

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

STAFF SUMMARY REPORT (James Parrish)
MEETING DATE: July 8, 2015

ITEM **5B**

SUBJECT: **Novato Sanitary District, Novato Sanitary District Wastewater Treatment Plant, Novato, Marin County**—Reissuance of NPDES Permit and Rescission of Cease and Desist Order

CHRONOLOGY: May 2010 - Permit reissued and cease and desist order issued

DISCUSSION: This Revised Tentative Order (Appendix A) would reissue the NPDES permit for the Novato Sanitary District Wastewater Treatment Plant and rescind a cease and desist order that is no longer necessary.

The District's treatment plant treats wastewater for a population of about 60,000 in Novato and nearby Marin County areas. Its average dry weather design capacity is 7 million gallons per day (MGD), and it can treat up to 47 MGD for short periods. Recently, the plant has operated at about 4.2 MGD. The plant discharges to San Pablo Bay. The Revised Tentative Order would allow the District to relocate its discharge point about 1.2 miles inland to support a new marsh south of Bel Marin Keys and north of the Hamilton Wetland Restoration Project as part of a State Coastal Conservancy wetland restoration project. It would also update the discharge limits and streamline the conditions for discharging during dry weather.

The District, the State Coastal Conservancy, Bay Area Clean Water Agencies, and the Napa Sanitation District submitted comments (Appendix B) on a tentative order circulated for public review. We prepared a Response to Comments (Appendix C) and revised the tentative order where appropriate. We expect this item to remain uncontested.

**RECOMMEN-
DATION:** Adoption of the Revised Tentative Order

FILE: CW-244705

APPENDICES: A. Revised Tentative Order
 B. Comments
 C. Response to Comments

Appendix A
Revised Tentative Order

San Francisco Bay Regional Water Quality Control Board

REVISED TENTATIVE ORDER No. R2-2015-00XX
NPDES No. CA0037958

The following discharger is subject to waste discharge requirements (WDRs) set forth in this Order.

Table 1. Discharger Information

Discharger	Novato Sanitary District
Facility Name	Novato Sanitary District Wastewater Treatment Plant and its collection system
Facility Address	500 Davidson Street Novato, CA 94945 Marin County
CIWQS Place Number	244705

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Secondary-Treated Municipal Wastewater	38.060001	-122.489995	San Pablo Bay
002 ^[1]	Secondary-Treated Municipal Wastewater	38.063333	-122.510278	San Pablo Bay

Footnote:

^[1] Discharge Point No. 002 is subsequent to relocation of discharge to a new San Pablo Bay wetland. The exact location (latitude and longitude) may change slightly from what is indicated above. See Provision IV.C.5.b.

Table 3. Administrative Information

This Order was adopted on:	DATE
This Order shall become effective on:	September 1, 2015
This Order shall expire on:	August 31, 2020
CIWQS Regulatory Measure Number	TBD
The Discharger shall file a Report of Waste Discharge as an application for reissuance of WDRs in accordance with California Code of Regulations, title 23, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	December 2, 2019
The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, San Francisco Bay Region, have classified this discharge as follows:	Major

I, Bruce H. Wolfe, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on the date indicated above.

Bruce H. Wolfe, Executive Officer

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I. FACILITY INFORMATION

Information describing the Novato Sanitary District Wastewater Treatment Plant and its collection system (collectively, the Facility) is summarized in Table 1 and in Fact Sheet (Attachment F) sections I and II.

II. FINDINGS

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

- A. Legal Authorities.** This Order serves as WDRs pursuant to California Water Code article 4, chapter 4, division 7 (commencing with § 13260). This Order is also issued pursuant to federal Clean Water Act (CWA) section 402 and implementing regulations adopted by U.S. EPA and Water Code chapter 5.5, division 7 (commencing with § 13370). It shall serve as an NPDES permit for point source discharges from the Facility to surface waters.
- B. Background and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on information the Discharger submitted as part of its application, information obtained through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F) contains background information and rationale for the requirements in this Order and is hereby incorporated into and constitutes findings for this Order. Attachments A through E, and G are also incorporated into this Order.
- C. Provisions and Requirements Implementing State Law.** Provisions VI.C.4.b.iv, v, and vi implement State law only. They are not required or authorized under the federal CWA; consequently, violations of these provisions are not subject to the enforcement remedies available for NPDES violations.
- D. Notification of Interested Parties.** The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe these WDRs and provided an opportunity to submit written comments and recommendations. The Fact Sheet provides details regarding the notification.
- E. Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. The Fact Sheet provides details regarding the public hearing.

THEREFORE, IT IS HEREBY ORDERED that Order Nos. R2-2010-0074 (previous order) and R2-2010-0075 (cease and desist order) are rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions of Water Code division 7 (commencing with § 13000) and regulations adopted thereunder and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the Regional Water Board from taking enforcement action for past violations of the previous order and cease and desist order.

III. DISCHARGE PROHIBITIONS

- A.** Discharge of treated wastewater at a location or in a manner different from that described in this Order is prohibited.

- B.** The bypass of untreated or partially-treated wastewater to waters of the United States is prohibited, except as provided for in Attachment D sections I.G.2 and I.G.3 of this Order.
- C.** Average dry weather influent flow in excess of 7.0 MGD is prohibited. Average dry weather influent flow shall be determined from three consecutive dry weather months each year, with compliance measured at Monitoring Location INF-001 as described in the Monitoring and Reporting Program (MRP).
- D.** Any sanitary sewer overflow that results in a discharge of untreated or partially-treated wastewater to waters of the United States is prohibited.
- E.** Discharge to San Pablo Bay is prohibited during the dry weather season each year from June 1 through August 31, unless (1) Facility inflow will exceed the capacity of influent storage (after factoring in anticipated wet weather storage needs), and Facility effluent flow will exceed the capacity of the reclamation water distribution and storage system (described in Fact Sheet section II.A.5) to meet reclaimed water demand; and (2) the discharge meets the advanced treatment limits specified in Table 5 below. Discharge shall not arise as a result of the Discharger’s failure to produce, use, or supply demand for reclaimed water that the Regional Water Board has authorized. Discharge during the dry weather season shall be monitored and meet applicable effluent limitations, and shall consist of fully treated effluent.

If there is discharge during the dry weather season, the Discharger shall describe in the transmittal letter of the next self-monitoring report the reasons for the discharge, with supporting information, and include a table that describes the volume and duration of the discharge to the receiving water. In accordance with the MRP, all discharge volume and quality data shall be reported in the appropriate monthly self-monitoring report.

Upon the Discharger satisfying the requirements of Provision VI.C.5.b of this Order, the discharge shall be no longer be subject to this dry season discharge prohibition.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations

1. Effluent Limitations – November through April

From November 1 through April 30, the Discharger shall comply with the following effluent limitations at Discharge Point No. 001, with compliance measured at Monitoring Locations EFF-001 and EFF-001P as described in the MRP.

Table 4. Effluent Limitations – November through April

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand, 5-day @ 20°C (BOD ₅)	mg/L	30	45	---	---	---
Total Suspended Solids (TSS)	mg/L	30	45	---	---	---
Oil and Grease	mg/L	10	---	20	---	---

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH ⁽¹⁾	standard units	---	---	---	6.5	8.5
Copper, Total Recoverable	µg/L	6.9	---	13	---	---
Cyanide, Total	µg/L	6.6	---	14	---	---
Dioxin-TEQ	µg/L	1.4 x 10 ⁻⁸	---	2.8 x 10 ⁻⁸	---	---
Ammonia, Total	mg/L as N	5.9		21		

Unit Abbreviations:

mg/L = milligrams per liter
 mg/L as N = milligrams per liter as nitrogen
 µg/L = micrograms per liter

Footnote:

⁽¹⁾ If the Discharger monitors pH continuously, pursuant to 40 C.F.R. section 401.17 the Discharger shall be in compliance with this pH limitation provided that both of the following conditions are satisfied: (i) the total time during which the pH is outside the required range shall not exceed 7 hours and 26 minutes in any calendar month; and (ii) no individual excursion from the required pH range shall exceed 60 minutes.

2. Effluent Limitations – May through October

During May, September, and October, and whenever discharges take place during the dry weather season, the Discharger shall comply with the following effluent limitations at Discharge Point No. 001, with compliance measured at Monitoring Locations EFF-001 and EFF-001P, as described in the MRP. Upon the Discharger satisfying the requirements of Provision VI.C.5.b of this Order, these effluent limitations shall apply to Discharge Point No. 002 with compliance measured at Monitoring Locations EFF-001 and EFF-001P from May 1 through October 31.

Table 5. Effluent Limitations – May through October

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand, 5-day @ 20°C (BOD ₅)	mg/L	15	30	---	---	---
Total Suspended Solids (TSS)	mg/L	10	20	---	---	---
Oil and Grease	mg/L	5	---	15	---	---
pH ⁽¹⁾	standard units	---	---	---	6.5	8.5
Copper, Total Recoverable	µg/L	6.9	---	13	---	---
Cyanide, Total	µg/L	6.6	---	14	---	---
Dioxin-TEQ	µg/L	1.4 x 10 ⁻⁸	---	2.8 x 10 ⁻⁸	---	---
Ammonia, Total	mg/L as N	5.9		21	---	---

Unit Abbreviations:

mg/L = milligrams per liter
 mg/L as N = milligrams per liter as nitrogen
 µg/L = micrograms per liter

Footnote:

⁽¹⁾ If the Discharger monitors pH continuously, pursuant to 40 C.F.R. section 401.17 the Discharger shall be in compliance with this pH limitation provided that both of the following conditions are satisfied: (i) the total time during which the pH is outside the required range

shall not exceed 7 hours and 26 minutes in any calendar month; and (ii) no individual excursion from the required pH range shall exceed 60 minutes.

B. Percent Removal. The average monthly percent removal of biochemical oxygen demand (BOD₅) and total suspended solids (TSS) at Discharge Points No. 001 and 002 shall not be less than 85 percent (i.e., in each calendar month, the arithmetic mean of BOD₅ and TSS, by concentration, for effluent samples collected at Monitoring Location EFF-001 as described in the MRP, shall not exceed 15 percent of the arithmetic mean of the BOD₅ and TSS, by concentration, for influent samples collected at Monitoring Location INF-001 as described in the MRP at approximately the same times during the same period).

C. Enterococcus. Discharges at Discharge Points No. 001 and 002 shall meet the following enterococcus limitation, with compliance measured at Monitoring Locations EFF-001 and EFF-001P as described in the MRP:

The geometric mean enterococcus bacteria concentration of all samples in each calendar month shall not exceed 35 most probable number per 100 milliliters (MPN/100 mL).

D. Fecal Coliform. Discharges at Discharge Points No. 001 and 002 shall meet the following fecal coliform limitations, with compliance measured at Monitoring Locations EFF-001 and EFF-001P as described in the MRP:

1. The median fecal coliform concentration of all samples in each calendar month shall not exceed 140 most probable number per 100 milliliters (MPN/100 mL); and
2. The 90th percentile fecal coliform concentration of all samples in each calendar month shall not exceed 430 MPN/100mL.

E. Whole Effluent Acute Toxicity. Discharges at Discharge Points No. 001 and 002 shall meet the following acute toxicity limitations, with compliances measured at Monitoring Locations E-001 and EFF-001P as described in the MRP:

1. A three-sample median value of not less than 90 percent survival; and
2. A single-sample maximum value of not less than 70 percent survival.

These acute toxicity limitations are defined as follows:

- **Three-sample median.** A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit if one of the past two bioassay tests also shows less than 90 percent survival.
- **Single sample maximum.** A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit.

If the Discharger can demonstrate that toxicity exceeding the levels cited above is caused by ammonia and that the ammonia in the discharge complies with the ammonia effluent limits in this Order, then such toxicity does not constitute a violation of this effluent limitation.

V. RECEIVING WATER LIMITATIONS

A. The discharge shall not cause the following conditions to exist in receiving waters at any place:

1. Floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses;
 2. Alteration of suspended sediment in such a manner as to cause nuisance or adversely affect beneficial uses, or detrimental increase in the concentrations of toxic pollutants in sediments or aquatic life;
 3. Suspended material in concentrations that cause nuisance or adversely affect beneficial uses;
 4. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;
 5. Alteration of temperature beyond present natural background levels;
 6. Changes in turbidity that cause nuisance or adversely affect beneficial uses, or increases from normal background light penetration or turbidity greater than 10 percent in areas where natural turbidity is greater than 50 nephelometric turbidity units;
 7. Coloration that causes nuisance or adversely affects beneficial uses;
 8. Visible, floating, suspended, or deposited oil or other products of petroleum origin; or
 9. Toxic or other deleterious substances in concentrations or quantities that cause deleterious effects on wildlife, waterfowl, or other aquatic biota, or render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.
- B.** The discharge shall not cause the following limits to be exceeded in receiving waters at any place within one foot of the water surface:
1. 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, the discharge shall not cause further reduction in ambient dissolved oxygen concentrations.
 2. Dissolved Sulfide Natural background levels
 3. pH The pH shall not be depressed below 6.5 or raised above 8.5. The discharge shall not cause changes greater than 0.5 pH units in normal ambient pH levels.
 4. 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.
- C.** The discharge shall not cause a violation of any water quality standard for receiving waters adopted by the Regional Water Board or State Water Resources Control Board (State Water

Board) as required by the CWA and regulations adopted thereunder outside the near-field mixing zone. If more stringent water quality standards are promulgated or approved pursuant to CWA section 303, or amendments thereto, the Regional Water Board may revise or modify this Order in accordance with the more stringent standards.

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all “Standard Provisions” in Attachment D.
2. The Discharger shall comply with all applicable provisions of the “Regional Standard Provisions, and Monitoring and Reporting Requirements for NPDES Wastewater Discharge Permits” (Attachment G).

B. Monitoring and Reporting

The Discharger shall comply with the MRP (Attachment E) and future revisions thereto, and applicable sampling and reporting requirements in Attachments D and 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 discharges governed by this Order have or will have a reasonable potential to cause or contribute to, or will cease to have, adverse impacts on water quality or beneficial uses of the receiving waters.
- b. If new or revised water quality objectives or total maximum daily loads (TMDLs) come into effect for San Francisco Bay or contiguous water bodies (whether statewide, regional, or site-specific). In such cases, effluent limitations in this Order may be modified as necessary to reflect the updated water quality objectives and wasteload allocations in the TMDLs. Adoption of the effluent limitations in this Order is not intended to restrict in any way future modifications based on legally-adopted water quality objectives or TMDLs or as otherwise permitted under federal regulations governing NPDES permit modifications.
- c. If translator, dilution, or other water quality studies provide a basis for determining that a permit condition should be modified.
- d. If State Water Board precedential decisions, new policies, new laws, or new regulations are adopted.
- e. If an administrative or judicial decision on a separate NPDES permit or WDRs addresses requirements similar to this discharge.
- f. If the Discharger requests adjustments in effluent limits due to the implementation of stormwater diversion pursuant to the Municipal Regional Stormwater Permit (Permit

No. CAS612008) for redirecting dry weather and first flush discharges from the storm drain system to the sanitary sewer system as a storm water pollutant control strategy.

- g.** Or as otherwise authorized by law.

The Discharger may request a permit modification based on any of the circumstances above. With any such request, the Discharger shall include antidegradation and anti-backsliding analyses.

2. Effluent Characterization Study and Report

- a. Study Elements.** The Discharger shall continue to characterize and evaluate the discharge from the following discharge point to verify that the “no” or “unknown” reasonable potential analysis conclusions of this Order remain valid and to inform the next permit reissuance. The Discharger shall collect representative samples at the monitoring stations set forth below, as defined in the MRP, at no less than the frequency specified below:

<u>Discharge Point</u>	<u>Monitoring Location</u>	<u>Minimum Frequency</u>
001 (at 002 after relocation of discharge)	EFF-001	Twice per calendar year

The samples shall be analyzed for the pollutants listed in Attachment G, Table C, except for those pollutants with effluent limitations where the MRP already requires more frequent monitoring, and except for those pollutants for which there are no water quality criteria (see Fact Sheet Table F-8). Compliance with this requirement shall be achieved in accordance with the specifications of Attachment G sections III.A.1 and III.A.2.

The Discharger shall evaluate on an annual basis if concentrations of any of these pollutants significantly increase over past performance. The Discharger shall investigate the cause of any such increase. The investigation may include, but need not be limited to, an increase in monitoring frequency, monitoring of internal process streams, and monitoring of influent sources. The Discharger shall establish remedial measures addressing any increase resulting in reasonable potential to cause or contribute to an excursion above applicable water quality objectives. This requirement may be satisfied through identification of the constituent as a “pollutant of concern” in the Discharger’s Pollutant Minimization Program, described in Provision VI.C.3.

b. Reporting Requirements

- i. Routine Reporting.** The Discharger shall, within 45 days of receipt of analytical results, report the following in the transmittal letter for the appropriate self-monitoring report:
 - (a)** Indication that a sample for this characterization study was collected; and
 - (b)** Identity of pollutants detected at or above applicable water quality criteria (see Fact Sheet Table F-8 for the criteria) and the detected concentrations of those pollutants.

- ii. **Annual Reporting.** The Discharger shall summarize the annual data evaluation and source investigation in the annual self-monitoring report.
- iii. **Final Report.** The Discharger shall submit a final report that presents all these data with the application for permit reissuance.

3. Pollutant Minimization Program

- a. The Discharger shall continue to improve its existing Pollutant Minimization Program to promote minimization of pollutant loadings to the treatment plant and therefore to the receiving waters.
- b. The Discharger shall submit an annual report no later than February 28 each year. Each annual report shall include at least the following information:
 - i. **Brief description of treatment plant.** The description shall include the service area and treatment plant processes.
 - ii. **Discussion of current pollutants of concern.** Periodically, the Discharger shall analyze its circumstances to determine which pollutants are currently a problem and which pollutants may be potential future problems. This discussion shall include the reasons for choosing the pollutants.
 - iii. **Identification of sources for pollutants of concern.** This discussion shall include how the Discharger intends to estimate and identify pollutant sources. The Discharger shall include 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.
 - iv. **Identification of tasks to reduce the sources of pollutants of concern.** This discussion shall identify and prioritize tasks to address the Discharger's pollutants of concern. The Discharger may implement the tasks by itself or participate in group, regional, or national tasks that address its pollutants of concern. The Discharger is strongly encouraged to participate in group, regional, or national tasks that address its pollutants of concern whenever it is efficient and appropriate to do so. An implementation timeline shall be included for each task.
 - v. **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.
 - vi. **Continuation of Public Outreach Program.** The Discharger shall prepare a pollution prevention public outreach program for its service area. Outreach may include participation in existing community events, such as county fairs; initiating new community events, such as displays and contests during Pollution Prevention Week; conducting school outreach programs; conducting plant tours; and providing public information in newspaper articles or advertisements, radio or television stories

or spots, newsletters, utility bill inserts, or web sites. Information shall be specific to target audiences. The Discharger shall coordinate with other agencies as appropriate.

- vii. Discussion of criteria used to measure Pollutant Minimization Program and task effectiveness.** The Discharger shall establish criteria to evaluate the effectiveness of its Pollutant Minimization Program. This discussion shall identify the specific criteria used to measure the effectiveness of each task in Provisions VI.C.3.b.iii, iv, v, and vi.
 - viii. Documentation of efforts and progress.** This discussion shall detail all of the Discharger's Pollutant Minimization Program activities during the reporting year.
 - ix. Evaluation of Pollutant Minimization Program and task effectiveness.** This Discharger shall use the criteria established in Provision VI.C.3.b.vii to evaluate the program and task effectiveness.
 - x. Identification of specific tasks and timelines for future efforts.** Based on the evaluation, the Discharger shall explain how it intends to continue or change its tasks to more effectively reduce the amount of pollutants flowing to the treatment plant, and subsequently in its effluent.
- c.** The Discharger shall develop and conduct a Pollutant Minimization Program as further described below when there is evidence that a priority pollutant is present in the effluent above an effluent limitation (e.g., sample results reported as detected but not quantified [DNQ] when the effluent limitation is less than the method detection limit [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, or results of benthic or aquatic organism tissue sampling) and either:
- i.** A sample result is reported as DNQ and the effluent limitation is less than the Reporting Level (RL); or
 - ii.** A sample result is reported as not detected (ND) and the effluent limitation is less than the MDL, using definitions in Attachment A and reporting protocols described in the MRP.
- d.** If triggered by the reasons set forth in Provision VI.C.3.c, above, the Discharger's Pollutant Minimization Program shall include, but not be limited to, the following actions and submittals:
- i.** Annual review and semi-annual monitoring of potential sources of the reportable priority pollutants, which may include fish tissue monitoring and other bio-uptake sampling, or alternative measures when source monitoring is unlikely to produce useful analytical data;
 - ii.** Quarterly monitoring for the reportable priority pollutants in the influent to the Facility. The Executive Officer may approve alternative measures when influent monitoring is unlikely to produce useful analytical data;

- iii. Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutants in the effluent at or below the effluent limitation;
- iv. Implementation of appropriate cost-effective control measures for the reportable priority pollutants, consistent with the control strategy; and
- v. Inclusion of the following specific items within the annual report required by Provision VI.C.3.b above:
 - (a) All Pollutant Minimization Program monitoring results for the previous year;
 - (b) List of potential sources of the reportable priority pollutants;
 - (c) Summary of all actions undertaken pursuant to the control strategy; and
 - (d) Description of actions to be taken in the following year.

4. Special Provisions for Municipal Facilities

- a. **Pretreatment Program.** The Discharger shall implement and enforce its approved pretreatment program in accordance with federal pretreatment regulations (40 C.F.R. part 403); pretreatment standards promulgated under CWA sections 307(b), 307(c), and 307(d); pretreatment requirements specified under 40 C.F.R. section 122.44(j); and the requirements in Attachment H, "Pretreatment Requirements." The Discharger's responsibilities include, but are not limited to, the following:
 - i. Enforcement of the National Pretreatment Standards of 40 C.F.R. sections 403.5 and 403.6;
 - ii. Implementation of its pretreatment program in accordance with legal authorities, policies, procedures, and financial provisions described in the National Pretreatment Program (40 C.F.R. part 403);
 - iii. Submission of reports to the State Water Board and the Regional Water Board as described in Attachment H; and
 - iv. Evaluation of the need to revise local limits under 40 C.F.R. section 403.5(c)(1) and, within 180 days following the effective date of this Order, submission of a report describing the changes, with a plan and schedule for implementation. To ensure no significant increase in copper discharges, and thus compliance with antidegradation requirements, the Discharger shall not consider eliminating or relaxing local limits for copper.

b. Sludge and Biosolids Management

All sludge and biosolids shall be disposed of, managed, or reused in accordance with all applicable requirements of 40 C.F.R. part 503 and the additional requirements set forth below.

- i. No sludge or biosolids shall be stored outside the designated storage lagoons or land disposal site (see Attachment B).

- ii. Sludge and biosolids shall not be applied to the dedicated disposal site between October 31 and May 1.
 - iii. Sludge and biosolids at the storage lagoons and dedicated disposal site shall be limited to digested sewage sludge generated by the Discharger and sludge from North Marin Water District's water treatment facility.
 - iv. Sludge and biosolids disposal at the dedicated disposal site shall not result in groundwater contamination or otherwise adversely affect groundwater beneficial uses.
 - v. Sludge and biosolids treatment, processing, storage, or disposal shall not create a condition of pollution or nuisance as defined by Water Code sections 13050(l) and (m), such as objectionable odors or flies.
 - vi. Sludge and biosolids treatment, processing, storage, or disposal shall not cause waste material to be discharged to, or deposited in, waters of the State. Poned water or runoff from the disposal area shall not be discharged to adjacent land or ditches.
 - vii. Sludge and biosolids storage facilities shall be operated and maintained so as to provide adequate protection from surface runoff, erosion, and other conditions that could cause drainage from the waste materials to escape from the storage site. Adequate protection is defined as protection from at least a 100-year storm and the highest possible tidal stage that may occur.
 - viii. The Discharger shall submit an annual biosolids report to U.S. EPA regarding its biosolids disposal practices in accordance with 40 C.F.R. section 503. The Discharger shall submit a copy of the report to the Regional Water Board by February 28 for the previous calendar year.
- c. **Collection System Management.** The Discharger shall properly operate and maintain its collection system (see Attachment D section I.D), report any noncompliance (see Attachment D sections V.E.1 and V.E.2), and mitigate any discharge from its collection system that violates this Order (see Attachment D section I.C).

The *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems* (General Collection System WDRs), State Water Board Order No. 2006-0003 DWQ as amended by State Water Board Order No. WQ 2013-0058-EXEC, has requirements for operation and maintenance of separate sanitary sewer collection systems and for reporting and mitigating sanitary sewer overflows from the separate sanitary sewer portion of the Discharger's collection system. While the Discharger must comply with both the General Collection System WDRs and this Order, the General Collection System WDRs more clearly and specifically stipulate requirements for operation and maintenance and for reporting and mitigating sanitary sewer overflows. Implementation of the General Collection System WDRs for proper operation and maintenance and mitigation of sanitary sewer overflows will satisfy the corresponding federal NPDES requirements specified in Attachment D (as supplemented by Attachment G). Following the notification and reporting requirements in the General Collection System WDRs will satisfy the corresponding federal NPDES reporting requirements specified in

Attachment D (as supplemented by Attachment G) for sanitary sewer overflows from the separate sanitary sewer portion of the collection system.

5. Other Special Provisions

- a. Reclamation Storage Pond Operations and Maintenance.** The Discharger shall maintain its existing sediment control plan for the reclamation storage ponds. The mechanical layout of the pumping intake lines shall provide adequate silt control measures. The suction point shall lie two feet above the bottom of the ponds. The Discharger shall ensure that no sediment is drawn from the bottom of the ponds (e.g., by establishing a minimum draw down point of four feet pond elevation).
- b. Discharge Relocation.** When the Discharger completes construction of the new outfall (as described in Fact Sheet section IV.C.4.a), it shall submit the following documentation and wait for Executive Officer written concurrence prior to commencing discharge at Discharge Point No. 002:
 - i.** Physical description of the relocated discharge pipeline and outfall structure, including as-built outfall latitude and longitude.
 - ii.** Certification by a licensed professional that the new outfall has been constructed as designed and is ready for use;
 - iii.** Updates to the Operations and Maintenance Manual and Contingency Plan that include the new outfall; and
 - iv.** The specific date the Discharger proposes to commence use of the new outfall.
- c. Facility Reliability Assurance Plan and Status Report**
 - i.** The Discharger shall maintain a Facility Reliability Assurance Plan that describes measures in place (e.g., treatment and storage capacities, especially during high wet weather inflows; critical system redundancies and spare parts; warning alarms, etc.) to ensure the reliability of the system in preventing inadequately treated wastewater from being discharged into the receiving waters. Inadequately treated wastewater includes wastewater that bypasses any portion of the Facility. The Discharger shall maintain the Facility Reliability Assurance Plan in usable condition and have it available for reference and use by all relevant personnel.
 - ii.** The Discharger shall regularly review, revise, or update, as necessary, the Facility Reliability Assurance Plan to ensure that the document remains useful and relevant to current equipment and operational practices. The Discharger shall conduct reviews annually and complete revisions or updates as necessary. For any significant changes in treatment equipment or operational practices, the Discharger shall complete relevant revisions as soon as practicable.
 - iii.** The Discharger shall submit a report describing the current status of its Facility Reliability Assurance Plan, including any recommended or planned actions and an estimated time schedule for these actions, by February 1 each year.

d. Copper Action Plan. The Discharger shall implement source control, and pollution prevention for copper in accordance with the following tasks and time schedule.

Table 6. Copper Action Plan

Task	Compliance Date
<p>1. Review Potential Copper Sources The Discharger shall submit an inventory of potential copper sources to the Facility.</p>	<p><i>Completed May 14, 2009</i></p>
<p>2. Implement Copper Control Program The Discharger shall submit a plan for and begin implementation of a program to reduce copper sources identified in Task 1. The plan shall consist, at a minimum, of the following elements:</p> <ul style="list-style-type: none"> a. Provide education and outreach to the public (e.g., focus on proper pool and spa maintenance and plumbers' roles in reducing corrosion); b. If corrosion is determined to be a significant copper source, work cooperatively with local water purveyors to reduce and control water corrosivity, as appropriate, and ensure that local plumbing contractors implement best management practices to reduce corrosion in pipes; and c. Educate plumbers, designers, and maintenance contractors for pools and spas to encourage best management practices that minimize copper discharges. 	<p><i>Completed February 28, 2011. Plan implementation shall be ongoing.</i></p>
<p>3. Implement Additional Measures If the Regional Water Board notifies the Discharger that the three-year rolling mean copper concentration in San Pablo Bay exceeds 3.0 µg/L, then within 90 days of the notification, the Discharger shall evaluate the effluent copper concentration trend and, if it is increasing, develop and begin implementation of additional measures to control copper discharges. The Discharger shall report on the progress and effectiveness of actions taken and provide a schedule for actions to be taken in the next 12 months.</p>	<p><i>If required, with next annual pollution prevention report due February 28 (at least 90 days following notification)</i></p>
<p>4. Undertake Studies to Reduce Copper Pollutant Impact Uncertainties. The Discharger shall submit an updated study plan and schedule to conduct or cause to be conducted technical studies to investigate possible copper sediment toxicity and to investigate sub-lethal effects on salmonids. Specifically, the Discharger shall include the manner in which the above will be accomplished and describe the studies to be performed with an implementation schedule. To satisfy this requirement, the Discharger may collaborate and conduct these studies as a group.</p>	<p><i>Bay Area Clean Water Agencies submitted study plan January 6, 2011</i></p>
<p>5. Report Status of Copper Control Program. The Discharger shall submit an annual report documenting copper control program implementation and addressing the effectiveness of the actions taken, including any additional copper controls required by Task 3 above, and provide a schedule for actions to be taken in the next 12 months. Additionally, the Discharger shall report the findings and results of the studies completed, planned, or in progress under Task 4. Regarding Task 4 studies, dischargers may collaborate and provide this information in a single report to satisfy this requirement for an entire group.</p>	<p><i>With annual pollution prevention report due February 28 each year</i></p>

e. Cyanide Action Plan. The Discharger shall implement monitoring and surveillance, source control and pollution prevention for cyanide in accordance with the following tasks and time schedule.

Table 7. Cyanide Action Plan

Task	Compliance Date
<p>1. Review Potential Cyanide Sources The Discharger shall submit an inventory of potential cyanide sources to the treatment plant. If no cyanide sources are identified, Tasks 2 and 3 are not required, unless the Discharger receives a request to discharge detectable levels of cyanide to the sewer. If so, the Discharger shall notify the Executive Officer and implement Tasks 2 and 3.</p>	<p><i>Completed October 31, 2008</i></p>
<p>2. Implement Cyanide Control Program The Discharger shall continue to implement its program to minimize cyanide discharges consisting, at a minimum, of the following elements:</p> <ol style="list-style-type: none"> Inspect each potential source to assess the need to include that source in the control program. Inspect contributing sources included in the control program annually. Inspection elements may be based on U.S. EPA guidance, such as <i>Industrial User Inspection and Sampling Manual for POTWs</i> (EPA 831-B-94-01). Develop and distribute educational materials to sources and potential sources regarding the need to prevent cyanide discharges. Prepare an emergency monitoring and response plan to be implemented if a significant cyanide discharge occurs. <p>If the plant influent cyanide concentration exceeds 6.0 µg/L, the Discharger shall collect a follow-up sample within 5 days of becoming aware of the laboratory results. If the results of the follow-up sample also exceed 6.0 µg/L, then a “significant cyanide discharge” is occurring.</p>	<p>With annual pollution prevention report due February 28. Plan implementation shall be ongoing.</p>
<p>3. Implement Additional Measures If the Regional Water Board notifies the Discharger that ambient monitoring shows cyanide concentrations are 1.0 µg/L or higher in the main body of San Francisco Bay, then within 90 days of the notification, the Discharger shall commence actions to identify and abate cyanide sources responsible for the elevated ambient concentrations, and shall report on the progress and effectiveness of actions taken and provide a schedule for actions to be taken in the next 12 months.</p>	<p>If required, with next annual pollution prevention report due February 28 (at least 90 days following notification)</p>
<p>4. Report Status of Cyanide Control Program The Discharger shall submit an annual report documenting cyanide control program implementation and addressing the effectiveness of actions taken, including any additional cyanide controls required by Task 3 above and provide a schedule for actions to be taken in the next 12 months.</p>	<p>With annual pollution prevention report due February 28 each year</p>

f. Standard Operating Procedures for Resource Recovery. If the Discharger receives hauled-in anaerobically-digestible material for injection into an anaerobic digester, the Discharger shall notify the Regional Water Board and develop and implement Standard Operating Procedures for this activity. The Standard Operating Procedures shall be developed prior to initiation of hauling. The Standard Operating Procedures shall address material handling, including unloading, screening or other processing prior to anaerobic digestion, and transportation; spill prevention; spill response; avoidance of the introduction of materials that could cause interference, pass through, or upset of the treatment processes; avoidance of prohibited material; vector control; odor control; operation and maintenance; and the disposition of any solid waste segregated from introduction to the digester. The Discharger shall train its staff on the Standard Operating Procedures and maintain records for a minimum of three years for each load received, describing the hauler, waste type, and quantity received. In addition, the Discharger shall maintain records for a minimum of three years for the disposition, location, and quantity of cumulative pre-digestion segregated solid waste hauled offsite.

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ)

Also called the average, the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

$$\text{Arithmetic mean} = \mu = \Sigma x / n \quad \text{where: } \Sigma x \text{ is the sum of the measured ambient water concentrations, and } n \text{ is the number of samples.}$$

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.

Bioaccumulative

Taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Carcinogenic

Known to cause cancer in living organisms.

Coefficient of Variation

Measure of data variability calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Daily Discharge

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 is considered the result for the calendar day in which the 24-hour period ends.

Detected, but Not Quantified (DNQ)

Sample result less than the RL, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

Dilution Credit

Amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined by conducting a mixing zone study or modeling the discharge and receiving water.

Effluent Concentration Allowance (ECA)

Value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the CV for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in U.S. EPA guidance (*Technical Support Document For Water Quality-based Toxics Control*, March 1991, second printing, EPA/505/2-90-001).

Enclosed Bay

Indentation along the coast that encloses an area of oceanic water within a distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

Estimated Chemical Concentration

Concentration that results from the confirmed detection of the substance below the ML value by the analytical method.

Estuaries

Waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars are considered estuaries. Estuarine waters are considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters include, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inland Surface Waters

All surface waters of the state that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation

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

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)

Highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Median

Middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X_{(n+1)/2}$. If n is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between n/2 and n/2+1).

Method Detection Limit (MDL)

Minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 C.F.R. part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML)

Concentration at which the entire analytical system gives 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.

Mixing Zone

Limited volume of receiving water allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

Not Detected (ND)

Sample results less than the laboratory's MDL.

Persistent Pollutants

Substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program

Program of 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 Pollutant Minimization Program is to reduce all potential sources of a priority pollutant 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. Cost effectiveness may be considered when establishing the requirements of a Pollutant Minimization Program. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), is considered to fulfill Pollutant Minimization Program requirements.

Pollution Prevention

Any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State Water Board or Regional Water Board.

Reporting Level (RL)

ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order, including an additional factor if applicable as discussed herein. 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 SIP Appendix 4 in accordance with SIP section 2.4.2 or established in accordance with SIP section 2.4.3. 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 RL.

Source of Drinking Water

Any water designated as having a municipal or domestic supply (MUN) beneficial use.

Standard Deviation (σ)

Measure of variability calculated as follows:

$$\sigma = \left(\frac{\sum[(x - \mu)^2]}{(n - 1)} \right)^{0.5}$$

where:

x is the observed value;

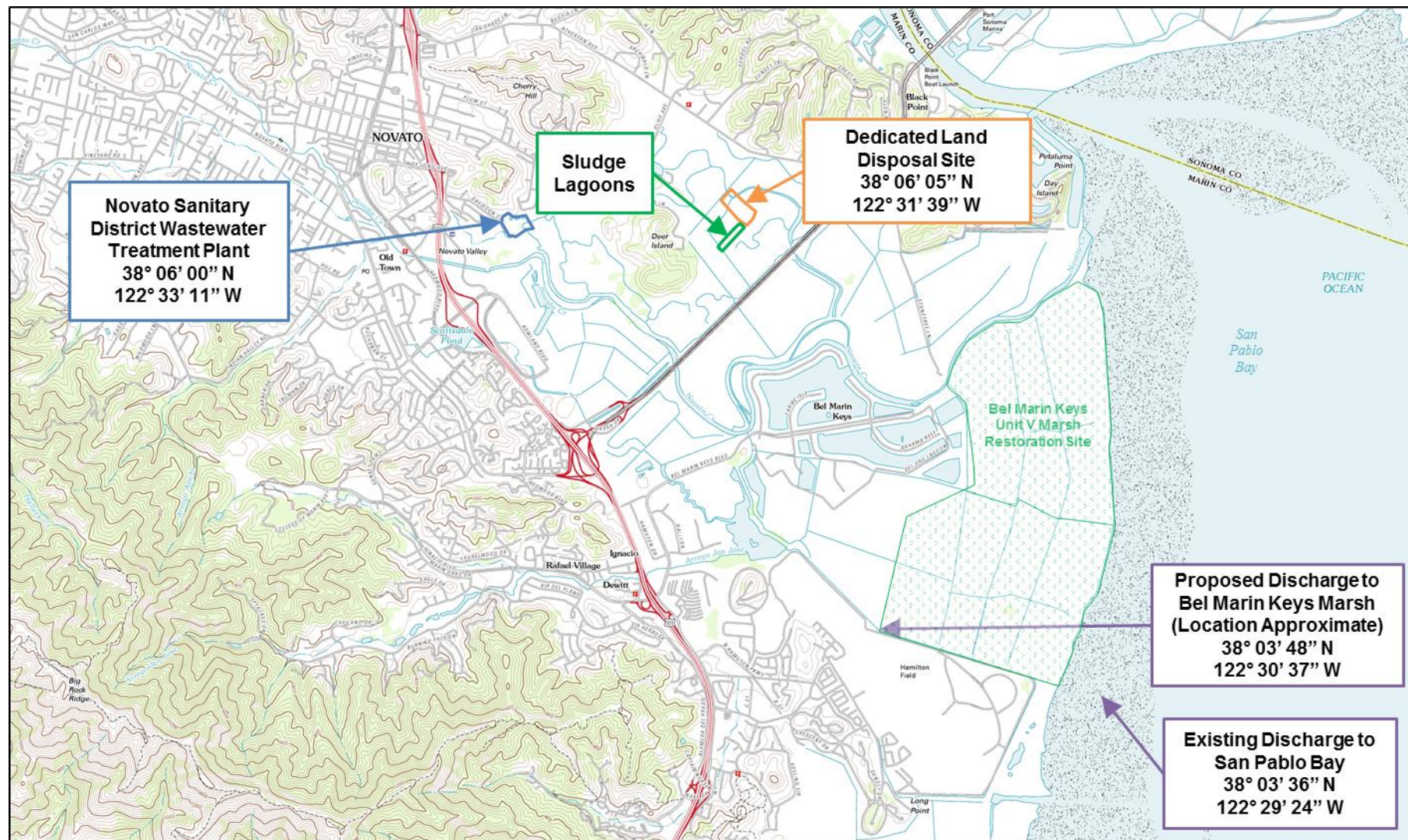
μ is the arithmetic mean of the observed values; and

n is the number of samples.

