0.014	0.031>0.021	0.040 = 0.040	No	Lognormal
Silver	1.2<5.7	2.8<9.8	3.4<22	Yes	Normal
Zinc	--	133<449	146<858	Yes	Normal
Cyanide	0.5<2.0	4.2>3.1	6.1<6.4	No	Lognormal
Cyanide (alternate)	0.5<13	4.2<21	6.1<42	Yes	Lognormal
Dioxin-TEQ	---	MEC=2.27E-7>AMEL=1.4E-8		No	No fit
Bis (2-exhylhexyl) phthalate	---	MEC=8.8<AMEL=54		Yes	No fit
Total Ammonia	---	MEC=11.6<AMEL=12.3		Yes	No fit

3. Compliance Schedule and Interim Effluent Limitations

This Order establishes a 10-year compliance schedule for dioxin-TEQ. The final limitations will become effective on September 1, 2017 or when a TMDL for dioxin-TEQ is adopted. An interim limitation is not established by this Order because effluent data are insufficient to statistically determine an interim limitation for this pollutant, and the Minimum Levels (MLs) developed for 2,3,7,8-TCDD and the 16 congeners (referred to as dioxins) by the Regional Water Board and BACWA, which range from 5 pg/L to 50 pg/L, are higher than the WQBELs. An interim limitation may be calculated and established as a discharge limitation when sufficient data for dioxin-TEQ are available.

4. Whole Effluent Acute Toxicity

a. **Permit Requirements.** This Order includes effluent limits for whole-effluent acute toxicity that are unchanged from the previous Order. All bioassays are to be performed according to the U.S. EPA approved method in 40 CFR 136, currently "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, 5th Edition." The Discharger is required to use the 5th Edition method for compliance determination upon the effective date of this Order. Test species can be fathead minnow or rainbow trout.

b. **Compliance History.** The Discharger's acute toxicity monitoring data show that there was no exceedance of the effluent limitations during 2002-2006, with fish survival rates ranging between 95-100% for fathead minnow.

c. **Ammonia Toxicity.** If acute toxicity is observed in the future and the Discharger believes that it is due to ammonia toxicity, this has to be shown through a Toxicity Identification Evaluation (TIE) acceptable to the Executive Officer. If the Discharger demonstrates to the satisfaction of the Executive Officer that exceedance of the acute toxicity limits is caused by ammonia and

the Discharger has not violated the permit limits for ammonia, then such toxicity does not constitute a violation of this effluent limit. If ammonia toxicity is verified in the TIE, the Discharger may utilize a pH adjustment protocol approved by the Executive Officer for the routine bioassay testing.

5. Whole Effluent Chronic Toxicity

a. **Permit Requirements.** This permit includes requirements for chronic toxicity monitoring based on the Basin Plan narrative toxicity objective, and in accordance with U.S. EPA and State Water Board Task Force guidance and BPJ. This permit includes the Basin Plan narrative toxicity objective as the applicable effluent limit, implemented via monitoring with numeric values as a "trigger" to initiate accelerated monitoring and to initiate a chronic toxicity reduction evaluation (TRE) as necessary. The permit requirements for chronic toxicity are also consistent with the CTR and SIP requirements.

b. **Chronic Toxicity Triggers.** This Order includes a chronic toxicity trigger, which is a single sample maximum of 10 TUc, based on the sampling frequency requirement (once during the permit term).

c. **Monitoring History.** The Discharger performed two chronic toxicity tests in January and May 2006. The test species is *Mysidopsis bahia*. Test results show survival TUs of 2 and growth TUc of 1.0 and 1.1 TUc, respectively.

d. **Screening Phase Study.** The Discharger requested through a letter dated March 10, 2003, to be exempted from performing a chronic toxicity screening test for the identification of most sensitive specifies; instead, it requested to use the Sausalito/Marin City Sanitary District's (SMCSD) test species, *Mysidopsis bahia*, for routine monitoring. By a letter dated December 21, 2005, the Regional Water Board approved this request. However, the Discharger is relying upon a discharger who treats less influent flow; SMCSD's last screening test was performed in 2001, which is more than four years ago. The Regional Water Board has exempted SMCSD from doing a new screening test for their recent NPDES permit renewal application; therefore, a new screening test will be required for the next permit renewal in about 5 years for both SASM and SMCSD. SASM may need to perform this test and share results with SMCSD and other neighboring wastewater dischargers. The arrangement may be determined between SASM and the other dischargers in the area.

e. **Permit Reopener.** The Regional Water Board will consider amending this permit to include numeric toxicity limits if the Discharger fails to aggressively implement all reasonable control measures included in its approved TRE workplan following detection of consistent significant non-artifactual toxicity.

6. Mercury Mass Emission Limitation

This Order includes performance-based mercury mass effluent limitation of 0.011 kg/month. This performance-based mass effluent limitation is intended to maintain

the discharge at current loadings. The mass limitation is calculated using the ultra-clean data collected from January 2002 through September 2006 as they better reflect the Discharger's performance. The recalculated mass limit is a reflection of better mercury effluent data (sampling and analytical techniques have improved) (see **Appendix F-5** for the mercury mass limitation calculation). The mass limit will maintain current loadings until a TMDL is established for San Francisco Bay. The final mercury effluent limitations will be based on the Discharger's WLA in the TMDL.

The inclusion of mass limits is consistent with 40 CFR 122.45(f). Because of mercury's bioaccumulative nature, an uncontrolled increase in the total mass load in the receiving water could have significant adverse impacts on the aquatic ecosystem.

E. Land Discharge Specifications

N/A

F. Reclamation Specifications

N/A

G. Antidegradation Analysis

The permitted discharge is consistent with the antidegradation provision of 40 CFR 131.12 and State Water Board Resolution 68-16, and the final limitations in this Order are in compliance with antidegradation requirements and meet the requirements of the SIP because these limits hold the Discharger to performance levels that will not cause or contribute to water quality impairment or further water quality degradation. This is because this Order does not provide for an increase in the permitted design flow, allow for a reduction in the level of treatment, or increase effluent limitations with the exception of cyanide and copper.