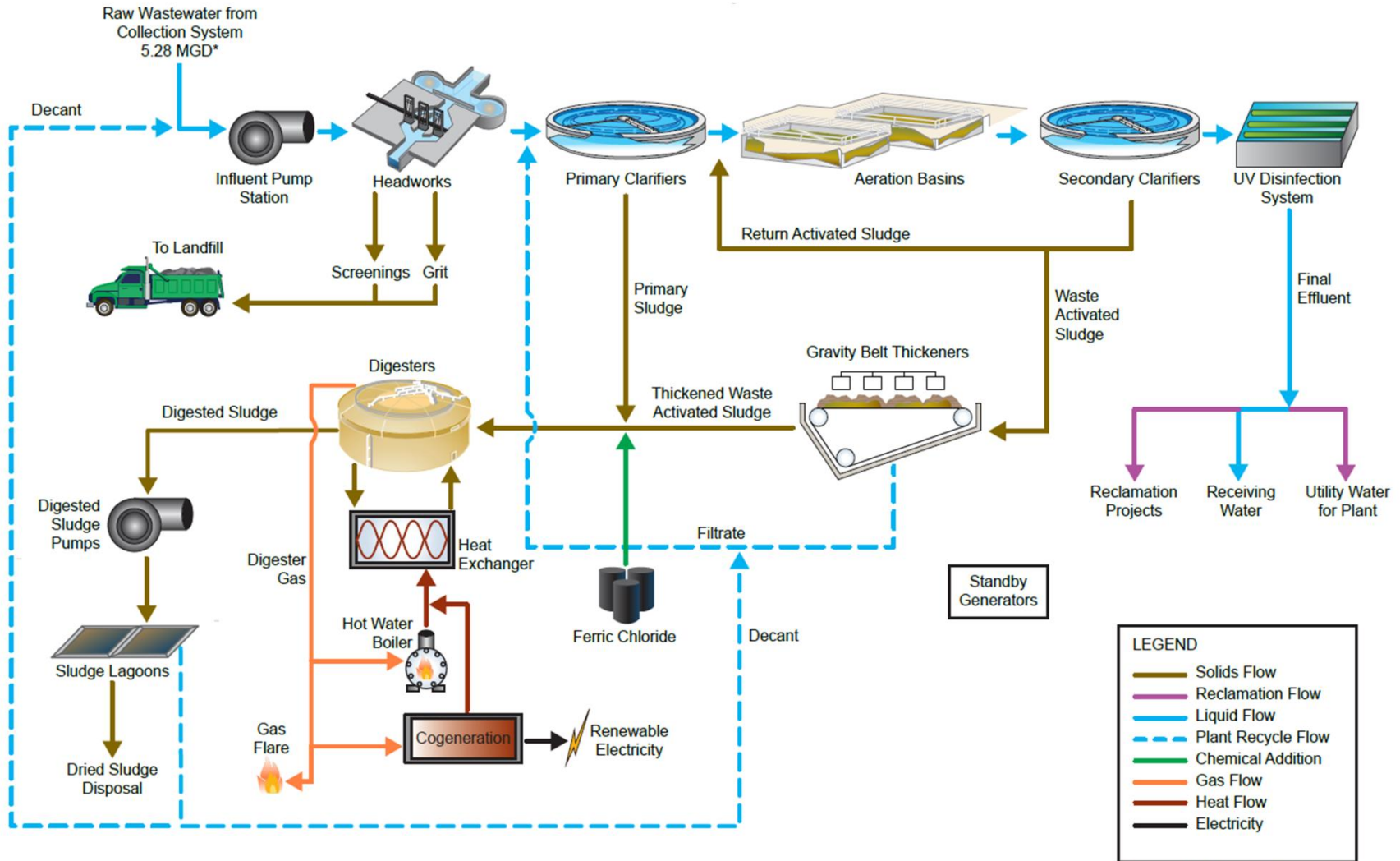
Toxicity Reduction Evaluation (TRE)

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 chemicals responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.

ATTACHMENT B – FACILITY MAP



ATTACHMENT C – PROCESS FLOW DIAGRAM



* Average daily flow rate from July 1, 2010 - March 31, 2014

ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 C.F.R. § 122.41(a); Wat. Code §§ 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)
2. The Discharger shall comply with effluent standards or prohibitions established under CWA section 307(a) for toxic pollutants and with standards for sewage sludge use or disposal established under CWA section 405(d) within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 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 C.F.R. § 122.41(c).)

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 C.F.R. § 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 C.F.R. § 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 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 C.F.R. § 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, U.S. EPA, 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 (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i); Wat. Code, §§ 13267, 13383):

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 (33 U.S.C. § 1318(a)(4)(B)(i); 40 C.F.R. § 122.41(i)(1); Wat. Code, §§ 13267, 13383);
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(2)); Wat. Code, §§ 13267, 13383);
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(3); Wat. Code, §§ 13267, 13383); and
4. Sample or monitor, at reasonable times, for the purposes of ensuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i)(4); Wat. Code, §§ 13267, 13383.)

G. Bypass

1. Definitions

- a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 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 C.F.R. § 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, I.G.4, and I.G.5 below. (40 C.F.R. § 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 C.F.R. § 122.41(m)(4)(i)):

- a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(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 C.F.R. § 122.41(m)(4)(i)(B)); and
- c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)
- 4. Approval.** 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 C.F.R. § 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 C.F.R. § 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 (24-hour notice). (40 C.F.R. § 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 Discharger. 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 C.F.R. § 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 Standard Provisions – Permit Compliance I.H.2 below 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 C.F.R. § 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 C.F.R. § 122.41(n)(3)):
 - a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));
 - b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));
 - c. The Discharger submitted notice of the upset as required in Standard Provisions—Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and

d. The Discharger complied with any remedial measures required under Standard Provisions—Permit Compliance I.C above. (40 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 Water Code. (40 C.F.R. §§ 122.41(l)(3), 122.61.)

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)

B. Monitoring results must be conducted according to test procedures approved under 40 C.F.R. part 136 for the analyses of pollutants unless another method is required under 40 C.F.R. subchapters N or O. In the case of pollutants for which there are no approved methods under 40 C.F.R. part 136 or otherwise required under 40 C.F.R. subchapters N or O, monitoring must be conducted according to a test procedure specified in this Order for such pollutants. (40 C.F.R. §§ 122.41(j)(4), 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 C.F.R. 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 C.F.R. § 122.41(j)(2).)

B. Records of monitoring information shall include the following:

1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));
3. The date(s) the analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and
6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

C. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and
2. Permit applications and attachments, permits, and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS—REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or U.S. EPA within a reasonable time, any information which the Regional Water Board, State Water Board, or U.S. EPA 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, State Water Board, or U.S. EPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, §§ 13267, 13383.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or U.S. EPA shall be signed and certified in accordance with Standard Provisions—Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k).)
2. For a corporation, all permit applications shall be signed 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 C.F.R. § 122.22(a)(1).)

For a partnership or sole proprietorship, all permit applications shall be signed by a general partner or the proprietor, respectively. (40 C.F.R. § 122.22(a)(2).)

For a municipality, state, federal, or other public agency, all permit applications shall be signed 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 U.S. EPA). (40 C.F.R. § 122.22(a)(3).)

- 3.** All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or U.S. EPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, 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 Standard Provisions—Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));
 - b.** The authorization specifies 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 C.F.R. § 122.22(b)(2)); and
 - c.** The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)
- 4.** If an authorization under Standard Provisions – Reporting V.B.3 above 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 Standard Provisions—Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)
- 5.** Any person signing a document under Standard Provisions—Reporting V.B.2 or V.B.3 above 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 C.F.R. § 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 C.F.R. § 122.22(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 State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 C.F.R. § 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 C.F.R. part 136, or another method required for an industry-specific waste stream under 40 C.F.R. subchapters N or O, the results of such 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 122.41(l)(6)(i).)
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):
 - a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)
 - b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)
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 C.F.R. § 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 C.F.R. § 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 C.F.R. section 122.29(b) (40 C.F.R. § 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 that are not subject to effluent limitations in this Order. (Alternatively, for an existing manufacturing, commercial, mining, or silvicultural discharge as referenced in 40 C.F.R. section 122.42(a), this notification applies to pollutants that are subject neither to effluent limitations in this Order nor to notification requirements under 40 C.F.R. section 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1).) (40 C.F.R. § 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 C.F.R. § 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with this Order's requirements. (40 C.F.R. § 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions—Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision—Reporting V.E above. (40 C.F.R. § 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, State Water Board, or U.S. EPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

- A. The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13268, 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS—NOTIFICATION LEVELS

A. Publicly Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Regional Water Board of the following (40 C.F.R. § 122.42(b)):

- 1.** Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to CWA sections 301 or 306 if it were directly discharging those pollutants (40 C.F.R. § 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 this Order. (40 C.F.R. § 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 C.F.R. § 122.42(b)(3).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

Clean Water Act section 308 and 40 C.F.R. sections 122.41(h), 122.41(j)-(l), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. This MRP establishes monitoring, reporting, and recordkeeping requirements that implement federal and State laws and regulations.

I. GENERAL MONITORING PROVISIONS

- A. The Discharger shall comply with this MRP. The Executive Officer may amend this MRP pursuant to 40 C.F.R. sections 122.62, 122.63, and 124.5. If any discrepancies exist between this MRP and the “Regional Standard Provisions, and Monitoring and Reporting Requirements (Supplement to Attachment D) for NPDES Wastewater Discharge Permits” (Attachment G), this MRP shall prevail.
- B. The Discharger shall conduct all monitoring in accordance with Attachment D, section III, as supplemented by Attachment G. Equivalent test methods must be more sensitive than those specified in 40 C.F.R. section 136 and must be specified in this permit.

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-1. Monitoring Locations

Sampling Location Type	Monitoring Location Name	Monitoring Location Description ^[1]
Influent	INF-001	A point in the plant headworks at which all waste tributary to the treatment system is present, following screening and grit removal (formerly A-002)
Effluent	EFF-001	A point in the plant at which all treatment phases are complete, including disinfection (formerly E-002). Effluent flow may be monitored at any location representative of the discharge to the receiving water at Discharge Points No. 001 and No. 002 after the discharge is relocated. <i>Latitude 38.100000 Longitude -122.553056</i>
Effluent	EFF-001REC	A point in the plant at which all treatment phases are complete, including disinfection (formerly E-002). Effluent flow may be monitored at any location representative of the total flow to reclamation facilities (including recycled water).
Effluent (reclamation pond)	EFF-001P	A point downstream of the reclamation storage ponds, prior to pond effluent commingling with plant effluent discharged directly to Discharge Point No. 001 (formerly W-004)
Biosolids	BIO-001	Biosolids (treated sludge)

Footnote:

^[1] Latitudes and longitudes are approximate for administrative purposes.

III. INFLUENT MONITORING REQUIREMENTS

The Discharger shall monitor plant influent at Monitoring Location INF-001 as follows:

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow ^[1]	MGD/MG	Continuous	Continuous/D
Biochemical Oxygen Demand (5-day @ 20°C)(BOD ₅)	mg/L	C-24	1/Week
Total Suspended Solids (TSS)	mg/L	C-24	1/Week
Cyanide, Total	µg/L	Grab	1/Month

Abbreviations:

MGD = million gallons per day
 MG = million gallons
 mg/L = milligrams per liter
 µg/L = micrograms per liter

Sampling Types and Frequencies:

C-24 = 24-hour composite sample
 Grab = grab sample
 Continuous = measured continuously
 Continuous/D = measured continuously, and recorded and reported daily
 1/Week = once per week
 1/Month = once per month

Footnotes:

- ^[1] The following flow information shall be reported in monthly self-monitoring reports:
- Daily average flow (MGD)
 - Monthly average flow (MGD)
 - Total monthly flow volume (MG)
 - Maximum and minimum daily average flow rates (MGD)

IV. EFFLUENT MONITORING REQUIREMENTS

A. Plant Discharges

The Discharger shall monitor plant effluent at Monitoring Location EFF-001 and EFF-001REC as follows:

Table E-3. Effluent Monitoring — Plant Discharges

Parameter ^[1]	Units	Sample Type	Minimum Sampling Frequency
Flow ^[2]	MGD/MG	Calculation	Continuous/D
Biochemical Oxygen Demand (5-day @ 20°C)(BOD ₅)	mg/L	C-24	1/Week
Total Suspended Solids (TSS)	mg/L	C-24	1/Week
Oil and Grease ^[3]	mg/L	Grab	1/Month
pH ^[4]	standard units	Continuous or Grab	5/Week ^[8]
Temperature	°C	Grab	5/Week ^[8]
Fecal Coliform Bacteria	MPN/100 mL ^[5]	Grab	1/Quarter ^[10]
Enterococcus	MPN/100 mL ^[5]	Grab	3/Week
Acute Toxicity ^[6]	% Survival	C-24	1/Quarter
Chronic Toxicity ^[7]	TU _c	C-24	1/Quarter
Ammonia, Total	mg/L as N	C-24	1/Month ^[8]
Copper, Total Recoverable	µg/L	C-24	1/Month
Cyanide, Total ^[9]	µg/L	Grab	1/Month
Dioxin-TEQ	µg/L	Grab	2/Year

Unit Abbreviations:

MGD	= million gallons per day
MG	= million gallons
mg/L	= milligrams per liter
µg/L	= micrograms per liter
mg/L as N	= milligrams per liter as nitrogen
°C	= degrees Celsius
% survival	= percent survival
MPN/100 mL	= most probable number per 100 milliliters
TU _c	= chronic toxicity units, equal to 100/NOEL, where NOEL = IC ₂₅ , EC ₂₅ , or NOEC

Sampling Types and Frequencies:

C-24	= 24 hour composite
Grab	= grab sample
Continuous	= measured continuously
Continuous/D	= measured continuously, and recorded and reported daily
1/Week	= once per week
3/Week	= three times per week
5/Week	= five times per week
1/Month	= once per month
1/Quarter	= once per quarter
2/Year	= twice per year

Footnotes:

- ^[1] For Monitoring Location EFF-001REC, only the flow shall be monitored and reported electronically. Other parameters are not required.
- ^[2] Flows shall be calculated based on influent and reclamation flow monitoring. The following flow information shall be reported in monthly self-monitoring reports:
 - Daily average flow (MGD)
 - Monthly average flow (MGD)
 - Total monthly flow volume (MG)
 - Maximum and minimum daily average flow rates (MGD)
- ^[3] Oil and grease sampling and analysis shall be conducted in accordance with U.S. EPA Method 1664A.
- ^[4] If pH is monitored continuously, the minimum and maximum pH for each day shall be reported in self-monitoring reports.
- ^[5] Results may be reported as colony forming units per 100 milliliters (CFU/100 mL) if the laboratory method used provides results in CFU/100 mL.
- ^[6] Acute bioassay tests shall be performed in accordance with MRP section V.A.
- ^[7] Chronic bioassay tests shall be performed in accordance with MRP section V.B.
- ^[8] Ammonia, temperature, and pH monitoring shall occur concurrently to allow for calculation of the un-ionized ammonia fraction.
- ^[9] The Discharger may, at its option, analyze for cyanide as weak acid dissociable cyanide using protocols specified in Standard Method Part 4500-CN-I, U.S. EPA Method OI 1677, or an equivalent method in the latest edition. The Executive Officer must approve use of the alternative analysis method.
- ^[10] If the fecal coliform effluent limitation is exceeded, the Discharger shall accelerate sampling to 3/Week for at least three consecutive months. If full compliance is demonstrated during the three months, the Discharger may return to 1/Quarter sampling.

B. Pond Discharges

If treated wastewater is diverted to the reclamation storage ponds other than for reclamation purposes, the Discharger shall report the following:

- Diversion date,
- Diversion duration (hours and minutes),
- Flow volume diverted (million gallons), and
- Reason for diversion.

If discharges occur, the Discharger shall monitor pond effluent at Monitoring Location EFF-001P as follows:

Table E-4. Effluent Monitoring — Pond Discharges

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow ^[1]	MG	Continuous	Continuous/D
Biochemical Oxygen Demand (5-day @ 20°C)(BOD ₅)	mg/L	C-24	1/Month
Total Suspended Solids (TSS)	mg/L	C-24	1/Week
Oil and Grease ^[2]	mg/L	Grab	1/Month
	kg/day	Calculate	1/Month
pH ^[3]	standard units	Continuous or Grab	1/Week
Temperature	°C	Grab	1/Week
Fecal Coliform Bacteria ^[4]	MPN/100 mL	Grab	1/Month
Enterococcus ^[4]	MPN/100 mL	Grab	1/Month
Acute Toxicity ^[5]	% Survival	C-24	1/Month
Ammonia, Total	mg/L as N	C-24	1/Month
Copper, Total Recoverable	µg/L	C-24	1/Month
Cyanide, Total	µg/L	Grab	1/Month

Unit Abbreviations:

- MG = million gallons
- mg/L = milligrams per liter
- µg/L = micrograms per liter
- mg/L as N = milligrams per liter as nitrogen
- °C = degrees Celsius
- % survival = percent survival
- MPN/100 mL = most probable number per 100 milliliters

Sampling Types and Frequencies:

- C-24 = 24 hour composite
- Grab = grab sample
- Continuous = measured continuously
- Continuous/D = measured continuously, and recorded and reported daily
- 1/Week = once per week
- 1/Month = once per month

Footnotes:

- ^[1] The following information shall be reported in monthly self-monitoring reports:
 - Date of discharge
 - Duration of discharge (hours and minutes) each day
 - Total daily and monthly flow volumes (MG)
 - Maximum and minimum daily average flow rates (MGD)
- ^[2] Oil and grease sampling and analysis shall be conducted in accordance with U.S. EPA Method 1664A.
- ^[3] If pH is monitored continuously, the minimum and maximum pH for each day shall be reported in self-monitoring reports.
- ^[4] Results may be reported as colony forming units per 100 milliliters (CFU/100 mL) if the laboratory method used provides results in CFU/100 mL.
- ^[5] Acute bioassay tests shall be performed in accordance with MRP section V.A.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Whole Effluent Acute Toxicity

1. Compliance with the acute toxicity effluent limitations shall be evaluated at Monitoring Locations EFF-001 and EFF-001P by measuring survival of test organisms exposed to 96-hour continuous flow-through or static renewal bioassays.

2. Test organisms shall be fathead minnow (*Pimephales promelas*). Alternatively, the Executive Officer may specify a more sensitive organism or, if testing a particular organism proves unworkable, the most sensitive organism available.
3. All bioassays shall be performed according to the most up-to-date protocols in 40 C.F.R. part 136, currently *Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms*, 5th Edition (EPA-821-R-02-012). If these protocols prove unworkable, the Executive Officer and the Environmental Laboratory Accreditation Program may grant exceptions in writing upon the Discharger's request with justification.
4. If the Discharger demonstrates that specific identifiable substances in the discharge are rapidly rendered harmless upon discharge to the receiving water, compliance with the acute toxicity limit may be determined after test samples are adjusted to remove the influence of those substances. Written acknowledgement that the Executive Officer concurs with the Discharger's demonstration and that the adjustment will not remove the influence of other substances must be obtained prior to any such adjustment. The Discharger may manually adjust the pH of whole effluent acute toxicity samples prior to performing bioassays to minimize ammonia toxicity interference.
5. Bioassay water monitoring shall include, on a daily basis, pH, dissolved oxygen, ammonia (if toxicity is observed), temperature, hardness, and alkalinity. These results shall be reported. If final or intermediate results of an acute bioassay test indicate a violation or threatened violation (e.g., the percentage of surviving test organisms is less than 70 percent), the Discharger shall initiate a new test as soon as practical and shall investigate the cause of the mortalities and report its findings in the next self-monitoring report. The Discharger shall repeat the test until a test fish survival rate of 90 percent or greater is observed. If the control fish survival rate is less than 90 percent, the bioassay test shall be restarted with new fish and shall continue as soon as practical until an acceptable test is completed (i.e., control fish survival rate is 90 percent or greater).

B. Whole Effluent Chronic Toxicity

1. Monitoring Requirements

- a. **Sampling.** The Discharger shall collect 24-hour composite effluent samples at Monitoring Location EFF-001 for critical life stage toxicity tests as indicated below. For toxicity tests requiring renewals, the Discharger shall collect 24-hour composite samples on consecutive or alternating days.
- b. **Test Species.** The test species shall be inland silverside (*Menidia beryllina*), unless a more sensitive species is identified. If using this species proves unworkable, the Executive Officer may specify a different species in writing upon the Discharger's request with justification

The Discharger shall conduct a screening chronic toxicity test as described in Appendix E-1, or as described in applicable State Water Board plan provisions that become effective after adoption of this Order, following any significant change in the

nature of the effluent. If there is no significant change in the nature of the effluent, the Discharger shall conduct a screening test and submit the results with its application for permit reissuance. Upon completion of the chronic toxicity screening, the Discharger shall use the most sensitive species to conduct subsequent monitoring.

- c. Frequency.** Chronic toxicity monitoring shall be as specified below:
- i.** The Discharger shall monitor routinely once per quarter.
 - ii.** The Discharger shall accelerate monitoring to monthly after either exceeding a three-sample median of 1 chronic toxicity unit (TU_c) or a single-sample maximum of 2 TU_c . Based on the TU_c results, the Executive Officer may specify a different frequency for accelerated monitoring to ensure that accelerated monitoring provides useful information.
 - iii.** The Discharger shall return to routine monitoring if accelerated monitoring does not exceed the trigger in ii, above.
 - iv.** If accelerated monitoring confirms consistent toxicity in excess of the trigger in ii, above, the Discharger shall continue accelerated monitoring and initiate toxicity reduction evaluation (TRE) procedures in accordance with section V.B.3, below.
 - v.** The Discharger shall return to routine monitoring after implementing appropriate elements of the TRE, and either the toxicity drops below the trigger in ii, above, or, based on the TRE results, the Executive Officer determines that accelerated monitoring would no longer provide useful information.

Monitoring conducted pursuant to a TRE shall satisfy the requirements for routine and accelerated monitoring while the TRE is underway.

- d. Methodology.** Sample collection, handling, and preservation shall be in accordance with U.S. EPA protocols. In addition, bioassays shall be conducted in compliance with the most recently promulgated test methods, as shown in Appendix E-2. These are *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms*, currently first edition (EPA/600/R-95-136), *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*, currently third edition (EPA-821-R-02-014) and *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, currently fourth edition (EPA-821-R2-02-013). If these protocols prove unworkable, the Executive Officer and the Environmental Laboratory Accreditation Program may grant exceptions in writing upon the Discharger's request with justification. If the Discharger demonstrates that specific identifiable substances in the discharge are rapidly rendered harmless upon discharge to the receiving water, compliance with the chronic toxicity limit may be determined after test samples are adjusted to remove the influence of those substances. Written acknowledgement that the Executive Officer concurs with the Discharger's demonstration and that the adjustment will not remove the influence of other substances must be obtained prior to any such adjustment.

- e. **Dilution Series.** The Discharger shall conduct tests at 100%, 65%, 30%, 15%, and 7.5%. The “%” represents percent effluent as discharged. Test sample pH may be controlled to the level of the effluent sample as received prior to being salted up.

2. Reporting Requirements

- a. The Discharger shall provide toxicity test results with self-monitoring reports and shall include the following, at a minimum, for each test:
 - i. Sample date
 - ii. Test initiation date
 - iii. Test species
 - iv. End point values for each dilution (e.g., number of young, growth rate, percent survival)
 - v. No Observable Effect Level (NOEL) values in percent effluent. The NOEL shall equal the IC₂₅ or EC₂₅ (see MRP Appendix E-1). If the IC₂₅ or EC₂₅ cannot be statistically determined, the NOEL shall equal to the No Observable Effect Concentration (NOEC) derived using hypothesis testing. The NOEC is the maximum percent effluent concentration that causes no observable effect on test organisms based on a critical life stage toxicity test.
 - vi. IC₁₅, IC₂₅, IC₄₀, and IC₅₀ values (or EC₁₅, EC₂₅, EC₄₀, and EC₅₀) as percent effluent
 - vii. TU_c values (100/NOEL, where NOEL = IC₂₅, EC₂₅, or NOEC)
 - viii. Mean percent mortality (±s.d.) after 96 hours in 100% effluent (if applicable)
 - ix. IC₅₀ or EC₅₀ values for reference toxicant tests
 - x. Available water quality measurements for each test (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, and ammonia)
- b. The Discharger shall provide the results of the most recent three chronic toxicity tests and the three-sample median in self-monitoring reports as TU_c's.

3. Toxicity Reduction Evaluation (TRE)

- a. The Discharger shall prepare a generic TRE work plan within 90 days of the effective date of this Order to be ready to respond to toxicity events. The Discharger shall review and update the work plan as necessary so that it remains current and applicable to the discharge and discharge facilities.
- b. Within 30 days of exceeding the chronic toxicity trigger in section V.B.1.c.ii, above, the Discharger shall submit a TRE work plan, which shall be the generic work plan revised as appropriate for this toxicity event after consideration of available discharge data.

- c.** Within 30 days of completing an accelerated monitoring test observed to exceed the trigger in section V.B.1.c.ii, above, the Discharger shall initiate a TRE in accordance with a TRE work plan that incorporates any and all Executive Officer comments.
- d.** The TRE shall be specific to the discharge and be in accordance with current technical guidance and reference materials, including U.S. EPA guidance materials. The Discharger shall conduct the TRE as a tiered evaluation as summarized below:

 - i.** Tier 1 shall consist of basic data collection (routine and accelerated monitoring).
 - ii.** Tier 2 shall consist of evaluation of treatment process optimization, including operational practices and in-plant process chemicals.
 - iii.** Tier 3 shall consist of a toxicity identification evaluation (TIE).
 - iv.** Tier 4 shall consist of evaluation of options for additional effluent treatment processes.
 - v.** Tier 5 shall consist of evaluation of options for modifications of in-plant treatment processes.
 - vi.** Tier 6 shall consist of implementation of selected toxicity control measures, and follow-up monitoring and confirmation of implementation success.
- e.** The Discharger may end the TRE at any stage if monitoring finds there is no longer consistent toxicity (i.e., compliance with section IV.E of the Order).
- f.** The objective of the TIE shall be to identify the substance or combination of substances causing the observed toxicity. The Discharger shall employ all reasonable efforts using currently available TIE methodologies.
- g.** As toxic substances are identified or characterized, the Discharger shall continue the TRE by determining the sources and evaluating alternative strategies for reducing or eliminating the toxic substances from the discharge. The Discharger shall take all reasonable steps to reduce toxicity to levels below the chronic toxicity limit.
- h.** Many recommended TRE elements parallel required or recommended efforts related to source control, pollution prevention, and stormwater 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 demonstrate compliance with TRE requirements.
- i.** Chronic toxicity may be episodic and identification of causes of and reduction of sources of chronic toxicity may not be successful. Regional Water Board enforcement considerations will be based in part on the Discharger's actions and efforts to identify and control or reduce sources of consistent toxicity.

VI. RECEIVING WATER MONITORING REQUIREMENTS

The Discharger shall continue to participate in the Regional Monitoring Program (RMP), which collects data on pollutants and toxicity in San Francisco Bay water, sediment, and biota.

VII. PRETREATMENT AND BIOSOLIDS MONITORING REQUIREMENTS

The Discharger shall comply with the following pretreatment monitoring requirements for influent (at Monitoring Location INF-001, effluent (at Monitoring Location EFF-001), and biosolids (at Monitoring Location BIO-001). The Discharger shall report summaries of analytical results in annual pretreatment reports in accordance with Attachment H. At its option, the Discharger may also report biosolids analytical results with its electronic self-monitoring reports by manual entry, by EDF/CDF, or as an attached file.

Table E-5. Pretreatment and Biosolids Monitoring

Constituents	Sampling Frequency			Sample Type	
	Influent INF-001 ^[6]	Effluent EFF-001 ^[6]	Biosolids BIO-001 ^[7]	Influent and Effluent	Biosolids ^[7]
VOC ^[1]	2/Year	2/Year	1/Year	Grab	Grab
BNA ^[2]	2/Year	2/Year	1/Year	Grab	Grab
Metals and Other Elements ^[3]	1/Month	1/Month	1/Year	C-24 ^[8]	Grab
Hexavalent Chromium ^[4]	1/Month	1/Month	1/Year	Grab	Grab
Mercury ^[5]	1/Month	1/Month	1/Year	C-24 ^[8]	Grab
Cyanide, Total	1/Month	1/Month	1/Year	Grab	Grab

Sample Type:

C-24 = 24 hour composite
 Grab = Grab sample

Sampling Frequency:

1/Month = once per month
 1/Year = once per year
 2/Year = twice per year

Footnotes:

- ^[1] VOC: volatile organic compounds
- ^[2] BNA: base/neutrals and acid extractable organic compounds
- ^[3] Metals and other elements are arsenic, cadmium, copper, lead, nickel, selenium, silver, and zinc.
- ^[4] The Discharger may choose to monitor and report total chromium instead of hexavalent chromium. Samples collected for total chromium measurements may be 24-hour composites.
- ^[5] The Discharger shall use ultra-clean sampling (U.S. EPA Method 1669) and ultra-clean analytical methods (U.S. EPA Method 1631) for mercury monitoring, except when levels are expected to exceed 10 µg/L, in which case use of ultra-clean sampling and analysis shall be optional.
- ^[6] Influent and effluent monitoring conducted in accordance with MRP Tables E-2 and E-3 may be used to satisfy these pretreatment monitoring requirements.
- ^[7] The biosolids sample shall be a composite of the biosolids to be disposed, and shall be collected during the period when biosolids are pumped from the ponds. Biosolids collection and monitoring shall comply with the requirements specified in Attachment H, Appendix H-4. The Discharger shall also comply with the biosolids monitoring requirements of 40 C.F.R. part 503.
- ^[8] If an automatic compositor is used, the Discharger shall obtain 24-hour composite samples through flow-proportioned composite sampling. Alternatively, 24-hour composite samples may consist of discrete grab samples combined (volumetrically flow-weighted) prior to analysis or mathematically flow-weighted.

VIII. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

The Discharger shall comply with all Standard Provisions (Attachments D and G) related to monitoring, reporting, and recordkeeping, with modifications shown in sections IX and X, below.

B. Self-Monitoring Reports (SMRs)

1. **SMR Format.** The Discharger shall electronically submit SMRs using the State Water Board’s California Integrated Water Quality System (CIWQS) Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). The CIWQS website will provide additional information for SMR submittal in the event of a planned service interruption for electronic submittal.
2. **SMR Due Dates and Contents.** The Discharger shall submit SMRs by the due dates, and with the contents, specified below:
 - a. **Monthly SMRs** — Monthly SMRs shall be due 30 days after the end of each calendar month, covering that calendar month. The monthly SMR shall contain the applicable items described in sections V.B and V.C of both Attachments D and G of this Order. See Provision VI.C.2 (Effluent Characterization Study and Report) of this Order for information that must also be reported with monthly SMRs.

Monthly SMRs shall include all new monitoring results obtained since the last SMR was submitted. If the Discharger monitors any pollutant more frequently than required by this Order, the Discharger shall include the results of such monitoring in the calculations and reporting for the SMR.

- b. **Annual SMR** — Annual SMRs shall be due February 1 each year, covering the previous calendar year. The annual SMR shall contain the items described in sections V.C.1.f of Attachment G. See also Provisions VI.C.2 (Effluent Characterization Study and Report) and VI.C.4.b (Sludge and Biosolids Management) of the Order for requirements to submit reports with the annual SMR.

3. **Specifications for Submitting SMRs to CIWQS** — The Discharger shall submit analytical results and other information using one of the following methods:

Table E-6. CIWQS Reporting

Parameter	Method of Reporting	
	EDF/CDF data upload or manual entry	Attached File
All parameters identified in influent, effluent, and receiving water monitoring tables (except Dissolved Oxygen and Temperature)	Required for all results	
Dissolved Oxygen Temperature	Required for monthly maximum and minimum results only ^[1]	Discharger may use this method for all results or keep records

Parameter	Method of Reporting	
	EDF/CDF data upload or manual entry	Attached File
Antimony Arsenic Beryllium Cadmium Chromium Copper Cyanide Lead Mercury Nickel	Selenium Silver Thallium Zinc Dioxins & Furans (by U.S. EPA Method 1613) Other Pollutants (by U.S. EPA Methods 601, 602, 608, 610, 614, 624, and 625)	Required for all results ^[2]
Volume and Duration of Blended Discharge ^[3]		Required for all blended effluent discharges
Analytical Method		Not required (Discharger may select "data unavailable") ^[1]
Collection Time Analysis Time		Not required (Discharger may select "0:00") ^[1]

Footnotes:

- ^[1] The Discharger shall continue to monitor at the minimum frequency specified in this MRP, keep records of the measurements, and make the records available upon request.
- ^[2] These parameters require EDF/CDF data upload or manual entry regardless of whether monitoring is required by this MRP or other provisions of this Order (except for biosolids, sludge, or ash provisions).
- ^[3] The requirement for volume and duration of blended discharge applies only if this Order authorizes the Discharger to discharge blended effluent.

The Discharger shall arrange all reported data in a tabular format and summarize data to clearly illustrate whether the Facility is operating in compliance with effluent limitations. The Discharger is not required to duplicate the submittal of data entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format, the Discharger shall electronically submit the data in a tabular format as an attachment.

4. Monitoring Periods. Monitoring periods for all required monitoring shall be as set forth below unless otherwise specified:

Table E-7. Monitoring Periods

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period
Continuous	Order effective date	All times
1/Week 2/Week 3/Week 5/Week	First Sunday following or on Order effective date	Sunday through Saturday
1/Month	First day of calendar month following or on Order effective date	First day of calendar month through last day of calendar month
1/Quarter ^[1]	Closest March 1, June 1, September 1, or December 1 before or after Order effective date	March 1 through May 31 June 1 through August 31 ^[2] September 1 through November 30 December 1 through February 28

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period
2/Year ^[1]	Closest January 1 or July 1 before or after Order effective date	January 1 through June 30 July 1 through December 31

Footnote:

^[1] Monitoring performed during the previous order term may be used to satisfy monitoring required by this Order.

^[2] Monitoring during this quarter is required only if there is a discharge.

5. RL and MDL Reporting. The Discharger shall report with each sample result the Reporting Level (RL) and Method Detection Limit (MDL) as determined by the procedure in 40 C.F.R. 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 purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ. 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 the laboratory considers appropriate.

- c. Sample results less than the laboratory’s MDL shall be reported as “Not Detected”, or ND.
- d. The Discharger shall instruct laboratories to establish calibration standards so that the minimum level (ML) value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

6. Compliance Determination. Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined above and in the Fact Sheet and Attachments A, D, and G. For purposes of reporting and administrative enforcement by the Regional Water Board and State Water Board, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the RL.

C. Discharge Monitoring Reports (DMRs)

- 1. The State Water Board has notified the Discharger to electronically submit DMRs. If such notification is rescinded, the Discharger shall submit DMRs in accordance with the requirements described below.

2. The Discharger shall submit hard copy DMRs. The Discharger shall sign and certify DMRs as Attachment D requires. The Discharger shall submit the DMR to one of the addresses listed below:

Standard Mail	FedEx/UPS/Other Private Carriers
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15 th Floor Sacramento, CA 95814

3. All discharge monitoring results shall be reported on official U.S. EPA pre-printed DMR forms (EPA Form 3320-1) or self-generated forms that follow the exact same format as EPA Form 3320-1.

IX. MODIFICATIONS TO ATTACHMENT G

This MRP modifies Attachment G as indicated below:

A. Attachment G section V.C.1.c.2 is revised as follows:

- 2) When determining compliance with an average monthly or maximum daily effluent limitation, and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of detected but not quantified (DNQ) or nondetect (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:
 - i. The data set shall be ranked from low to high, reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
 - ii. 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.

If a sample result, or the arithmetic mean or median of multiple sample results, is below the reporting limit, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation and the Discharger conducts a Pollutant Minimization Program, the Discharger shall not be deemed out of compliance.

B. Attachment G sections V.C.1.f and V.C.1.g are revised as follows, and section V.C.1.h (Reporting data in electronic format) is deleted:

- f. Annual self-monitoring report requirements

By the date specified in the MRP, the Discharger shall submit an annual report to the Regional Water Board covering the previous calendar year. The report shall contain the following:

- 1) Annual compliance summary table of treatment plant performance, including documentation of any blending events (this summary table is not required if the Discharger has submitted the year's monitoring results to CIWQS in electronic reporting format by EDF/CDF upload or manual entry);
 - 2) Comprehensive discussion of treatment plant performance and compliance with the permit (This discussion shall include any corrective actions taken or planned, such as changes to facility equipment or operation practices that may be needed to achieve compliance, and any other actions taken or planned that are intended to improve performance and reliability of the Discharger's wastewater collection, treatment, or disposal practices.);
 - 3) Both tabular and graphical summaries of the monitoring data for the previous year if parameters are monitored at a frequency of monthly or greater (this item is not required if the Discharger has submitted the year's monitoring results to CIWQS in electronic reporting format by EDF/CDF upload or manual entry);
 - 4) List of approved analyses, including the following:
 - (i) List of analyses for which the Discharger is certified;
 - (ii) List of analyses performed for the Discharger by a separate certified laboratory (copies of reports signed by the laboratory director of that laboratory shall not be submitted but be retained onsite); and
 - (iii) List of "waived" analyses, as approved;
 - 5) Plan view drawing or map showing the Discharger's facility, flow routing, and sampling and observation station locations;
 - 6) Results of annual facility inspection to verify that all elements of the SWPP Plan are accurate and up to date (only required if the Discharger does not route all stormwater to the headworks of its wastewater treatment plant); and
 - 7) Results of facility report reviews (The Discharger shall regularly review, revise, and update, as necessary, the O&M Manual, the Contingency Plan, the Spill Prevention Plan, and Wastewater Facilities Status Report so that these documents remain useful and relevant to current practices. At a minimum, reviews shall be conducted annually. The Discharger shall include, in each Annual Report, a description or summary of review and evaluation procedures, recommended or planned actions, and an estimated time schedule for implementing these actions. The Discharger shall complete changes to these documents to ensure they are up-to-date.).
- g. Report submittal

The Discharger shall submit SMRs addressed as follows, unless the Discharger submits SMRs electronically to CIWQS:

California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612
Attn: NPDES Wastewater Division

h. Reporting data in electronic format – *Deleted*

C. Attachment G sections V.E.2, V.E.2.a, and V.E.2.c are revised as follows, and sections V.E.2.b (24-hour Certification) and V.E.2.d (Communication Protocol) are deleted:

2. Unauthorized Discharges from Municipal Wastewater Treatment Plants¹

The following requirements apply to municipal wastewater treatment plants that experience an unauthorized discharge at their treatment facilities and supersede requirements imposed on the Discharger by the Executive Officer by letter of May 1, 2008.

a. Two (2)-Hour Notification

For any unauthorized discharges that enter a drainage channel or a surface water, the Discharger shall, as soon as possible, but not later than two (2) hours after becoming aware of the discharge, notify the California Office of Emergency Services (CalOES, currently 800-852-7550), the local health officers or directors of environmental health with jurisdiction over the affected water bodies, and the Regional Water Board. Timely notification by the Discharger to CalOES also satisfies notification to the Regional Water Board. Notification shall include the following:

- 1) Incident description and cause;
- 2) Location of threatened or involved waterway(s) or storm drains;
- 3) Date and time the unauthorized discharge started;
- 4) Estimated quantity and duration of the unauthorized discharge (to the extent known), and the estimated amount recovered;
- 5) Level of treatment prior to discharge (e.g., raw wastewater, primary treated, undisinfected secondary treated, and so on); and
- 6) Identity of the person reporting the unauthorized discharge.

b. 24-hour Certification – *Deleted*

c. 5-day Written Report

¹ California Code of Regulations, Title 23, Section 2250(b), defines an unauthorized discharge to be a discharge, not regulated by waste discharge requirements, of treated, partially treated, or untreated wastewater resulting from the intentional or unintentional diversion of wastewater from a collection, treatment or disposal system.

Within five business days, the Discharger shall submit a written report that includes, in addition to the information required above, the following:

- 1) Methods used to delineate the geographical extent of the unauthorized discharge within receiving waters;
- 2) Efforts implemented to minimize public exposure to the unauthorized discharge;
- 3) Visual observations of the impacts (if any) noted in the receiving waters (e.g., fish kill, discoloration of water) and the extent of sampling if conducted;
- 4) Corrective measures taken to minimize the impact of the unauthorized discharge;
- 5) Measures to be taken to minimize the chances of a similar unauthorized discharge occurring in the future;
- 6) Summary of Spill Prevention Plan or O&M Manual modifications to be made, if necessary, to minimize the chances of future unauthorized discharges; and
- 7) Quantity and duration of the unauthorized discharge, and the amount recovered.

d. Communication Protocol – *Deleted*

X. MODIFICATIONS TO ATTACHMENT H

This MRP modifies Attachment H as indicated below:

A. Attachment H, Appendix H-3, Signature Requirements for Pretreatment Annual and Semiannual Reports, is revised as follows:

The pretreatment annual and semiannual reports shall be signed by a principal executive officer, ranking elected official, or other duly authorized employee who is responsible for the overall operation of the Discharger (POTW - 40 CFR section 403.12[m]). Signed copies of the reports shall be submitted to the State Water Board and the Regional Water Board through the electronic self-monitoring report (eSMR) module of the California Integrated Water Quality System (CIWQS). Signed copies of the reports shall also be submitted electronically to the U.S. EPA at R9Pretreatment@epa.gov, or as instructed otherwise.

**APPENDIX E-1
CHRONIC TOXICITY
DEFINITION OF TERMS AND SCREENING PHASE REQUIREMENTS**

I. Definition of Terms

- A. No observed effect level (NOEL) for compliance determination is equal to IC₂₅ or EC₂₅. If the IC₂₅ or EC₂₅ 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-Kärber. EC₂₅ is the concentration of toxicant (in percent effluent) that causes a response in 25 percent 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 nonlethal, nonquantal biological measurement, such as growth. For example, an IC₂₅ is the estimated concentration of toxicant that would cause a 25 percent reduction in average young per female or growth. IC values may be calculated using a linear interpolation method such as U.S. EPA'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 Appendix E-2, attached, and use of the protocols referenced in those tables.

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 Appendix E-2 (attached).
 - 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.
 3. Appropriate controls.
 4. Concurrent reference toxicant tests.
 5. Dilution series of 100%, 50%, 25%, 12.5%, 6.25%, and 0%, where “%” is percent effluent as discharged, or as otherwise approved by the Executive Officer if different dilution ratios are needed to reflect discharge conditions.
- C. The Discharger shall submit a screening phase proposal. The proposal shall address each of the elements listed above. If within 30 days, the Executive Officer does not comment, the Discharger shall commence with screening phase monitoring.

**APPENDIX E-2
 SUMMARY OF TOXICITY TEST SPECIES REQUIREMENTS**

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

Species	(Scientific Name)	Effect	Test Duration	Reference
Alga	<i>(Skeletonema costatum)</i> <i>(Thalassiosira pseudonana)</i>	Growth rate	4 days	1
Red alga	<i>(Champia parvula)</i>	Number of cystocarps	7–9 days	3
Giant kelp	<i>(Macrocystis pyrifera)</i>	Percent germination; germ tube length	48 hours	2
Abalone	<i>(Haliotis rufescens)</i>	Abnormal shell development	48 hours	2
Oyster Mussel	<i>(Crassostrea gigas)</i> <i>(Mytilus edulis)</i>	Abnormal shell development; percent survival	48 hours	2
Echinoderms - Urchins Sand dollar	<i>(Strongylocentrotus purpuratus, S. franciscanus)</i> <i>(Dendraster excentricus)</i>	Percent fertilization or larval development	1 hour or 72 hours	2
Shrimp	<i>(Americamysis bahia)</i>	Percent survival; growth	7 days	3
Shrimp	<i>(Holmesimysis costata)</i>	Percent survival; growth	7 days	2
Topsmelt	<i>(Atherinops affinis)</i>	Percent survival; growth	7 days	2
Silversides	<i>(Menidia beryllina)</i>	Larval growth rate; percent survival	7 days	3

Toxicity Test References:

- 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.
- Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine and Estuarine Organisms. EPA/600/R-95/136. August 1995.
- Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to Marine and Estuarine Organisms. EPA/821/R-02/014. October 2002.

Table AE-2. Critical Life Stage Toxicity Tests for Fresh Waters

Species	(Scientific Name)	Effect	Test Duration	Reference
Fathead minnow	<i>(Pimephales promelas)</i>	Survival; growth rate	7 days	4
Water flea	<i>(Ceriodaphnia dubia)</i>	Survival; number of young	7 days	4
Alga	<i>(Selenastrum capricornutum)</i>	Final cell density	4 days	4

Toxicity Test Reference:

1. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, fourth Edition Chronic manual (EPA-821-R-02-013, October 2002).

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

Requirements	Receiving Water Characteristics		
	Discharges to Coast	Discharges to San Francisco Bay ^[1]	
		Ocean	Marine/Estuarine
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 ^[2]	0	1 or 2	3
Marine/Estuarine	4	3 or 4	0
Total number of tests	4	5	3

Footnotes:

- ^[1] (a) Marine refers to receiving water salinities greater than 1 part per thousand (ppt) at least 95 percent of the time during a normal water year.
 (b) Freshwater refers to receiving water with salinities less than 1 ppt at least 95 percent of the time during a normal water year.
 (c) Estuarine refers to receiving water salinities that fall between those of marine and freshwater, as described above.
- ^[2] The freshwater species may be substituted with marine species if:
 - (a) The salinity of the effluent is above 1 ppt greater than 95 percent of the time, or
 - (b) 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.

ATTACHMENT F - FACT SHEET

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ATTACHMENT F – FACT SHEET

This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order. As described in section II.B of the Order, the Regional Water Board incorporates this Fact Sheet as findings supporting the issuance of the Order.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	2 215022001
CIWQS Place ID	244705
Discharger	Novato Sanitary District
Facility Name	Novato Sanitary District Wastewater Treatment Plant and its collection system
Facility Address	500 Davidson St., Novato CA 94945 Marin County
Facility Contact, Title, Phone	Sandeep Karkal Manager Engineer (415) 892-1694
Authorized Person to Sign and Submit Reports	Same as facility contact, or designee
Mailing Address	500 Davidson St., Novato, CA 94945 Marin County
Billing Address	Same as mailing address
Facility Type	Publicly Owned Treatment Works
Major or Minor Facility	Major
Threat to Water Quality	2
Complexity	A
Pretreatment Program	Yes
Reclamation Requirements	Yes (Regional Water Board Order No. 92-065)
Mercury and PCBs Requirements	NPDES Permit No. CA0038849
Nutrients Requirements	NPDES Permit No. CA0038873
Permitted Flow	7.0 million gallons per day (MGD) – average daily dry weather design flow
Design Flow	47 MGD – wet weather secondary treatment
Watershed	San Pablo Bay
Receiving Water	San Pablo Bay
Receiving Water Type	Estuarine

- A. The Novato Sanitary District (Discharger) owns the Novato Sanitary District Wastewater Treatment Plant and its collection system (collectively, the Facility). The plant provides secondary treatment of the wastewater collected from its service area and discharges it to San Pablo Bay.

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 Discharger is regulated pursuant to National Pollutant Discharge Elimination System (NPDES) Permit No. CA0037958. The Discharger was previously subject to the NPDES permit in Order No. R2-2010-0074 (previous order), which became effective on July 1, 2010, and was administratively extended by operation of law past its stated expiration date (June 30, 2015). The Facility discharges wastewater to San Pablo Bay, a water of the United States within the San Francisco Bay watershed. Attachment B provides maps of the area around the Facility. Attachment C provides a plant flow schematic.

When applicable, State law requires dischargers to file a petition with the State Water Resources Control Board (State Water Board), Division of Water Rights, and receive approval for any change in the point of discharge, place of use, or purpose of use of treated wastewater that decreases the flow in any portion of a watercourse. The State Water Board retains separate jurisdictional authority to enforce such requirements under Water Code 1211. This is not an NPDES permit requirement.

- C.** The Discharger filed a Report of Waste Discharge and submitted an application for reissuance of its Waste Discharge Requirements (WDRs) and NPDES permit on September 26, 2014.
- D.** The discharge is also regulated under NPDES Permit Nos. CA0038849 and CA0038873, which establish requirements on mercury, polychlorinated biphenyls (PCBs), and nutrients from wastewater discharges to San Francisco Bay. This Order does not affect those permits.

II. FACILITY DESCRIPTION

A. Wastewater and Biosolids Treatment

- 1. Location and Service Area.** The plant is located at 500 Davidson Street in Novato. It provides secondary treatment of domestic and non-domestic wastewater from the City of Novato and adjacent unincorporated Marin County. The Facility currently serves a population of approximately 60,000.
- 2. Collection System.** The collection system collects wastewater and transports it to the plant through a series of gravity sewers and interceptors, pump stations, and force mains designed to handle peak wet weather flows. The collection system includes 229 miles of sewer lines and 39 pump stations.
- 3. Wastewater Treatment.** The plant can provide secondary treatment for an average daily dry weather design flow of 7.0 million gallon per day (MGD). During 2013, the daily average influent flow ranged between 3.3 and 6.5 MGD. On average, the plant provided secondary treatment for 4.2 MGD. Treatment processes consist of influent pumping, influent screening, flow measurement and grit removal, primary clarification, activated sludge secondary treatment followed by secondary clarifiers, and ultraviolet (UV) disinfection. By design, during wet weather, the plant can provide secondary treatment for a sustained 3-hour peak flow of up to 47 MGD.
- 4. Sludge and Biosolids Management.** The plant produces about 850 dry metric tons of biosolids per year. Solids handling includes gravity belt waste activated sludge thickening, anaerobic digestion of primary sludge and thickened waste activated sludge, and removal of digested

sludge to storage at sludge lagoons. Biosolids are land-applied onsite at a 14.4-acre dedicated land disposal site east of the treatment plant (see Attachment B).

5. **Reclamation Activities.** The Discharger's reclamation system includes two storage ponds with a combined storage capacity of 180 million gallons, a wildlife pond, an irrigation pump station, and 820 acres of irrigated pasturelands. From June 1 through August 31 (and typically longer), the Discharger diverts effluent into the two storage ponds. Effluent from these ponds meets California Code of Regulations, Title 22, section 60304(d) standards and is used to irrigate the pasturelands, which are used for beef cattle grazing and irrigated hay production. Alternatively, plant effluent is diverted for additional treatment to produce tertiary-treated effluent for golf course irrigation and other uses. This water meets California Code of Regulations, Title 22, section 60304(a) standards. Regional Water Board Order No. 92-065 specifies the requirements for the Discharger's reclamation activities. Any surplus water in the storage ponds not used for reclamation may be discharged through Discharge Point No. 001.
6. **Stormwater Management.** The Discharger is not required to be covered under the State Water Board's statewide NPDES permit for stormwater discharges associated with industrial activities (NPDES General Permit No. CAS000001) because all stormwater flows in contact with equipment or sewage at the plant and the pump stations serving the plant is collected and directed to the headworks of the plant for treatment.

B. Discharge Point and Receiving Waters

Discharge of treated effluent to San Pablo Bay is through a multiport diffuser currently located approximately 950 feet offshore at Discharge Point No. 001. The diffuser is submerged at the +1 foot mean lower low water tidal elevation. At lower tidal elevations, the outfall is exposed, and the distance from the diffuser to the San Pablo Bay water line can range from 1,000 to 3,500 feet.

From June 1 through August 31 effluent is sent to the two storage ponds and reclaimed. Discharge is prohibited during this timeframe except when effluent volume will exceed reclamation water demand. When this occurs, the Discharger discharges from the storage ponds any surplus water not used for reclamation through a pipeline connected to Discharge Point No. 001.

C. Discharge Relocation

The Discharger proposes to move its discharge approximately 1.2 miles inland to a new marsh system on the Bel Marin Keys Unit V property in southeast Novato (see Attachment B). The State Coastal Conservancy intends to create approximately 1,750 acres of brackish and tidal marsh from existing farmland and former diked marshland. The restoration project will involve breaching an existing bayfront levee at the Bel Marin Keys shoreline and allowing tidal waters to inundate the area. The marsh will become part of San Pablo Bay, and the new shoreline will move landward by approximately 5,000 feet. The discharge would provide a freshwater source to the new brackish marsh. If the restoration project receives all necessary permits and funding to proceed, discharge would flow to the marsh year-round to support the brackish marsh habitat. Provision VI.C.5.b describes the approval process for the purpose of this discharge relocation and change to year round discharge.

D. Previous Requirements and Monitoring Data

The table below presents the effluent limitations contained in the previous order and representative monitoring data from the previous order term:

Table F-2. Previous Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitations			Monitoring Data (7/10 – 9/14)
		Monthly Average	Weekly Average	Daily Maximum	Highest Daily Discharge
Wet Weather (November 1 – April 30)					
Biochemical Oxygen Demand, 5-day @ 20°C (BOD ₅)	mg/L	30	45	---	34
Total Suspended Solids (TSS)	mg/L	30	45	---	22
Oil and Grease	mg/L	10	---	20	5
Dry Weather (May 1 – October 31)					
Biochemical Oxygen Demand, 5-day @ 20°C (BOD ₅)	mg/L	15	30	---	21
Total Suspended Solids (TSS)	mg/L	10	20	---	11
Oil and Grease	mg/L	5	---	10	DNQ 2.6
Year-Round					
pH	standard units	6.5 – 8.5			6.4 – 7.5 ^[1]
Total Residual Chlorine	mg/L	---	---	0.0	0.0
Enterococcus	MPN/100 mL	^[2]	---	---	1,700
Fecal Coliform	MPN/100 mL	^[3]	---	---	>1,600
Copper, Total	µg/L	6.9	---	13	7.5
Cyanide, Total	µg/L	6.6	---	15	<0.6
Carbon tetrachloride	µg/L	4.4	---	8.8	<0.16
Dioxin-TEQ	µg/L	1.4 x 10 ⁻⁸	---	2.8 x 10 ⁻⁸	DNQ 3.7 x 10 ⁻¹¹
Dieldrin	µg/L	0.00014	---	0.00028	<0.008
Ammonia, Total	mg/L as N	6.0	---	21	8.08
Acute Toxicity	% Survival	Not less than 90% (11-Sample Median)			95 ^[4]
		Not less than 70% (11-Sample 90th Percentile)			
Chronic Toxicity	TU _c	^[5]			1.8 ^[6]

Unit Abbreviations:

- mg/L = milligrams per liter
- µg/L = micrograms per liter
- mg/L as N = milligrams per liter as nitrogen
- MPN/100 mL = most probable number per 100 milliliters
- % Survival = percent survival
- DNQ = detected but not quantified (below established minimum level)

Footnotes:

- ^[1] Range of lowest and highest pH values.
- ^[2] The 30-day geometric mean for all samples analyzed for enterococcus bacteria was not to exceed 35 colonies per 100 mL.
- ^[3] The median fecal coliform value was not to exceed 140 MPN/100mL and the 90th percentile fecal coliform value was not to exceed 430 MPN/100mL.
- ^[4] Lowest single samples percent survival.
- ^[5] The limitation was “no chronic toxicity in the discharge as discharged.”
- ^[6] The test results indicated parasitic interference leading to false chronic toxicity readings for the water flea (*Ceriodaphnia dubia*). After approval of the Discharger’s Effluent Chronic Toxicity Screening Study Plan (October 2012), the Discharger began testing chronic

toxicity with inland silverside (*Menidia beryllina*) in January 2013, and parasitic-related toxicity ceased. The highest chronic toxicity measurement with *Menidia beryllina* was 1.8 TUC in May 2013.

E. Compliance Summary

- 1. Treatment Plant.** The Discharger violated its effluent limitations once during the previous order term through January 2015. On December 27, 2010, the Discharger measured a pH of 6.4, which is below the daily minimum effluent limit of 6.5.

Cease and Desist Order No. R2-2010-0075 established a time schedule for the Discharger to complete necessary facility upgrades to address imminent and threatened violations of the copper, carbon tetrachloride, dieldrin, and total ammonia effluent limitations. The Discharger completed the facility upgrades and subsequently complied with the copper, carbon tetrachloride, dieldrin, and total ammonia effluent limitations. Therefore, this Order rescinds Cease and Desist Order No. R2-2010-0075.

- 2. Collection System.** The table below shows the Discharger’s sanitary sewer overflow (SSO) rates (total SSOs per 100 miles of collection system) for each of the last four years and other information together with those for the county and region. SSOs that reach waters of the United States may violate Prohibition III.D of this Order.

Table F-3. SSO Rates (total SSOs/100 miles of sewer)
 (based on CIWQS data analysis completed in February 2015)^[1]

	Length (miles)	Average Age (years)	2011	2012	2013	2014
Novato Sanitary District	229	41	6.2	8.0	4.4	4.8
Marin County median of 4 large systems (≥ 100 miles)	173	55	11.5	12.4	7.4	10.3
San Francisco Bay Region median of 45 large systems (≥ 100 miles)	230	50	5.1	5.0	4.5	5.2
San Francisco Bay Region median of all 132 systems	42	45	4.0	4.6	4.5	6.2

Footnote:

^[1] The State Water Board’s *Enrollee’s Guide to the SSO Database* defines “Total number of SSOs per 100 miles of Sewer” as “...the number of SSOs, for which the reporting Enrollee is responsible, for every 100 miles of pipe or sewer lines in an Enrollee’s sanitary sewer system. Due to the large variation in facility specific characteristics, this metric should only be viewed as a rough comparison of the operation and maintenance performance of Enrollees and their sanitary sewer systems.”

The SSO rates of the Discharger’s collection system have been lower than the Marin County medians throughout the previous order term, and lower than the San Francisco Bay Region medians in 2013 and 2014. During the previous order term, the Discharger completed significant collection system improvements costing over \$7 million, including over \$2 million on small capital improvements that included collection system repairs and over \$4.7 million replacing and rehabilitating pump stations. In 2014, the Discharger budgeted over \$6 million for capital improvement projects and spent about \$1.5 million for collection system improvements. This level of funding will rehabilitate approximately 3.4 miles, or 1.5 percent, of the Discharger’s 229-mile system per year. This rehabilitation rate is based on the annual capital expenditure the Discharger reported for the year 2014 (\$3,379,000) divided by an estimated \$1 million cost per mile of collection system rehabilitation, divided by the total number of miles of collection system. Regional Water Board staff will monitor the adequacy

of the Discharger's collection system capital improvement activities annually during this Order's term.

F. Planned Changes

The Discharger plans to complete the following projects during the term of this Order. These changes are for informational purposes only and are not requirements of this Order, except to the extent that they pertain to ensuring treatment or wastewater collection system reliability. Their inclusion here does not imply Regional Water Board authorization. The Discharger must obtain any necessary permits or permit modifications to implement these changes.

- 1. Discharge Relocation and Recycled Water Storage Pond.** The Discharger has plans to relocate its discharge to create and support new brackish marsh habitat as part of a State Coastal Conservancy wetland restoration project. Also as part of this project, the Discharger and the State Coastal Conservancy are considering construction of a new recycled water storage pond.
- 2. Wastewater Treatment Plant Upgrades.** The Discharger proposes minor improvements, including additional odor control testing and validation, landscape improvements, solids handling improvements, corrosion control improvements, and general corrosion protection work.
- 3. Pump Station Rehabilitation.** The Discharger is currently replacing its underground pump stations with submersible pumps.
- 4. Lateral Replacement Program.** The Discharger has established a grant program to incentivize homeowners and assist them financially to replace the entire sewer lateral between their residence and the Discharger's sewer main. This program is part of the Discharger's long-term approach for reducing infiltration and inflow.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

A. Legal Authorities

This Order serves as WDRs pursuant to California Water Code article 4, chapter 4, division 7 (commencing with § 13260) for discharges to land and/or waters of the State. This Order is also issued pursuant to Clean Water Act (CWA) section 402 and implementing regulations adopted by U.S. EPA, and Water Code chapter 5.5, division 7 (commencing with § 13370). It shall serve as an NPDES permit for point source discharges from this facility to surface waters.

B. California Environmental Quality Act

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (CEQA), Public Resources Code division 13, chapter 3 (commencing with § 21100). To the extent the permit authorizes continued operations from the existing facility, the permit is exempt from CEQA pursuant to Title 14 of the California Code of Regulations, section 15301. To the extent the permit authorizes a change in the discharge location, it is also covered by sections 15301 and 15302 because it is a minor alteration of an existing facility involving only a negligible expansion in use. Moreover, the intended discharge area will create new wetlands, an activity that is exempt from CEQA under sections 15307 (protection of natural resources) and 15308 (protection of the environment).

C. State and Federal Regulations, Policies, and Plans

1. Water Quality Control Plan. The Regional Water Board adopted the *Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan), which designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements in this Order implement the Basin Plan. In addition, this Order implements State Water Board Resolution No. 88-63, which established State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Because of the marine influence on San Pablo Bay, total dissolved solids levels exceed 3,000 mg/L; therefore, San Pablo Bay meets an exception to State Water Board Resolution No. 88-63. The table below lists beneficial uses applicable to San Pablo Bay:

Table F-4. Beneficial Uses

Discharge Points	Receiving Water	Beneficial Uses
001	San Pablo Bay	Industrial Service Supply (IND) Ocean, Commercial, and Sport Fishing (COMM) Shellfish Harvesting (SHELL) Estuarine Habitat (EST) Fish Migration (MIGR) Preservation of Rare and Endangered Species (RARE) Fish Spawning (SPWN) Wildlife Habitat (WILD) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2) Navigation (NAV)
002	San Pablo Bay	Same as those for Discharge Point No. 001. (A new marsh will be hydraulically contiguous with San Pablo Bay after restoration and relocation of the discharge to Discharge Point No. 002.)

2. Sediment Quality. The State Water Board adopted the *Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1, Sediment Quality* on September 16, 2008, and it became effective on August 25, 2009. This plan supersedes other narrative sediment quality objectives, and establishes new sediment quality objectives and related implementation provisions for specifically defined sediments in most bays and estuaries. This Order implements the sediment quality objectives of this plan for both the existing and proposed discharges.

3. National Toxics Rule (NTR) and California Toxics Rule (CTR). U.S. EPA adopted the NTR on December 22, 1992, and amended it on May 4, 1995, and November 9, 1999. About 40 criteria in the NTR apply in California. On May 18, 2000, U.S. EPA adopted the CTR. The CTR promulgated new toxics criteria for California and incorporated the previously adopted NTR criteria that applied in the State. U.S. EPA amended the CTR on February 13, 2001. These rules contain water quality criteria for priority pollutants.

4. 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 U.S. EPA promulgated for

California through the NTR and the priority pollutant objectives the Regional Water Board established in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria U.S. EPA promulgated through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives, and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

- 5. Antidegradation Policy.** Federal regulations at 40 C.F.R. section 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 through State Water Board Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California*, which is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. Permitted discharges must be consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16. (See section IV.D.2 Antidegradation.)
- 6. Anti-Backsliding Requirements.** CWA sections 402(o) and 303(d)(4) and 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. (See section IV.D.1 Anti-Backsliding.)

D. Impaired Waters on CWA 303(d) List

In October 2011, U.S. EPA approved a revised list of impaired waters prepared pursuant to CWA section 303(d), which requires identification of 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. Where it has not done so already, the Regional Water Board plans to adopt total maximum daily loads (TMDLs) for pollutants on the 303(d) list. TMDLs establish wasteload allocations for point sources and load allocations for non-point sources and are established to achieve the water quality standards for the impaired waters.

San Pablo Bay is 303(d) listed as impaired by chlordane, DDT, dieldrin, dioxin compounds, furan compounds, invasive species, mercury, PCBs, dioxin-like PCBs, and selenium. On February 12, 2008, U.S. EPA approved a TMDL for mercury in San Francisco Bay. On March 29, 2010, U.S. EPA approved a TMDL for PCBs in San Francisco Bay. The TMDLs for mercury and PCBs apply to this discharge and are implemented through NPDES Permit No. CA0038849. As shown in Fact Sheet section IV.C.3, the discharge is not a significant source of chlordane, DDT, or dieldrin because these pollutants have not been detected in the discharge. The discharge is not a source of invasive species because it is disinfected. It is not a significant source of selenium because discharge concentrations of this pollutant are consistently below water quality objectives.

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 discharged into 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: 40 C.F.R. section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 C.F.R. 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 receiving waters.

A. Discharge Prohibitions

1. Prohibitions in this Order

- a. **Discharge Prohibition III.A (No discharge other than as described in this Order):** This prohibition is based on 40 C.F.R. section 122.21(a) and Water Code section 13260, which require filing an application and Report of Waste Discharge before a discharge can occur. Discharges not described in the application and Report of Waste Discharge, and subsequently in this Order, are prohibited.
- b. **Discharge Prohibition III.B (No bypass or overflow, except as provided for in Attachment D):** This prohibition is based on 40 C.F.R. section 122.41(m) (see Attachment D section I.G). The plant has been upgraded; blending is prohibited.
- c. **Discharge Prohibition III.C (Average dry weather influent flow not to exceed dry weather design capacity):** This Order prohibits an average dry weather influent flow greater than 7.0 MGD. This prohibition is based on the plant's design treatment capacity (i.e., the historic and tested reliability of the treatment plant). Exceeding the average dry weather flow design capacity could result in lowering the reliability of achieving compliance with requirements.
- d. **Discharge Prohibition III.D (No sewer overflows):** Basin Plan Table 4-1 (Discharge Prohibition 15) and the CWA prohibit the discharge of wastewater to surface waters, except as authorized under an NPDES permit. Publicly-owned treatment works must achieve secondary treatment at a minimum and any more stringent limitations necessary to meet water quality standards (33 U.S.C. § 1311[b][1][B and C]). A sanitary sewer overflow that results in the discharge of raw sewage or wastewater not meeting this Order's effluent limitations to surface waters is therefore prohibited under the CWA and the Basin Plan. (See also section VI.C.4.c Collection System Management.)
- e. **Discharge Prohibition III.E (Discharge to San Pablo Bay during the dry weather period of June 1 through August 31 is prohibited):** This prohibition is retained from the previous order and is based on the Basin Plan. The Basin Plan prohibits discharges not receiving a minimum initial dilution of at least 10:1 (Chapter 4, Discharge Prohibition 1). The Discharger does not always achieve an initial dilution of 10:1 at its outfall because, at tidal elevations below the +1 foot mean lower low water tidal elevation, the outfall is not submerged. The discharge is to the intertidal mudflats of San Pablo Bay.

This prohibition applies from June 1 through August 31 when it is feasible to not discharge. It is feasible to not discharge when there is demand for reclaimed wastewater and storage for wastewater in excess of that demand. The Order allows discharges during the remaining months based on an exception described in Fact Sheet section IV.A.2, below.

Upon satisfying the requirements in Provision VI.C.5.b of the Order, the discharge will no longer be subject to this dry season discharge prohibition. The Order allows year-round discharges based on an exception described in Fact Sheet section IV.A.2, below.

2. Exceptions to Shallow Water Discharge Prohibition

Basin Plan Table 4-1, Discharge Prohibition 1, prohibits discharges not receiving a minimum initial dilution of at least 10:1 and discharges into shallow waters or dead-end sloughs. Basin Plan section 4.2 provides for exceptions under certain circumstances:

- An inordinate burden would be placed on the Discharger relative to the beneficial uses protected, and an equivalent level of environmental protection can be achieved by alternate means;
- A discharge is approved as part of a reclamation project;
- Net environmental benefits will be derived as a result of the discharge; or
- A discharge is approved as part of a groundwater cleanup project.

The Basin Plan further states:

Significant factors to be considered by the Regional Water Board in reviewing requests for exceptions will be the reliability of the discharger's system in preventing inadequately treated wastewater from being discharged to the receiving water and the environmental consequence of such discharges.

This Order continues to grant exceptions to Prohibition 1 for discharges to San Pablo Bay. The reasons are explained below for existing discharges from September 1 through May 31 and the year-round discharges to occur after the outfall is relocated.

- a. **September 1 Through May 31 Discharges.** This Order continues to grant exceptions to Prohibition 1 for discharges to San Pablo Bay for the following reasons:
 1. An inordinate burden would be placed on the Discharger relative to the beneficial uses protected to require the discharge to achieve a 10:1 dilution. Constructing and operating a deep-water outfall would require construction and operation of a discharge pipe more than 3,500 feet beyond the current discharge point. Such construction would be costly and disrupt intertidal mudflats and related wildlife.
 2. The Discharger will achieve a level of environmental protection equivalent to strict adherence to the discharge prohibition by preparing and implementing a Reliability Assurance Plan and submitting status reports in accordance with Provision VI.C.5.c of this Order. Moreover, during May, September, and October, this Order requires the

Discharger to provide advanced secondary treatment, thus removing more BOD₅ and TSS than the Secondary Treatment Standards (40 C.F.R. § 133) require.

- b. Year-Round Discharges.** The Discharger, in collaboration with the State Coastal Conservancy, is planning to move the discharge inland to provide secondary-treated effluent as a freshwater source to a proposed new marsh adjacent to the Bel Marin Keys community. The discharge to the new marsh will result in net environmental benefits by creating and sustaining new brackish marsh habitat for fish, plant, and wildlife. The wetlands will also provide storm and flood protection against rising sea levels and provide recreational, scenic, and educational benefits.

In conjunction with the proposed discharge relocation, the Discharger may also construct a recycled water storage pond to store treated effluent during low reclaimed water demand periods (e.g., winter) for later use during high demand periods (e.g., summer). With the new storage pond, the Discharger could expand its recycled water program, compliant with California Code of Regulations, Title 22.

B. Conventional and Non-Conventional Pollutant Effluent Limitations

1. Scope and Authority

CWA section 301(b) and 40 C.F.R. section 122.44 require that permits include conditions meeting technology-based requirements, at a minimum, and any more stringent effluent limitations necessary to meet water quality standards. The discharges authorized by this Order must meet minimum federal technology-based requirements based on the Secondary Treatment Standards at 40 C.F.R. section 133 as summarized below. In addition, the 30-day average percent removal for biochemical oxygen demand (BOD₅) (or carbonaceous biochemical oxygen demand, CBOD₅) and total suspended solids (TSS), by concentration, is not to be less than 85 percent. The Basin Plan contains additional requirements for certain pollutants.

Table F-5. Secondary Treatment Requirements

Parameter	Monthly Average	Weekly Average
BOD ₅ ^[1,2]	30 mg/L	45 mg/L
CBOD ₅ ^[1,2]	25 mg/L	40 mg/L
TSS ^[2]	30 mg/L	45 mg/L
pH	6.0 – 9.0 standard units	

Unit Abbreviation:

mg/L= milligrams per liter

Footnotes:

^[1] CBOD₅ effluent limitations may be substituted for BOD₅ limitations.

^[2] The monthly average percent removal, by concentration, is not to be less than 85 percent.

2. Effluent Limitations

- a. BOD₅ and TSS.** The BOD₅ and TSS effluent limitations, including the 85 percent removal requirements, are based on the Secondary Treatment Standards and Basin Plan Table 4-2 during the wet weather months (November – April). More stringent limitations apply during the dry weather discharge months (May – October). Effluent data show that

the more stringent limits are technologically feasible. They are required to demonstrate a level of water quality protection equivalent to complying with Basin Plan Discharge Prohibition 1 (see Fact Sheet section IV.A.2).

- b. Oil and Grease.** The oil and grease effluent limitations are based on Basin Plan Table 4-2 during the wet weather months (November – April). More stringent limitations apply during the dry weather discharge months (May – October). Effluent data show that the more stringent limits are technologically feasible. They are required to demonstrate a level of water quality protection equivalent to complying with Basin Plan Discharge Prohibition 1 (see Fact Sheet section IV.A.2).
- c. pH.** The pH effluent limitations are based on the Secondary Treatment Standards and Basin Plan Table 4-2.
- d. Enterococcus.** The enterococcus effluent limitation is based on Basin Plan Table 4-2A because the receiving waters support the water contact recreation beneficial use.
- f. Fecal Coliform.** Basin Plan Table 4-2A requires total coliform effluent limitations for waters that support the shellfish harvesting beneficial use, but footnote c allows substitution with fecal coliform limits provided that doing so will not result in unacceptable adverse impacts on beneficial uses (i.e., shellfish harvesting). The fecal coliform effluent limitations in this Order will protect the shellfish harvesting beneficial use. They are based on the water quality objectives for shellfish harvesting in Basin Plan Table 3-1. The limits reflect a dilution credit of 10:1. This allowance of a 10:1 credit is a reasonable balance between the level of UV disinfection required (which directly relates to energy consumption) and the low likelihood of shellfish harvesting in the vicinity of the discharge. The Discharger’s mixing zone study (*Proposed Ammonia and Bacterial Effluent Limits Mixing Zone Analysis* [April 7, 2010]), indicates that the effluent receives at least 10:1 dilution within 39 acres of the Discharge Point No. 001 outfall during the most extreme dry weather and low-tide conditions. The Discharger’s mixing zone study for the discharge after relocation to Discharge Point No. 002 (*State Implementation Policy [SIP] Mixing Zone Analysis* [September 2014]), indicates that the effluent will receive at least 10:1 dilution within 46 acres of the outfall. The water quality objectives protective of shellfish harvesting are met beyond these mixing zones. Because the 2010 *San Francisco Bay Subtidal Habitat Goals Report* concludes that no shellfish beds exist within these mixing zones, the effluent limits protect the shellfish harvesting beneficial use.

The following equation was used to calculate the fecal coliform effluent limits:

$$\text{Effluent limits} = C + D \times (C - B)$$

- where C = Basin Plan water quality objective
- D = dilution credit (D = 9 for 10:1 dilution)
- B = background concentration (assumed to be 0)

C. Toxic Pollutant Effluent Limitations

1. Scope and Authority

For toxic pollutants, this Order contains water quality based effluent limitations (WQBELs) that implement water quality objectives that protect beneficial uses. CWA section 301(b) and 40 C.F.R. section 122.44(d) require that permits include limitations more stringent than federal technology-based requirements where necessary to achieve applicable water quality standards. According to 40 C.F.R. section 122.44(d)(1)(i), permits must include effluent limitations for all pollutants that are or may be discharged at levels that have a 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, WQBELs must be established using (1) U.S. EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting a narrative criterion, supplemented with relevant information (40 C.F.R. § 122.44[d][1][vi]). The process for determining reasonable potential and calculating WQBELs is intended to achieve applicable water quality objectives and criteria, and protect designated uses of receiving waters as specified in the Basin Plan. This Order imposes numeric effluent limitations for toxic pollutants with reasonable potential to cause or contribute to exceedances of water quality standards.

2. Beneficial Uses and Water Quality Criteria and Objectives

Discharge Point No. 001 discharges to San Pablo Bay. Discharge Point No. 002 proposes to discharge to a wetland that will be an extension of San Pablo Bay, and therefore the beneficial uses of San Pablo Bay will apply to the newly-created wetland. Fact Sheet section III.C.1, above, identifies San Pablo Bay beneficial uses. Water quality criteria and objectives to protect these beneficial uses are described below:

- a. **Basin Plan Objectives.** The Basin Plan specifies numeric water quality objectives for 10 priority pollutants and narrative water quality objectives for toxicity and bioaccumulation. The narrative toxicity objective states, “All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.” The narrative bioaccumulation objective states, “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.”
- b. **CTR Criteria.** The CTR specifies numeric aquatic life and human health criteria for numerous priority pollutants. These criteria apply to inland surface waters and enclosed bays and estuaries. Some human health criteria are for consumption of “water and organisms” and others are for consumption of “organisms only.” The criteria applicable to “organisms only” apply to San Pablo Bay because it is not a source of drinking water.
- c. **NTR Criteria.** The NTR establishes numeric aquatic life and human health criteria for a number of toxic pollutants for San Francisco Bay waters upstream to and including Suisun Bay and the Sacramento-San Joaquin Delta. The NTR criteria apply to San Pablo Bay.