In the case of cyanide, this Order establishes a more stringent interim limit than the previous permit; however, alternate limits based on site-specific objectives will be higher than the interim limit if the site-specific objectives for cyanide become effective during the permit term. The standards setting process for cyanide addressed antidegradation, and therefore, the alternate limits based on the site-specific objectives are also consistent with antidegradation policies. Further, an analysis in this permit is unnecessary. This Order continues the status quo with respect to the level of discharge authorized in the previous permit. As stated in Provision VI.C.4, an action plan for cyanide will be implemented if and when the cyanide alternate limits become effective to prevent any possible water quality degradation. Thus, there will be no change in water quality beyond the level that was authorized in the last permit, and findings justifying degradation are unnecessary.

For copper, this Order establishes final WQBELs, whereas the previous permit included an interim limit. The WQBELs are based on site-specific translators developed since the previous permit. Although the final WQBELs are above the

previous interim limitation, the concentration of copper discharges is unlikely to change because the Discharger proposes no changes to its treatment process. The Discharger will maintain its current treatment performance for copper because it cannot manipulate its processes to adjust effluent copper levels independently of other treatment parameters. To maintain compliance with other effluent limits, the Discharger will maintain its current performance with respect to copper. Moreover, pollution minimization requirements are designed to maintain current performance.

This Order establishes alternate limits for copper based on site-specific objectives that are more stringent than the final WQBELs. These limits will become effective if the site-specific objectives are adopted during the permit term. Like cyanide, the standards setting process for copper addressed antidegradation, and therefore, an analysis in this permit is unnecessary. As stated in Provision VI.C.5, an action plan for copper will be implemented if and when the copper alternate limits become effective to prevent any possible water quality degradation.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

1. Receiving Water Limitations V.A.1 through V.A.3 (conditions to be avoided). These limitations are based on the narrative/numerical objectives contained in Chapter 3 of the Basin Plan. These limitations are identical to the previous permit except for ammonia, which in this Order, has been converted into an effluent limit in accordance with State Water Board Order WQ 2007-0004.

2. Receiving Water Limitations V.A.4 (compliance with State Law). This requirement is in the previous permit, requires compliance with Federal and State law, and is self-explanatory.

B. Groundwater

N/A

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

The principal purposes of a monitoring program by a discharger are to:

1. Document compliance with waste discharge requirements and prohibitions established by the Regional Water Board,

2. facilitate self-policing by the discharger in the prevention and abatement of pollution arising from waste discharge,

3. develop or assist in the development of limitations, discharge prohibitions, national standards of performance, pretreatment and toxicity standards, and other standards, and

4. prepare water and wastewater quality inventories.

Section 122.48 of 40 CFR requires all NPDES permits to specify recording and reporting of monitoring results. Sections 13267 and 13383 of the California Water Code authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program, **Attachment E** of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

The MRP is a standard requirement in almost all NPDES permits issued by the Regional Water Board, including this Order. It contains definitions of terms, specifies general sampling and analytical protocols, and sets out requirements for reporting of spills, violations, and routine monitoring data in accordance with NPDES regulations, the California Water Code, and Regional Water Board's policies. The MRP also contains a sampling program specific for this Facility. It defines the sampling stations and frequency, the pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all parameters for which effluent limitations are specified. Monitoring for additional constituents, for which no effluent limitations are established, is also required to provide data for future completion of RPAs for them.

A. Influent Monitoring

Flow, BOD and TSS monitoring are the same as in the previous permit.

B. Effluent Monitoring

1. Monitoring requirements for flow and conventional pollutants are the same, except there is no longer settleable matter monitoring due to the removal of this effluent limit.

2. The MRP establishes routine monitoring for toxics with effluent limitations established by this Order (copper, mercury, silver, cyanide, zinc, dioxin-TEQ, and bis (2-ethylhexyl) phthalate).

3. The MRP requires the Discharger to sample for all other priority pollutants according the Board's August 6, 2001 Letter, twice per year for inorganics and once per year for organics.

4. The MRP requires routine monitoring for acute bioassay and chronic toxicity.

C. Receiving Water Monitoring

1. Surface Water

There is no specific surface water monitoring requirement in the MRP. Because the Regional Monitoring Program (RMP), which the Discharger is participating in, is collecting receiving water samples, the Discharger is relieved of taking any receiving water samples as part of this permit unless so directed by the Executive Officer. However, for those constituents required to be sampled by the SIP and not sampled by the RMP, the Discharger is responsible for providing these data to the Regional Water Board. This may occur either through participation in new

RMP special studies or through equivalent studies conducted jointly with other dischargers.

2. Groundwater

N/A

D. Other Monitoring Requirements

N/A

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which, in accordance with 40 CFR 122.41 - 122.42, apply to all NPDES discharges and must be included in every NPDES permit, are provided in **Attachments D** and **H** of this Order.

B. Monitoring and Reporting Requirements

The Discharger is required to conduct monitoring of the permitted discharges in order to evaluate compliance with permit conditions. Monitoring requirements are contained in the MRP (**Attachment E**), Standard Provisions and SMP, Part A (**Attachment G)** of the Permit. This provision requires compliance with these documents, and is based on 40 CFR 122.63. The Standard Provisions and SMP, Part A are standard requirements in almost all NPDES permits issued by the Regional Water Board, including this Order. They contain definitions of terms, specify general sampling and analytical protocols, and set out requirements for reporting of spills, violations, and routine monitoring data in accordance with NPDES regulations, the California Water Code, and Regional Water Board's policies. The MRP contains a sampling program specific for the facility. It defines the sampling stations and frequency, the pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all parameters for which effluent limitations are specified. Monitoring for additional constituents, for which no effluent limitations are established, is also required to provide data for future completion of RPAs.

C. Special Provisions

1. Reopener Provisions

These provisions are based on 40 CFR 123 and allow future modification of this Order and its effluent limitations as necessary in response to updated WQOs that may be established in the future.