- d. Sediment Quality Objectives.** The *Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1, Sediment Quality* contains a narrative water quality objective: “Pollutants in sediments shall not be present in quantities that, alone or in combination, are toxic to benthic communities in bays and estuaries of California.” This objective is to be implemented by integrating three lines of evidence: sediment toxicity, benthic community condition, and sediment chemistry. The policy requires that if the Regional Water Board determines that a discharge has reasonable potential to cause or contribute to an exceedance of this objective, it is to impose the objective as a receiving water limit.
- e. Receiving Water Salinity.** Basin Plan section 4.6.2 (like the CTR and NTR) states that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water are to be considered in determining the applicable water quality objectives. Freshwater criteria apply to discharges to waters with salinities equal to or less than one part per thousand (ppt) at least 95 percent of the time. Saltwater criteria 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 between these two categories, or tidally influenced freshwaters that support estuarine beneficial uses, the water quality objectives are the lower of the salt or freshwater objectives (the latter calculated based on ambient hardness) for each substance.

Salinity data collected between January 2012 and October 2013 as part of the Discharger’s *2014 Receiving Water Ammonia Study Final Report* show that the receiving water salinity is between 1 ppt and 10 ppt 5 percent of the time, and greater than 10 ppt 95 percent of the time. For this Order, the waters of San Pablo Bay are classified as estuarine due to the presence of tidally influenced freshwaters that support estuarine beneficial uses. The lower of the marine and freshwater objectives from the Basin Plan, NTR, and CTR therefore apply to this discharge.

- f. Receiving Water Hardness.** Ambient hardness data collected as part the Discharger’s *2014 Receiving Water Ammonia Study Final Report* were used to calculate freshwater water quality objectives that are hardness dependent. Twenty-four data points were collected between January 2012 and October 2013. The geometric mean was 3,600 mg/L. A maximum hardness value of 400 mg/L was used as recommended in the CTR for hardness values greater than 400 mg/L.
- g. Site-Specific Metals Translators.** Effluent limitations for metals must be expressed as total recoverable metal (40 C.F.R. § 122.45[c]). Since the water quality objectives for metals are typically expressed as dissolved metal, translators must be used to convert metals concentrations from dissolved to total recoverable and vice versa. The CTR contains default translators; however, site-specific conditions, such as water temperature, pH, total suspended solids, and organic carbon may affect the form of metal (dissolved, non-filterable, or otherwise) present and therefore available to cause toxicity. In general, dissolved metals are more available and more toxic to aquatic life than other forms. Site-specific translators can account for site-specific conditions, thereby preventing overly stringent or under-protective water quality objectives.

In this Order, site-specific translators for copper and nickel are based on data for dissolved and total metals from the Regional Monitoring Program (RMP) San Pablo Bay and Pinole Point stations, and data collected during a San Pablo Bay Copper and Nickel

Study at Stations SJR-1 and SRJ-2. The following table shows these translators. More details are presented in the Discharger's *Novato Sanitary District Copper and Nickel Translator Calculation* (July 23, 2004). CTR default translators were used for all other metals.

Table F-6. Site-Specific Translators

Parameter	Site Specific Translators	
	Acute	Chronic
Copper	0.73	0.39
Nickel	0.65	0.27

3. Need for Water Quality-Based Effluent Limitations (Reasonable Potential Analysis)

Assessing whether a pollutant has reasonable potential to exceed a water quality objective is the fundamental step in determining whether a WQBEL is required.

- a. Available Information.** The reasonable potential analysis for this Order is based on effluent monitoring data the Discharger collected from May 2010 through October 2014 and ambient background data the RMP collected at the San Pablo Bay station (BD20) from 1993 through 2001, supplemented by additional Bay Area Clean Water Agencies data from *San Francisco Bay Ambient Water Monitoring Interim Report* (2003) and *Ambient Water Monitoring: Final CTR Sampling Update* (2004). SIP section 1.4.3 requires that background water quality data be representative of the ambient receiving water that will mix with the discharge. RMP monitoring station BD20, relative to other RMP stations, fits SIP guidance for establishing background conditions at both the existing Discharge Point No. 001 and the proposed Discharge Point No. 002. For ammonia, the ambient background data were collected from January 2012 through October 2013 (*2014 Receiving Water Ammonia Study Final Report*).

In some cases, reasonable potential cannot be determined because effluent data are limited or ambient background concentrations are unavailable. Provision VI.C.2 of the Order requires the Discharger to continue monitoring for these constituents in its effluent using analytical methods that provide the best feasible detection limits. When additional data become available, further analysis will be conducted to determine whether numeric effluent limitations are necessary.

This Order does not contain WQBELs for constituents that do not demonstrate reasonable potential; however, Provision VI.C.2 of the Order still requires monitoring for those pollutants. If concentrations are found to have increased significantly, Provision VI.C.2 of the Order requires the Discharger to investigate the sources of the increases and implement remedial measures if the increases pose a threat to receiving water quality.

b. Priority Pollutants

- i. Methodology.** SIP section 1.3 sets forth the methodology used for this Order for assessing whether a priority pollutant has reasonable potential to exceed a water quality objective. The analysis begins with identifying the maximum effluent concentration (MEC) observed for each pollutant based on available effluent concentration data and the ambient background concentration (B). SIP section 1.4.3

states that ambient background concentrations are either the maximum ambient concentration observed or, for water quality objectives intended to protect human health, the arithmetic mean of observed concentrations. There are three triggers in determining reasonable potential:

- (a) **Trigger 1** is activated if the maximum effluent concentration is greater than or equal to the lowest applicable water quality objective ($MEC \geq$ water quality objective).
- (b) **Trigger 2** is activated if the ambient background concentration observed in the receiving water is greater than the lowest applicable water quality objective ($B >$ water quality objective) *and* the pollutant is detected in any effluent sample.
- (c) **Trigger 3** is activated if a review of other information indicates that a WQBEL is needed to protect beneficial uses.

ii. **Analysis.** The maximum effluent concentrations, most stringent applicable water quality criteria and objectives, and ambient background concentrations used in the analysis are presented in the following table, along with the reasonable potential analysis results (yes, no, or unknown) for each pollutant. Reasonable potential was not determined for all pollutants because there are not water quality objectives for all pollutants, and monitoring data are unavailable for others.

Copper exhibits reasonable potential by Trigger 2. Moreover, Basin Plan sections 7.2.1.2 and 4.7.2.2 require copper and cyanide WQBELs for all individual NPDES permits for municipal wastewater treatment facilities.

Table F-7. Reasonable Potential Analysis

CTR No.	Priority Pollutants	C or Governing criterion or objective (µg/L)	MEC or Minimum DL (µg/L) ^{[1][2]}	B or Minimum DL (µg/L) ^{[1][2]}	RPA Results ^[3]
1	Antimony	4,300	0.44	1.8	No
2	Arsenic	36	0.80	4.6	No
3	Beryllium	No Criteria	<0.041	0.215	U
4	Cadmium	3.37	0.03	0.235	No
5a	Chromium (III)	644	Unavailable	40.7 as total	U
5b	Chromium (VI)	11	0.76	40.7 as total	No
6	Copper	12.9	7.50	14.3	Yes
7	Lead	8.5	0.25	0.37	No
8	Mercury (303(d) listed)	---	0.01	0.088	^[5]
9	Nickel	30	5.50	30.35	No
10	Selenium (303(d) listed)	5.0	0.65	0.33	No
11	Silver	2.2	0.08	0.059	No
12	Thallium	6.3	<0.05	0.21	No
13	Zinc	86	45.00	35	No
14	Cyanide	2.9	<0.6	<0.4	Yes ^[4]
15	Asbestos	No Criteria	Unavailable	Unavailable	U
16	2,3,7,8-TCDD (303(d) listed)	1.4E-08	<1.51E-07	8.00E-09	U

CTR No.	Priority Pollutants	C or Governing criterion or objective (µg/L)	MEC or Minimum DL (µg/L) ^{[1][2]}	B or Minimum DL (µg/L) ^{[1][2]}	RPA Results ^[3]
17	Acrolein	780	<1.7	<0.5	No
18	Acrylonitrile	0.66	<0.69	<0.03	No
19	Benzene	71	<0.18	<0.05	No
20	Bromoform	360	<0.15	<0.5	No
21	Carbon Tetrachloride	4.4	<0.16	0.06	No
22	Chlorobenzene	21,000	<0.18	<0.5	No
23	Chlorodibromomethane	34	<0.17	<0.05	No
24	Chloroethane	No Criteria	<0.38	<0.5	U
25	2-Chloroethylvinyl ether	No Criteria	<0.28	<0.5	U
26	Chloroform	No Criteria	1.00	<0.5	U
27	Dichlorobromomethane	46	0.20	<0.05	No
28	1,1-Dichloroethane	No Criteria	<0.18	<0.05	U
29	1,2-Dichloroethane	99	<0.18	0.04	No
30	1,1-Dichloroethylene	3.2	<0.21	<0.5	No
31	1,2-Dichloropropane	39	<0.18	<0.05	No
32	1,3-Dichloropropylene	1,700	<0.16	Unavailable	No
33	Ethylbenzene	29,000	<0.26	<0.5	No
34	Methyl Bromide	4,000	<0.17	<0.5	No
35	Methyl Chloride	No Criteria	<0.23	<0.5	U
36	Methylene Chloride	1,600	0.80	22	No
37	1,1,2,2-Tetrachloroethane	11	<0.1	<0.05	No
38	Tetrachloroethylene	8.85	<0.19	<0.5	No
39	Toluene	200,000	<0.19	<0.3	No
40	1,2-Trans-Dichloroethylene	140,000	<0.22	<0.5	No
41	1,1,1-Trichloroethane	No Criteria	<0.19	<0.5	U
42	1,1,2-Trichloroethane	42	<0.16	<0.05	No
43	Trichloroethylene	81	<0.2	<0.5	No
44	Vinyl Chloride	525	<0.25	<0.5	No
45	2-Chlorophenol	400	<0.77	<1.2	No
46	2,4-Dichlorophenol	790	<0.78	<1.3	No
47	2,4-Dimethylphenol	2,300	<0.68	<1.3	No
48	2-Methyl- 4,6-Dinitrophenol	765	<0.71	<1.2	No
49	2,4-Dinitrophenol	14,000	<0.65	<0.7	No
50	2-Nitrophenol	No Criteria	<0.7	<1.3	U
51	4-Nitrophenol	No Criteria	<0.65	<1.6	U
52	3-Methyl 4-Chlorophenol	No Criteria	<0.71	<1.1	U
53	Pentachlorophenol	7.9	<0.64	<1	No
54	Phenol	4,600,000	<0.54	<1.3	No
55	2,4,6-Trichlorophenol	6.5	<0.76	<1.3	No
56	Acenaphthene	2,700	0.03	0.00065	No
57	Acenaphthylene	No Criteria	<0.024	0.00069	U
58	Anthracene	110,000	<0.024	0.0023	No
59	Benzidine	0.00054	<3.9	<0.0015	U

CTR No.	Priority Pollutants	C or Governing criterion or objective (µg/L)	MEC or Minimum DL (µg/L) ^{[1][2]}	B or Minimum DL (µg/L) ^{[1][2]}	RPA Results ^[3]
60	Benzo(a)Anthracene	0.049	<0.024	0.0064	No
61	Benzo(a)Pyrene	0.049	<0.024	0.0094	No
62	Benzo(b)Fluoranthene	0.049	<0.024	0.018	No
63	Benzo(ghi)Perylene	No Criteria	<0.024	0.0093	U
64	Benzo(k)Fluoranthene	0.049	<0.024	0.0051	No
65	Bis(2-Chloroethoxy)Methane	No Criteria	<0.73	<0.3	U
66	Bis(2-Chloroethyl)Ether	1.4	<0.75	<0.3	No
67	Bis(2-Chloroisopropyl)Ether	170,000	<0.64	Unavailable	No
68	Bis(2-Ethylhexyl)Phthalate	5.9	<0.75	0.091	No
69	4-Bromophenyl Phenyl Ether	No Criteria	<0.76	<0.23	U
70	Butylbenzyl Phthalate	5,200	<0.77	0.0056	No
71	2-Chloronaphthalene	4,300	<0.77	<0.3	No
72	4-Chlorophenyl Phenyl Ether	No Criteria	<0.78	<0.3	U
73	Chrysene	0.049	<0.024	0.0085	No
74	Dibenzo(a,h)Anthracene	0.049	<0.024	0.0026	No
75	1,2-Dichlorobenzene	17,000	<0.27	<0.8	No
76	1,3-Dichlorobenzene	2,600	<0.18	<0.8	No
77	1,4-Dichlorobenzene	2,600	<0.18	<0.8	No
78	3,3 Dichlorobenzidine	0.077	<3.9	<0.001	U
79	Diethyl Phthalate	120,000	<0.67	<0.24	No
80	Dimethyl Phthalate	2,900,000	<0.76	<0.24	No
81	Di-n-Butyl Phthalate	12,000	<0.71	0.016	No
82	2,4-Dinitrotoluene	9.1	<0.75	<0.27	No
83	2,6-Dinitrotoluene	No Criteria	<0.77	<0.29	U
84	Di-n-Octyl Phthalate	No Criteria	<0.72	<0.38	U
85	1,2-Diphenylhydrazine	0.54	<0.71	0.0037	U
86	Fluoranthene	370	<0.024	0.022	No
87	Fluorene	14,000	<0.024	0.0	No
88	Hexachlorobenzene	0.00077	<0.71	0.000073	U
89	Hexachlorobutadiene	50	<0.72	<0.3	No
90	Hexachlorocyclopentadiene	17,000	<0.71	<0.31	No
91	Hexachloroethane	8.9	<0.74	<0.2	No
92	Indeno(1,2,3-cd)Pyrene	0.049	<0.024	0.012	No
93	Isophorone	600	<0.73	<0.3	No
94	Naphthalene	No Criteria	1.4	0.0016	U
95	Nitrobenzene	1,900	<0.75	<0.25	No
96	N-Nitrosodimethylamine	8.1	<0.69	<0.3	No
97	N-Nitrosodi-n-Propylamine	1.4	<0.76	<0.001	No
98	N-Nitrosodiphenylamine	16	<0.65	<0.001	No
99	Phenanthrene	No Criteria	<0.024	0.0078	U
100	Pyrene	11,000	<0.024	0.0296	No
101	1,2,4-Trichlorobenzene	No Criteria	<0.77	<0.3	U
102	Aldrin	0.00014	<0.004	0.00000014	U

CTR No.	Priority Pollutants	C or Governing criterion or objective (µg/L)	MEC or Minimum DL (µg/L) ^{[1][2]}	B or Minimum DL (µg/L) ^{[1][2]}	RPA Results ^[3]
103	Alpha-BHC	0.013	<0.005	0.0008	No
104	Beta-BHC	0.046	<0.004	0.000635	No
105	Gamma-BHC	0.063	<0.004	0.00079	No
106	Delta-BHC	No Criteria	<0.004	0.00015	U
107	Chlordane (303(d) listed)	0.00059	<0.005	0.00034	U
108	4,4'-DDT (303(d) listed)	0.00059	<0.004	0.000075	U
109	4,4'-DDE (linked to DDT)	0.00059	<0.003	0.00069	U
110	4,4'-DDD	0.00084	<0.004	0.00031	U
111	Dieldrin (303d listed)	0.00014	<0.004	0.000237	U
112	Alpha-Endosulfan	0.0087	<0.004	0.000035	U
113	beta-Endosulfan	0.0087	<0.005	0.000059	U
114	Endosulfan Sulfate	240	<0.005	0.000143	No
115	Endrin	0.0023	<0.005	0.000073	U
116	Endrin Aldehyde	0.81	<0.005	Unavailable	No
117	Heptachlor	0.00021	<0.005	0.00003	U
118	Heptachlor Epoxide	0.00011	<0.004	0.00012	U
119-125	PCBs sum (303(d) listed)	0.00017	<0.04	0.0034	^[5]
126	Toxaphene	0.0002	<0.2	1.800000	U

Footnotes:

- ^[1] The maximum effluent concentration and ambient background concentration are the actual detected concentrations unless preceded by a “<” sign, in which case the value shown is the minimum detection level (DL).
- ^[2] The maximum effluent concentration or ambient background concentration is “Unavailable” when there are no monitoring data for the constituent.
- ^[3] RPA Results = Yes, if MEC ≥ WQC, B > WQC and MEC is detected, or Trigger 3
 = No, if MEC and B are < WQC or all effluent data are undetected
 = Unknown (U) if no criteria have been promulgated or data are insufficient.
- ^[4] Basin Plan section 4.7.2.2 requires cyanide WQBELs.
- ^[5] SIP section 1.3 excludes from its reasonable potential analysis procedure priority pollutants for which a TMDL has been developed. TMDLs have been developed for mercury and PCBs in San Francisco Bay. Mercury and PCBs from wastewater discharges are regulated by NPDES Permit No. CA0038849, which implements the San Francisco Bay Mercury and PCBs TMDLs.

c. Whole Effluent Chronic Toxicity

- i. Water Quality Objective.** Basin Plan section 3.3.18 states, “There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.”

For this Order, this narrative objective is translated into a numeric criterion of 1.0 chronic toxicity unit (TU_c). Toxic units are an indicator of the pollutant of concern (i.e., toxicity). At 1.0 TU_c, there is no observable detrimental effect when an indicator organism is exposed to 100 percent effluent; therefore, 1.0 TU_c is a direct translation of the narrative objective into a number. Moreover, in *Technical Support Document*

for *Water Quality-based Toxics Control* (Technical Support Document or TSD) (EPA/505/2-90-001, section 3.3.3, “Step 3: Decision Criteria for Permit Limit Development,” page 60), U.S. EPA recommends that 1.0 TU_c be used as a criterion continuous concentration, which generally implies a four-day average (TSD, Appendix D, page D-2).

- ii. **Mixing Zone.** The Technical Support Document allows for mixing zones and dilution credits to be considered when conducting a reasonable potential analysis. This Order establishes chronic toxicity mixing zones (before and after outfall relocation) corresponding to a dilution ratio of 3.25:1 (D=2.25). This dilution credit is consistent with Basin Plan 4.5.5.3.2, which allows chronic toxicity dilution credits “comparable to those allowed for numeric chemical-specific objectives.” Basin Plan Table 4-6 establishes a comparable cyanide dilution credit of 3.25:1. As discussed in Fact Sheet section IV.C.4.a, the chronic toxicity dilution credit is smaller than the ammonia dilution credit established in this Order (4.6:1); thus, the chronic toxicity mixing zones are smaller than the ammonia mixing zones discussed in section IV.C.4.a.
- iii. **Analysis.** The Discharger conducted quarterly chronic toxicity tests during the previous order term using inland silverside (*Menidia beryllina*). The maximum single-sample chronic toxicity result was 1.8 TU_c in May 2013. No toxicity was observed in any other sample. Applying the dilution credit of 3.25:1 to 1.8 TU_c, the resulting toxicity at the edge of the mixing zone was less than 1.0 TU_c, which is also less than the translated chronic toxicity objective (1.0 TU_c). Therefore, there is no reasonable potential for chronic toxicity in the receiving water, and no WQBEL is required.

d. Dioxin-TEQ

- i. **Water Quality Objective.** The Basin Plan narrative water quality objective for bioaccumulative substances states, “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.”

Because it is the consensus of the scientific community that dioxins and furans associate with particulates, accumulate in sediments, and bioaccumulate in the fatty tissue of fish and other organisms, the Basin Plan’s narrative bioaccumulation water quality objective applies to these pollutants. Elevated levels of dioxins and furans in San Francisco Bay fish tissue demonstrate that the narrative bioaccumulation water quality objective is not being met. U.S. EPA has therefore placed Central San Francisco Bay on its 303(d)-list of receiving waters where water quality objectives are not being met after imposition of applicable technology-based requirements.

When the CTR was promulgated, U.S. EPA stated its support of the regulation of dioxin and dioxin-like compounds through the use of toxicity equivalencies (TEQs). U.S. EPA stated, “For California waters, if the discharge of dioxin or dioxin-like compounds has reasonable potential to cause or contribute to a violation of a narrative criterion, numeric WQBELs for dioxin or dioxin-like compounds should be included

in NPDES permits and should be expressed using a TEQ scheme” (65 Fed. Reg. 31695-31696, May 18, 2000). This Order uses a TEQ scheme based on a set of toxicity equivalency factors (TEFs) the World Health Organization developed in 1998, and a set of bioaccumulation equivalency factors (BEFs) U.S. EPA developed for the Great Lakes region (40 C.F.R. part 132, Appendix F) to convert the concentration of any congener of dioxin or furan into an equivalent concentration of 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (2,3,7,8-TCDD). Although the 1998 World Health Organization scheme includes TEFs for dioxin-like PCBs, they are not included in this Order’s TEQ scheme. The CTR has established a specific water quality criterion for PCBs, and dioxin-like PCBs are included in the analysis of total PCBs.

The CTR establishes a numeric water quality objective for 2,3,7,8-TCDD of 1.4×10^{-8} µg/L for the protection of human health when aquatic organisms are consumed. The CTR criterion is used as a criterion for dioxin-TEQ because dioxin-TEQ represents a toxicity weighted concentration equivalent to 2,3,7,8-TCDD, thus translating the narrative bioaccumulation objective into a numeric criterion.

- ii. **Analysis.** TEFs and BEFs were used to express measured concentrations of 16 dioxin congeners in effluent and background samples as equivalent 2,3,7,8-TCDD concentrations. For each sample, the sum of these equivalent concentrations is the dioxin-TEQ concentration. This Order establishes dioxin-TEQ WQBELs because the ambient background receiving water dioxin TEQ concentration (7.1×10^{-8} µg/L) exceeds the CTR numeric criterion for 2,3,7,8-TCDD (1.4×10^{-8} µg/L) and dioxin-TEQ was detected in the effluent. This is comparable to Trigger 2 in the SIP methodology.

e. Ammonia

- i. **Methodology.** The ammonia reasonable potential analysis is based on the procedure outlined in the *Technical Support Document for Water Quality-based Toxics Control* (Technical Support Document) (EPA/505/2-90-001, March 1991). According to the Technical Support Document, the reasonable potential analysis can be performed based on the receiving water concentration projected using effluent data or actual measured receiving concentrations. Both values may be compared directly with the Basin Plan un-ionized objectives. The following summarizes the steps using effluent data:
 - Step 1. Determine the number of total observations (n) for a set of effluent data and determine the highest value from that data set (the maximum effluent concentration or MEC).
 - Step 2. Determine the coefficient of variation (CV) from the data set. For a data set where $n < 10$, the CV is estimated to equal 0.6. For a data set where $n \geq 10$, the CV is calculated as the standard deviation divided by the mean.
 - Step 3. Determine an appropriate ratio, R, for projecting a selected upper bound concentration (e.g., the 99th or 95th percentile) assuming a lognormal distribution. To do this, the percentile represented by the MEC in a data set

of “n” samples, p_n , needs to be determined based on the desired confidence interval, e.g., 95% or 99%. The 95% confidence interval was used for evaluating reasonable potential for ammonia for this Order.

$$P_n = (1 - \text{confidence interval})^{1/n}$$

Then C_{P_n} and $C_{\text{upper bound}}$ corresponding to the MEC percentile (P_n) and the selected upper bound percentile (typically 99th percentile) need to be calculated using the following equation.

$$C_p = \exp(Z_p\sigma - 0.5\sigma^2)$$

In this equation, $\sigma^2 = \ln(CV^2 + 1)$, p is the percentile (upper bound or p_n), and Z_p is the standard normal distribution value for the percentile p (available from statistical references).

The ratio, R , is then determined to be:

$$R = C_{\text{upperbound}}/C_{P_n}$$

Step 4. Multiply the MEC by the ratio, R , determined in Step 3, and use this value with the appropriate dilution to project the receiving water concentration (RWC).

$$\text{RWC} = \text{MEC} \times R / \text{dilution ratio}$$

Step 5. Compare the projected receiving water concentration to the applicable water quality objective. If a receiving water concentration is greater than or equal to the objective, then there is reasonable potential.

- ii. **Ammonia Objective.** Basin Plan section 3.3.20 contains water quality objectives for un-ionized ammonia of 0.025 mg/L as an annual median and 0.16 mg/L as a maximum for Central San Francisco Bay and upstream. Effluent and receiving water data are available for total ammonia, but not un-ionized ammonia, because (1) sampling and laboratory methods are unavailable to analyze for un-ionized ammonia, and (2) the fraction of total ammonia that exists in the toxic un-ionized form depends on pH, salinity, and temperature.

Total ammonia concentrations (as nitrogen) were translated into un-ionized ammonia concentrations for comparison with the Basin Plan un-ionized objectives based on the following equation, which applies to waters with salinities greater than 10 parts per trillion (*Ambient Water Quality Criteria for Ammonia (Saltwater)–1989*, EPA Publication 440/5-88-004, 1989):

$$\text{For salinity} > 10 \text{ ppt: fraction of NH}_3 = \frac{1}{1 + 10^{(pK - pH)}}$$

where:

$$pK = 9.245 + 0.116(I) + 0.0324(298 - T) + \frac{0.0415(P)}{(T)}$$

$$I = \text{Molal ionic strength of saltwater} = \frac{19.9273(S)}{(1,000 - 1.005109(S))}$$

S = Salinity (parts per thousand)

T = Temperature (Kelvin)

P = Pressure (one atmosphere)

iii. Analysis

(a) **Effluent Approach.** Effluent un-ionized ammonia concentrations were calculated using the pH and temperature data collected on the same days as the ammonia samples were collected. There were 135 data points ($n=135$). The MEC was 0.032 mg/L when expressed as un-ionized ammonia (as nitrogen). The confidence interval was set at 95 percent. The percentile represented by the MEC (P_n) was calculated to be 0.978, indicating that the MEC represents the 97.8th percentile of all observed ammonia effluent data. With the upper bound set at the 99th percentile, the R value was determined to be 1.53 (C_{pn} was 6.21 and $C_{\text{upper bound}}$ was 9.53). For purpose of this analysis, no dilution was assumed; therefore, the projected receiving water concentration was 0.049 mg/L, which is less than the Basin Plan un-ionized ammonia acute objective of 0.16 mg/L.

The highest running annual median based on the effluent data was calculated and compared with the chronic objective, which is expressed as an annual median. No projection is needed to establish the central tendency of the data. The maximum annual median, 0.0036 mg/L, is less than the annual median objective of 0.025 mg/L.

(b) **Receiving Water Approach.** Receiving water monitoring data were collected for total ammonia, pH, salinity, and temperature at a monitoring location about 4 miles from the outfall in San Pablo Bay. The maximum un-ionized ammonia concentration (0.005 mg/L) was less than the maximum water quality objective (0.16 mg/L). The highest running annual median un-ionized ammonia concentration (0.0013 mg/L) was less than the annual median objective (0.025 mg/L).

(c) **Conclusion.** There is reasonable potential for ammonia if nitrification performance is not maintained; thus this Order contains ammonia WQBELs to ensure that the discharge will not cause or contribute to exceedance of the Basin Plan objective. The Discharger was successful in the previous order term at operating the plant to treat ammonia concentrations to below Basin Plan objectives. However, without regulatory assurance that nitrification will continue, the un-ionized ammonia in the effluent could increase and cause or contribute to toxicity outside of the mixing zone. Therefore, WQBELs will protect against potential toxic impacts from the discharge. WQBELs also avoid backsliding.

iv. **Potential Changes as an Outgrowth of Nutrients Regulation.** The Regional Water Board has issued a watershed permit (NPDES Permit No. CA0038873) for all municipal wastewater dischargers to San Francisco Bay, including the Discharger, as an element of its San Francisco Bay Nutrient Management Strategy. This strategy

addresses growing concerns about nutrients in the San Francisco Bay estuary. The strategy's goal is nutrient numeric endpoints that will inform water quality-based effluent limits that the Regional Water Board may impose through NPDES Permit No. CA0038873.

- f. Reasonable Potential Analysis for Sediment Quality.** Pollutants in some receiving water sediments may be present in quantities that alone or in combination are toxic to benthic communities. Efforts are underway to identify stressors causing such conditions. However, to date there is no evidence directly linking compromised sediment conditions to the discharges subject to this Order; therefore, the Regional Water Board cannot draw a conclusion about reasonable potential for these discharges to cause or contribute to exceedances of the sediment quality objectives. Nevertheless, the Discharger continues to participate in the RMP, which monitors San Francisco Bay sediment and seeks to identify stressors responsible for degraded sediment quality. Thus far, the monitoring has provided only limited information about potential stressors and sediment transport. The Regional Water Board is exploring options for obtaining additional information that may inform future analyses.

4. Water Quality-Based Effluent Limitations (WQBELs)

WQBELs were developed for the pollutants determined to have reasonable potential to cause or contribute to exceedances of water quality objectives (i.e., copper, cyanide, dioxin-TEQ, and ammonia). The WQBEL calculations are based on the procedures specified in SIP section 1.4, which are required for priority pollutants. SIP section 1.4 is used as guidance for the other pollutants.

- a. Mixing Zones and Dilution Credits.** This Order does not authorize copper or dioxin-TEQ mixing zones or dilution credits. It does authorize cyanide mixing zones corresponding to a dilution credit of 3.25:1 ($D=2.25$) in accordance with Basin Plan Table 4-6. (The size and location of the cyanide mixing zones will differ before and after the outfall relocation, but the dilution credit remains the same as in Basin Plan Table 4-6.) It also authorizes ammonia mixing zones and a dilution credit as discussed below.

SIP section 1.4.2 allows dilution credits for completely-mixed discharges and, under certain circumstances, incompletely-mixed discharges. The discharge diffuser is located in the intertidal zone of San Pablo Bay. At lower tidal elevations, the outfall is exposed and the distance to the San Pablo Bay water line can range from 1,000 to 3,500 feet. Therefore, this discharge is incompletely-mixed.

The Discharger completed a mixing zone study, *Proposed Ammonia and Bacterial Effluent Limits Mixing Zone Analysis* (April 7, 2010), to justify an ammonia mixing zone for the existing outfall. The analysis demonstrated that a hypothetical mixing zone covering 24 acres corresponds to a dilution ratio of 6:1. This Order establishes a somewhat smaller ammonia mixing zone for the existing outfall configuration.

The Discharger proposes to relocate the discharge inland to new wetlands that will expand San Pablo Bay. The new outfall will be appropriately designed to operate in compliance with this Order, which means that the outfall will achieve the mixing zone

described in the Discharger's study for this new outfall, *Dilution Analysis of Novato Sanitary District's Proposed Discharge to Bel Marin Keys Unit V* (May 2014). The study demonstrated that a hypothetical mixing zone covering 31 acres corresponds to a dilution ratio of 5:1. This Order establishes a somewhat smaller ammonia mixing zone for the relocated outfall.

Both of these mixing zones meet the requirements of SIP section 1.4.2.2.A, as explained below, because they do not do any of the following:

- i. Compromise the integrity of the water body.** The mixing zones will not compromise the integrity of the receiving waters because ammonia is expected to attenuate rapidly to safe levels, and the mixing zones are small relative to the size of the receiving waters, which are part of San Pablo Bay. The existing mixing zone covers less than 0.04 percent of San Pablo Bay, and the proposed mixing zone would cover about 0.05 percent of San Pablo Bay, most of which would be within the new wetland.
- ii. Cause acute toxicity to aquatic life passing through the mixing zone.** Acutely toxic conditions will not exist inside the mixing zones because this Order contains acute toxicity effluent limitations and requires whole effluent toxicity testing to demonstrate compliance. Bioassay monitoring conducted on fathead minnow (*Pimephales promelas*) from August 2011 through March 2014 demonstrated full compliance with the acute toxicity effluent limits. The 100 percent survival rate indicates that organisms passing through the mixing zone are unlikely to experience acute toxicity.
- iii. Restrict the passage of aquatic life.** The mixing zones will not interfere with the movement of aquatic species or restrict the passage of aquatic life because of their relatively small sizes relative to San Pablo Bay. The existing and proposed new mixing zones cover less than 0.04 percent and 0.05 percent of San Pablo Bay. Moreover, aquatic life cannot pass through the mixing zone because, unlike a river or stream, there is nothing upstream of the mixing zones, which are along the San Pablo Bay shore.
- iv. Adversely impact biologically sensitive or critical habitats, including, but not limited to, habitats of species under federal or State endangered species laws.** The current mixing zone will not adversely affect biologically sensitive or critical habitats because it consists primarily of intertidal mudflats that do not provide critical habitat to federal or State-listed sensitive species. The proposed mixing zone will not adversely affect biologically sensitive or critical habitats because the Bel Marin Keys Unit V site does not currently provide any critical habitat to federal or State-listed sensitive species.

Portions of San Pablo Bay are critical habitats for southern green sturgeon, steelhead trout, longfin smelt, and Chinook salmon. Nearby tidal marshes provide habitat for California black rail, Ridgway's rail, and salt-marsh harvest mouse. California black rail, Ridgway's rail, and the salt-marsh harvest mouse may also use the new wetland. However, they do not live in water and will not be affected by the mixing zones. Southern green sturgeon, steelhead trout, longfin smelt, and Chinook salmon are

unlikely to be affected by the mixing zones because they are anadromous and spend most of their lives in the ocean or freshwater, using estuarine waters such as San Pablo Bay only as a migration zone.

- v. **Produce undesirable or nuisance aquatic life.** The mixing zones will not produce undesirable or nuisance aquatic life because this Order imposes receiving water limitations that prohibit bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses.
- vi. **Result in floating debris, oil, or scum.** The mixing zones will not result in floating debris, oil, or scum because ammonia is not an oil, does not float, and does not cause scum. The plant is equipped with scum and debris collection devices to collect and dispose of oils, grease, debris, and scum. In addition, this Order imposes receiving water limitations that prohibit floating debris, oil, or scum at any place and at any time.
- vii. **Produce objectionable color, odor, taste, or turbidity.** The mixing zones will not produce objectionable color, odor, taste, or turbidity because the effluent receives secondary treatment and is disinfected prior to discharge. Secondary treatment generally addresses objectionable color, odor, taste, and turbidity through the biological degradation of organic compounds and clarification. In addition, this Order prohibits alteration of color or turbidity beyond natural background levels. The Discharger has not observed objectionable color, odor, or turbidity resulting from its discharge.
- viii. **Cause objectionable bottom deposits.** The mixing zones will not cause objectionable bottom deposits because ammonia does not readily bind to sediment or persist in the environment. The effluent receives secondary treatment, which biologically degrades and removes suspended particles that could contribute to receiving water bottom deposits. In addition, this Order prohibits bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses.
- ix. **Cause nuisance.** The mixing zones will not cause a nuisance because the effluent receives secondary treatment and is disinfected prior to discharge. This Order prohibits discharges from causing nuisance as defined in Water Code section 13050(m).
- x. **Dominate the receiving water body or overlap a mixing zone from a different outfall.** The mixing zones will not dominate the receiving waters or overlap any other mixing zones because they represent relatively small portions of San Pablo Bay. Moreover, the Regional Water Board has not established any other mixing zones nearby.
- xi. **Be located at or near any drinking water intake.** The mixing zones will not be located at or near any drinking water intake because the estuarine receiving waters are not generally suitable for drinking water supplies.

SIP section 1.4.2.2.B requires that mixing zones protect beneficial uses. The ammonia mixing zones described above will protect beneficial uses because the ammonia effluent

limits will be met at the edge of the mixing zones. Additionally, ammonia is not carcinogenic, mutagenic, teratogenic, persistent, or bioaccumulative, and tidal action at the current and proposed mixing zones will enable continued flushing and dilution.

SIP section 1.4.2.2 requires mixing zones to be as small as practicable. The mixing zones assessed above correspond to dilution ratios of 6:1 and 5:1. However, if the Discharger can comply with smaller mixing zones, then smaller mixing zones are practicable. The previous order established a mixing zone corresponding to a dilution ratio of 4.6:1 and the Discharger was able to comply with the resulting WQBELs; therefore, this Order continues to authorize slightly smaller mixing zones corresponding to the dilution ratio of 4.6:1 (D=3.6).

- b. WQBEL Calculations.** For those pollutants with reasonable potential, average monthly effluent limitations (AMELs) and maximum daily effluent limitations (MDELs) were calculated as shown in the table below:

Table F-8. WQBEL Calculations

PRIORITY POLLUTANTS	Copper	Cyanide	Dioxin-TEQ	Total Ammonia (acute)	Total Ammonia (chronic)
Units	µg/L	µg/L	µg/L	mg/L N	mg/L N
Basis and Criteria type	Basin Plan SSO	Basin Plan SSO	CTR HH	Basin Plan Aquatic Life	Basin Plan Aquatic Life
Criteria -Acute	-----	-----	----	5.0	-----
Criteria -Chronic	-----	-----	-----	-----	1.07
Site-Specific Objective Criteria -Acute	9.4	9.4	----	-----	-----
Site-Specific Objective Criteria -Chronic	6.0	2.9	----	-----	-----
Water Effects ratio (WER)	1	1	2	1	1
Lowest WQO	12.9	2.9	----	5.05	1.07
Site-Specific Translator - MDEL	0.73	-----	-----	-----	-----
Site-Specific Translator - AMEL	0.39	-----	-----	-----	-----
Dilution Factor (D)	0	2.25	0	3.6	3.6
No. of samples per month	4	4	4	4	30
Aquatic life criteria analysis required? (Y/N)	Y	Y	N	Y	Y
HH criteria analysis required? (Y/N)	N	Y	Y	N	N
Applicable Acute WQO	12.9	9.4	----	5.05	
Applicable Chronic WQO	15.4	2.9	----		1.07
HH criteria	----	2.2E+05	1.4E-08	-----	-----
Background (Maximum Conc for Aquatic Life calc)	14.303	0.40	----	0.25	0.088
Background (Average Conc for Human Health calc)	----	0.40	5.30E-08	-----	-----
Is the pollutant on the 303d list and/or bioaccumulative (Y/N)?	N	N	Y	N	N
ECA acute	12.9	29.7	----	22	-----
ECA chronic	15.4	8.5	----	-----	4.6
ECA HH	----	7.1E+05	1.4E-08	-----	-----

PRIORITY POLLUTANTS	Copper	Cyanide	Dioxin-TEQ	Total Ammonia (acute)	Total Ammonia (chronic)
Units	µg/L	µg/L	µg/L	mg/L N	mg/L N
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	N	Y	Y	N	N
Avg of effluent data points	3.16	0.43	1.82E-11	0.82	0.82
Std Dev of effluent data points	1.21	0.06	1.67E-11	1.36	1.36
CV calculated	0.38	0.60	N/A	1.67	1.67
CV (Selected) - Final	0.38	0.60	0.60	1.67	1.67
ECA acute mult99	0.45	0.32	----	0.13	----
ECA chronic mult99	0.65	0.53	----	----	0.82
LTA acute	5.81	9.5	----	2.97	----
LTA chronic	10.06	4.5	----	----	3.8
minimum of LTAs	5.81	4.5	----	2.97	3.8
AMEL mult95	1.3	1.6	1.55E+00	2.5	1.6
MDEL mult99	2.2	3.1	3.11E+00	7.5	7.52
AMEL (aquatic life)	7.8	7	----	7.5	5.9
MDEL(aquatic life)	13	14	----	22	28
MDEL/AMEL Multiplier	1.7	2.0	2.0	3.0	4.8
AMEL (human health)	----	7.1E+05	1.4E-08	----	----
MDEL (human health)	----	1.4E+06	2.8E-08	----	----
minimum of AMEL for Aq. life vs HH	7.8	7.0	1.4E-08	7.5	5.9
minimum of MDEL for Aq. Life vs HH	13	14	2.8E-08	22	28
Previous order limit - AMEL	6.9	6.6	1.4E-08	6.0	6.0
Previous order limit - MDEL	13	15	2.8E-08	21	21
Final limit - AMEL	6.9	6.6	1.4E-08	5.9	5.9
Final limit - MDEL	13	14	2.8E-08	21	21

5. Whole Effluent Acute Toxicity

This Order includes effluent limitations for whole effluent acute toxicity based on Basin Plan Table 4-3. All bioassays are to be performed according to the U.S. EPA approved method in 40 C.F.R. section 136, currently *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, 5th Edition (EPA-821-R-02-012). The approved test species specified in the MRP is fathead minnow (*Pimephales promelas*).

Based on Basin Plan section 3.3.20, if the Discharger can demonstrate that ammonia causes acute toxicity in excess of the acute toxicity limitations in this Order, and that the ammonia in the discharge complies with the ammonia effluent limitations in this Order, then such

toxicity does not constitute a violation of the effluent limitations for whole effluent acute toxicity.

D. Effluent Limitation Considerations

- 1. Anti-backsliding.** This Order complies with the anti-backsliding provisions of CWA sections 402(o) and 303(d)(4) and 40 C.F.R. section 122.44(l), which generally require effluent limitations in a reissued permit to be as stringent as those in the previous permit. The requirements of this Order are at least as stringent as those in the previous order.

This Order does not retain the carbon tetrachloride and dieldrin effluent limits from the previous order because data no longer indicate reasonable potential for these pollutants to exceed water quality objectives. This is consistent with State Water Board Order No. WQ 2001-16. Likewise, this Order does not retain chlorine limits because the Discharger now relies solely on ultraviolet (UV) disinfection of treated effluent. (Chlorine is used only for intermittent prechlorination and control of return activated sludge filamentous bacteria and is not expected to pass through to treated effluent.)

- 2. Antidegradation.** This Order complies with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16. Until the outfall is relocated, this Order continues the status quo with respect to the level of discharge authorized in the previous order, which is the baseline by which to measure whether degradation will occur. This Order does not allow for an increase in flow, a reduced level of treatment, or less stringent effluent limitations relative to those in the previous order.

When the discharge is relocated (it will be relocated 1.2 miles inland and convey secondary-treated effluent to a new marsh system), this Order will allow year-round discharges, and the Discharger will likely discontinue applying treated effluent to pasturelands. The result will be a greater annual discharge flow volume spread over the entire year, as opposed to just nine months. The increase in annual discharge flow volume will be about 27 percent. Treatment levels and effluent limitations will remain unchanged.

The Discharger submitted an antidegradation study, *Antidegradation Analysis for Novato Sanitary District Discharge to New Bel Marin Keys Marsh* (September 2014), to demonstrate that conditions following the discharge relocation will comply with federal and State antidegradation policies. Discharges through the new outfall will not degrade the new marsh because the marsh does not presently exist. As for greater San Pablo Bay, the annual effluent flow volume increase will represent only about 0.1 percent of the total volume of San Pablo Bay (U.S. Geological Survey, 2007). Because the increase will be very small compared to the size of San Pablo Bay, the increase—and related pollutant loads—will not be observable, particularly considering the continuous tidal mixing and the flushing from upstream rivers. Because the proposed outfall reconfiguration will not degrade San Pablo Bay water quality, findings authorizing degradation are unnecessary.

- 3. Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based requirements implement minimum, applicable federal technology-based requirements. In addition, this Order contains more stringent effluent limitations as necessary

to meet water quality standards. Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement CWA requirements.

This Order's WQBELs have been derived to implement water quality objectives that protect beneficial uses. The beneficial uses and water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 C.F.R. section 131.38. The procedures for calculating these WQBELs are based on the CTR, as implemented in accordance with the SIP, which U.S. EPA approved on May 18, 2000. U.S. EPA approved most Basin Plan beneficial uses and water quality objectives prior to May 30, 2000. Beneficial uses and water quality objectives submitted to U.S. EPA prior to May 30, 2000, but not approved by U.S. EPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 C.F.R. section 131.21(c)(1). U.S. EPA approved the remaining beneficial uses and water quality objectives so they are applicable water quality standards pursuant to 40 C.F.R. section 131.21(c)(2).

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

The receiving water limitations in sections V.A and V.B of the Order are based on Basin Plan narrative and numeric water quality objectives. The receiving water limitation in section V.C of the Order requires compliance with federal and State water quality standards in accordance with the CWA and regulations adopted thereunder.

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

Attachment D contains standard provisions that apply to all NPDES permits in accordance with 40 C.F.R. section 122.41 and additional conditions applicable to specific categories of permits in accordance with 40 C.F.R. section 122.42. The Discharger must comply with these provisions. The conditions set forth in 40 C.F.R. sections 122.41(a)(1) and (b) through (n) apply to all state-issued NPDES permits and must be incorporated into permits either expressly or by reference.

In accordance with 40 C.F.R. section 123.25(a)(12), states may omit or modify conditions to impose more stringent requirements. Attachment G contains standard provisions that supplement the federal standard provisions in Attachment D. This Order omits the federal conditions that address enforcement authority specified in 40 C.F.R. sections 122.41(j)(5) and (k)(2) because the State's enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates Water Code section 13387(e) by reference.

B. Monitoring and Reporting

CWA section 308 and 40 C.F.R. sections 122.41(h), 122.41(j)-(l), 122.44(i), and 122.48 require that NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The MRP establishes monitoring, reporting, and recordkeeping requirements that implement federal and State requirements. For more background regarding these requirements, see Fact Sheet section VII.

C. Special Provisions

1. Reopener Provisions

These provisions are based on 40 C.F.R. sections 122.62 and 122.63 and allow modification of this Order and its effluent limitations as necessary in response to updated water quality objectives, regulations, or other new and relevant information that may become available in the future, and other circumstances as allowed by law.

2. Effluent Characterization Study and Report

This Order does not include effluent limitations for priority pollutants that do not demonstrate reasonable potential, but this provision requires the Discharger to continue monitoring for these pollutants as described in the MRP and Attachment G. Monitoring data are necessary to verify that the “no” and “unknown” reasonable potential analysis conclusions of this Order remain valid. This requirement is authorized pursuant to CWC section 13267, and is necessary to inform the next permit reissuance and to ensure that the Discharger takes timely steps in response to any unanticipated change in effluent quality during the term of this Order.

3. Pollutant Minimization Program

This provision is based on Basin Plan section 4.13.2 and SIP section 2.4.5.

4. Special Provisions for Municipal Facilities

- a. **Pretreatment Program.** This provision is based on 40 C.F.R. part 403. The Discharger implements a pretreatment program due to the nature and volume of industrial influent to the plant. This provision lists the Discharger’s responsibilities regarding its pretreatment program and requires compliance with the provisions in Attachment H, “Pretreatment Requirements.”
- b. **Sludge and Biosolids Management.** This provision is based on Basin Plan section 4.17 and 40 C.F.R. parts 257 and 503. “Sludge” refers to the solid, semisolid, and liquid residue removed during primary, secondary, and advanced wastewater treatment processes. “Biosolids” refers to sludge that has been treated and may be beneficially reused. Biosolids disposal is restricted to the dry season, from May 1 through October 30, to maximize evaporation and minimize infiltration. The proximity of the dedicated land disposal site to San Pablo Bay suggests that groundwater beneath the site probably has limited potential for beneficial uses due to high salinity. Nevertheless, provisions to protect the groundwater beneficial uses set forth in Basin Plan section 2.2.2 are intended to achieve the water quality objectives set forth in Basin Plan section 3.4. The provision to prevent nuisance is based on Water Code sections 13050(l) and (m).
- c. **Collection System Management.** This provision explains this Order’s requirements as they relate to the Discharger’s collection system and promotes consistency with the State Water Board’s *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems* (General Collection System WDRs), Order No. 2006-0003-DWQ as amended by Order No. WQ 2013-0058-EXEC. The General Collection System WDRs contain

requirements for collection system operation and maintenance, and for reporting and mitigating sanitary sewer overflows. They also require agencies to develop sanitary sewer management plans and report all sanitary sewer overflows. The Discharger must comply with both the General Collection System WDRs and this Order.

5. Other Special Provisions

- a. **Reclamation Storage Pond Maintenance.** This provision specifies storage pond sediment control requirements based on the Discharger's *Storage Pond Sediment Control and Monitoring Plan* (September 30, 1999). It is necessary to ensure that water discharged from the pond through Discharge Point No. 001 does not contain excessive sediment.
- b. **Discharge Relocation.** This provision is based on 40 C.F.R. section 122.41(l). It specifies conditions that must be met before the Discharger begins discharging from the new outfall. It is necessary so the Regional Water Board knows when year-round discharges commence and therefore which of this Order's provisions apply. Additionally, it is necessary to ensure that the new outfall is constructed appropriately and can operate in compliance with this Order.
- c. **Reliability Assurance Plan and Status Report.** This provision is required to justify an exception to Basin Plan Discharge Prohibition 1 (see Fact Sheet section IV.A.2) as it relates to equivalent protection while the discharge is to Discharge Point No. 001. Basin Plan Discharge Prohibition 1 is intended to protect shallow waters from the effects of abnormal discharges caused by temporary upsets and malfunctions. This provision will ensure the reliability of the Discharger's system in preventing discharge of inadequately treated wastewater.
- d. **Copper Action Plan.** This provision is based on Basin Plan section 7.2.1.2. It is necessary to ensure that use of copper site-specific objectives is consistent with antidegradation policies. Data the San Francisco Estuary Institute compiled for 2009-2011 indicate no degradation of San Francisco Bay water quality with respect to copper (www.sfei.org/content/copper-site-specific-objective-3-year-rolling-averages).
- e. **Cyanide Action Plan.** This provision is based on Basin Plan section 4.7.2.2. It is necessary to ensure that use of cyanide site-specific objectives is consistent with antidegradation policies. The threshold for considering influent cyanide concentrations to indicate a possible "significant cyanide discharge" in the Discharger's service area is set at 6.0 µg/L. This concentration is twice the minimum level of the analytical method that the Discharger uses for cyanide (3.0 µg/L). Because the Discharger has not observed multiple influent cyanide concentrations greater than 3.0 µg/L during the previous order term, if influent concentrations twice this level were observed, there could be a significant cyanide source.
- f. **Standard Operating Procedures Requirement for Resource Recovery.** Standard Operating Procedures are required for dischargers that accept hauled waste fats, oil, and grease for injection into anaerobic digesters. The development and implementation of Standard Operating Procedures for management of these materials is intended to allow the California Department of Resources Recycling and Recovery to exempt operations

from separate and redundant permitting programs. If the Discharger does not accept fats, oil, and grease for resource recovery purposes, it is not required to develop and implement Standard Operating Procedures.

VII. RATIONALE FOR MONITORING AND REPORTING PROGRAM (MRP)

Attachment E contains the MRP for this Order. It specifies sampling stations, pollutants to be monitored (including all parameters for which effluent limitations are specified), monitoring frequencies, and reporting requirements. The following provides the rationale for these requirements:

A. MRP Requirements Rationale

- 1. Influent Monitoring.** Influent flow monitoring is necessary to evaluate compliance with Prohibition III.C (average dry weather influent flow not to exceed dry weather design capacity) and to understand Facility operations. BOD₅ and TSS monitoring is necessary to evaluate compliance with this Order's 85 percent removal requirement. Basin Plan section 4.7.2.2 requires cyanide monitoring because this Order is based on site-specific cyanide water quality objectives.
- 2. Effluent Monitoring.** Effluent flow monitoring is necessary to evaluate compliance with Prohibition III.E (discharge to San Pablo Bay during the dry weather period of June 1 through August 31 is prohibited) and to understand Facility operations. Reclamation flow monitoring is necessary to calculate effluent flows from influent flows. Monitoring for the other parameters is necessary to evaluate compliance with this Order's effluent limitations.
- 3. Whole Effluent Toxicity Testing.** Acute and chronic whole effluent toxicity tests are necessary to evaluate compliance with the acute effluent limitations and to conduct future reasonable potential analyses. Chronic toxicity tests are also necessary to evaluate whether chronic toxicity exceeds triggers for accelerated monitoring and Toxicity Reduction Evaluations based on Basin Plan sections 4.5.5.3.2 and 4.5.5.3.3 and Basin Plan Table 4-5.

Consistent with Basin Plan section 4.5.5.3.4, the Discharger is required to conduct a chronic toxicity screening phase study, as described in MRP Appendix E-1, prior to permit reissuance. The Discharger's April 2013 final chronic toxicity screening report found that the most sensitive species was inland silverside (*Menidia beryllina*); therefore, the Discharger currently uses *Menidia beryllina* for routine chronic toxicity monitoring.

- 4. Receiving Water Monitoring.** The Discharger is required to continue participating in the RMP, which involves collecting data on pollutants and toxicity in San Francisco Bay water, sediment, and biota. This monitoring is necessary to characterize the receiving water and the effects of the discharges this Order authorizes.
- 5. Pretreatment and Biosolids Monitoring.** The pretreatment and biosolids monitoring requirements for influent, effluent, and biosolids are necessary to evaluate compliance with the Discharger's U.S. EPA-approved pretreatment program. Biosolids monitoring is also required pursuant to 40 C.F.R. part 503.

B. Monitoring Requirements Summary. The table below summarizes routine monitoring requirements. This table is for informational purposes only. The actual requirements are specified in the MRP and elsewhere in this Order.

Table F-9. Monitoring Requirements Summary

Parameter	Influent INF-001	Plant Effluent EFF-001	Pond Effluent EFF-001P	Biosolids BIO-001	Receiving Water
Flow	---	Continuous/D	Continuous/D	---	---
Biochemical Oxygen Demand, 5-day @ 20°C BOD ₅	1/Week	1/Week	1/Month	---	---
Total Suspended Solids	1/Week	1/Week	1/Week	---	---
Oil and Grease	---	1/Month	1/Month	---	---
pH	---	5/Week	1/Week	---	Support RMP
Temperature	---	5/Week	1/Week	---	Support RMP
Fecal Coliform Bacteria	---	1/Quarter ^[1]	1/Month	---	Support RMP
Enterococcus	---	3/Week ¹	1/Month	---	Support RMP
Acute Toxicity	---	1/Quarter	1/Month	---	Support RMP
Chronic Toxicity	---	1/Quarter	1/Month	---	Support RMP
Ammonia, Total	---	1/Month	1/Month	---	Support RMP
Copper, Total Recoverable	---	1/Month	1/Month	---	Support RMP
Cyanide, Total	1/Month	1/Month	1/Month	---	Support RMP
Dioxin-TEQ	---	2/Year	---	---	Support RMP
Volatile Organic Compounds	2/Year	2/Year	---	1/Year	Support RMP
Base/Neutral Acid Extractable Organic Compounds	2/Year	2/Year	---	1/Year	Support RMP
Metals and Other Elements ^[2]	1/Month	1/Month	---	See Att. G section III.B.2	Support RMP
Metric tons/year	---	---	---	See Att. G section III.B.2	---

Sampling Frequencies:

Continuous/D = measured continuously, and recorded and reported daily

1/Week = once per week while discharge occurs

2/Week = twice per week

3/Week = three times per week

5/Week = five times per week

1/Month = once per month

1/Quarter = once per quarter

2/Year = twice per year

Footnote:

^[1] If the fecal coliform effluent limitation is exceeded, the Discharger must accelerate sampling to 3/Week for at least three consecutive months.

^[2] The metals and other elements are arsenic, cadmium, chromium, lead, mercury, nickel, selenium, silver, and zinc.

VIII. PUBLIC PARTICIPATION

The Regional Water Board considered the issuance of WDRs that will serve as an NPDES permit for the Facility. As a step in the WDR adoption process, Regional Water Board staff developed tentative WDRs and encouraged public participation in the WDR adoption process.

A. Notification of Interested Parties. The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through *The Recorder* in San Francisco. The public had access to the agenda and any changes in dates and locations through the Regional Water Board's website at <http://www.waterboards.ca.gov/sanfranciscobay>.

B. Written Comments. Interested persons were invited to submit written comments concerning the tentative WDRs as explained through the notification process. Comments were to be submitted either in person or by mail to the Executive Office at the Regional Water Board at 1515 Clay Street, Suite 1400, Oakland, California 94612, to the attention of James Parrish.

For full staff response and Regional Water Board consideration, the written comments were due at the Regional Water Board office by 5:00p.m. on June 1, 2015.

C. Public Hearing. The Regional Water Board held a public hearing on the tentative WDRs during its regular meeting at the following date and time, and at the following location:

Date: **July 8, 2015**
Time: 9:00 am
Location: Elihu Harris State Office Building
1515 Clay Street, 1st Floor Auditorium
Oakland, CA 94612

Contact: James Parrish, (510) 622-2381, James.Parrish@waterboards.ca.gov

Interested persons were invited to attend. At the public hearing, the Regional Water Board heard testimony pertinent to the discharge, WDRs, and permit. For accuracy of the record, important testimony was requested to be in writing.

Dates and venues change. The Regional Water Board web address is <http://www.waterboards.ca.gov/sanfranciscobay>, where one could access the current agenda for changes in dates and locations.

D. Reconsideration of Waste Discharge Requirements. Any aggrieved person may petition the State Water Board to review the Regional Water Board decision regarding the final WDRs. The State Water Board must receive the petition at the following address within 30 calendar days of the Regional Water Board action:

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

For instructions on how to file a petition for review, see http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml.

E. Information and Copying. The Report of Waste Discharge, related supporting documents, and comments received are on file and may be inspected at the address above at any time between

9:00 a.m. and 5:00 p.m., Monday through Friday. Copying of documents may be arranged 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 the 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 James Parrish, at (510) 622-2381 or James.Parrish@waterboards.ca.gov.

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

**ATTACHMENT G
REGIONAL STANDARD PROVISIONS, AND MONITORING
AND REPORTING REQUIREMENTS
(SUPPLEMENT TO ATTACHMENT D)**

For

NPDES WASTEWATER DISCHARGE PERMITS

March 2010

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**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

**REGIONAL STANDARD PROVISIONS, AND MONITORING AND
REPORTING REQUIREMENTS
(SUPPLEMENT TO ATTACHMENT D)**

FOR

NPDES WASTEWATER DISCHARGE PERMITS

APPLICABILITY

This document applies to dischargers covered by a National Pollutant Discharge Elimination System (NPDES) permit. This document does not apply to Municipal Separate Storm Sewer System (MS4) NPDES permits.

The purpose of this document is to supplement the requirements of Attachment D, Standard Provisions. The requirements in this supplemental document are designed to ensure permit compliance through preventative planning, monitoring, recordkeeping, and reporting. In addition, this document requires proper characterization of issues as they arise, and timely and full responses to problems encountered. To provide clarity on which sections of Attachment D this document supplements, this document is arranged in the same format as Attachment D.

I. STANDARD PROVISIONS - PERMIT COMPLIANCE

A. Duty to Comply – Not Supplemented

B. Need to Halt or Reduce Activity Not a Defense – Not Supplemented

C. Duty to Mitigate – This supplements I.C. of Standard Provisions (Attachment D)

1. Contingency Plan - The Discharger shall maintain a Contingency Plan as originally required by Regional Water Board Resolution 74-10 and as prudent in accordance with current municipal facility emergency planning. The Contingency Plan shall describe procedures to ensure that existing facilities remain in, or are rapidly returned to, operation in the event of a process failure or emergency incident, such as employee strike, strike by suppliers of chemicals or maintenance services, power outage, vandalism, earthquake, or fire. The Discharger may combine the Contingency Plan and Spill Prevention Plan into one document. Discharge in violation of the permit where the Discharger has failed to develop and implement a Contingency Plan as described below will be the basis for considering the discharge a willful and negligent violation of the permit pursuant to California Water Code Section 13387. The Contingency Plan shall, at a minimum, contain the provisions of a. through g. below.

a. Provision of personnel for continued operation and maintenance of sewerage facilities during employee strikes or strikes against contractors providing services.

- b. Maintenance of adequate chemicals or other supplies and spare parts necessary for continued operations of sewerage facilities.
 - c. Provisions of emergency standby power.
 - d. Protection against vandalism.
 - e. Expeditious action to repair failures of, or damage to, equipment and sewer lines.
 - f. Report of spills and discharges of untreated or inadequately treated wastes, including measures taken to clean up the effects of such discharges.
 - g. Programs for maintenance, replacement, and surveillance of physical condition of equipment, facilities, and sewer lines.
2. **Spill Prevention Plan** - The Discharger shall maintain a Spill Prevention Plan to prevent accidental discharges and minimize the effects of such events. The Spill Prevention Plan shall:
- a. Identify the possible sources of accidental discharge, untreated or partially treated waste bypass, and polluted drainage;
 - b. Evaluate the effectiveness of present facilities and procedures, and state when they became operational; and
 - c. Predict the effectiveness of the proposed facilities and procedures, and provide an implementation schedule containing interim and final dates when they will be constructed, implemented, or operational.

This Regional Water Board, after review of the Contingency and Spill Prevention Plans or their updated revisions, may establish conditions it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions may be incorporated as part of the permit upon notice to the Discharger.

D. Proper Operation & Maintenance – This supplements I.D of Standard Provisions (Attachment D)

1. **Operation and Maintenance (O&M) Manual** - The Discharger shall maintain an O&M Manual to provide the plant and regulatory personnel with a source of information describing all equipment, recommended operational strategies, process control monitoring, and maintenance activities. To remain a useful and relevant document, the O&M Manual shall be kept updated to reflect significant changes in treatment facility equipment and operational practices. The O&M Manual shall be maintained in usable condition and be available for reference and use by all relevant personnel and Regional Water Board staff.
2. **Wastewater Facilities Status Report** - The Discharger shall regularly review, revise, or update, as necessary, its Wastewater Facilities Status Report. This report shall document how the Discharger operates and maintains its wastewater collection, treatment, and disposal facilities to ensure that all facilities are adequately staffed, supervised, financed, operated, maintained, repaired, and upgraded as necessary 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.

3. Proper Supervision and Operation of Publicly Owned Treatment Works (POTWs) - POTWs shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Division 4, Chapter 14, Title 23 of the California Code of Regulations.

E. Property Rights – Not Supplemented

F. Inspection and Entry – Not Supplemented

G. Bypass – Not Supplemented

H. Upset – Not Supplemented

I. Other – This section is an addition to Standard Provisions (Attachment D)

1. Neither the treatment nor the discharge of pollutants shall create pollution, contamination, or nuisance as defined by California Water Code Section 13050.
2. Collection, treatment, storage, and disposal systems shall be operated in a manner that precludes public contact with wastewater, except in cases where excluding the public is infeasible, such as private property. If public contact with wastewater could reasonably occur on public property, warning signs shall be posted.
3. If the Discharger submits a timely and complete Report of Waste Discharge for permit reissuance, this permit continues in force and effect until a new permit is issued or the Regional Water Board rescinds the permit.

J. Storm Water – This section is an addition to Standard Provisions (Attachment D)

These provisions apply to facilities that do not direct all storm water flows from the facility to the wastewater treatment plant headworks.

1. Storm Water Pollution Prevention Plan (SWPP Plan)

The SWPP Plan shall be designed in accordance with good engineering practices and shall address the following objectives:

- a. To identify pollutant sources that may affect the quality of storm water discharges; and
- b. To identify, assign, and implement control measures and management practices to reduce pollutants in storm water discharges.

The SWPP Plan may be combined with the existing Spill Prevention Plan as required in accordance with Section C.2. The SWPP Plan shall be retained on-site and made available upon request of a representative of the Regional Water Board.

2. Source Identification

The SWPP Plan shall provide a description of potential sources that may be expected to add significant quantities of pollutants to storm water discharges, or may result in non-storm water discharges from the facility. The SWPP Plan shall include, at a minimum, the following items:

- a. A topographical map (or other acceptable map if a topographical map is unavailable), extending one-quarter mile beyond the property boundaries of the facility, showing the wastewater treatment facility process areas, surface water bodies (including springs and wells), and discharge point(s) where the facility's storm water discharges to a municipal storm drain system or other points of discharge to waters of the State. The requirements of this paragraph may be included in the site map required under the following paragraph if appropriate.
- b. A site map showing the following:
 - 1) Storm water conveyance, drainage, and discharge structures;
 - 2) An outline of the storm water drainage areas for each storm water discharge point;
 - 3) Paved areas and buildings;
 - 4) Areas of actual or potential pollutant contact with storm water or release to storm water, including but not limited to outdoor storage and process areas; material loading, unloading, and access areas; and waste treatment, storage, and disposal areas;
 - 5) Location of existing storm water structural control measures (i.e., berms, coverings, etc.);
 - 6) Surface water locations, including springs and wetlands; and
 - 7) Vehicle service areas.
- c. A narrative description of the following:
 - 1) Wastewater treatment process activity areas;
 - 2) Materials, equipment, and vehicle management practices employed to minimize contact of significant materials of concern with storm water discharges;
 - 3) Material storage, loading, unloading, and access areas;
 - 4) Existing structural and non-structural control measures (if any) to reduce pollutants in storm water discharges; and
 - 5) Methods of on-site storage and disposal of significant materials.
- d. A list of pollutants that have a reasonable potential to be present in storm water discharges in significant quantities.

3. Storm Water Management Controls

The SWPP Plan shall describe the storm water management controls appropriate for the facility and a time schedule for fully implementing such controls. The appropriateness and priorities of controls in the SWPP Plan shall reflect identified potential sources of pollutants. The description of storm water management controls to be implemented shall include, as appropriate:

a. Storm water pollution prevention personnel

Identify specific individuals (and job titles) that are responsible for developing, implementing, and reviewing the SWPP Plan.

b. Good housekeeping

Good housekeeping requires the maintenance of clean, orderly facility areas that discharge storm water. Material handling areas shall be inspected and cleaned to reduce the potential for pollutants to enter the storm drain conveyance system.

c. Spill prevention and response

Identify areas where significant materials can spill into or otherwise enter storm water conveyance systems and their accompanying drainage points. Specific material handling procedures, storage requirements, and cleanup equipment and procedures shall be identified, as appropriate. The necessary equipment to implement a cleanup shall be available, and personnel shall be trained in proper response, containment, and cleanup of spills. Internal reporting procedures for spills of significant materials shall be established.

d. Source control

Source controls include, for example, elimination or reduction of the use of toxic pollutants, covering of pollutant source areas, sweeping of paved areas, containment of potential pollutants, labeling of all storm drain inlets with “No Dumping” signs, isolation or separation of industrial and non-industrial pollutant sources so that runoff from these areas does not mix, etc.

e. Storm water management practices

Storm water management practices are practices other than those that control the sources of pollutants. Such practices include treatment or conveyance structures, such as drop inlets, channels, retention and detention basins, treatment vaults, infiltration galleries, filters, oil/water separators, etc. Based on assessment of the potential of various sources to contribute pollutants to storm water discharges in significant quantities, additional storm water management practices to remove pollutants from storm water discharges shall be implemented and design criteria shall be described.

f. Sediment and erosion control

Measures to minimize erosion around the storm water drainage and discharge points, such as riprap, revegetation, slope stabilization, etc., shall be described.

g. Employee training

Employee training programs shall inform all personnel responsible for implementing the SWPP Plan. Training shall address spill response, good housekeeping, and material management practices. New employee and refresher training schedules shall be identified.

h. Inspections

All inspections shall be done by trained personnel. Material handling areas shall be inspected for evidence of, or the potential for, pollutants entering storm water discharges. A tracking or follow up procedure shall be used to ensure appropriate response has been taken in response to an inspection. Inspections and maintenance activities shall be documented and recorded. Inspection records shall be retained for five years.

i. Records

A tracking and follow-up procedure shall be described to ensure that adequate response and corrective actions have been taken in response to inspections.

4. Annual Verification of SWPP Plan

An annual facility inspection shall be conducted to verify that all elements of the SWPP Plan are accurate and up-to-date. The results of this review shall be reported in the Annual Report to the Regional Water Board described in Section V.C.f.

K. Biosolids Management – This section is an addition to Standard Provisions (Attachment D)

Biosolids must meet the following requirements prior to land application. The Discharger must either demonstrate compliance or, if it sends the biosolids to another party for further treatment or distribution, must give the recipient the information necessary to ensure compliance.

1. Exceptional quality biosolids meet the pollutant concentration limits in Table III of 40 CFR Part 503.13, Class A pathogen limits, and one of the vector attraction reduction requirements in 503.33(b)(1)-(b)(8). Such biosolids do not have to be tracked further for compliance with general requirements (503.12) and management practices (503.14).
2. Biosolids used for agricultural land, forest, or reclamation shall meet the pollutant limits in Table I (ceiling concentrations) and Table II or Table III (cumulative loadings or pollutant concentration limits) of 503.13. They shall also meet the general requirements (503.12) and management practices (503.14) (if not exceptional quality biosolids) for Class A or Class B pathogen levels with associated access restrictions (503.32) and one of the 10 vector attraction reduction requirements in 503.33(b)(1)-(b)(10).
3. Biosolids used for lawn or home gardens must meet exceptional quality biosolids limits.
4. Biosolids sold or given away in a bag or other container must meet the pollutant limits in either Table III or Table IV (pollutant concentration limits or annual pollutant loading rate limits) of 503.13. If Table IV is used, a label or information sheet must be attached to the biosolids packing that explains Table IV (see 503.14). The biosolids must also meet the Class A pathogen limits and one of the vector attraction reduction requirements in 503.33(b)(1)-(b)(8).

II. STANDARD PROVISIONS – PERMIT ACTION – Not Supplemented

III. STANDARD PROVISIONS – MONITORING

A. Sampling and Analyses – This section is a supplement to III.A and III.B of Standard Provisions (Attachment D)

1. Use of Certified Laboratories

Water and waste analyses shall be performed by a laboratory certified for these analyses in accordance with California Water Code Section 13176.

2. Use of Appropriate Minimum Levels

Table C lists the suggested analytical methods for the 126 priority pollutants and other toxic pollutants that should be used, unless a particular method or minimum level (ML) is required in the MRP.

For priority pollutant monitoring, when there is more than one ML value for a given substance, the Discharger may select any one of the analytical methods cited in Table C for compliance determination, or any other method described in 40 CFR part 136 or approved by U.S. EPA (such as the 1600 series) if authorized by the Regional Water Board. However, the ML must be below the effluent limitation and water quality objective. If no ML value is below the effluent limitation and water quality objective, then the method must achieve an ML no greater than the lowest ML value indicated in Table C. All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

3. Frequency of Monitoring

The minimum schedule of sampling analysis is specified in the MRP portion of the permit.

a. Timing of Sample Collection

- 1) The Discharger shall collect samples of influent on varying days selected at random and shall not include any plant recirculation or other sidestream wastes, unless otherwise stipulated by the MRP.
- 2) The Discharger shall collect samples of effluent on days coincident with influent sampling unless otherwise stipulated by the MRP or the Executive Officer. The Executive Officer may approve an alternative sampling plan if it is demonstrated to be representative of plant discharge flow and in compliance with all other permit requirements.
- 3) The Discharger shall collect grab samples of effluent during periods of day-time maximum peak effluent flows (or peak flows through secondary treatment units for facilities that recycle effluent flows).
- 4) Effluent sampling for conventional pollutants shall occur on at least one day of any multiple-day bioassay test the MRP requires. During the course of the test, on at least one day, the Discharger shall collect and retain samples of the discharge. In the event a bioassay test does

not comply with permit limits, the Discharger shall analyze these retained samples for pollutants that could be toxic to aquatic life and for which it has effluent limits.

- i. The Discharger shall perform bioassay tests on final effluent samples; when chlorine is used for disinfection, bioassay tests shall be performed on effluent after chlorination-dechlorination; and
- ii. The Discharger shall analyze for total ammonia nitrogen and calculate the amount of un-ionized ammonia whenever test results fail to meet the percent survival specified in the permit.

b. Conditions Triggering Accelerated Monitoring

- 1) If the results from two consecutive samples of a constituent monitored in a 30-day period exceed the monthly average limit for any parameter (or if the required sampling frequency is once per month and the monthly sample exceeds the monthly average limit), the Discharger shall, within 24 hours after the results are received, increase its sampling frequency to daily until the results from the additional sampling show that the parameter is in compliance with the monthly average limit.
- 2) If any maximum daily limit is exceeded, the Discharger shall increase its sampling frequency to daily within 24 hours after the results are received that indicate the exceedance of the maximum daily limit until two samples collected on consecutive days show compliance with the maximum daily limit.
- 3) If final or intermediate results of an acute bioassay test indicate a violation or threatened violation (e.g., the percentage of surviving test organisms of any single acute bioassay test is less than 70 percent), the Discharger shall initiate a new test as soon as practical, and the Discharger shall investigate the cause of the mortalities and report its findings in the next self monitoring report (SMR).
- 4) The Discharger shall calibrate chlorine residual analyzers against grab samples as frequently as necessary to maintain accurate control and reliable operation. If an effluent violation is detected, the Discharger shall collect grab samples at least every 30 minutes until compliance with the limit is achieved, unless the Discharger monitors chlorine residual continuously. In such cases, the Discharger shall continue to conduct continuous monitoring as required by its permit.
- 5) When a bypass occurs (except one subject to provision III.A.3.b.6 below), the Discharger shall monitor flows and collect samples on a daily basis for all constituents at affected discharge points that have effluent limits for the duration of the bypass (including acute toxicity using static renewals), except chronic toxicity, unless otherwise stipulated by the MRP.
- 6) Unless otherwise stipulated by the MRP, when a bypass approved pursuant to Attachment D, Standard Provisions, Sections I.G.2 or I.G.4, occurs, the Discharger shall monitor flows and, using appropriate procedures as specified in the MRP, collect and retain samples for affected discharge points on a daily basis for the duration of the bypass. The Discharger shall analyze for total suspended solids (TSS) using 24-hour composites (or more frequent increments) and for bacteria indicators with effluent limits using grab samples. If TSS exceeds 45 mg/L in any composite sample, the Discharger shall also analyze the retained samples for that discharge for all other constituents that have effluent limits, except oil and grease, mercury, dioxin-

TEQ, and acute and chronic toxicity. Additionally, at least once each year, the Discharger shall analyze the retained samples for one approved bypass discharge event for all other constituents that have effluent limits, except oil and grease, mercury, dioxin-TEQ, and acute and chronic toxicity. This monitoring shall be in addition to the minimum monitoring specified in the MRP.

c. Storm Water Monitoring

The requirements of this section only apply to facilities that are not covered by an NPDES permit for storm water discharges and where not all site storm drainage from process areas (i.e., areas of the treatment facility where chemicals or wastewater could come in contact with storm water) is directed to the headworks. For storm water not directed to the headworks during the wet season (October 1 to April 30), the Discharger shall:

- 1) Conduct visual observations of the storm water discharge locations during daylight hours at least once per month during a storm event that produces significant storm water discharge to observe the presence of floating and suspended materials, oil and grease, discoloration, turbidity, and odor, etc.
- 2) Measure (or estimate) the total volume of storm water discharge, collect grab samples of storm water discharge from at least two storm events that produce significant storm water discharge, and analyze the samples for oil and grease, pH, TSS, and specific conductance.

The grab samples shall be taken during the first 30 minutes of the discharge. If collection of the grab samples during the first 30 minutes is impracticable, grab samples may be taken during the first hour of the discharge, and the Discharger shall explain in the Annual Report why the grab sample(s) could not be taken in the first 30 minutes.

- 3) Testing for the presence of non-storm water discharges shall be conducted no less than twice during the dry season (May 1 to September 30) at all storm water discharge locations. Tests may include visual observations of flows, stains, sludges, odors, and other abnormal conditions; dye tests; TV line surveys; or analysis and validation of accurate piping schematics. Records shall be maintained describing the method used, date of testing, locations observed, and test results.
- 4) Samples shall be collected from all locations where storm water is discharged. Samples shall represent the quality and quantity of storm water discharged from the facility. If a facility discharges storm water at multiple locations, the Discharger may sample a reduced number of locations if it establishes and documents through the monitoring program that storm water discharges from different locations are substantially identical.
- 5) Records of all storm water monitoring information and copies of all reports required by the permit shall be retained for a period of at least three years from the date of sample, observation, or report.

d. Receiving Water Monitoring

The requirements of this section only apply when the MRP requires receiving water sampling.

- 1) Receiving water samples shall be collected on days coincident with effluent sampling for conventional pollutants.
- 2) Receiving water samples shall be collected at each station on each sampling day during the period within one hour following low slack water. Where sampling during lower slack water is impractical, sampling shall be performed during higher slack water. Samples shall be collected within the discharge plume and down current of the discharge point so as to be representative, unless otherwise stipulated in the MRP.
- 3) Samples shall be collected within one foot of the surface of the receiving water, unless otherwise stipulated in the MRP.