2. Special Studies and Additional Monitoring Requirements

a. **Effluent Characterization for Selected Constituents.** This Order includes effluent limitations and routine monitoring requirements for toxic pollutants that are present in effluent at levels that will cause, have the reasonable potential to

cause, or contribute to an excursion above any State water quality standard. Monitoring for other toxic pollutants is required to provide on-going characterization of the discharges from the facility so that effluent limitations can be established, if necessary. The Discharger is required to monitor its effluent pursuant to the Board's August 6, 2001 Letter, with the sampling frequency specified by this Order.

b. **Ambient Background Monitoring.** This provision, to continue to conduct receiving water monitoring, will provide on-going characterization of the receiving water and is based on the previous Order and the Basin Plan.

c. Mass offset. This option is provided to encourage the Discharger to implement aggressive reduction of mass loads to the receiving water.

3. Pollution Minimization

a. **Pollution Minimization.** This provision is based on Chapter 4 of the Basin Plan and Section 2.4.5 of the SIP.

Additionally, on October 15, 2003, the Regional Water Board adopted Resolution R2-2003-0096 in support of a collaborative working approach between the Regional Water Board and the Bay Area Clean Water Agencies to promote Pollution Minimization Program development and excellence. Specifically, the Resolution embodies a set of eleven guiding principles that will be used to develop tools such as "P2 menus" for specific pollutants, as well as provide guidance in improving P2 program efficiency and accountability. Key principles in the Resolution include promoting watershed, cross-program and cross-media approaches to pollution prevention, and jointly developing tools to assess program performance that may include peer reviews, self-audits or other formats.

4. Construction, Operation, and Maintenance Specifications

a. Wastewater Facilities, Review and Evaluation, Status Reports. This provision is based on the previous permit and the Basin Plan.

b. Operations and Maintenance Manual, Review and Status Reports. This provision is based on the Basin Plan, the requirements of 40 CFR §122, and the previous permit.

c. Contingency Plan, Review and Status Reports. This provision is based on the Basin Plan, the requirements of 40 CFR §122, and the previous permit.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. Sludge Management Practices Requirements. This provision is based on the Basin Plan (Chapter IV) and 40 CFR §257 and §503.

b. **Sanitary Sewer Overflows and Sewer System Management Plan.** This provision is to explain the Order's requirements as they relate to the Discharger's collection system, and to promote consistency with the State Water Resources Control Board adopted Statewide General Waste Discharge Requirements for Sanitary Sewer Overflow (SSO WDRs) and a related Monitoring and Reporting Program (Order No. 2006-0003-DWQ).

c. **No Feasible Alternatives Analysis.** This provision is based on 40 CFR 122.41(m)(4) and US EPA's Peak Wet Weather Policy (December 2005).

VIII. PUBLIC PARTICIPATION

The San Francisco Bay Regional Water Board is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for SASM. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the Marin Independent-Journal, on June 11, 2007.

B. Written Comments

Staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments should be submitted either in person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order, Attention Heather Ottaway.

To be fully responded to by staff and considered by the Regional Water Board, written comments should be received at the Regional Water Board offices by 5:00 p.m. on July 10, 2007**.**

C. Public Hearing

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: August 8, 2007
Time: 9:00 a.m.
Location: Elihu Harris State Office Building
1515 Clay Street
Oakland, CA
1st floor Auditorium

Contact: Ms. Heather Ottaway, Phone: (510)622-2116; email: HOttaway@waterboards.ca.gov

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our web address is www.waterboards.ca.gov/sanfranciscobay where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

E. Information and Copying

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (510) 622-2300.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Ms. Heather Ottaway at (510) 622-2116, or by e-mail at HOttaway@waterboards.ca.gov .

IX. APPENDICES

Appendix F-1: Effluent Data for Priority Pollutants (not attached due to large size)
Appendix F-2: RPA Results for Priority Pollutants (not attached due to large size)
Appendix F-3: Calculation of Final WQBELs
Appendix F-4: Mercury Mass Limit Calculation
Appendix F-5: Discharger's Feasibility Analysis

Appendix F-3: Calculation of Final WQBELs

PRIORITY POLLUTANTS	Copper		Mercury	Silver	Zinc	Cyanide		Dioxin TEQ	Bis(2-Ethylhexy) Phthalate
Basis and Criteria type	CTR SW	SSOs (Dec 04)	BP SW	BP & CTR SW	BP & CTR SW	NTR	SSOs (Nov 05)	BP	CTR
Aquatic Criteria -Acute	4.8	-----	2.1	2.2	95	1.0	9.4	-----	-----
Aquatic Criteria -Chronic	3.1	-----	0.025	-----	86	1.0	2.9	-----	-----
SSO Criteria -Acute (Diss.)	-----	3.9							
SSO Criteria -Chronic (Diss.)	-----	2.5							
Water Effects ratio (WER)	2.4	2.4							
Site Specific Translator - MDEL	0.88	0.88							
Site Specific Translator - AMEL	0.74	0.74							
Human Health Criteria			0.051			220,000	220,000	1.4E-08	5.9
Dilution Factor (D) (if applicable)	9	9	0	9	9	9	9	0	9
No. of samples per month	4	4	4	4	4	4	4	4	4
Aquatic life criteria analysis required? (Y/N)	Y	Y	Y	Y	Y	Y	Y	N	N
HH criteria analysis required? (Y/N)	N	N	Y	N	N	Y	Y	Y	Y
Applicable Acute WQO	13	11	2.1	2.2	95	1	9.4		
Applicable Chronic WQO	10	8.1	0.025		86	1	2.9		
HH criteria	-----	-----	0.051			220,000	220,000	1.40E-08	5.9
Background (Maximum Conc for Aquatic Life calc)	2.55	2.55	0.0086	0.052	5.1	0.4	0.4	7.10E-08	0.67
Background (Average Conc for Human Health calc)	-----		0.0022			0.4	0.4	5.00E-08	0.55
Is the pollutant Bioaccumulative(Y/N)? (e.g., Hg)	N	N	Y	N	N	N	N	Y	N
ECA acute	108	83	2.1	22	905	6.4	90		
ECA chronic	78	58	0.025	No WQC	810	6.4	25		
ECA HH			0.051			2199996	2199996	1.40E-08	54
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	N	N	N	N	N	N	N	Y	Y
Avg of effluent data points	14	14	0.019	1.2	100	1.9	1.9		
Std Dev of effluent data points	3.1	3.1	0.010	0.93	20	1.2	1.2		
CV calculated	0.22	0.22	0.54	0.76	0.20	0.63	0.63	N/A	N/A
CV (Selected) - Final	0.22	0.22	0.54	0.76	0.20	0.63	0.63	0.60	0.60
ECA acute mult99	0.62	0.62	0.349	0.263	0.647	0.31	0.31		
ECA chronic mult99	0.78	0.78	0.558	0.457	0.799	0.51	0.51		
LTA acute	66.94	51.72	0.733	5.747	585.634	1.97	27.83		
LTA chronic	60.62	45.42	0.014		647.566	3.28	13.02		
minimum of LTAs	60.62	45.42	0.014	5.747	585.634	1.97	13.02		
AMEL mult95	1.19	1.19	1.50	1.71	1.17	1.58	1.58	1.55	1.55
MDEL mult99	1.61	1.61	2.86	3.81	1.55	3.25	3.25	3.11	3.11
AMEL (aq life)	72.06	53.98	0.02	9.80	685.30	3.12	20.60		
MDEL(aq life)	97.76	73.24	0.04	21.88	905.47	6.40	42.29		
MDEL/AMEL Multiplier	1.36	1.36	1.91	2.23	1.32	2.05	2.05	2.01	2.01