B. Biosolids Monitoring – This section supplements III.B of Standard Provisions (Attachment D)

When biosolids are sent to a landfill, sent to a surface disposal site, or applied to land as a soil amendment, they must be monitored as follows:

1. Biosolids Monitoring Frequency

Biosolids disposal must be monitored at the following frequency:

<u>Metric tons biosolids/365 days</u>	<u>Frequency</u>
0-290	Once per year
290-1500	Quarterly
1500-15,000	Six times per year
Over 15,000	Once per month

(Metric tons are on a dry weight basis)

2. Biosolids Pollutants to Monitor

Biosolids shall be monitored for the following constituents:

- Land Application: Arsenic, cadmium, copper, mercury, molybdenum, nickel, lead, selenium, and zinc
- Municipal Landfill: Paint filter test (pursuant to 40 CFR 258)
- Biosolids-only Landfill or Surface Disposal Site (if no liner and leachate system): arsenic, chromium, and nickel

C. Standard Observations – This section is an addition to III of Standard Provisions (AttachmentD)

1. Receiving Water Observations

The requirements of this section only apply when the MRP requires standard observations of the receiving water. Standard observations shall include the following:

- a. *Floating and suspended materials* (e.g., oil, grease, algae, and other macroscopic particulate matter): presence or absence, source, and size of affected area.
- b. *Discoloration and turbidity*: description of color, source, and size of affected area.
- c. *Odor*: presence or absence, characterization, source, distance of travel, and wind direction.
- d. *Beneficial water use*: presence of water-associated waterfowl or wildlife, fisherpeople, and other recreational activities in the vicinity of each sampling station.
- e. *Hydrographic condition*: time and height of corrected high and low tides (corrected to nearest National Oceanic and Atmospheric Administration location for the sampling date and time of sample collection).
- f. *Weather conditions*:
 - 1) Air temperature; and
 - 2) Total precipitation during the five days prior to observation.

2. Wastewater Effluent Observations

The requirements of this section only apply when the MRP requires wastewater effluent standard observations. Standard observations shall include the following:

- a. *Floating and suspended material of wastewater origin* (e.g., oil, grease, algae, and other macroscopic particulate matter): presence or absence.
- b. *Odor*: presence or absence, characterization, source, distance of travel, and wind direction.

3. Beach and Shoreline Observations

The requirements of this section only apply when the MRP requires beach and shoreline standard observations. Standard observations shall include the following:

- a. *Material of wastewater origin*: presence or absence, description of material, estimated size of affected area, and source.
- b. *Beneficial use*: estimate number of people participating in recreational water contact, non-water contact, or fishing activities.

4. Land Retention or Disposal Area Observations

The requirements of this section only apply to facilities with on-site surface impoundments or disposal areas that are in use. This section applies to both liquid and solid wastes, whether confined or unconfined. The Discharger shall conduct the following for each impoundment:

- a. Determine the amount of freeboard at the lowest point of dikes confining liquid wastes.
- b. Report evidence of leaching liquid from area of confinement and estimated size of affected area. Show affected area on a sketch and volume of flow (e.g., gallons per minute [gpm]).

- c. Regarding odor, describe presence or absence, characterization, source, distance of travel, and wind direction.
- d. Estimate number of waterfowl and other water-associated birds in the disposal area and vicinity.

5. Periphery of Waste Treatment and/or Disposal Facilities Observations

The requirements of this section only apply when the MRP specifies periphery standard observations. Standard observations shall include the following:

- a. *Odor*: presence or absence, characterization, source, and distance of travel.
- b. *Weather conditions*: wind direction and estimated velocity.

IV. STANDARD PROVISIONS – RECORDS

A. Records to be Maintained – This supplements IV.A of Standard Provisions (Attachment D)

The Discharger shall maintain records in a manner and at a location (e.g., wastewater treatment plant or Discharger offices) such that the records are accessible to Regional Water Board staff. The minimum period of retention specified in Section IV, Records, of the Federal Standard Provisions shall be extended during the course of any unresolved litigation regarding the subject discharge, or when requested by the Regional Water Board or Regional Administrator of U.S. EPA, Region IX.

A copy of the permit shall be maintained at the discharge facility and be available at all times to operating personnel.

B. Records of monitoring information shall include – This supplements IV.B of Standard Provision (Attachment D)

1. Analytical Information

Records shall include analytical method detection limits, minimum levels, reporting levels, and related quantification parameters.

2. Flow Monitoring Data

For all required flow monitoring (e.g., influent and effluent flows), the additional records shall include the following, unless otherwise stipulated by the MRP:

- a. Total volume for each day; and
- b. Maximum, minimum, and average daily flows for each calendar month.

3. Wastewater Treatment Process Solids

- a. For each treatment unit process that involves solids removal from the wastewater stream, records shall include the following:
 - 1) Total volume or mass of solids removed from each collection unit (e.g., grit, skimmings, undigested biosolids, or combination) for each calendar month or other time period as appropriate, but not to exceed annually; and
 - 2) Final disposition of such solids (e.g., landfill, other subsequent treatment unit).
- b. For final dewatered biosolids from the treatment plant as a whole, records shall include the following:
 - 1) Total volume or mass of dewatered biosolids for each calendar month;
 - 2) Solids content of the dewatered biosolids; and
 - 3) Final disposition of dewatered biosolids (disposal location and disposal method).

4. Disinfection Process

For the disinfection process, these additional records shall be maintained documenting process operation and performance:

- a. For bacteriological analyses:
 - 1) Wastewater flow rate at the time of sample collection; and
 - 2) Required statistical parameters for cumulative bacterial values (e.g., moving median or geometric mean for the number of samples or sampling period identified in this Order).
- b. For the chlorination process, when chlorine is used for disinfection, at least daily average values for the following:
 - 1) Chlorine residual of treated wastewater as it enters the contact basin (mg/L);
 - 2) Chlorine dosage (kg/day); and
 - 3) Dechlorination chemical dosage (kg/day).

5. Treatment Process Bypasses

A chronological log of all treatment process bypasses, including wet weather blending, shall include the following:

- a. Identification of the treatment process bypassed;
- b. Dates and times of bypass beginning and end;
- c. Total bypass duration;

- d. Estimated total bypass volume; and
- e. Description of, or reference to other reports describing, the bypass event, the cause, the corrective actions taken (except for wet weather blending that is in compliance with permit conditions), and any additional monitoring conducted.

6. Treatment Facility Overflows

This section applies to records for overflows at the treatment facility. This includes the headworks and all units and appurtenances downstream. The Discharger shall retain a chronological log of overflows at the treatment facility and records supporting the information provided in section V.E.2.

C. Claims of Confidentiality – Not Supplemented

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information – Not Supplemented

B. Signatory and Certification Requirements – Not Supplemented

C. Monitoring Reports – This section supplements V.C of Standard Provisions (Attachment D)

1. Self Monitoring Reports

For each reporting period established in the MRP, the Discharger shall submit an SMR to the Regional Water Board in accordance with the requirements listed in this document and at the frequency the MRP specifies. The purpose of the SMR is to document treatment performance, effluent quality, and compliance with the waste discharge requirements of this Order.

a. Transmittal letter

Each SMR shall be submitted with a transmittal letter. This letter shall include the following:

- 1) Identification of all violations of effluent limits or other waste discharge requirements found during the reporting period;
- 2) Details regarding violations: parameters, magnitude, test results, frequency, and dates;
- 3) Causes of violations;
- 4) Discussion of corrective actions taken or planned to resolve violations and prevent recurrences, and dates or time schedule of action implementation (if previous reports have been submitted that address corrective actions, reference to the earlier reports is satisfactory);
- 5) Data invalidation (Data should not be submitted in an SMR if it does not meet quality assurance/quality control standards. However, if the Discharger wishes to invalidate any measurement after it was submitted in an SMR, a letter shall identify the measurement suspected to be invalid and state the Discharger's intent to submit, within 60 days, a formal request to invalidate the measurement. This request shall include the original measurement in question, the reason for invalidating the measurement, all relevant documentation that supports 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.);

- 6) If the Discharger blends, the letter shall describe the duration of blending events and certify whether blended effluent was in compliance with the conditions for blending; and
- 7) Signature (The transmittal letter shall be signed according to Section V.B of this Order, Attachment D – Standard Provisions.).

b. Compliance evaluation summary

Each report shall include a compliance evaluation summary. This summary shall include each parameter for which the permit specifies effluent limits, the number of samples taken during the monitoring period, and the number of samples that exceed applicable effluent limits.

c. Results of analyses and observations

- 1) Tabulations of all required analyses and observations, including parameter, date, time, sample station, type of sample, test result, method detection limit, method minimum level, and method reporting level, if applicable, signed by the laboratory director or other responsible official.
- 2) When determining compliance with an average monthly effluent limitation and more than one sample result is available in a month, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of detected but not quantified (DNQ) or nondetect (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:
 - i. The data set shall be ranked from low to high, reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
 - ii. 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.

If a sample result, or the arithmetic mean or median of multiple sample results, is below the reporting limit, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation and the Discharger conducts a Pollutant Minimization Program, the Discharger shall not be deemed out of compliance.

- 3) Dioxin-TEQ Reporting: The Discharger shall report for each dioxin and furan congener the analytical results of effluent monitoring, including the quantifiable limit (reporting level), the method detection limit, and the measured concentration. The Discharger shall report all measured values of individual congeners, including data qualifiers. When calculating dioxin-TEQ, the Discharger shall set congener concentrations below the minimum levels (ML) to zero. The Discharger shall calculate and report dioxin-TEQs using the following formula, where the MLs, toxicity equivalency factors (TEFs), and bioaccumulation equivalency factors (BEFs) are as provided in Table A:

$$\text{Dioxin-TEQ} = \sum (C_x \times \text{TEF}_x \times \text{BEF}_x)$$

where: C_x = measured or estimated concentration of congener x
 TEF_x = toxicity equivalency factor for congener x
 BEF_x = bioaccumulation equivalency factor for congener x

Table A
 Minimum Levels, Toxicity Equivalency Factors,
 and Bioaccumulation Equivalency Factors

Dioxin or Furan Congener	Minimum Level (pg/L)	1998 Toxicity Equivalency Factor (TEF)	Bioaccumulation Equivalency Factor (BEF)
2,3,7,8-TCDD	10	1.0	1.0
1,2,3,7,8-PeCDD	50	1.0	0.9
1,2,3,4,7,8-HxCDD	50	0.1	0.3
1,2,3,6,7,8-HxCDD	50	0.1	0.1
1,2,3,7,8,9-HxCDD	50	0.1	0.1
1,2,3,4,6,7,8-HpCDD	50	0.01	0.05
OCDD	100	0.0001	0.01
2,3,7,8-TCDF	10	0.1	0.8
1,2,3,7,8-PeCDF	50	0.05	0.2
2,3,4,7,8-PeCDF	50	0.5	1.6
1,2,3,4,7,8-HxCDF	50	0.1	0.08
1,2,3,6,7,8-HxCDF	50	0.1	0.2
1,2,3,7,8,9-HxCDF	50	0.1	0.6
2,3,4,6,7,8-HxCDF	50	0.1	0.7
1,2,3,4,6,7,8-HpCDF	50	0.01	0.01
1,2,3,4,7,8,9-HpCDF	50	0.01	0.4
OCDF	100	0.0001	0.02

d. Data reporting for results not yet available

The Discharger shall make all reasonable efforts to obtain analytical data for required parameter sampling in a timely manner. Certain analyses require additional time to complete analytical processes and report results. For cases where required monitoring parameters require additional time to complete analytical processes and reports, and results are not available in time to be included in the SMR for the subject monitoring period, the Discharger shall describe such circumstances in the SMR and include the data for these parameters and relevant discussions of any observed exceedances in the next SMR due after the results are available.

e. Flow data

The Discharger shall provide flow data tabulation pursuant to Section IV.B.2.

f. Annual self monitoring report requirements

By the date specified in the MRP, the Discharger shall submit an annual report to the Regional Water Board covering the previous calendar year. The report shall contain the following:

- 1) Annual compliance summary table of treatment plant performance, including documentation of any blending events;
- 2) Comprehensive discussion of treatment plant performance and compliance with the permit (This discussion shall include any corrective actions taken or planned, such as changes to facility equipment or operation practices that may be needed to achieve compliance, and any other actions taken or planned that are intended to improve performance and reliability of the Discharger's wastewater collection, treatment, or disposal practices.);
- 3) Both tabular and graphical summaries of the monitoring data for the previous year if parameters are monitored at a frequency of monthly or greater;
- 4) List of approved analyses, including the following:
 - (i) List of analyses for which the Discharger is certified;
 - (ii) List of analyses performed for the Discharger by a separate certified laboratory (copies of reports signed by the laboratory director of that laboratory shall not be submitted but be retained onsite); and
 - (iii) List of "waived" analyses, as approved;
- 5) Plan view drawing or map showing the Discharger's facility, flow routing, and sampling and observation station locations;
- 6) Results of annual facility inspection to verify that all elements of the SWPP Plan are accurate and up to date (only required if the Discharger does not route all storm water to the headworks of its wastewater treatment plant); and
- 7) Results of facility report reviews (The Discharger shall regularly review, revise, and update, as necessary, the O&M Manual, the Contingency Plan, the Spill Prevention Plan, and Wastewater Facilities Status Report so that these documents remain useful and relevant to current practices. At a minimum, reviews shall be conducted annually. The Discharger shall include, in each Annual Report, a description or summary of review and evaluation procedures, recommended or planned actions, and an estimated time schedule for implementing these actions. The Discharger shall complete changes to these documents to ensure they are up-to-date.).

g. Report submittal

The Discharger shall submit SMRs to:

California Regional Water Quality Control Board

San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612
Attn: NPDES Wastewater Division

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 a process approved by the Executive Officer (see, for example, the letter dated December 17, 1999, "Official Implementation of Electronic Reporting System [ERS]" and the progress report letter dated December 17, 2000).
- 2) *Monthly or Quarterly Reporting Requirements*: For each reporting period (monthly or quarterly as specified in the MRP), the Discharger shall submit an electronic SMR to the Regional Water Board in accordance with the provisions of Section V.C.1.a-e, except for requirements under Section V.C.1.c(1) where ERS does not have fields for dischargers to input certain information (e.g., sample time). However, until U.S. EPA approves the electronic signature or other signature technologies, Dischargers that use ERS shall submit a hard copy of the original transmittal letter, an ERS printout of the data sheet, and a violation report (a receipt of the electronic transmittal shall be retained by the Discharger). This electronic SMR submittal suffices for the signed tabulations specified under Section V.C.1.c(1).
- 3) *Annual Reporting Requirements*: Dischargers who have submitted data using the ERS for at least one calendar year are exempt from submitting the portion of the annual report required under Section V.C.1.f(1) and (3).

D. Compliance Schedules – Not supplemented

E. Twenty-Four Hour Reporting – This section supplements V.E of Standard Provision (Attachment D)

1. Spill of Oil or Other Hazardous Material Reports

- a. Within 24 hours of becoming aware of a spill of oil or other hazardous material that is not contained onsite and completely cleaned up, the Discharger shall report by telephone to the Regional Water Board at (510) 622-2369.
- b. The Discharger shall also report such spills to the State Office of Emergency Services [telephone (800) 852-7550] only when the spills are in accordance with applicable reporting quantities for hazardous materials.
- c. The Discharger shall submit a written report to the Regional Water Board within five working days following telephone notification unless directed otherwise by Regional Water Board staff. A report submitted electronically is acceptable. The written report shall include the following:
 - 1) Date and time of spill, and duration if known;

- 2) Location of spill (street address or description of location);
- 3) Nature of material spilled;
- 4) Quantity of material involved;
- 5) Receiving water body affected, if any;
- 6) Cause of spill;
- 7) Estimated size of affected area;
- 8) Observed impacts to receiving waters (e.g., oil sheen, fish kill, water discoloration);
- 9) Corrective actions taken to contain, minimize, or clean up the spill;
- 10) Future corrective actions planned to be taken to prevent recurrence, and schedule of implementation; and
- 11) Persons or agencies notified.

2. Unauthorized Discharges from Municipal Wastewater Treatment Plants¹

The following requirements apply to municipal wastewater treatment plants that experience an unauthorized discharge at their treatment facilities and are consistent with and supercede requirements imposed on the Discharger by the Executive Officer by letter of May 1, 2008, issued pursuant to California Water Code Section 13383.

a. Two (2)-Hour Notification

For any unauthorized discharges that result in a discharge to a drainage channel or a surface water, the Discharger shall, as soon as possible, but not later than two (2) hours after becoming aware of the discharge, notify the State Office of Emergency Services (telephone 800-852-7550), the local health officers or directors of environmental health with jurisdiction over the affected water bodies, and the Regional Water Board. The notification to the Regional Water Board shall be via the Regional Water Board's online reporting system at www.wbers.net, and shall include the following:

- 1) Incident description and cause;
- 2) Location of threatened or involved waterway(s) or storm drains;
- 3) Date and time the unauthorized discharge started;
- 4) Estimated quantity and duration of the unauthorized discharge (to the extent known), and the estimated amount recovered;

¹ California Code of Regulations, Title 23, Section 2250(b), defines an unauthorized discharge to be a discharge, not regulated by waste discharge requirements, of treated, partially treated, or untreated wastewater resulting from the intentional or unintentional diversion of wastewater from a collection, treatment or disposal system.

- 5) Level of treatment prior to discharge (e.g., raw wastewater, primary treated, undisinfected secondary treated, and so on); and
- 6) Identity of the person reporting the unauthorized discharge.

b. 24-hour Certification

Within 24 hours, the Discharger shall certify to the Regional Water Board, at www.wbers.net, that the State Office of Emergency Services and the local health officers or directors of environmental health with jurisdiction over the affected water bodies have been notified of the unauthorized discharge.

c. 5-Day Written Report

Within five business days, the Discharger shall submit a written report, via the Regional Water Board's online reporting system at www.wbers.net, that includes, in addition to the information required above, the following:

- 1) Methods used to delineate the geographical extent of the unauthorized discharge within receiving waters;
- 2) Efforts implemented to minimize public exposure to the unauthorized discharge;
- 3) Visual observations of the impacts (if any) noted in the receiving waters (e.g., fish kill, discoloration of water) and the extent of sampling if conducted;
- 4) Corrective measures taken to minimize the impact of the unauthorized discharge;
- 5) Measures to be taken to minimize the chances of a similar unauthorized discharge occurring in the future;
- 6) Summary of Spill Prevention Plan or O&M Manual modifications to be made, if necessary, to minimize the chances of future unauthorized discharges; and
- 7) Quantity and duration of the unauthorized discharge, and the amount recovered.

d. Communication Protocol

To clarify the multiple levels of notification, certification, and reporting, the current communication requirements for unauthorized discharges from municipal wastewater treatment plants are summarized in Table B that follows.

Table B
 Summary of Communication Requirements for Unauthorized Discharges¹ from
 Municipal Wastewater Treatment Plants

Discharger is required to:	Agency Receiving Information	Time frame	Method for Contact
1. Notify	California Emergency Management Agency (Cal EMA)	As soon as possible, but not later than 2 hours after becoming aware of the unauthorized discharge.	Telephone – (800) 852-7550 (obtain a control number from Cal EMA)
	Local health department	As soon as possible, but not later than 2 hours after becoming aware of the unauthorized discharge.	Depends on local health department
	Regional Water Board	As soon as possible, but not later than 2 hours after becoming aware of the unauthorized discharge.	Electronic ² www.wbers.net
2. Certify	Regional Water Board	As soon as possible, but not later than 24 hours after becoming aware of the unauthorized discharge.	Electronic ³ www.wbers.net
3. Report	Regional Water Board	Within 5 business days of becoming aware of the unauthorized discharge.	Electronic ⁴ www.wbers.net

¹ California Code of Regulations, Title 23, Section 2250(b), defines an unauthorized discharge to be a discharge, not regulated by waste discharge requirements, of treated, partially treated, or untreated wastewater resulting from the intentional or unintentional diversion of wastewater from a collection, treatment or disposal system.

² In the event that the Discharger is unable to provide online notification within 2 hours of becoming aware of an unauthorized discharge, it shall phone the Regional Water Board’s spill hotline at (510) 622-2369 and convey the same information contained in the notification form. In addition, within 3 business days of becoming aware of the unauthorized discharge, the Discharger shall enter the notification information into the Regional Water Board’s online system in electronic format.

³ In most instances, the 2-hour notification will also satisfy 24-hour certification requirements. This is because the notification form includes fields for documenting that OES and the local health department have been contacted. In other words, if the Discharger is able to complete all the fields in the notification form within 2 hours, certification requirements are also satisfied. In the event that the Discharger is unable to provide online certification within 24 hours of becoming aware of an unauthorized discharge, it shall phone the Regional Water Board’s spill hotline at (510) 622-2369 and convey the same information contained in the certification form. In addition, within 3 business days of becoming aware of the unauthorized discharge, the Discharger shall enter the certification information into the Regional Water Board’s online system in electronic format.

⁴ If the Discharger cannot satisfy the 5-day reporting requirements via the Regional Water Board’s online reporting system, it shall submit a written report (preferably electronically in pdf) to the appropriate Regional Water Board case manager. In cases where the Discharger cannot satisfy the 5-day reporting requirements via the online reporting system, it must still complete the Regional Water Board’s online reporting requirements within 15 calendar days of becoming aware of the unauthorized discharge.

F. Planned Changes – Not supplemented

G. Anticipated Noncompliance – Not supplemented

H. Other Noncompliance – Not supplemented

I. Other Information – Not supplemented

VI. STANDARD PROVISION – ENFORCEMENT – Not Supplemented

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS – Not Supplemented

VIII. DEFINITIONS – This section is an addition to Standard Provisions (Attachment D)

More definitions can be found in Attachment A of this NPDES Permit.

1. Arithmetic Calculations

- a. Geometric mean is the antilog of the log mean or the back-transformed mean of the logarithmically transformed variables, which is equivalent to the multiplication of the antilogarithms. The geometric mean can be calculated with either of the following equations:

$$\text{Geometric Mean} = \text{Antilog} \left(\frac{1}{N} \sum_{i=1}^N \text{Log}(C_i) \right)$$

or

$$\text{Geometric Mean} = (C_1 * C_2 * \dots * C_N)^{1/N}$$

Where “N” is the number of data points for the period analyzed and “C” is the concentration for each of the “N” data points.

- b. Mass emission rate is obtained from the following calculation for any calendar day:

$$\text{Mass emission rate (lb/day)} = \frac{8.345}{N} \sum_{i=1}^N Q_i C_i$$

$$\text{Mass emission rate (kg/day)} = \frac{3.785}{N} \sum_{i=1}^N Q_i C_i$$

In which “N” is the number of samples analyzed in any calendar day and “Q_i” and “C_i” are the flow rate (MGD) and the constituent concentration (mg/L) associated with each of the “N” grab samples that may be taken in any calendar day. If a composite sample is taken, “C_i” is the concentration measured in the composite sample and “Q_i” is the average flow rate occurring during the period over which the samples are composited. The daily concentration of a constituent measured over any calendar day shall be determined from the flow-weighted average of the same constituent in the combined waste streams as follows:

$$C_d = \text{Average daily concentration} = \frac{1}{Q_t} \sum_{i=1}^N Q_i C_i$$

In which “N” is the number of component waste streams and “Q” and “C” are the flow rate (MGD) and the constituent concentration (mg/L) associated with each of the “N” waste streams. “Q_t” is the total flow rate of the combined waste streams.

- c. Maximum allowable mass emission rate, whether for a 24-hour, weekly 7-day, monthly 30-day, or 6-month period, is a limitation expressed as a daily rate determined with the formulas in the paragraph above, using the effluent concentration limit specified in the permit for the period and the specified allowable flow.
- d. POTW removal efficiency is the ratio of pollutants removed by the treatment facilities to pollutants entering the treatment facilities (expressed as a percentage). The Discharger shall determine removal efficiencies using monthly averages (by calendar month unless otherwise specified) of pollutant concentration of influent and effluent samples collected at about the same time and using the following equation (or its equivalent):

$$\text{Removal Efficiency (\%)} = 100 \times [1 - (\text{Effluent Concentration} / \text{Influent Concentration})]$$

2. Biosolids means the solids, semi-liquid suspensions of solids, residues, screenings, grit, scum, and precipitates separated from or created in wastewater by the unit processes of a treatment system. It also includes, but is not limited to, all supernatant, filtrate, centrate, decantate, and thickener overflow and underflow in the solids handling parts of the wastewater treatment system.
3. Blending is the practice of recombining wastewater that has been biologically treated with wastewater that has bypassed around biological treatment units.
4. Bottom sediment sample is (1) a separate grab sample taken at each sampling station for the determination of selected physical-chemical parameters, or (2) four grab samples collected from different locations in the immediate vicinity of a sampling station while the boat is anchored and analyzed separately for macroinvertebrates.
5. Composite sample is a sample composed of individual grab samples collected manually or by an automatic sampling device on the basis of time or flow as specified in the MRP. For flow-based composites, the proportion of each grab sample included in the composite sample shall be within plus or minus five percent (+/-5%) of the representative flow rate of the waste stream being measured at the time of grab sample collection. Alternatively, equal volume grab samples may be individually analyzed with the flow-weighted average calculated by averaging flow-weighted ratios of each grab sample analytical result. Grab samples comprising time-based composite samples shall be collected at intervals not greater than those specified in the MRP. The quantity of each grab sample comprising a time-based composite sample shall be a set of flow proportional volumes as specified in the MRP. If a particular time-based or flow-based composite sampling protocol is not specified in the MRP, the Discharger shall determine and implement the most representative sampling protocol for the given parameter subject to Executive Officer approval.
6. Depth-integrated sample is defined as a water or waste sample collected by allowing a sampling device to fill during a vertical traverse in the waste or receiving water body being sampled. The Discharger shall collect depth-integrated samples in such a manner that the collected sample will be representative of the waste or water body at that sampling point.

7. Flow sample is an accurate measurement of the average daily flow volume using a properly calibrated and maintained flow measuring device.
8. Grab sample is an individual sample collected in a short period of time not exceeding 15 minutes. Grab samples represent only the condition that exists at the time the wastewater is collected.
9. Initial dilution is the process that results in the rapid and irreversible turbulent mixing of wastewater with receiving water around the point of discharge.
10. Overflow is the intentional or unintentional spilling or forcing out of untreated or partially treated wastes from a transport system (e.g., through manholes, at pump stations, and at collection points) upstream from the treatment plant headworks or from any part of a treatment plant facility.
11. Priority pollutants are those constituents referred to in 40 CFR Part 122 as promulgated in the Federal Register, Vol. 65, No. 97, Thursday, May 18, 2000, also known as the California Toxics Rule, the presence or discharge of which could reasonably be expected to interfere with maintaining designated uses.
12. Storm water means storm water runoff, snow melt runoff, and surface runoff and drainage. It excludes infiltration and runoff from agricultural land.
13. Toxic pollutant means any pollutant listed as toxic under federal Clean Water Act section 307(a)(1) or under 40 CFR 401.15.
14. Untreated waste is raw wastewater.
15. Waste, waste discharge, discharge of waste, and discharge are used interchangeably in the permit. The requirements of the permit apply to the entire volume of water, and the material therein, that is disposed of to surface and ground waters of the State of California.

Table C
 List of Monitoring Parameters and Analytical Methods

CTR No.	Pollutant/Parameter	Analytical Method ⁶	Minimum Levels ⁷ (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
1.	Antimony	204.2					10	5	50	0.5	5	0.5		1000
2.	Arsenic	206.3				20		2	10	2	2	1		1000
3.	Beryllium						20	0.5	2	0.5	1			1000
4.	Cadmium	200 or 213					10	0.5	10	0.25	0.5			1000
5a.	Chromium (III)	SM 3500												
5b.	Chromium (VI)	SM 3500				10	5							1000
	Chromium (total) ⁸	SM 3500					50	2	10	0.5	1			1000
6.	Copper	200.9					25	5	10	0.5	2			1000
7.	Lead	200.9					20	5	5	0.5	2			10,000
8.	Mercury	1631 (note) ⁹												
9.	Nickel	249.2					50	5	20	1	5			1000
10.	Selenium	200.8 or SM 3114B or C						5	10	2	5	1		1000
11.	Silver	272.2					10	1	10	0.25	2			1000
12.	Thallium	279.2					10	2	10	1	5			1000
13.	Zinc	200 or 289					20		20	1	10			
14.	Cyanide	SM 4500 CN ⁻ C or I				5								
15.	Asbestos (only required for dischargers to MUN waters) ¹⁰	0100.2 ¹¹												
16.	2,3,7,8-TCDD and 17 congeners (Dioxin)	1613												
17.	Acrolein	603	2.0	5										
18.	Acrylonitrile	603	2.0	2										
19.	Benzene	602	0.5	2										
33.	Ethylbenzene	602	0.5	2										
39.	Toluene	602	0.5	2										
20.	Bromoform	601	0.5	2										
21.	Carbon Tetrachloride	601	0.5	2										
22.	Chlorobenzene	601	0.5	2										
23.	Chlorodibromomethane	601	0.5	2										
24.	Chloroethane	601	0.5	2										
25.	2-Chloroethylvinyl Ether	601	1	1										

⁶ The suggested method is the U.S. EPA Method unless otherwise specified (SM = Standard Methods). The Discharger may use another U.S. EPA-approved or recognized method if that method has a level of quantification below the applicable water quality objective. Where no method is suggested, the Discharger has the discretion to use any standard method.

⁷ Minimum levels are from the *State Implementation Policy*. They are the concentration of the lowest calibration standard for that technique based on a survey of contract laboratories. 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., U.S. EPA 200.9); Hydride = Gaseous Hydride Atomic Absorption; CVAA = Cold Vapor Atomic Absorption; DCP = Direct Current Plasma.

⁸ Analysis for total chromium may be substituted for analysis of chromium (III) and chromium (VI) if the concentration measured is below the lowest hexavalent chromium criterion (11 µg/l).

⁹ The Discharger shall use ultra-clean sampling (U.S. EPA Method 1669) and ultra-clean analytical methods (U.S. EPA Method 1631) for mercury monitoring. The minimum level for mercury is 2 ng/l (or 0.002 µg/l).

¹⁰ MUN = Municipal and Domestic Supply. This designation, if applicable, is in the Findings of the permit.

¹¹ Determination of Asbestos Structures over 10 [micrometers] in Length in Drinking Water Using MCE Filters, U.S. EPA 600/R-94-134, June 1994.

CTR No.	Pollutant/Parameter	Analytical Method ⁶	Minimum Levels ⁷ (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAAs	DCP
26.	Chloroform	601	0.5	2										
75.	1,2-Dichlorobenzene	601	0.5	2										
76.	1,3-Dichlorobenzene	601	0.5	2										
77.	1,4-Dichlorobenzene	601	0.5	2										
27.	Dichlorobromomethane	601	0.5	2										
28.	1,1-Dichloroethane	601	0.5	1										
29.	1,2-Dichloroethane	601	0.5	2										
30.	1,1-Dichloroethylene or 1,1-Dichloroethene	601	0.5	2										
31.	1,2-Dichloropropane	601	0.5	1										
32.	1,3-Dichloropropylene or 1,3-Dichloropropene	601	0.5	2										
34.	Methyl Bromide or Bromomethane	601	1.0	2										
35.	Methyl Chloride or Chloromethane	601	0.5	2										
36.	Methylene Chloride or Dichloromethane	601	0.5	2										
37.	1,1,2,2-Tetrachloroethane	601	0.5	1										
38.	Tetrachloroethylene	601	0.5	2										
40.	1,2-Trans-Dichloroethylene	601	0.5	1										
41.	1,1,1-Trichloroethane	601	0.5	2										
42.	1,1,2-Trichloroethane	601	0.5	2										
43.	Trichloroethene	601	0.5	2										
44.	Vinyl Chloride	601	0.5	2										
45.	2-Chlorophenol	604	2	5										
46.	2,4-Dichlorophenol	604	1	5										
47.	2,4-Dimethylphenol	604	1	2										
48.	2-Methyl-4,6-Dinitrophenol or Dinitro-2-methylphenol	604	10	5										
49.	2,4-Dinitrophenol	604	5	5										
50.	2-Nitrophenol	604		10										
51.	4-Nitrophenol	604	5	10										
52.	3-Methyl-4-Chlorophenol	604	5	1										
53.	Pentachlorophenol	604	1	5										
54.	Phenol	604	1	1		50								
55.	2,4,6-Trichlorophenol	604	10	10										
56.	Acenaphthene	610 HPLC	1	1	0.5									
57.	Acenaphthylene	610 HPLC		10	0.2									
58.	Anthracene	610 HPLC		10	2									
60.	Benzo(a)Anthracene or 1,2 Benzanthracene	610 HPLC	10	5										
61.	Benzo(a)Pyrene	610 HPLC		10	2									
62.	Benzo(b)Fluoranthene or 3,4 Benzofluoranthene	610 HPLC		10	10									
63.	Benzo(ghi)Perylene	610 HPLC		5	0.1									
64.	Benzo(k)Fluoranthene	610 HPLC		10	2									
74.	Dibenzo(a,h)Anthracene	610 HPLC		10	0.1									
86.	Fluoranthene	610 HPLC	10	1	0.05									
87.	Fluorene	610 HPLC		10	0.1									
92.	Indeno(1,2,3-cd) Pyrene	610 HPLC		10	0.05									
100.	Pyrene	610 HPLC		10	0.05									
68.	Bis(2-Ethylhexyl)Phthalate	606 or 625	10	5										

CTR No.	Pollutant/Parameter	Analytical Method ⁶	Minimum Levels ⁷ (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
70.	Butylbenzyl Phthalate	606 or 625	10	10										
79.	Diethyl Phthalate	606 or 625	10	2										
80.	Dimethyl Phthalate	606 or 625	10	2										
81.	Di-n-Butyl Phthalate	606 or 625		10										
84.	Di-n-Octyl Phthalate	606 or 625		10										
59.	Benzidine	625		5										
65.	Bis(2-Chloroethoxy)Methane	625		5										
66.	Bis(2-Chloroethyl)Ether	625	10	1										
67.	Bis(2-Chloroisopropyl)Ether	625	10	2										
69.	4-Bromophenyl Phenyl Ether	625	10	5										
71.	2-Chloronaphthalene	625		10										
72.	4-Chlorophenyl Phenyl Ether	625		5										
73.	Chrysene	625		10	5									
78.	3,3'-Dichlorobenzidine	625		5										
82.	2,4-Dinitrotoluene	625	10	5										
83.	2,6-Dinitrotoluene	625		5										
85.	1,2-Diphenylhydrazine (note) ¹²	625		1										
88.	Hexachlorobenzene	625	5	1										
89.	Hexachlorobutadiene	625	5	1										
90.	Hexachlorocyclopentadiene	625	5	5										
91.	Hexachloroethane	625	5	1										
93.	Isophorone	625	10	1										
94.	Naphthalene	625	10	1	0.2									
95.	Nitrobenzene	625	10	1										
96.	N-Nitrosodimethylamine	625	10	5										
97.	N-Nitrosodi-n-Propylamine	625	10	5										
98.	N-Nitrosodiphenylamine	625	10	1										
99.	Phenanthrene	625		5	0.05									
101.	1,2,4-Trichlorobenzene	625	1	5										
102.	Aldrin	608	0.005											
103.	α-BHC	608	0.01											
104.	β-BHC	608	0.005											
105.	γ-BHC (Lindane)	608	0.02											
106.	δ-BHC	608	0.005											
107.	Chlordane	608	0.1											
108.	4,4'-DDT	608	0.01											
109.	4,4'-DDE	608	0.05											
110.	4,4'-DDD	608	0.05											
111.	Dieldrin	608	0.01											
112.	Endosulfan (alpha)	608	0.02											
113.	Endosulfan (beta)	608	0.01											
114.	Endosulfan Sulfate	608	0.05											
115.	Endrin	608	0.01											
116.	Endrin Aldehyde	608	0.01											
117.	Heptachlor	608	0.01											
118.	Heptachlor Epoxide	608	0.01											

¹² Measurement for 1,2-Diphenylhydrazine may use azobenzene as a screen: if azobenzene is measured at >1 ug/l, then the Discharger shall analyze for 1,2-Diphenylhydrazine.

CTR No.	Pollutant/Parameter	Analytical Method ⁶	Minimum Levels ⁷ (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
119-125	PCBs: Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260	608	0.5											
126.	Toxaphene	608	0.5											

CALIFORNIA REGIONAL

ATTACHMENT H – PRETREATMENT REQUIREMENTS

CALIFORNIA REGIONAL WATER QUALITY CONTROL
BOARD
SAN FRANCISCO BAY REGION

ATTACHMENT H
PRETREATMENT PROGRAM PROVISIONS
For
NPDES POTW WASTEWATER DISCHARGE PERMITS

March 2011
(Corrected May 2011)

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Attachment H: Pretreatment Program Provisions

- A.** The Discharger shall be responsible and liable for the performance of all Control Authority pretreatment requirements contained in 40 CFR 403, including any regulatory revisions to Part 403. Where a Part 403 revision is promulgated after the effective date of the Discharger's permit and places mandatory actions upon the Discharger as Control Authority but does not specify a timetable for completion of the actions, the Discharger shall complete the required actions within six months from the issuance date of this permit or six months from the effective date of the Part 403 revisions, whichever comes later.

(If the Discharger cannot complete the required actions within the above six-month period due to the need to process local adoption of sewer use ordinance modifications or other substantial pretreatment program modifications, the Discharger shall notify the Executive Officer in writing at least 60 days prior to the six-month deadline. The written notification shall include a summary of completed required actions, an explanation for why the six month deadline cannot be met, and a proposed timeframe to complete the rest of the required actions as soon as practical but not later than within twelve months of the issuance date of this permit or twelve months of the effective date of the Part 403 revisions, whichever comes later. The Executive Officer will notify the Discharger in writing within 30 days of receiving the request if the extension is not approved.)

The United States Environmental Protection Agency (U.S. EPA), the State and/or other appropriate parties may initiate enforcement action against a nondomestic user for noncompliance with applicable standards and requirements as provided in the Clean Water Act (Act).

- B.** The Discharger shall enforce the requirements promulgated under Sections 307(b), 307(c), 307(d) and 402(b) of the Act with timely, appropriate and effective enforcement actions. The Discharger shall cause nondomestic users subject to Federal Categorical Standards to achieve compliance no later than the date specified in those requirements or, in the case of a new nondomestic user, upon commencement of the discharge.
- C.** The Discharger shall perform the pretreatment functions as required in 40 CFR 403 and amendments or modifications thereto including, but not limited to:
- 1.** Implement the necessary legal authorities to fully implement the pretreatment regulations as provided in 40 CFR 403.8(f)(1);
 - 2.** Implement the programmatic functions as provided in 40 CFR 403.8(f)(2);
 - 3.** Publish an annual list of nondomestic users in significant noncompliance as provided per 40 CFR 403.8(f)(2)(viii);
 - 4.** Provide for the requisite funding and personnel to implement the pretreatment program as provided in 40 CFR 403.8(f)(3); and
 - 5.** Enforce the national pretreatment standards for prohibited discharges and categorical standards as provided in 40 CFR 403.5 and 403.6, respectively.

- D.** The Discharger shall submit annually a report to U.S. EPA Region 9, the State Water Board and the Regional Water Board describing its pretreatment program activities over the previous calendar year. In the event that the Discharger is not in compliance with any conditions or requirements of the Pretreatment Program, the Discharger shall also include the reasons for noncompliance and a plan and schedule for achieving compliance. The report shall contain, but is not limited to, the information specified in Appendix H-1 entitled, “Requirements for Pretreatment Annual Reports.” The annual report is due each year on February 28.
- E.** The Discharger shall submit a pretreatment semiannual report to U.S. EPA Region 9, the State Water Board and the Regional Water Board describing the status of its significant industrial users (SIUs). The report shall contain, but is not limited to, information specified in Appendix H-2 entitled, “Requirements for Pretreatment Semiannual Reports.” The semiannual report is due July 31 for the period January through June. The information for the period July through December of each year shall be included in the Annual Report identified in Appendix H-1. The Executive Officer may exempt the Discharger from the semiannual reporting requirements on a case by case basis subject to State Water Board and U.S. EPA’s comment and approval.
- F.** The Discharger shall conduct the monitoring of its treatment plant’s influent, effluent, and sludge (biosolids) as described in Appendix H-4 entitled, “Requirements for Influent, Effluent and Sludge (Biosolids) Monitoring.” (The term “biosolids,” as used in this Attachment, shall have the same meaning as wastewater treatment plant “sludge” and will be used from this point forward.) The Discharger shall evaluate the results of the sampling and analysis during the preparation of the semiannual and annual reports to identify any trends. Signing the certification statement used to transmit the reports shall be deemed to certify the Discharger has completed this data evaluation. A tabulation of the data shall be included in the pretreatment annual report as specified in Appendix H-4. The Executive Officer may require more or less frequent monitoring on a case by case basis.

APPENDIX H-1

REQUIREMENTS FOR PRETREATMENT ANNUAL REPORTS

The Pretreatment Annual Report is due each year on February 28 and shall contain activities conducted during the previous calendar year. The purpose of the Annual Report is to:

- Describe the status of the Discharger's pretreatment program; and
- Report on the effectiveness of the program, as determined by comparing the results of the preceding year's program implementation.

The report shall contain, at a minimum, the following information:

A. Cover Sheet

The cover sheet shall include:

1. The name(s) and National Pollutant Discharge Elimination System (NPDES) permit number(s) of the Discharger(s) that is part of the Pretreatment Program;
2. The name, address and telephone number of a pretreatment contact person;
3. The period covered in the report;
4. A statement of truthfulness; and
5. The dated signature of a principal executive officer, ranking elected official, or other duly authorized employee who is responsible for overall operation of the Publicly Owned Treatment Works (POTW) (40 CFR 403.12(m)).

B. Introduction

This section shall include:

1. Any pertinent background information related to the Discharger and/or the nondomestic user base of the area;
2. List of applicable interagency agreements used to implement the Discharger's pretreatment program (e.g., Memoranda of Understanding (MOU) with satellite sanitary sewer collection systems); and
3. A status summary of the tasks required by a Pretreatment Compliance Inspection (PCI), Pretreatment Compliance Audit (PCA), Cleanup and Abatement Order (CAO), or other pretreatment-related enforcement actions required by the Regional Water Board or the U.S. EPA. A more detailed discussion can be referenced and included in the section entitled, "Program Changes," if needed.

C. Definitions

This section shall include a list of key terms and their definitions that the Discharger uses to describe or characterize elements of its pretreatment program, or the Discharger may provide a reference to its website if the applicable definitions are available on-line.

D. Discussion of Upset, Interference and Pass Through

This section shall include a discussion of Upset, Interference or Pass Through incidents, if any, at the Discharger's treatment plant(s) that the Discharger knows of or suspects were caused by nondomestic user discharges. Each incident shall be described, at a minimum, consisting of the following information:

1. A description of what occurred;
2. A description of what was done to identify the source;
3. The name and address of the nondomestic user responsible;
4. The reason(s) why the incident occurred;
5. A description of the corrective actions taken; and
6. An examination of the local and federal discharge limits and requirements for the purposes of determining whether any additional limits or changes to existing requirements may be necessary to prevent other Upset, Interference or Pass Through incidents.

E. Influent, Effluent and Biosolids Monitoring Results

The Discharger shall evaluate the influent, effluent and biosolids monitoring results as specified in Appendix H-4 in preparation of this report. The Discharger shall retain the analytical laboratory reports with the Quality Assurance and Quality Control (QA/QC) data validation and make these reports available upon request.

This section shall include:

1. Description of the sampling procedures and an analysis of the results (see Appendix H-4 for specific requirements);
2. Tabular summary of the compounds detected (compounds measured above the detection limit for the analytical method used) for the monitoring data generated during the reporting year as specified in Appendix H-4;
3. Discussion of the investigation findings into any contributing sources of the compounds that exceed NPDES limits; and
4. Graphical representation of the influent and effluent metal monitoring data for the past five years with a discussion of any trends.

F. Inspection, Sampling and Enforcement Programs

This section shall include at a minimum the following information:

1. Inspections: Summary of the inspection program (e.g., criteria for determining the frequency of inspections and inspection procedures);
2. Sampling Events: Summary of the sampling program (e.g., criteria for determining the frequency of sampling and chain of custody procedures); and
3. Enforcement: Summary of Enforcement Response Plan (ERP) implementation including dates for adoption, last revision and submission to the Regional Water Board.

G. Updated List of Regulated SIUs

This section shall contain a list of all of the federal categories that apply to SIUs regulated by the Discharger. The specific categories shall be listed including the applicable 40 CFR subpart and section, and pretreatment standards (both maximum and average limits). Local limits developed by the Discharger shall be presented in a table including the applicability of the local limits to SIUs. If local limits do not apply uniformly to SIUs, specify the applicability in the tables listing the categorical industrial users (CIUs) and non-categorical SIUs. Tables developed in Sections 7A and 7B can be used to present or reference this information.

1. CIUs - Include a table that alphabetically lists the CIUs regulated by the Discharger as of the end of the reporting period. This list shall include:
 - a. Name;
 - b. Address;
 - c. Applicable federal category(ies);
 - d. Reference to the location where the applicable Federal Categorical Standards are presented in the report;
 - e. Identify all deletions and additions keyed to the list submitted in the previous annual report. All deletions shall be briefly explained (e.g., closure, name change, ownership change, reclassification, declassification); and
 - f. Information, calculations and data used to determine the limits for those CIUs for which a combined waste stream formula is applied.
2. Non-categorical SIUs - Include a table that alphabetically lists the SIUs not subject to any federal categorical standards that were regulated by the Discharger as of the end of the reporting period. This list shall include:
 - a. Name;

- b. Address;
- c. A brief description of the type of business;
- d. Identify all deletions and additions keyed to the list submitted in the previous annual report. All deletions shall be briefly explained (e.g., closure, name change, ownership change, reclassification, declassification); and
- e. Indicate the applicable discharge limits (e.g., different from local limits) to which the SIUs are subject and reference to the location where the applicable limits (e.g., local discharge limits) are presented in the report.

H. SIU (categorical and non-categorical) Compliance Activities

The information required in this section may be combined in the table developed in Section 7 above.

- 1. Inspection and Sampling Summary:** This section shall contain a summary of all the SIU inspections and sampling activities conducted by the Discharger and sampling activities conducted by the SIU over the reporting year to gather information and data regarding SIU compliance. The summary shall include:
 - a. The number of inspections and sampling events conducted for each SIU by the Discharger;
 - b. The number of sampling events conducted by the SIU. Identify SIUs that are operating under an approved Total Toxic Organic Management Plan;
 - c. The quarters in which the above activities were conducted; and
 - d. The compliance status of each SIU, delineated by quarter, and characterized using all applicable descriptions as given below:
 - (1) Consistent compliance;
 - (2) Inconsistent compliance;
 - (3) Significant noncompliance;
 - (4) On a compliance schedule to achieve compliance (include the date final compliance is required);
 - (5) Not in compliance and not on a compliance schedule; and
 - (6) Compliance status unknown, and why not.
- 2. Enforcement Summary:** This section shall contain a summary of SIU compliance and enforcement activities during the reporting year. The summary may be included in the summary table developed in section 8A and shall include the names and addresses of all SIUs affected by the actions identified below. For each notice specified in enforcement action “i” through “iv,” indicate whether it was for an infraction of a federal or local standard/limit or requirement.

- a. Warning letters or notices of violations regarding SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements;
 - b. Administrative Orders regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements;
 - c. Civil actions regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements;
 - d. Criminal actions regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements;
 - e. Assessment of monetary penalties. Identify the amount of penalty in each case and reason for assessing the penalty;
 - f. Order to restrict/suspend discharge to the Discharger; and
 - g. Order to disconnect the discharge from entering the Discharger.
- 3. July-December Semiannual Data:** For SIU violations/noncompliance during the semiannual reporting period from July 1 through December 31, provide the following information:
- a. Name and facility address of the SIU;
 - b. Indicate if the SIU is subject to Federal Categorical Standards; if so, specify the category including the subpart that applies;
 - c. For SIUs subject to Federal Categorical Standards, indicate if the violation is of a categorical or local standard;
 - d. Indicate the compliance status of the SIU for the two quarters of the reporting period; and
 - e. For violations/noncompliance identified in the reporting period, provide:
 - (1) The date(s) of violation(s);
 - (2) The parameters and corresponding concentrations exceeding the limits and the discharge limits for these parameters; and
 - (3) A brief summary of the noncompliant event(s) and the steps that are being taken to achieve compliance.

I. Baseline Monitoring Report Update

This section shall provide a list of CIUs added to the pretreatment program since the last annual report. This list of new CIUs shall summarize the status of the respective Baseline Monitoring Reports (BMR). The BMR must contain the information specified in 40 CFR 403.12(b). For each new CIU, the summary shall indicate when the BMR was due; when the CIU was notified by the Discharger of this requirement; when the CIU submitted the report; and/or when the report is due.

J. Pretreatment Program Changes

This section shall contain a description of any significant changes in the Pretreatment Program during the past year including, but not limited to:

1. Legal authority;
2. Local limits;
3. Monitoring/ inspection program and frequency;
4. Enforcement protocol;
5. Program's administrative structure;
6. Staffing level;
7. Resource requirements;
8. Funding mechanism;
9. If the manager of the Discharger's pretreatment program changed, a revised organizational chart shall be included; and
10. If any element(s) of the program is in the process of being modified, this intention shall also be indicated.

K. Pretreatment Program Budget

This section shall present the budget spent on the Pretreatment Program. The budget, either by the calendar or fiscal year, shall show the total expenses required to implement the pretreatment program. A brief discussion of the source(s) of funding shall be provided. In addition, the Discharger shall make available upon request specific details on its pretreatment program expense amounts such as for personnel, equipment, and chemical analyses.

L. Public Participation Summary

This section shall include a copy of the public notice as required in 40 CFR 403.8(f)(2)(viii). If a notice was not published, the reason shall be stated.

M. Biosolids Storage and Disposal Practice

This section shall describe how treated biosolids are stored and ultimately disposed. If a biosolids storage area is used, it shall be described in detail including its location, containment features and biosolids handling procedures.

N. Other Pollutant Reduction Activities

This section shall include a brief description of any programs the Discharger implements to reduce pollutants from nondomestic users that are not classified as SIUs. If the Discharger submits any of this program information in an Annual Pollution Prevention Report, reference to this other report shall satisfy this reporting requirement.

O. Other Subjects

Other information related to the Pretreatment Program that does not fit into any of the above categories should be included in this section.

P. Permit Compliance System (PCS) Data Entry Form

The annual report shall include the PCS Data Entry Form. This form shall summarize the enforcement actions taken against SIUs in the past year. This form shall include the following information:

1. Discharger's name,
2. NPDES Permit number,
3. Period covered by the report,
4. Number of SIUs in significant noncompliance (SNC) that are on a pretreatment compliance schedule,
5. Number of notices of violation and administrative Orders issued against SIUs,
6. Number of civil and criminal judicial actions against SIUs,
7. Number of SIUs that have been published as a result of being in SNC, and
8. Number of SIUs from which penalties have been collected.

APPENDIX H-2

REQUIREMENTS FOR JANUARY-JUNE PRETREATMENT SEMIANNUAL REPORT

The pretreatment semiannual report is due on July 31 for pretreatment program activities conducted from January through June unless an exception has been granted by the Regional Water Board's Executive Officer (e.g., pretreatment programs without any SIUs may qualify for an exception to the pretreatment semiannual report). Pretreatment activities conducted from July through December of each year shall be included in the Pretreatment Annual Report as specified in Appendix H-1. The pretreatment semiannual report shall contain, at a minimum the following information:

A. Influent, Effluent and Biosolids Monitoring

The influent, effluent and biosolids monitoring results shall be evaluated in preparation of this report. The Discharger shall retain analytical laboratory reports with the QA/QC data validation and make these reports available upon request. The Discharger shall also make available upon request a description of its influent, effluent and biosolids sampling procedures. Violations of any parameter that exceed NPDES limits shall be identified and reported. The contributing source(s) of the parameters that exceed NPDES limits shall be investigated and discussed.

B. Significant Industrial User Compliance Status

This section shall contain a list of all SIUs that were not in consistent compliance with all pretreatment standards/limits or requirements for the reporting period. For the reported SIUs, the compliance status for the previous semiannual reporting period shall be included. Once the SIU has determined to be out of compliance, the SIU shall be included in subsequent reports until consistent compliance has been achieved. A brief description detailing the actions that the SIU undertook to come back into compliance shall be provided.

For each SIU on the list, the following information shall be provided:

1. Name and facility address of the SIU;
2. Indicate if the SIU is subject to Federal Categorical Standards; if so, specify the category including the subpart that applies;
3. For SIUs subject to Federal Categorical Standards, indicate if the violation is of a categorical or local standard;
4. Indicate the compliance status of the SIU for the two quarters of the reporting period; and
5. For violations/noncompliance identified in the reporting period, provide:
 - a. The date(s) of violation(s);
 - b. The parameters and corresponding concentrations exceeding the limits and the discharge limits for these parameters; and

- c. A brief summary of the noncompliant event(s) and the steps that are being taken to achieve compliance.

C. Discharger's Compliance with Pretreatment Program Requirements

This section shall contain a discussion of the Discharger's compliance status with the Pretreatment Program Requirements as indicated in the latest Pretreatment Compliance Audit (PCA) Report or Pretreatment Compliance Inspection (PCI) Report. It shall contain a summary of the following information:

1. Date of latest PCA or PCI report;
2. Date of the Discharger's response;
3. List of unresolved issues; and
4. Plan(s) and schedule for resolving the remaining issues.

APPENDIX H-3

SIGNATURE REQUIREMENTS FOR PRETREATMENT ANNUAL AND SEMIANNUAL REPORTS

The pretreatment annual and semiannual reports shall be signed by a principal executive officer, ranking elected official, or other duly authorized employee who is responsible for the overall operation of the Discharger [POTW - 40 CFR 403.12(m)]. Signed copies of the reports shall be submitted to the U.S. EPA, the State Water Board, and the Regional Water Board at the following addresses unless the Discharger is instructed by any of these agencies to submit electronic copies of the required reports:

Pretreatment Program Reports
Clean Water Act Compliance Office (WTR-7)
Water Division
Pacific Southwest Region
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105-3901

Submit electronic copies only to State and Regional Water Boards:

Pretreatment Program Manager
Regulatory Unit
State Water Resources Control Board
Division of Water Quality-15th Floor
1001 I Street
Sacramento, CA 95814
DMR@waterboards.ca.gov
NPDES_Wastewater@waterboards.ca.gov

Pretreatment Coordinator
NPDES Wastewater Division
SF Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

(Submit the report as a single Portable Document Format (PDF) file to the Pretreatment Coordinator's folder in the Regional Water Board's File Transfer Protocol (FTP) site. The instructions for using the FTP site can be found at the following internet address:

http://www.waterboards.ca.gov/sanfranciscobay/publications_forms/documents/FTP_Discharger_Guide-12-2010.pdf.)

APPENDIX H-4

REQUIREMENTS FOR INFLUENT, EFFLUENT AND BIOSOLIDS MONITORING

The Discharger shall conduct sampling of its treatment plant's influent, effluent and biosolids at the frequency shown in **the pretreatment requirements table** of the Monitoring and Reporting Program (MRP, Attachment E). When sampling periods coincide, one set of test results, reported separately, may be used for those parameters that are required to be monitored by both the influent and effluent monitoring requirements of the MRP and the Pretreatment Program. The Pretreatment Program monitoring reports as required in Appendices H-1 and H-2 shall be transmitted to the Pretreatment Program Coordinator.

A. Reduction of Monitoring Frequency

The minimum frequency of Pretreatment Program influent, effluent, and biosolids monitoring shall be dependent on the number of SIUs identified in the Discharger's Pretreatment Program as indicated in Table H-1.

Number of SIUs	Minimum Frequency
< 5	Once every five years
> 5 and < 50	Once every year
> 50	Twice per year

If the Discharger's required monitoring frequency is greater than the minimum specified in Table H-1, the Discharger may request a reduced monitoring frequency for that constituent(s) as part of its application for permit reissuance if it meets the following criteria:

The monitoring data for the constituent(s) consistently show non-detect (ND) levels for the effluent monitoring and very low (i.e., near ND) levels for influent and biosolids monitoring for a minimum of eight previous years' worth of data.

The Discharger's request shall include tabular summaries of the data and a description of the trends in the industrial, commercial, and residential customers in the Discharger's service area that demonstrate control over the sources of the constituent(s). The Regional Water Board may grant a reduced monitoring frequency in the reissued permit after considering the information provided by the Discharger and any other relevant information.

B. Influent and Effluent Monitoring

The Discharger shall monitor for the parameters using the required sampling and test methods listed in **the pretreatment table** of the MRP. Any test method substitutions must have received prior written Executive Officer approval. Influent and effluent sampling locations shall be the same as those sites specified in the MRP.

The influent and effluent samples should be taken at staggered times to account for treatment plant detention time. Appropriately staggered sampling is considered consistent with the requirement for collection of effluent samples coincident with influent samples in Section III.A.3.a(2) of

Attachment G. All samples must be representative of daily operations. Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 CFR 136 and amendments thereto. For effluent monitoring, the reporting limits for the individual parameters shall be at or below the minimum levels (MLs) as stated in the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (2000) [also known as the State Implementation Policy (SIP)]; any revisions to the MLs shall be adhered to. If a parameter does not have a stated ML, then the Discharger shall conduct the analysis using the lowest commercially available and reasonably achievable detection levels.

The following report elements should be used to submit the influent and effluent monitoring results. A similarly structured format may be used but will be subject to Regional Water Board approval. The monitoring reports shall be submitted with the Pretreatment Annual Report identified in Appendix H-1.

1. Sampling Procedures, Sample Dechlorination, Sample Compositing, and Data Validation (applicable quality assurance/quality control) shall be performed in accordance with the techniques prescribed in 40 CFR 136 and amendments thereto. The Discharger shall make available upon request its sampling procedures including methods of dechlorination, compositing, and data validation.
2. A tabulation of the test results for the detected parameters shall be provided.
3. Discussion of Results – The report shall include a complete discussion of the test results for the detected parameters. If any pollutants are detected in sufficient concentration to upset, interfere or pass through plant operations, the type of pollutant(s) and potential source(s) shall be noted, along with a plan of action to control, eliminate, and/or monitor the pollutant(s). Any apparent generation and/or destruction of pollutants attributable to chlorination/dechlorination sampling and analysis practices shall be noted.

C. Biosolids Monitoring

Biosolids should be sampled in a manner that will be representative of the biosolids generated from the influent and effluent monitoring events except as noted in (3. below. The same parameters required for influent and effluent analysis shall be included in the biosolids analysis. The biosolids analyzed shall be a composite sample of the biosolids for final disposal consisting of:

1. Biosolids lagoons – 20 grab samples collected at representative equidistant intervals (grid pattern) and composited as a single grab, or
2. Dried stockpile – 20 grab samples collected at various representative locations and depths and composited as a single grab, or
3. Dewatered biosolids - daily composite of 4 representative grab samples each day for 5 days taken at equal intervals during the daily operating shift taken from a) the dewatering units or b) each truckload, and shall be combined into a single 5- day composite.

The U.S. EPA manual, POTW Sludge Sampling and Analysis Guidance Document, August 1989, containing detailed sampling protocols specific to biosolids is recommended as a guidance for sampling procedures. The U.S. EPA manual Analytical Methods of the National Sewage Sludge

Survey, September 1990, containing detailed analytical protocols specific to biosolids, is recommended as a guidance for analytical methods.

In determining if the biosolids are a hazardous waste, the Discharger shall adhere to Article 2, "Criteria for Identifying the Characteristics of Hazardous Waste," and Article 3, "Characteristics of Hazardous Waste," of Title 22, California Code of Regulations, sections 66261.10 to 66261.24 and all amendments thereto.

The following report elements should be used to submit the biosolids monitoring results. A similarly structured form may be used but will be subject to Regional Water Board approval. The results shall be submitted with the Pretreatment Annual Report identified in Appendix H-1.

- Sampling Procedures and Data Validation (applicable quality assurance/quality control) shall be performed in accordance with the techniques prescribed in 40 CFR 136 and amendments thereto. The Discharger shall make available upon request its biosolids sampling procedures and data validation methods.
- Test Results – Tabulate the test results for the detected parameters and include the percent solids.
- Discussion of Results – Include a complete discussion of test results for the detected parameters. If the detected pollutant(s) is reasonably deemed to have an adverse effect on biosolids disposal, a plan of action to control, eliminate, and/or monitor the pollutant(s) and the known or potential source(s) shall be included. Any apparent generation and/or destruction of pollutants attributable to chlorination/dechlorination sampling and analysis practices shall be noted.

The Discharger shall also provide a summary table presenting any influent, effluent or biosolids monitoring data for non-priority pollutants that the Discharger believes may be causing or contributing to interference, pass through or adversely impacting biosolids quality.

Appendix B

Comments



NOVATO SANITARY DISTRICT

500 DAVIDSON STREET * NOVATO * CALIFORNIA 94945 * PHONE (415) 892-1694 * FAX (415) 898-2279
www.novatosan.com

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Legal Counsel

June 1, 2015

James Parrish
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612

VIA EMAIL: James.Parrish@waterboards.ca.gov

**Re: Comments Regarding Tentative Order Reissuing the NPDES Permit (CA0037958)
for the Novato Sanitary District Wastewater Treatment Plant**

Dear Mr. Parrish:

Thank you for the opportunity to comment on the Tentative Order for the reissuance of the NPDES Permit for the Novato Sanitary District Wastewater Treatment Plant. We appreciate your diligence and care in preparing this document, particularly with respect to the planned relocation of our outfall to sustain a restored wetland adjacent to San Pablo Bay. Our detailed comments can be found in the attached document.

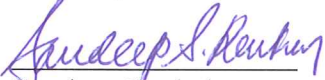
Two items included in the attached comments are of particular importance, as follows:

- Plant Flow Monitoring – At our Plant, flow metering is located near the influent monitoring point. Effluent flows to the receiving water, San Pablo Bay, are calculated based on our recycled water activities. We have requested what we believe are reasonable changes to the Monitoring and Reporting Program to reflect our flow metering capabilities.
- Reasonable Potential for Ammonia – The District is requesting revisions to the reasonable potential analysis for ammonia to more clearly state that both the projected and actual receiving water concentrations were less than the Basin Plan objectives. Our new Novato Wastewater Treatment Plant achieves excellent ammonia removal during normal dry weather operations, typically exceeding 95% removal. For this reason, the finding of reasonable potential for ammonia based on the fact that “human waste is a significant source of ammonia and compounds that breakdown into ammonia” is particularly troubling. The District plans to maintain Plant performance with respect to ammonia removal, and we

support a finding of reasonable potential based on this consideration. This District also supports comments on this matter to be provided by the Bay Area Clean Water Agencies.

Thank you for consideration of the attached comments. Please contact Mary Cousins of RMC Water and Environment at mcousins@rmcwater.com or (925) 627-4111 or me at sandeepk@novatosan.com or (415) 892-1694 if you have any questions or need additional information. Thank you.

Sincerely



Sandeep Karkal
Manager-Engineer

cc: bwolfe@waterboards.ca.gov; ltang@waterboards.ca.gov;
wjohnson@waterboards.ca.gov; tgandesbery@scc.ca.gov;
jmelby@scc.ca.gov; mcousins@rmcwater.com

Novato Sanitary District
Wastewater Treatment Plant

Comments Regarding Tentative Order for Reissuance of NPDES Permit

June 1, 2015

The Novato Sanitary District (District) appreciates the opportunity to submit the following comments on the Tentative Order reissuing the Waste Discharge Requirements and NPDES Permit (Permit) No. CA0037958 for the discharge of treated wastewater from the Novato Sanitary District Wastewater Treatment Plant (Plant) to San Pablo Bay. The sections being commented on are shown in roughly the same order as they appear in the Tentative Order. To assist Regional Water Board staff, Tentative Order page numbers are provided prior to any markup of permit language consistent with the comment being presented.

1. The name of the receiving water for Discharge Point No. 002 should be changed to “San Pablo Bay” for accuracy.

The first page of the Tentative Order states that the receiving water for Discharge Point No. 002 is "Bel Marin Keys Marsh." However, as stated in the Tentative Order, the proposed marsh site will be a part of San Pablo Bay, and the new San Pablo Bay shoreline will move landward by approximately 5,000 feet. California State Coastal Conservancy planning and environmental documents refer to the site as the “Bel Marin Keys Unit V Expansion of the Hamilton Wetland Restoration Project.” To prevent confusion, the District requests that the receiving water for Discharge Point No. 002 be changed to San Pablo Bay. The fact that the new discharge point is to a restored marsh can be included in the footnote, if necessary.

As already noted in the Fact Sheet of the Tentative Order (pg. F-9), the beneficial uses for Discharge Point No. 001 to San Pablo Bay will also apply to Discharge Point No. 002. The requested modifications are shown below:

(Page 1)

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Secondary-Treated Municipal Wastewater	38.060001	-122.489995	San Pablo Bay
002 ^[1]	Secondary-Treated Municipal Wastewater	38.063333	-122.510278	Bel Marin Keys Marsh San Pablo Bay

Footnote:

[1] Discharge Point No. 002 is subsequent to relocation of discharge [to a wetland restoration site](#). The exact location (latitude and longitude) may change slightly from what is indicated above. See Provision IV.C.5.b.

Table F-4. Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001	San Pablo Bay	Industrial Service Supply (IND) Ocean, Commercial, and Sport Fishing (COMM) Shellfish Harvesting (SHELL) Estuarine Habitat (EST) Fish Migration (MIGR) Preservation of Rare and Endangered Species (RARE) Fish Spawning (SPWN) Wildlife Habitat (WILD) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2) Navigation (NAV)
002	Bel Marin Keys Marsh San Pablo Bay	Same as those for San Pablo Bay Discharge Point 001 (A new The marsh will be hydraulically contiguous with San Pablo Bay after restoration and relocation of the discharge to Discharge Point No. 002.)

- b. Year-Round Discharges.** The Discharger, in collaboration with the California Coastal Conservancy, is planning to move the discharge inland to provide secondary-treated effluent as a freshwater source to the proposed new [marsh adjacent to the Bel Marin Keys community located east of the City of Novato](#) ~~Bel Marin Keys Marsh~~. The discharge to the new marsh will result in net environmental benefits by creating and sustaining new brackish marsh habitat for fish, plant, and wildlife. The wetlands will also provide storm and flood protection against rising sea levels, and provide recreational, scenic, and educational benefits.

2. For consistency, the District requests minor language changes to the language about the dry season discharge prohibition.

On page 5, the Tentative Order states that discharge is prohibited unless Plant effluent flow will exceed capacity of reclamation system. The District appreciates this exception because it allows the District to consider the feasibility of reclamation (i.e., to forecast storage and reclamation operations), rather than limiting discharges to periods when the capacity of the reclamation system has already been exceeded. For consistency, the District requests similar language for two other sections in the permit. The requested revisions are shown below:

- E.** Discharge to San Pablo Bay is prohibited during the dry weather season each year from June 1 through August 31, unless (1) Facility inflow ~~will exceed~~ ~~exceeds~~ the capacity of influent storage (after factoring in anticipated wet weather storage needs), and Facility effluent flow will exceed the capacity of the reclamation water distribution and storage system (described

in Fact Sheet section II.A.5) to meet reclaimed water demand; and (2) the discharge meets the advanced treatment limits specified in Table 5 below. Discharge shall not arise as a result of the Discharger's failure to produce, use, or supply demand for reclaimed water that the Regional Water Board has authorized. Discharge during the dry weather season shall be monitored and meet applicable effluent limitations, and shall consist of fully treated effluent.

(Page F-5)

B. Discharge Point and Receiving Waters

Discharge of treated effluent to San Pablo Bay is through a multiport diffuser currently located approximately 950 feet offshore at Discharge Point No. 001. The diffuser is submerged at the +1 foot mean lower low water tidal elevation. At lower tidal elevations, the outfall is exposed, and the distance from the diffuser to the San Pablo Bay water line can range from 1,000 to 3,500 feet.

From June 1 through August 31 effluent is sent to the two storage ponds and reclaimed. Discharge is prohibited during this timeframe except when effluent volume will exceed exceeds reclamation water demand. When this occurs, the Discharger discharges from the storage ponds any surplus water not used for reclamation through a pipeline connected to Discharge Point No. 001.

3. Special provisions related to the District's biosolids disposal practices should be modified to more closely match those in the current permit.

The District appreciates that the Tentative Order retains language from the current permit authorizing biosolids disposal. However, since the District has not made any changes to its biosolids disposal practices, there are several areas where the Tentative Order should be modified to match the existing permit more closely.

First, the current Permit contains explanatory language about state and federal biosolids disposal regulations that were erroneously omitted from the Tentative Order. For clarity, the District requests that this language be retained in the reissued permit.

Second, the District's current NPDES permit allows the Executive Officer to authorize the District to conduct biosolids disposal activities outside of the May 1 – October 30 window. The language in Provision C.4.b.ii of the Tentative Order is markedly less flexible, and does not grant the Executive Officer the authority to grant an exemption. The District understands that it may be the Regional Water Board's preference to not allow Executive Officer involvement in this type of decision. However, the District believes that an exception may be warranted under certain circumstances, especially since dry conditions are often present outside of the May to October time frame.

The proposed revision below retains this flexibility by referring to dry conditions instead of a specific date range. If it is the Regional Water Board's preference to retain a specific range of dates, then paragraph C.4.b.ii should be modified to allow the Executive Officer to provide written concurrence that an exception is warranted. Either

approach would allow the District to retain the current level of flexibility regarding biosolids removal.

The requested revisions are shown below:

(Page 13-14)

b. Sludge and Biosolids Management

All sludge and biosolids shall be disposed of, managed, or reused in accordance with all applicable requirements of 40 C.F.R. part 503 and the additional requirements set forth below.

- i. No sludge or biosolids shall be stored outside the designated storage lagoons or land disposal site (see Attachment B).
- ii. Sludge and biosolids shall not be applied to the dedicated disposal site except during dry conditions between October 30 and May 1.
- iii. Sludge and biosolids at the storage lagoons and dedicated disposal site shall be limited to digested sewage sludge generated by the Discharger and sludge from North Marin Water District's water treatment facility.
- iv. Sludge and biosolids disposal at the dedicated disposal site shall not result in groundwater contamination or otherwise adversely affect groundwater beneficial uses.
- v. Sludge and biosolids treatment, processing, storage, or disposal shall not create a condition of pollution or nuisance as defined by Water Code sections 13050(l) and (m), such as objectionable odors or flies.
- vi. Sludge and biosolids treatment, processing, storage, or disposal shall not cause waste material to be discharged to, or deposited in, waters of the State. Ponded water or runoff from the disposal area shall not be discharged to adjacent land or ditches.
- vii. Sludge and biosolids storage facilities shall be operated and maintained so as to provide adequate protection from surface runoff, erosion, and other conditions that could cause drainage from the waste materials to escape from the storage site. Adequate protection is defined as protection from at least a 100-year storm and the highest possible tidal stage that may occur.
- viii. Disposal of municipal wastewater solids by surface disposal and operation of a surface disposal site is regulated by USEPA under regulations at 40 CFR 503 (Standards for the Use and Disposal of Sewage Sludge.) Waste discharge requirements for sludge disposal are waived under the condition that the Discharger complies with all provisions of 40 CFR 503. As required by CWC Section 13269, the Regional Water Board finds this waiver is not against the

[public interest, as the activity is adequately regulated by federal regulations at 40 CFR 503.](#)

- viii. [ix.](#) The Discharger shall submit an annual biosolids report to U.S. EPA regarding its biosolids disposal practices in accordance with 40 C.F.R. section 503. The Discharger shall submit a copy of the report to the Regional Water Board by February 28 for the previous calendar year.

4. The District requests that a sentence describing discharge from the reclamation ponds be retained from the current permit.

The Tentative Order contains a reference to EFF-001P, but otherwise is not explicit in permitting discharge from the storage ponds – at least, not in the main body of the permit. Therefore, the District requests that a sentence about discharge from the reclamation ponds be retained from the current permit. A similar statement can be found in the Fact Sheet (page F-5).

The requested revision is shown below:

(Page 15)

5. Other Special Provisions

- a. **Reclamation Storage Pond Operations and Maintenance.** [The Discharger may discharge from the reclamation storage ponds any surplus water not used for reclamation at Discharge Point No. 001 if the discharge meets all the requirements of this Order.](#) The Discharger shall maintain its existing sediment control plan for the reclamation storage ponds. The mechanical layout of the pumping intake lines shall provide adequate silt control measures. The suction point shall lie two feet above the bottom of the ponds. The Discharger shall ensure that no sediment is drawn from the bottom of the ponds (e.g., by establishing a minimum draw down point of four feet pond elevation).

5. The District requests two changes to flow monitoring requirements to more closely reflect Plant metering capabilities and current practice, and to clarify and streamline requirements.

As described in the Fact Sheet, the District measures total flow at INF-001, which is located downstream of screening and grit removal. Total flow through the plant, which is needed for compliance with Discharge Prohibition C, can only be measured at INF-001. The District therefore requests that the Tentative Order be modified to include flow monitoring at INF-001. This approach matches the current permit, provides consistency with the existing data set, and provides for consistency between the actual monitoring point and the way the data set is labeled. The District also requests a small change to the description of INF-001 in Table E-1 so that it more precisely describes the location of the monitoring point.

In addition, the District requests removal of monitoring location EFF-REC (also referred to as EFF-001REC on page E-2). This proposed new monitoring location should be removed because it does not provide information about compliance with any provision in the Tentative Order, and it would duplicate flow monitoring requirements in two other reclamation permits, potentially creating confusion.

The District’s treated effluent is reclaimed in one of two ways: a portion of plant effluent is conveyed to North Marin Water District for tertiary treatment and distribution for landscape irrigation, while another portion of plant effluent is conveyed to the reclamation ponds and is used for pasture irrigation without requiring additional treatment. For the former, North Marin Water District monitors and reports those flows under Order No. 96-011; for the latter, the District conducts monitoring and reporting under Order No. 92-065. Since both practices are already covered under other permits, the flow monitoring requirement should not be duplicated here.

Instead, the District proposes to report effluent flows to the receiving water at EFF-001, which will be measured by using the flowmeter at INF-001 and then subtracting off any flows to reclamation storage ponds and/or North Marin Water District. This will provide readily accessible information about actual flows to the Bay, and can be used to easily monitor compliance with Discharge Prohibition E. The District proposes a change to footnote [1] of Table E-3 to clarify the way that this flow rate is actually measured.

Together, the revisions described above will provide the same level of detail as the monitoring included in the Tentative Order, but the information will be more closely derived from the available flow metering. The requested revisions, as well as several related corrections, are shown below.

(Page E-2)

Table E-1. Monitoring Locations

Sampling Location Type	Monitoring Location Name	Monitoring Location Description ^[1]
Influent	INF-001	A point in the plant headworks at which all waste tributary to the treatment system is present, following screening and grit removal and preceding any treatment phase that could alter influent quality (formerly A-002)
Effluent	EFF-001	A point in the plant at which all treatment phases are complete, including disinfection (formerly E-002). Effluent flow may be monitored at any location representative of the discharge to the receiving water at Discharge Points No. 001 and No. 002 after the discharge is relocated. <i>Latitude 38.100000 Longitude -122.553056</i>
Effluent	EFF-001REC	A point in the plant at which all treatment phases are complete, including disinfection (formerly E-002). Effluent flow may be monitored at any location representative of the flow to reclamation storage ponds.
Effluent (reclamation pond)	EFF-001P	A point downstream of the reclamation storage ponds, prior to pond effluent commingling with plant effluent discharged directly to Discharge Point No. 001 or Discharge Point No. 002 (formerly W-004)

Sampling Location Type	Monitoring Location Name	Monitoring Location Description ^[1]
Biosolids	BIO-001	Biosolids (treated sludge)

(Pages E-3 through E-4)

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow ^[1]	MGD/MG	Continuous	Continuous/D
Biochemical Oxygen Demand (5-day @ 20°C)(BOD ₅)	mg/L	C-24	1/Week
Total Suspended Solids (TSS)	mg/L	C-24	1/Week
Cyanide, Total	µg/L	Grab	1/Month

Abbreviations:

MGD = million gallons per day
 MG = million gallons
 mg/L = milligrams per liter
 µg/L = micrograms per liter

Sampling Types and Frequencies:

C-24 = 24-hour composite sample
 Grab = grab sample
 Continuous = measured continuously
 Continuous/D = measured continuously, and recorded and reported daily
[1/Week](#) = once per week
[2/Week](#) = twice per week
[3/Week](#) = three times per week
 1/Month = once per month

Footnote:

^[1] [The following information shall be reported in monthly self-monitoring reports:](#)

- [Daily average flow \(MGD\)](#)
- [Monthly average flow \(MGD\)](#)
- [Total monthly flow volume \(MG\)](#)
- [Maximum and minimum daily average flow rates \(MGD\)](#)

IV. EFFLUENT MONITORING REQUIREMENTS

A. Plant Discharges

The Discharger shall monitor plant effluent at Monitoring Location EFF-001 ~~and EFF-REC~~ as follows:

Table E-3. Effluent Monitoring — Plant Discharges

Parameter ^[1]	Units	Sample Type	Minimum Sampling Frequency
Flow ^[1] ^[2]	MGD/MG	Continuous Calculation	Continuous/D
⋮			

...