AMEL (HH)			0.051			2199996.4	2199996.4	1.4E-08	54.05
MDEL (HH)			0.098			4516551.6	4516551.6	2.8E-08	108.4
minimum of AMEL for Aq. life vs HH	72	54	0.021	9.8	685	3.1	21	1.4E-08	54
minimum of MDEL for Aq. Life vs HH	98	73	0.040	22	905	6.4	42	2.8E-08	108
Current limit in permit (30-day average)	-----	-----	0.087 (interim)(1)	-----	449	-----	-----	-----	-----
Current limit in permit (daily maximum)	29 (interim)	29 (interim)	1.0 (interim)	-----	858	25 (interim)	25 (interim)	-----	-----
Final limit - AMEL	72	54	0.021	9.8	449	3.1	21	1.4E-08	54
Final limit - MDEL	98	73	0.040	22	858	6.4	42	2.8E-08	110
Max Effl Conc (MEC)	21	21	0.079	3.3	140	4.7	4.7	2.27E-07	8.8

Ammonia mg/L

Basis and Criteria type	BP SW Aquatic Life	BP SW Aquatic Life
CTR Criteria -Acute	4.65	
CTR Criteria -Chronic		1.19
Lowest WQO	4.65	1.19
Dilution Factor (D) (if applicable)	9	9
No. of samples per month	4	30
Aquatic life criteria analysis required? (Y/N)	Y	Y
HH criteria analysis required? (Y/N)	N	N
Applicable Acute WQO	4.65	1.19
Applicable Chronic WQO		
Background (Maximum Conc for Acute Aquatic Life calc)	0.17	
Background (Median Conc for Chronic Aquatic Life calc)		0.09
Is the pollutant Bioaccumulative(Y/N)? (e.g., Hg)	N	N
ECA acute	44.97	
ECA chronic		11.09
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	N	N
Avg of effluent data points	4.1000	0.0041
Std Dev of effluent data points	0.0024	0.0024
CV calculated	0.60	0.60
CV (Selected) - Final	0.60	0.60
ECA acute mult99	0.32	
ECA chronic mult99		0.93
LTA acute	14.53	
LTA chronic		10.32
minimum of LTAs	14.53	10.32
AMEL mult95	1.55	1.19
MDEL mult99	3.09	3.09
AMEL (aq life)	22.50	12.26
MDEL(aq life)	44.97	31.93
MDEL/AMEL Multiplier	2.00	2.60
minimum of AMEL for Aq. life vs HH	22.50	12.26
minimum of MDEL for Aq. Life vs HH	44.97	31.93
Current limit in permit (30-day average)	-----	-----
Current limit in permit (daily maximum)	-----	-----
Final limit - AMEL	22.50	12.26
Final limit - MDEL	44.97	31.93
Max Effl Conc (MEC)	11.60	11.60

Appendix F-4: Mercury Mass Limit Calculation

Date	Flow (MGD)	Hg (ug/L)	Monthly mass loading (kg/mo)	12-month MA (kg/mo)	ln(MA)
1/1/2006	4.58	0.022	0.0116		
Feb-06	4.19	0.02	0.0097		
Mar-06	3.89	0.024	0.0108		
Apr-06	2.84	0.021	0.0069		
May-06	2.79	0.017	0.0055		
Jun-06	2.67	0.015	0.0046		
Jul-06	2.49	0.033	0.0095		
Aug-06	2.48	0.028	0.0080		
Sep-06	2.50	0.015	0.0043		
Oct-06	2.44	0.026	0.0073		
Dec-06	6.97	0.018	0.0144		
Jan-07	4.66	0.015	0.0080	0.0084	-4.7826
Feb-07	3.62	0.021	0.0087	0.0081	-4.8113
Mar-07	3.09	0.014	0.0050	0.0077	-4.8603
Apr-07	3.13	0.014	0.0050	0.0073	-4.9237
May-07	3.00	0.017	0.0059	0.0072	-4.9353
Jun-07	2.55	0.013	0.0038	0.0071	-4.9545
Jul-07	2.48	0.029	0.0083	0.0074	-4.9121
Aug-07	2.44	0.018	0.0051	0.0070	-4.9633
Sep-07	2.44	0.019	0.0053	0.0068	-4.9953
Oct-07	2.31	0.018	0.0048	0.0068	-4.9895
Nov-07	2.69	0.014	0.0043	0.0066	-5.0266
Dec-07	5.47	0.014	0.0088	0.0061	-5.1007
Jan-08	4.21	0.015	0.0073	0.0060	-5.1113
Feb-08	5.40	0.015	0.0093	0.0061	-5.1033
Mar-08	2.99	0.013	0.0045	0.0060	-5.1103
Apr-08	2.50	0.02	0.0058	0.0061	-5.1004
May-08	2.42	0.014	0.0039	0.0059	-5.1278
Jun-08	1.96	0.016	0.0036	0.0059	-5.1305
Jul-08	2.37	0.012	0.0033	0.0055	-5.2038
Aug-08	2.31	0.079	0.0210	0.0068	-4.9874
Sep-08	2.26	0.012	0.0031	0.0066	-5.0149
Oct-08	2.63	0.011	0.0033	0.0065	-5.0334
Nov-08	2.79	0.012	0.0039	0.0065	-5.0396
Dec-08	5.21	0.014	0.0084	0.0064	-5.0450
Jan-09	4.93	0.014	0.0079	0.0065	-5.0363
Feb-09	4.56	0.023	0.0121	0.0067	-5.0017
Mar-09	4.86	0.033	0.0185	0.0079	-4.8419
Apr-09	3.26	0.019	0.0071	0.0080	-4.8276
May-09	2.95	0.017	0.0058	0.0082	-4.8082
Jun-09	2.55	0.012	0.0035	0.0082	-4.8092
Jul-09	2.33	0.011	0.0030	0.0081	-4.8124
Aug-09	2.32	0.015	0.0040	0.0067	-5.0035
Sep-09	2.31	0.011	0.0029	0.0067	-5.0060
Oct-09	2.36	0.013	0.0035	0.0067	-5.0035
Nov-09	2.94	0.013	0.0044	0.0068	-4.9967

Dec-09	7.05	0.029	0.0235	0.0080	-4.8256
Jan-10	5.16	0.02	0.0119	0.0084	-4.7855
Feb-10	4.14	0.016	0.0076	0.0080	-4.8309
Mar-10	6.24	0.031	0.0223	0.0083	-4.7919
Apr-10	4.97	0.019	0.0109	0.0086	-4.7550
May-10	2.54	0.018	0.0053	0.0086	-4.7598
Jun-10	2.38	0.016	0.0044	0.0086	-4.7516
Jul-10	2.26	0.011	0.0029	0.0086	-4.7524
Aug-10	2.23	0.011	0.0028	0.0085	-4.7639
Sep-10	2.22	0.0098	0.0025	0.0085	-4.7681
				Normal distribution	Lognormal distribution
			Average	0.007	-4.938
			Stdev	0.001	0.130
			99.87th % (Mass Limit)	0.010	0.011

Appendix F-5: Discharger's Feasibility Analysis

S A S M
SEWERAGE AGENCY OF SOUTHERN MARIN

A JOINT POWERS AGENCY

- **Almonte S.D.**
- **Alto S.D.**
- **City of Mill Valley**
- **Homestead Valley S.D.**
- **Richardson Bay S.D.**
- **Tamalpais C.S.D.**

March 15, 2007 via email

Regional Water Quality Control Board
San Francisco Region
1515 Clay Street, Suite 1400
Oakland, CA 94612-1404

Attention: Heather Ottaway

Subject: Sewerage Agency of Southern Marin
Infeasibility study

Dear Ms. Ottaway,

Introduction
The following analysis of the feasibility of achieving compliance with projected effluent limits for specific pollutants is provided for the Sewerage Agency of Southern Marin.

BACKGROUND

The Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays and Estuaries of California (known as the State Implementation Policy (SIP))(March, 2000) establishes statewide policy for NPDES permitting. The State Water Board amended the SIP on February 24, 2005 that became effective on May 31, 2005. The SIP provides for the situation where an existing NPDES discharger cannot immediately comply with an effluent limitation derived from a California Toxics Rule (CTR) criterion. The SIP allows for the adoption of interim effluent limits and a schedule to come into compliance with the final limit in such cases. To qualify for interim limits and a compliance schedule, the SIP requires that an existing discharger demonstrate that it is infeasible to achieve immediate compliance with the CTR-based limit.

The term "infeasible" is defined in the SIP as "not capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors."

The SIP requires that the following information be submitted to the Regional Board to support a finding of infeasibility:

(a) documentation that diligent efforts have been made to quantify pollutant levels in the discharge and sources of the pollutant in the waste stream, including the results of those efforts;
(b) documentation of source control and/or pollution minimization efforts currently under way or completed;
(c) a proposed schedule for additional or future source control measures, pollutant minimization or waste treatment; and
(d) a demonstration that the proposed schedule is as short as practicable.

The SIP requires that interim numeric effluent limits be based on (a) current treatment facility performance or (b) limits in the existing permit, which ever is more stringent.

The SIP also requires that compliance schedules be limited to specific time periods, depending on whether the pollutant is on the 303(d) list. For pollutants not on the 303(d) list, the maximum length of the compliance schedule is 5 years from the date of permit issuance. For pollutants on the 303(d) list (where a TMDL is required to be prepared), the maximum length of the compliance schedule is 20 years from the effective date of the SIP (March 2000). To secure the TMDL-based compliance schedule, the discharger must make commitments to support and expedite development of the associated TMDL.

The following analysis pertains to the Tentative Order issued to SASM.

POLLUTANTS OF CONCERN

The pollutants for which interim limits are proposed in the Tentative Order for SASM are as follows:

Cyanide
Mercury
Dioxin-TEQ

The feasibility of SASM achieving immediate and consistent compliance with final limits for these pollutants is evaluated below.

FINAL LIMITS

Regional Board staff has projected the following final effluent limits for the above pollutants. These values are taken from an email to SASM dated February 12, 2007. Values stated below are expressed as µg/L, unless otherwise noted.

The final effluent limits shown below are calculated using procedures described in Section 1.4 of the SIP. Background values (maximum values) were derived from Regional Monitoring Program data collected at two Central Bay stations (Yerba Buena Island and Richardson Bay). Dilution values used in the calculation of final effluent limits were as follows:

(1) dilution = 10:1 for non-bioaccumulative pollutants (copper and cyanide). Note that for cyanide, the dilution credit was eliminated because the ambient water was assumed to exceed the water quality objective of 1.0 µg/L.
(2) dilution = zero for 303(d) listed bioaccumulative pollutants (selenium and mercury)

Other variables in the effluent limit calculation included coefficients of variation for different pollutants in different effluents, and freshwater versus saltwater objectives based on ambient salinity.

Pollutant	AMEL	MDEL
Cyanide	3.1	6.4
Mercury	0.021	0.040
Dioxin	1.4×10^{-8}	2.8×10^{-8}

All values in µg/L.
AMEL: average monthly effluent limit
MDEL: maximum daily effluent limit

SASM Service Area, Wastewater Treatment Plant Capacity And Performance
The SASM service area includes all of the City of Mill Valley, about half of the Town of Tiburon and unincorporated areas in between including Homestead Valley, the Kay Park portion of Tamalpais Valley, Strawberry, Almonte and Alto.

The entire service area is primarily residential in nature. Equivalent Dwelling Units are counted each year for all sewer connections in the SASM service area. Each connection is identified by type (single family home, multiple family, second unit, nonresidential) and a calculation of the number of "equivalent dwelling units" is made for each connection. The most recent count was completed in April 2006 and approved by the SASM Board of Directors on May 17, 2006. This count shows that there are currently 14,414.7 Equivalent Dwelling Units connected to the SASM system (a population of approximately 28,000). Residential connections comprise 88.4% of the connections.

There are no industrial connections. Nonresidential connections comprise 11.6% of the total and include government buildings, schools, rest homes, markets, restaurants, offices, retail stores, dentists, nurseries, bakeries, bars, service stations, hotels, mortuaries, auto repair facilities, and a car wash.

Plant Performance and Attainability

Mercury

Both the Basin Plan and the CTR include objectives and criteria that govern mercury in the receiving water. The Basin Plan specifies objectives for the protection of saltwater aquatic life of 0.025 µg/L as a 4-day average and 2.1 µg/L as a 1-hour average. The CTR specifies a long-term average criterion for protection of human health of 0.051 µg/L.

During the period from January 2000 through September 2006, the Discharger's effluent concentrations were in the range of 0.0098 µg/L to 0.079 µg/L (56 samples). For this same period, the MEC of mercury was 0.079 µg/L. The MEC exceeds the most stringent applicable objective of 0.025 µg/L. As such, SASM could not comply with a final AMEL of 0.021 µg/L.

Mercury is 303(d) listed and will be the subject of a TMDL. Final effluent limits for this pollutant will be derived from the wasteload allocation established under the TMDL. The final effluent limit listed above for this pollutant is projected to change based on the results of the TMDL and wasteload allocation. Available information indicates that mercury is a legacy pollutant in San Francisco Bay resulting from past activities. Ongoing loadings from POTWs are not a significant source of this pollutant. As a result, costly measures for either advanced treatment or zero discharge to control mercury loading from POTWs are not expected to be required. Certainly, such actions would not be initiated until TMDLs are completed.

Cyanide

The most stringent water quality criterion for cyanide, applicable to the discharge is 1.0 µg/L, which is both a chronic and an acute criterion from the NTR for the protection of aquatic life in the San Francisco Bay. SASM could not comply with a final cyanide AMEL of 1.0 µg/L. The current permit contains an interim limit of 25 µg/L .

During the period from January 2000 through November, 2005 the effluent concentrations were in the range of <0.6 µg/L to 4.7 µg/L (41 samples). The (MEC) was 4.7 µg/L.

As described in *Draft Staff Report on Proposed Site-Specific Water Quality Objectives and Effluent Limit Policy for Cyanide for San Francisco Bay*, dated November 10, 2005, the Regional Water Board is proposing to develop site-specific criteria for cyanide. In this report, the proposed site-specific criteria for marine waters are 2.9 µg/L as a four-day average, and 9.4 µg/L as a one-hour average. Based on the current cyanide data (coefficient of variation of 0.63), final WQBELs for cyanide would be 42 µg/L as an MDEL and 21 µg/L as an AMEL. These alternative limits will become effective only if the site-specific objective adopted for cyanide contains the same assumptions in the staff report, dated November 10, 2005.

Dioxin-TEQ

From 2002 through 2004, the MEC of dioxin-TEQ was 2.27×10^{-7} µg/L. The MEC exceeds the most stringent applicable objective of 1.4×10^{-8} µg/L. Therefore, SASM cannot immediately comply with these WQBELs for dioxin-TEQ.

From 2002 through 2004, the effluent concentrations for dioxin-TEQ were in the range of 4.85×10^{-8} pg/L to $2,27 \times 10^{-7}$ pg/L (6 samples). Due to limited data, it is not possible to perform a meaningful statistical analysis to determine compliance feasibility.

Final WQBELs for dioxin-TEQ, calculated according to methods presented in Section 1.4 of the SIP, are 2.8×10^{-8} and 1.4×10^{-8} µg/L as MDEL and AMEL, respectively. The Regional Water Board may amend these limits based on new information or a TMDL.

SASM Source Control And Pollution Prevention Efforts

SASM has not previously been required to develop or implement pretreatment, source control, or pollution prevention programs. This is due in part to being a small (<5 mgd) discharger; a deepwater discharger (initial dilution of 1400:1 at a depth of 84 feet); and with no industrial dischargers.

SASM's service area is almost entirely residential. SASM has not previously attempted to identify sources of mercury, cyanide or dioxin – TEQ in the SASM service area.

In May of 2006, SASM hired EOA, Inc. to assist with source identification and pollution prevention activities assessments. SASM also contracted with the Central Marin Sanitation Agency to assist in developing inspection programs and to train SASM staff to conduct site visits. The following summarizes the status of the pollution prevention activities:

Monitoring: *Treatment plant*

Ultra clean monitoring of treatment plant effluent for mercury began in November, 1999 and will continue with one sample collected each month. Monitoring of treatment plant influent for mercury began in July, 2001 and continued for six months with one sample collected each month. This data was used to assess treatment plant removal efficiencies and to establish a baseline for mercury loadings to the treatment plant. Influent sampling for Mercury on a regular basis was restarted in the Fall of 2006 and will be ongoing in conjunction with effluent monitoring.

SASM also began sampling for methyl mercury in November 2006 as required by the Regional Water Quality Control Board letter dated July 5, 2006. This letter requested data for Unfiltered Methyl mercury Waste Discharge pursuant to California Water Code 13267.

Collection system

Collection system monitoring has not been established. Sampling locations have been identified based on information developed through source identification efforts.

Source identification and reduction

SASM completed a review of Bay Area Pollution Prevention Group (BAPPG) information and existing Pollution Prevention Plans. This review assisted in the identification of possible sources of mercury in the SASM collection system.

Dental Practices

SASM's treatment plant serves a residential system with no industry and a mix of typical small town commercial discharges. Given this composition, it is probable that dentists are the major source of mercury in SASM's service area.

BAPPG has developed strategies for educating and working with dentists. SASM has provided volunteer funding for BAPPG for several years and has now started to participate in the development of these processes for working with dentists. In addition, SASM utilized materials currently in use by Central Marin Sanitation Agency for working with dentists on mercury.

Dental offices were the initial focus and the following activities have been completed:

- An assessment and plan for the use of BAPPG and CMSA procedures completed.
- Field surveys conducted in order to complete the database of dentists.

- A limited collection system sampling plan may be developed depending on sewer system layout and the locations of dentists. It may also make most sense to simply use treatment plant influent sampling given the small size of the total service area.
- Initial information packages prepared and sent to all dentists.
- Telephone calls and site visits to all dentists were completed within 3 months.

The site visits indicated that all the practices visited were utilizing some form of mercury collection and disposal techniques.

Ongoing treatment plant influent monitoring will be conducted and possibly limited collection system in the future to measure improvement.

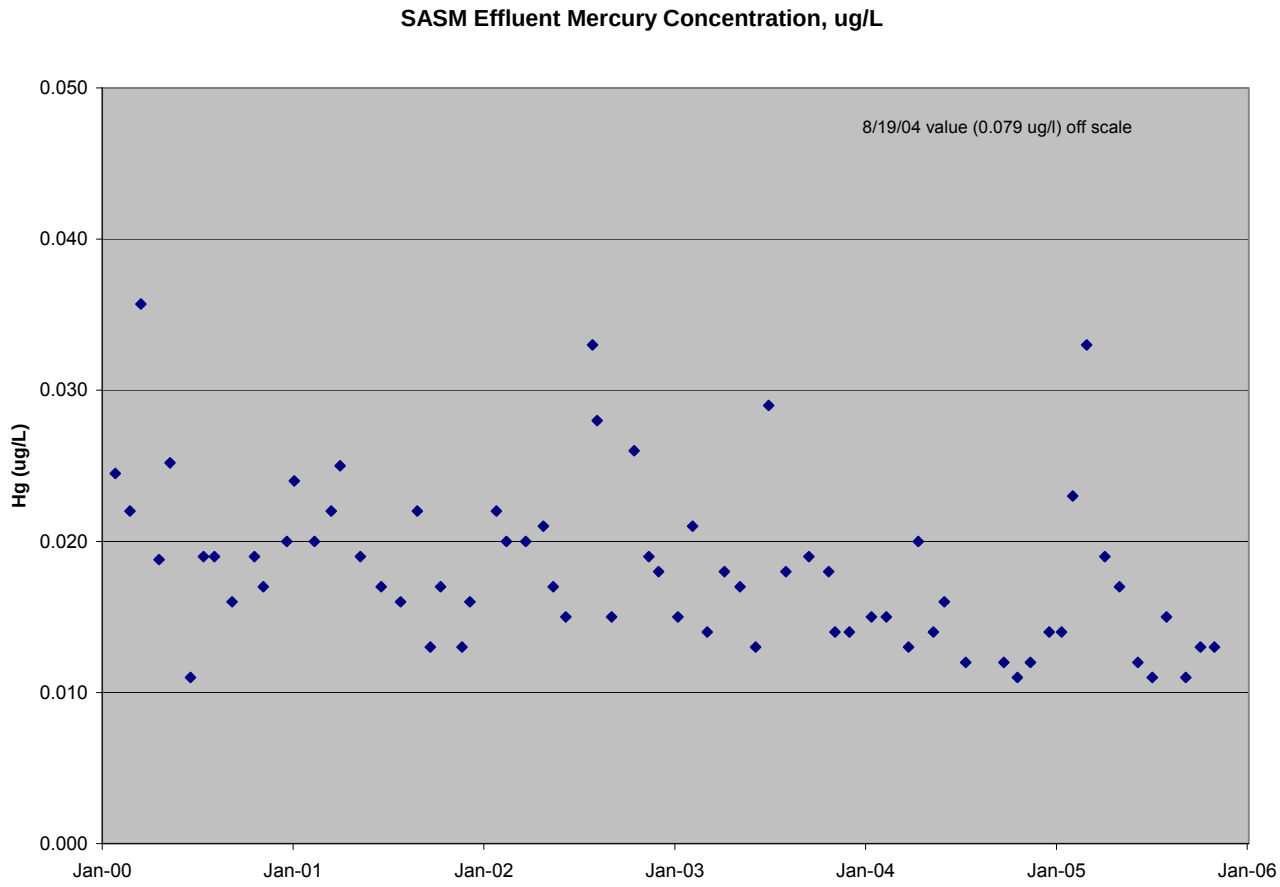
Treatment plant removal efficiency

Current treatment plant removal efficiencies were determined. Efficiencies were compared with similar plants in the bay area. Plants showing better efficiencies will be investigated within one year in an attempt to identify feasible improvements that can be implemented at SASM. SASM data is compared to the Las Gallinas Valley Sanitary District (LGVSD) plant and to the Ignacio Treatment Plant, both of which are similar to SASM (trickling filters for secondary treatment). Note: the LGVSD plant has a nitrification tower and deep bed filters. (The latter have relatively coarse media and were designed primarily for high wet weather flow treatment rather than for post-secondary effluent polishing. The data are included in the attached tables. The average influent, effluent and removal rates are as follows:

	Hg Influent ug/L	Hg Effluent ug/L	% Removal
SASM	0.25	0.019	92.4
LGVSD	0.21	0.028	86.5
Ignacio	0.16	0.030	80.6

SASM's has a higher average mercury influent concentration than either LGVSD or Ignacio, but achieves a higher removal rate than either of the other plant. As a result, SASM's effluent mercury concentration is the lowest of the three plants. (Current LGVSD effluent concentrations are comparable to SASM).

SASM effluent mercury concentrations are gradually declining over time. (See time series plot).



Public education

A review of public education techniques that are recommended by BAPPG, the City of Palo Alto, and others is ongoing. A procedure to disseminate educational information to most residents and businesses within the SASM service area will be developed and implemented within two years. These methods include printed materials, hand outs at public events, and utilizing the SASM page of the City of Mill Valley's website which is currently being re-developed and upgraded. SASM is also now partnering with CMSA, Novato Sanitary District and Las Gallinas Valley Sanitary District in their ongoing public out reach program. SASM also conducts annual "Wetlands Days" with local elementary schools and the Marin Conservation Corps.

Reclamation

SASM established a voluntary reclamation program in 1991. A portion of SASM's effluent is polished to Title 22 standards for unrestricted body contact and used to provide landscape irrigation at three local parks. SASM has refurbished this system to accommodate improvements required by the local municipal water purveyor and to improve the reliability of the system. SASM will continue to explore expansion possibilities for this system.

Mercury recycling

Since June 1995, SASM has participated in a fluorescent lamp recycling program in cooperation with the County of Marin and Goodman's Building Supply in Mill Valley. The table below lists the

monthly quantities SASM collects and delivers to the County Recycling Center. From June, 2005 through January, 2007 SASM has collected over 5000 fluorescent lamps of various sizes and styles, thus removing the potential for the mercury in these lamps to be released to the environment.

GOODMAN BUILDING SUPPLY CO. Household Hazardous Waste Program								
Pick-Up and Delivery Log								
Picked up	Delivered	8'	6'	4'	3'	2'	1'	Misc
6/15/2005	6/15/2005	14	0	73	0	4	0	35
TOTAL:	126							
8/9/2005	8/9/2005	20	0	147	0	11	0	123
TOTAL:	301							
9/19/2005	9/19/2005	0	0	166	0	0	0	110
TOTAL:	276							
10/31/2005	10/31/2005	13	11	146	15	73	0	134
TOTAL:	392							
12/20/2005	12/20/2005	58	0	259	35	0	0	64
TOTAL:	416							
2/3/2006	2/3/2006	16	0	310	0	0	0	215
TOTAL:	541							
4/10/2006	4/12/2006	33	14	387	22	79	71	67
TOTAL:	673							
5/11/2006	5/11/2006	17	6	110	0	0	0	57
TOTAL:	190							
6/14/2006	6/14/2006	4	2	106	8	17	0	50
TOTAL:	187							
7/21/2006	7/21/2006	0	0	143	12	17	0	71
TOTAL:	243							
9/18/2006	9/18/2006	29	7	143	6	14	0	150
TOTAL:	349							
10/23/2006	10/23/2006	18	4	143	14	12	8	116
TOTAL:	315							
12/13/2006	12/13/2006	36	15	325	16	10	43	156
TOTAL:	601							
1/22/2007	1/22/2007	4	3	296	17	0	0	179
TOTAL:	499	Start time 7:30am - Finish - 11am						

SASM is committed to taking all reasonable measures to attempt mercury reductions. To this end, listed below are additional measures that SASM prepared to actively pursue.

SASM is also prepared to:

1. Continue to monitor and review the Pollution Minimization Programs that have been implemented by other dischargers in the Bay Area.
2. Continue review of white papers, policies and procedures developed by the Bay Area Pollution Prevention Group.
3. Educate owner/operators of sources of mercury discharge using PMP and BAPPG information.
4. Explore the possibility of expanding SASM involvement in the mercury recycling program. Monitor changes in SASM effluent resulting from these efforts.

5. Prepare a specific time schedule for completing these various activities over a period of five years.
6. Submit annual reports to the Regional Water Quality Control Board documenting all activities as required.

Cyanide

The outcome of current studies may significantly impact the magnitude of final effluent limits in NPDES permits.

SASM is aware that several bay area dischargers have determined that non-cyanide constituents can show up as cyanide in the analysis contributing to artificially elevated values. These constituents may be generated in the treatment plant as a result of chlorination.

SASM is prepared to:

1. Continue to review studies prepared by other Bay Area dischargers regarding the formation of cyanide in wastewater treatment processes.
2. Determine the applicability of this work to SASM wastewater and processes.
3. Conduct a limited source investigation based on the work of other dischargers and the BAPPG.
4. Prepare a specific time schedule for conducting these activities with an eye toward completing all activities within five years.
5. Submit annual reports to the Regional Water Quality Control Board documenting all activities.

SUMMARY

This evaluation indicates that immediate compliance with projected final effluent limits for mercury, cyanide, and dioxin-TEQ is not feasible for SASM.

In accordance with the requirements of the SIP, SASM requests that the Regional Board refrain from the adoption of final effluent limits for these pollutants. In lieu of final limits, the NPDES permit should include interim limits and time schedules for activities which will support future compliance with final effluent limits.

This completes our submittal. Please contact the undersigned at 415-388-2402 x16 or at sdanehy@cityofmillvalley.org for further information.

Very Truly Yours,

Stephen J. Danehy
General Manager

encl.