Sampling Types and Frequencies:

C-24 = 24 hour composite

Grab = grab sample
 Continuous = measured continuously
 Continuous/D = measured continuously, and recorded and reported daily
~~2~~ 1/Week = ~~twice~~ once per week
 3/Week = three times per week
 5/Week = five times per week
 1/Month = once per month
~~5/Month~~ = ~~five times per month~~
 1/Quarter = once per quarter
 2/Year = twice per year

Footnotes:

[1] Effluent flow rate is calculated based on influent flow monitoring and reclamation activities. For Monitoring Location EFF-001REC, only the flow shall be monitored and reported electronically. Other parameters are not required.

[2] The following flow information shall be reported in monthly self-monitoring reports:

- Daily average flow (MGD)
- Monthly average flow (MGD)
- Total monthly flow volume (MG)
- Maximum and minimum daily average flow rates (MGD)

(Page F-35)

1. **Influent Monitoring.** Influent flow monitoring is necessary to evaluate compliance with Prohibition III.D (average dry weather flow) and to understand Facility operations. BOD5 and TSS monitoring is necessary to evaluate compliance with this Order's 85 percent removal requirement. Basin Plan section 4.7.2.2 requires cyanide monitoring because this Order is based on site-specific cyanide water quality objectives
2. **Effluent Monitoring.** Effluent flow monitoring is necessary to evaluate compliance with Prohibition III.D ~~E~~ (average dry weather flow dry season discharge prohibition) and to understand Facility operations. Monitoring for the other parameters is necessary to evaluate compliance with this Order's effluent limitations.

6. Slight modifications to the description of reclamation activities are needed for accuracy.

Multiple small modifications are needed to accurately describe the District's reclamation activities. The District proposes the changes below to incorporate the following three details:

- Plant effluent, not pond effluent, is diverted for tertiary treatment.
- The District has the capability to divert plant effluent for tertiary treatment to not just one but two different facilities – the Novato Recycled Water Facility, and the Deer Island Recycled Water Facility.
- Recycled water is currently distributed for golf course irrigation, but there is a potential for other approved uses in the near future, so a more general description is appropriate.

(Page F-5)

- 1. Reclamation Activities.** The Discharger's reclamation system includes two storage ponds with a combined storage capacity of 180 million gallons, a wildlife pond, an irrigation pump station, and 820 acres of irrigated pasturelands. From June 1 through August 31 (and typically longer), the Discharger diverts effluent into the two storage ponds. Effluent from these ponds is used to irrigate the pasturelands, which are used for beef cattle grazing and irrigated hay production and meets California Code of Regulations, Title 22, section 60304(d) standards. Alternatively, Plant pond effluent is diverted for treatment to a Recycled Water Treatment Facility to produce tertiary-treated effluent for golf course irrigation and other potential uses, and meets California Code of Regulations, Title 22, section 60304(a) standards. Regional Water Board Order No. 92-065 specifies the requirements for the Discharger's reclamation activities.

7. The reference to the 2008 cease and desist order (CDO) is inaccurate and irrelevant, and should be removed.

The reference to the 2008 CDO (Order No. R2-2008-0029) in the Fact Sheet is erroneous; the 2008 CDO does not address compliance with BOD, TSS or bacteria effluent limits. Rather, the 2008 CDO established interim effluent limits for copper and cyanide with a time schedule for Plant upgrades. Furthermore, the 2008 was rescinded with the adoption of the 2010 CDO and is not relevant to this permit. Therefore, the District requests that the reference to the 2008 CDO be removed.

(Page F-7)

Cease and Desist Order No. R2-2010-0075 established a time schedule for the Discharger to complete necessary facility upgrades to address imminent and threatened violations of the copper, carbon tetrachloride, dieldrin, and total ammonia effluent limitations. ~~It was also recognized that completion of the upgrades would improve compliance with BOD, TSS, and bacteria limits, violations of which were addressed in a prior 2008 cease and desist order.~~ The Discharger completed the facility upgrades and subsequently complied with the copper, carbon tetrachloride, dieldrin, and total ammonia effluent limitations. Therefore, this Order rescinds Cease and Desist Order No. R2-2010-0075.

8. The median SSO rate values for the San Francisco Bay Region are inaccurate and should be corrected.

Table F-3 presents median SSO rates for the collection systems in the San Francisco Bay region. However, these values appear to be at least two times smaller than the values shown in Figure 1 of the Sanitary Sewer Improvement Program status report developed by Regional Water Board staff (link: http://www.waterboards.ca.gov/sanfranciscobay/board_info/agendas/2014/July/7_SSR.pdf). The figure presents median SSO rates from 2011 through 2013 that range from about 9 to 10 SSOs per 100 miles of pipe. In fact, it appears that the values in Table F-3 may represent the statewide SSO rates presented in the status report. The District requests that revisions to the table are made for accuracy and consistency and to be consistent with what is occurring in the San Francisco Bay Area. Estimated revisions from the figure referenced above are shown as markup below.

Table F-3. SSO Rates (total SSOs/100 miles of sewer)
(based on CIWQS data analysis completed in February 2015)^[1]

	Length (miles)	Average Age (years)	2011	2012	2013	2014
⋮						
San Francisco Bay Region median of all 132 systems	42	45	4.0 ~9.9	4.6 ~9.2	4.5 ~9.3	2.7 ~16

9. The District objects to the suggestion in the Fact Sheet that the pace of collection system capital improvement activities is inadequate.

The Fact Sheet suggests that the District deserves special scrutiny because of the age of its collection system, when the reverse is true; the collection system is younger than most in the Bay Area (see Table F-3). As a result, the District’s strategy to reduce SSOs focuses heavily on inspecting and cleaning sewers, with a lesser focus on age-based replacement.

The last sentence may have been inadvertently copied from another permit. The requested revision(s) are shown below:

(Pages F-7 through F-8)

Throughout the previous order term, the SSO rates of the Discharger’s collection system have been lower than the Marin County medians for large collection systems, but generally higher than the San Francisco Bay Region medians for large collection systems. During the previous order term, the Discharger completed significant collection system improvements costing over \$7 million, including over \$2 million on small capital improvements that included collection system repairs and over \$4.7 million replacing and rehabilitating pump stations. In 2014, the Discharger budgeted over \$6 million for capital improvement projects and spent about \$1.5 million for collection system improvements. This level of funding will rehabilitate approximately 3.4 miles, or 1.5 percent, of the Discharger’s 229-mile system per year. This rehabilitation rate is based on the annual capital expenditure the Discharger reported for the year 2014 (\$3,379,000) divided by an estimated \$1 million cost per mile of collection system rehabilitation, divided by the total number of miles of collection system. ~~Because of the average age of the system, Regional Water Board staff will be monitoring the adequacy of the Discharger’s collection system capital improvement activities annually during this Order’s term. The Discharger will continue to report on collection system improvement activities as part of the annual self-monitoring report.~~

10. For consistency with the main body of the Permit, the District requests minor revisions to the Fact Sheet language regarding effluent limitations for conventional and non-conventional pollutants.

More stringent effluent limits for BOD, TSS, and Oil & Grease apply during the entire period of May through October, regardless of the reason for discharge (e.g., infeasibility of wastewater reclamation due to low demand, or year-round discharge being authorized following outfall relocation). The District recommends that the Fact Sheet language be simplified, as shown below:

The requested revisions are shown below:

(Page F-14)

2. Effluent Limitations

- a. **BOD₅ and TSS.** The BOD₅ and TSS effluent limitations, including the 85 percent removal requirements, are based on the Secondary Treatment Standards and Basin Plan Table 4-2 during the wet weather months (November – April). More stringent limitations apply during during the dry weather discharge months (May, ~~September, and – October~~) ~~and when discharge is necessary due to infeasibility of wastewater reclamation if there is unseasonably low demand for recycled water.~~ Effluent data show that the more stringent limits are technologically feasible. They are required to demonstrate a level of water quality protection equivalent to complying with Basin Plan Discharge Prohibition 1 (see Fact Sheet section IV.A.2).
- b. **Oil and Grease.** The oil and grease effluent limitations are based on Basin Plan Table 4-2 during the wet weather months (November – April). More stringent limitations apply during the dry weather discharge months (May, ~~September, and – October~~) ~~and when discharge is necessary due to infeasibility of wastewater reclamation if there is unseasonably low demand for recycled water.~~ Effluent data show that the more stringent limits are technologically feasible. They are required to demonstrate a level of water quality protection equivalent to complying with Basin Plan Discharge Prohibition 1 (see Fact Sheet section IV.A.2).

11. For accuracy, the District requests a revision to language describing the receiving water conditions represented in the mixing zone study.

The Tentative Orders erroneously suggests that the outfall is exposed during periods of extreme dry weather. In fact, this occurs during periods of extreme low tide, regardless of the weather. The dilution study assumed dry weather because velocities through San Pablo Bay are slightly lower during that time, resulting in slightly less dilution. The effect is minor; tidal conditions are the predominant factor in determining effluent mixing.

The District proposes the modification below:

(Page F-14)

- f. **Fecal Coliform.** Basin Plan Table 4-2A requires total coliform effluent limitations for waters that support the shellfish harvesting beneficial use, but footnote c allows substitution with fecal coliform limits provided that doing so will not result in unacceptable adverse impacts on beneficial uses (i.e., shellfish

harvesting). The fecal coliform effluent limitations in this Order will protect the shellfish harvesting beneficial use. They are based on the water quality objectives for shellfish harvesting in Basin Plan Table 3-1. The limits reflect a dilution credit of 10:1. This allowance of a 10:1 credit is a reasonable balance between the level of UV disinfection required (which directly relates to energy consumption) and the low likelihood of shellfish harvesting in the vicinity of the discharge. The Discharger's mixing zone study (*Proposed Ammonia and Bacterial Effluent Limits Mixing Zone Analysis* [April 7, 2010]), indicates that the effluent receives at least 10:1 dilution within 39 acres of the Discharge 001 outfall during the most extreme dry weather periods and tidal conditions (i.e., when the outfall is exposed). The Discharger's mixing zone study for the discharge after relocation to Discharge Point No. 002 (*State Implementation Policy [SIP] Mixing Zone Analysis* [September 2014]), indicates that the effluent will receive at least 10:1 dilution within 46 acres of the outfall. The water quality objectives protective of shellfish harvesting are met beyond these mixing zones. Because the 2010 *San Francisco Bay Subtidal Habitat Goals Report* concludes that no shellfish beds exist within these mixing zones, the effluent limits protect the shellfish harvesting beneficial use.

12. The reasonable potential analysis for ammonia should be revised to clearly state that effluent and receiving water data do not indicate reasonable potential for ammonia. The finding of reasonable potential should also be revised to place more emphasis on a District-specific concern – maintaining the Plant's ability to remove ammonia.

The District understands that a water quality-based effluent limitation for ammonia will require the District to maintain the Plant's nitrification performance, and that this requirement is needed to protect the receiving water. However, the permit should acknowledge that the effluent and receiving water data do not support a finding of reasonable potential, because the District has been so successful in removing ammonia during the current permit term.

The Tentative Order contains a detailed reasonable potential analysis that was conducted using the *Technical Support Document for Water Quality-Based Toxics Control* (the TSD). This method produces a finding of no reasonable potential for ammonia, and the Tentative Order should be modified to more clearly state this finding. This approach is consistent with other recently adopted permits for shallow water dischargers, such as those for Palo Alto and Fairfield-Suisun Sewer District, which properly concluded that there was no reasonable potential for ammonia but that limits should be retained to ensure plant performance.

For consistency with these other permits and with the logic of maintaining plant performance, the rationale for the finding of reasonable potential should also be revised. The reference to "human waste" should be removed; if "human waste" was an appropriate trigger for reasonable potential, there would be no reason to include the detailed analysis found on pages F-24 and F-25 of the Fact Sheet. In reality, the Plant successfully removes over 95% of the ammonia from the influent waste stream.

The implication that receiving water data are insufficient should also be removed. The receiving water special study was conducted to meet the requirements of the District's 2010 Permit, which specifically required that data be collected "beyond the influence of the discharge" (Table 9, Order R2-2010-0074). It is puzzling that the Regional Water Board would mandate that these data be collected, then grant Executive Officer approval of the study plan, only to call into question the validity of the data. The TSD method for receiving water conditions is intended to represent background conditions, away from the influence of the discharge.

The requested changes are shown below.

(Page F-25 to F-26)

iii. Analysis

(a) Effluent Approach.

...

The highest running annual median based on the effluent data was calculated and compared with the chronic objective, which is expressed as an annual median. No projection is needed to establish the central tendency of the data. The maximum annual median, 0.0036 mg/L, is less than the annual median objective of 0.025 mg/L. Therefore, there is no reasonable potential for ammonia based on the effluent data

(b) Receiving Water Approach. Receiving water monitoring data were collected for total ammonia, pH, salinity, and temperature at a monitoring location about 4 miles from the outfall in San Pablo Bay. The maximum un-ionized ammonia concentration (0.005 mg/L) was less than the maximum water quality objective (0.16 mg/L). The highest running annual median un-ionized ammonia concentration (0.0013 mg/L) was less than the annual median objective (0.025 mg/L). Therefore, there is no reasonable potential for ammonia based on the receiving water data.

(c) Conclusion. ~~There is~~ would be reasonable potential for ammonia if nitrification performance were not maintained; thus, -and this Order contains ammonia WQBELs to ensure that the discharge will not cause or contribute to exceedance of the Basin Plan objective. because human waste is a significant source of ammonia and compounds that breakdown into ammonia. The Discharger was successful in the previous order term at operating the plant to treat ammonia concentrations to below Basin Plan objectives. However, without regulatory assurance that nitrification will continue, the un-ionized ammonia in the effluent could increase and cause or contribute to toxicity outside of the mixing zone. the fraction of un-ionized ammonia in the effluent could increase after discharge to the receiving waters, particularly if the ambient receiving water pH is higher than the effluent pH. The receiving water data evaluated above were

~~collected approximately four miles from the outfall and beyond the influence of the discharge; therefore, they may not represent the highest un-ionized ammonia concentrations present in the receiving waters.~~

Therefore, WQBELs ~~are necessary to~~ will protect against potential toxic impacts from the discharge. WQBELs also avoid backsliding.

13. The description of the proposed outfall to Discharge Point No. 002 is inaccurate.

On page F-27, the Tentative Order implies that the new outfall to the marsh will include a multiport diffuser and erosion control. However, the District understands that the California State Coastal Conservancy has yet to initiate design for the outfall. It is not yet known what specific features the outfall will have. Because of this uncertainty, the District requests that the words “including a multiport diffuser and erosion control” be removed. The requested revision is shown following Comment No. 14.

14. The Tentative Order grants a mixing zone and dilution credit for cyanide, but omits details about the mixing zone. Information about the cyanide mixing zone should be included along with those currently included for ammonia. The description of the mixing zones’ impact on sensitive species should also be modified for accuracy.

The Fact Sheet describes the findings of a SIP mixing zone analysis, but erroneously omits details for cyanide, and instead includes details only for ammonia. References to the cyanide mixing zone should be included for completeness.

The description of the mixing zones should also be revised to state that the new wetland may be used by sensitive species, instead of the opposite. Creating habitat for sensitive species is one of the purposes of wetland restoration. A list of sensitive species in San Pablo Bay and nearby tidal marshes is already included in the Tentative Order, but a minor revision is needed to be more inclusive of the new wetland.

(Page F-26 through F-30)

- a. **Mixing Zones and Dilution Credits.** This Order does not authorize copper or dioxin-TEQ mixing zones or dilution credits. It does authorize cyanide mixing zones corresponding to a dilution credit of 3.25:1 ($D=2.25$) in accordance with Basin Plan Table 4-6. (The size and location of the cyanide mixing zones will differ before and after the outfall relocation, but the dilution credit remains the same as in Basin Plan Table 4-6.) It also authorizes ammonia mixing zones and a dilution credit as discussed below.

...

The Discharger proposes to relocate the discharge inland to new wetlands that will expand San Pablo Bay. The new outfall will be appropriately designed to

operate in compliance with this Order, ~~including a multipoint diffuser and erosion control.~~ The Discharger submitted a new mixing zone study for this new outfall, *Dilution Analysis of Novato Sanitary District's Proposed Discharge to Bel Marin Keys Unit V* (May 2014), demonstrating that a hypothetical mixing zone covering 31 acres corresponds to a dilution ratio of 5:1. This Order establishes a somewhat smaller ammonia mixing zone for the relocated outfall. [The mixing zone study also demonstrated that a mixing zone of 25 acres corresponds to the dilution ratio of 3.25:1 used for cyanide.](#)

~~Both of t~~These mixing zones meet the requirements of SIP section 1.4.2.2.A, as explained below, because they do not do any of the following:

- i. **Compromise the integrity of the water body.** The mixing zones will not compromise the integrity of the receiving waters because ammonia [and cyanide are is](#) expected to attenuate rapidly to safe levels, and the mixing zones are small relative to the size of the receiving waters, which are part of San Pablo Bay. The existing mixing zone covers less than 0.04 percent of San Pablo Bay, and the proposed mixing zones [for ammonia and cyanide](#) would cover about 0.05 [and 0.04](#) percent of San Pablo Bay, [respectively](#), most of which would be within the new wetland.

...

- iv. **Adversely impact biologically sensitive or critical habitats, including, but not limited to, habitats of species under federal or State endangered species laws.** The current mixing zone will not adversely affect biologically sensitive or critical habitats because it consists primarily of intertidal mudflats that do not provide critical habitat to federal or State-listed sensitive species. The proposed mixing zones [will not adversely affect biologically sensitive or critical habitats because the Bel Marin Keys Unit V site does not currently provide any critical habitat to federal or State-listed sensitive species, and most of the mixing zone will be within a new wetland that is not intended for use by sensitive species.](#)

Portions of San Pablo Bay are critical habitats for southern green sturgeon, steelhead trout, longfin smelt, and Chinook salmon. Nearby tidal marshes provide habitat for California black rail, California clapper rail, and salt-marsh harvest mouse. [The new wetland may also be used by these sensitive species.](#) California black rail, California clapper rail, and the salt-marsh harvest mouse do not live in water and will not be affected by the mixing zones. Southern green sturgeon, steelhead trout, longfin smelt, and Chinook salmon are unlikely to be affected by the mixing zones because they are anadromous and spend most of their lives in the ocean or freshwater, using estuarine waters such as San Pablo Bay only as a migration zone.

...

SIP section 1.4.2.2.B requires that mixing zones protect beneficial uses. The ammonia and cyanide mixing zones described above will protect beneficial uses because the ~~ammonia~~ effluent limits will be met at the edge of the mixing zones. Additionally, ammonia is and cyanide are not carcinogenic, mutagenic, teratogenic, persistent, or bioaccumulative, and tidal action at the current and proposed mixing zones will enable continued flushing and dilution.

SIP section 1.4.2.2 requires mixing zones to be as small as practicable. The mixing zones for ammonia assessed above correspond to dilution ratios of 6:1 and 5:1. However, if the Discharger can comply with smaller mixing zones, then smaller mixing zones are practicable. The previous order established a mixing zone corresponding to a dilution ratio of 4.6:1 and the Discharger was able to comply with the resulting WQBELs; therefore, this Order continues to authorize a slightly smaller mixing zones corresponding to the dilution ratio of 4.6:1 (D=3.6).

The size of the mixing zone for cyanide corresponds to the same dilution credit as Basin Plan 4-6 (3.25:1, D=2.25), and more stringent limits are not necessary to protect water quality.

15. The District requests that language regarding chlorination be revised for accuracy.

The District conducts prechlorination, which is the addition of chlorine to the influent. This process is performed intermittently when needed for Plant odor and corrosion control. The District requests a revision to incorporate this process:

(Page F-31)

This Order does not retain the carbon tetrachloride and dieldrin effluent limits from the previous order because data no longer indicate reasonable potential for these pollutants to exceed water quality objectives. This is consistent with State Water Board Order No. WQ 2001-16. Likewise, this Order does not retain chlorine limits because the Discharger now relies solely on ultraviolet (UV) disinfection of treated effluent. (Chlorine is used only for intermittent prechlorination and for control of return activated sludge filamentous bacteria and is not expected to pass through to treated effluent.)

16. The District requests removal of language from the Fact Sheet that names the collection system as part of the Facility.

The District requests the removal of a sentence about the collection system in Section VI.C.4 of the Fact Sheet (see below). The District prefers to keep the focus of this language on the specific provision about collection system management (described on page 14 of the Tentative Order). This language change is consistent with multiple recently adopted permits, including the 2015 NPDES permit for Las Gallinas Valley Sanitary District Sewage Treatment Plant, and the NPDES permits for the South San Francisco / San Bruno Water Quality Control Plant (Order No. R2-2014-0012), Sonoma

Valley County Sanitation District Wastewater Treatment Plant (Order No. R2-2014-0020), Palo Alto Regional Water Quality Control Plant (Order No. R2-2014-0024), Delta Diablo Wastewater Treatment Plant (Order No. R2-2014-0030), and the San José-Santa Clara Regional Wastewater Facility (Order No. R2-2014-0034).

The requested revision is shown below:

(Page F-34)

- c. **Collection System Management.** ~~The Discharger's collection system is part of the Facility this Order regulates.~~ This provision explains this Order's requirements as they relate to the Discharger's collection system and promotes consistency with the State Water Board's *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems* (General Collection System WDRs), Order No. 2006-0003-DWQ as amended by Order No. WQ 2013-0058-EXEC. The General Collection System WDRs contain requirements for collection system operation and maintenance, and for reporting and mitigating sanitary sewer overflows. They also require agencies to develop sanitary sewer management plans and report all sanitary sewer overflows. The Discharger must comply with both the General Collection System WDRs and this Order.

The following comments pertain to typographical errors and inconsistencies contained in the Tentative Order and indicate requested corrections.

17. Revision to page 2 (header)

<u>City of Millbrae-Novato Sanitary District</u>	TENTATIVE ORDER R2-20132015-XXXX
<u>Water Pollution Control Plant & Collection System</u>	NPDES No. CA0037664
<u>Novato Sanitary District Wastewater Treatment Plant</u>	NPDES No. CA0037958

18. Revision to pages F-8 through F-9

B. California Environmental Quality Act

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (CEQA), Public Resources Code division 13, chapter 3 (commencing with § 21100). To the extent the permit authorizes continued operations from the existing facility, the permit is exempt from CEQA pursuant to Title 14 of the California Code of Regulations, section 15301. To the extent the permit authorizes a change in the discharge location, ~~it that~~ is also covered by sections 15301 and 15302 because it is a minor alteration of an existing facility involving only a negligible expansion in use. Moreover, the intended discharge area will create new wetlands, an activity that is exempt from CEQA under sections ~~15308~~ 15307 (protection of natural resources) and ~~15309~~ 15308 (protection of the environment).



June 1, 2015

James Parrish
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612

Sent via email to James.Parrish@waterboards.ca.gov

Subject: Tentative Order Reissuing the NPDES Permit for the Novato Sanitary District
Wastewater Treatment Plant (CA0037958)

Dear Mr. Parrish:

The California State Coastal Conservancy (Conservancy) appreciates the extensive efforts that Regional Water Board staff has undergone to prepare the Tentative Order. We are especially appreciative for the incorporation of language in the Tentative Order that allows the Novato Sanitary District to relocate its outfall to help restore tidal marsh at the Conservancy's Bel Marin Keys property, which is part of the Hamilton Wetland Restoration Project (HWRP). The year-round freshwater input to the proposed marsh will encourage the development of brackish marsh habitat, and the adoption of this NPDES Permit is an important step for the Conservancy's ongoing efforts to restore the Bel Marin Keys property.

With the success of the HWRP in establishing tidal action at Hamilton Field in 2014, the Conservancy is now moving forward with restoration plans for the Bel Marin Keys Unit V expansion site. We are in the process of finalizing a contract for levee design near the proposed outfall location, and construction is expected to occur within the term of the reissued NPDES Permit. We are also currently working on a strategy for the long-term management of the marsh.

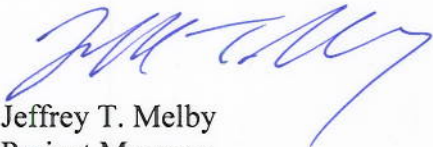
The Conservancy thanks you for the opportunity to provide comments on the Tentative Order. We have three concerns with the language about the marsh and would like to propose changes for accuracy:

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Oakland, California 94612-2530
510•286•1015 Fax: 510•286•0470

- (1) The permit should state that the receiving water for Discharge Point No. 002 is San Pablo Bay because the proposed marsh will be a part of San Pablo Bay. The current Tentative Order states that the discharge receiving water is "Bel Marin Keys Marsh." The Conservancy has yet to identify a specific name for the future marsh. Our planning documents, including the Environmental Impact Report, refer to the site as the "Bel Marin Keys Unit V Expansion of the Hamilton Wetland Restoration Project." More importantly, we envision that the marsh will be hydraulically contiguous with San Pablo Bay after restoration. Accordingly, the Conservancy requests that Regional Water Board staff change the receiving water from "Bel Marin Keys Marsh" to "San Pablo Bay" for accuracy.
- (2) The Tentative Order prematurely describes features of the future outfall. On page F-27, the Tentative Order implies that the new outfall will include a multiport diffuser and erosion control. The Conservancy understands that these are common design features for outfalls in the Bay Area; however, design for the new outfall has not yet begun, so it is premature to state in the permit that the outfall will include these specific components. The Conservancy requests that the words "including a multiport diffuser and erosion control" be removed.
- (3) The Tentative Order erroneously states that the "most of the mixing zone will be within a new wetland that is not intended for use by sensitive species" (page F-28). The Conservancy hopes and expects that the wetland will be used by sensitive species, including the salt marsh harvest mouse, California black rail, and California Ridgway's rail. These species are already discussed in the second paragraph of section (iv) on page F-28, so the Conservancy requests that the quoted phrase above be removed.

Thank you for your consideration of our concerns, and please don't hesitate to contact me at Jeff.Melby@scc.ca.gov if you have any questions or need additional information.

Sincerely,



Jeffrey T. Melby
Project Manager



June 1, 2015

James Parrish
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, 14th Floor
Oakland, CA 94612

Via email: James.Parrish@waterboards.ca.gov

Subject: Comment Letter – Tentative Order for Novato Sanitary District Wastewater Treatment Plant (NPDES No. CA0037958)

Dear Mr. Parrish:

The Bay Area Clean Water Agencies (BACWA) appreciates the opportunity to comment on the Tentative Order for reissuance of the Novato Sanitary District Wastewater Treatment Plant (Novato) NPDES Permit. BACWA is a joint powers agency whose members own and operate publicly-owned treatment works (POTWs) and sanitary sewer systems that collectively provide sanitary services to over 6.5 million people in the nine county San Francisco Bay Area. BACWA members are public agencies, governed by elected officials and managed by professionals charged with protecting the environment and public health.

BACWA has a concern with the justification for reasonable potential for ammonia. Currently, the language at the top of pg. F-26 is as follows:

***Conclusion.** There is reasonable potential for ammonia and this Order contains ammonia WQBELs because human waste is a significant source of ammonia and compounds that breakdown into ammonia. The Discharger was successful in the previous order term at operating the plant to treat ammonia concentrations to below Basin Plan objectives. However, the fraction of un-ionized ammonia in the effluent could increase after discharge to the receiving waters, particularly if the ambient receiving water pH is higher than the effluent pH. The receiving water data evaluated above were collected approximately four miles from the outfall and beyond the influence of the discharge; therefore, they may not represent the highest un-ionized ammonia concentrations present in the receiving waters. Therefore, WQBELs are necessary to protect against potential toxic impacts from the discharge. WQBELs also avoid backsliding.*

Novato provides nitrification and its effluent ammonia concentrations are very low. Reasonable potential should not be assigned for a constituent based solely on influent concentrations, and without regard to processes that are designed to remove that constituent. Additionally, assigning reasonable potential for ammonia based on its presence in human waste sets a precedent for all dischargers to have reasonable potential for ammonia in perpetuity, regardless of their treatment performance or actual effluent ammonia concentrations.

That said, BACWA appreciates the Regional Water Board's concern that there be a regulatory impetus for Novato to continue to nitrify during the next permit term. BACWA recommends that

the Regional Water Board not find reasonable potential for ammonia, but continue to implement water quality-based effluent limits (WQBELs) for ammonia. BACWA proposes replacing the existing language with the following:

***Conclusion.** There would be reasonable potential for ammonia if nitrification performance were not maintained; thus this Order contains ammonia WQBELs to ensure that the discharge will not cause or contribute to exceedance of the Basin Plan objective. The Discharger was successful in the previous order term at operating the plant to treat ammonia concentrations to below Basin Plan objectives. However, without regulatory assurance that nitrification will continue, the un-ionized ammonia in the effluent could increase and cause or contribute to toxicity outside of the mixing zone. Therefore, WQBELs will protect against potential toxic impacts from the discharge. WQBELs also avoid backsliding.*

BACWA would be happy to discuss our concerns further.

Respectfully,



David R. Williams
BACWA Executive Director

CC:

BACWA Executive Board
Meg Herston, BACWA Permits Committee Chair
Sandeep Karkal, Novato Sanitary District
Mary Cousins, RMC



Dedicated to Preserving the Napa River for Generations to Come

June 1, 2015

James Parrish
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Sent via email: james.parrish@waterboards.ca.gov; bwolfe@waterboards.ca.gov;
lila.tang@waterboards.ca.gov; bill.johnson@waterboards.ca.gov;

SUBJECT: Novato Sanitary District Tentative Order for NPDES Permit No. CA0037958

Dear Mr. Parrish:

Thank you for the opportunity to comment on the tentative order for reissuing the NPDES permit for the Novato Sanitary District wastewater treatment plant. We are concerned about certain aspects of the draft permit that we understand could potentially impact the Napa Sanitation District as we get ready for our NPDES permit renewal in 2016. Our specific comments are shown below.

1. The dry season discharge prohibition needs to more effectively support the ability to maximize recycled water.

While we appreciate the general intent for achieving flexibility in making the best use of recycled water within the dry season prohibition, the language stops short in truly maximizing recycled water deliveries. This is because there is a trade off in how we use storage capacity. Storage can be used either (1) for recycled water by filling up the storage vessel, or (2) for leaving vacant "room" in the vessel to prevent a dry season discharge in case it rains or because recycled water users don't take the water (for example if the weather is colder than usual for the season). The same storage cannot be used for both of these goals.

If we have a mandate to use storage for "leaving room" in case it rains, specifically to prevent a dry season discharge, then we have a situation that is counterproductive to alleviating our serious drought condition, even separately from just maximizing recycled water because it's the right thing to do, to not throw away this precious resource.

Mr. Parrish
June 1, 2015
Page 2

In the past, it was thought that a prohibition on discharge during the dry season was needed due to a higher ratio of discharge-to-receiving water volume than in the wet season. However, since that time significant mathematical modeling of receiving waters has been conducted, and we now know that hydrodynamic conditions (and concomitant mixing) in estuarine receiving waters are almost completely controlled by tides at all times of the year. In addition, dry season discharges are always of lower volume, or flow rate, than during the wet season because there is less water generally during that time of year. These technical considerations mean there is no measurable difference between water quality impacts from discharges to tidal water bodies in the dry season compared to the wet season.

It's not possible to predict future storage needs based on wet weather anticipated to occur during the dry season (as the proposed language suggests), and even if it was, we believe it is much better for humans and the environment to have used that storage capacity for recycled water deliveries than to let it go vacant for the purpose of preventing a discharge that we now know won't have a water quality impact if the water is meeting all applicable effluent limits (as the permit requires).

In addition, the language needs to be broadened to make clear that reasonably expected recycled water demand or deliveries throughout the whole season are taken into account in determining whether a discharge is needed. It can be a constant balancing act to maximize recycled water deliveries while anticipating what might happen in the future – even of the things we know about, namely how much recycled water has already been delivered or what the potential demand is based on the number of users that are, or will be, hooked up.

The Napa Sanitation District has several recycled water projects underway in the vicinity of its service area. We feel gratified there is a large demand for recycled water right now, and we are also proud of our accomplishments in working diligently to cultivate the current opportunities. But to really be successful, we need flexibility to use our storage for *recycled water*. If the Novato Sanitary District language stands as a precedent after the permit is adopted, as Regional Water Board staff have indicated, this development would limit our potential for no good reason. We do believe we are doing the right thing in trying to expand our recycled water program.

For the above reasons, we request that the language for Discharge Prohibition E. on page 5 of the permit be revised as follows:

Discharge to San Pablo Bay is prohibited during the dry weather season each year from June 1 through August 31, unless (1) Facility inflow exceeds the capacity of influent-storage ~~(after factoring in anticipated wet weather storage needs),~~ and

Facility effluent flow will exceed the capacity of the reclamation water distribution and storage system (described in Fact Sheet section II.A.5) to meet current, recent, or estimated reclaimed water demand during the respective dry season; and (2) the discharge meets the advanced treatment limits specified in Table 5 below. Discharge shall not arise as a result of the Discharger's failure to produce, use, or supply demand for reclaimed water that the Regional Water Board has authorized. Discharge during the dry weather season shall be monitored and meet applicable effluent limitations, and shall consist of fully treated effluent.

If there is discharge during the dry weather season, the Discharger shall describe in the transmittal letter of the next self-monitoring report the reasons for the discharge, with supporting information, and include a table that describes the volume and duration of the discharge to the receiving water. In accordance with the MRP, all discharge volume and quality data shall be reported in the appropriate monthly self-monitoring report.

Upon the Discharger satisfying the requirements of Provision VI.C.5.b of this Order, the discharge shall be no longer be subject to this dry season discharge prohibition.

2. The effluent limit for ammonia should be based on valid technical considerations, not a simple observation.

The Novato Sanitary District tentative order permit writers went to great lengths to lay out a technical basis and evaluation for determining whether there was a reasonable potential to cause or contribute to the exceedance of the applicable water quality objectives for ammonia. In particular, they used the procedure documented in the widely and frequently regarded *Technical Support Document for Water Quality-based Toxics Control* (Technical Support Document) by USEPA.

However, after showing in the analysis that neither of two possible approaches, the effluent approach or the receiving water approach, met the thresholds for reasonable potential, the language jumps to the conclusion that there is reasonable potential simply because the source of wastewater is human waste. This conclusion is arbitrary and capricious.

In previous permits adopted by the Regional Water Board, when reasonable potential for ammonia was not present, but the discharger had an effluent limit for ammonia in the existing permit, the existing limit was retained as a protective measure due to potential concerns about nutrients in San Francisco Bay. We believe this accepted practice is appropriate and reasonable.

Mr. Parrish
June 1, 2015
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Thank you for your consideration of these comments. Please let me know if you have any questions or would like additional information.

Sincerely,



Timothy B. Healy, PE
General Manager/District Engineer

cc: Monica Oakley

Appendix C

Response to Comments

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

RESPONSE TO WRITTEN COMMENTS

on Tentative Order for
Novato Sanitary District Wastewater Treatment Plant
Novato, Marin County

The Regional Water Board received written comments on a tentative order distributed on April 29, 2015, for public comment from:

1. Novato Sanitary District (June 1, 2015)
2. California State Coastal Conservancy (June 1, 2015)
3. Bay Area Clean Water Agencies (BACWA) (June 1, 2015)
4. Napa Sanitation District (June 1, 2015)

Regional Water Board staff has summarized the comments, shown below in *italics* (paraphrased for brevity), and followed each comment with staff’s response. For the full content and context of the comments, please refer to the comment letters.

All revisions to the tentative order in response to comments are shown with underline text for additions and strikethrough ~~text~~ for deletions.

Novato Sanitary District

District Comment 1: *The District requests the name of the receiving water for Discharge Point No. 002 be changed to “San Pablo Bay.” The proposed marsh site will be a part of San Pablo Bay, and the State Coastal Conservancy has yet to identify a specific name for the marsh.*

Response to District Comment 1: We agree and revised Table 2 of the tentative order as follows:

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Secondary-Treated Municipal Wastewater	38.060001	-122.489995	San Pablo Bay
002 ^[1]	Secondary-Treated Municipal Wastewater	38.063333	-122.510278	Bel Marin Keys Marsh <u>San Pablo Bay</u>

Footnote:

^[1] Discharge Point No. 002 is subsequent to relocation of discharge to new San Pablo Bay wetlands. The exact location (latitude and longitude) may change slightly from what is indicated above. See Provision IV.C.5.b.

We revised Fact Sheet Table F-4 as follows:

Table F-4. Beneficial Uses

Discharge Points	Receiving Water	Beneficial Uses
001	San Pablo Bay	Industrial Service Supply (IND) Ocean, Commercial, and Sport Fishing (COMM) Shellfish Harvesting (SHELL) Estuarine Habitat (EST) Fish Migration (MIGR) Preservation of Rare and Endangered Species (RARE) Fish Spawning (SPWN) Wildlife Habitat (WILD) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2) Navigation (NAV)
002	Bel Marin Keys Marsh San Pablo Bay	Same as those for San Pablo Bay Discharge Point No. 001. (A new The marsh will be hydraulically contiguous with San Pablo Bay after restoration and relocation of the discharge to Discharge Point No. 002.)

We revised Fact Sheet section II.F.1 as follows:

Discharge Relocation and Recycled Water Storage Pond. The Discharger has plans to relocate its discharge to create and support new brackish marsh habitat as part of a ~~the~~ State Coastal Conservancy’s ~~Bel Marin Keys~~ wetland restoration project. Also as part of this project, the Discharger and the ~~California State~~ Coastal Conservancy are considering construction of a new recycled water storage pond.

We revised Fact Sheet section IV.A.2.b as follows:

Year-Round Discharges. The Discharger, in collaboration with the ~~California State~~ Coastal Conservancy, is planning to move the discharge inland to provide secondary-treated effluent as a freshwater source to a ~~the~~ proposed new marsh adjacent to the Bel Marin Keys Marsh community. The discharge to the new marsh will result in net environmental benefits by creating and sustaining new brackish marsh habitat for fish, plant, and wildlife. The wetlands will also provide storm and flood protection against rising sea levels, and provide recreational, scenic, and educational benefits.

District Comment 2: *The District requests changes to the dry season discharge prohibition to maintain consistency.*

Response to District Comment 2: We agree and revised the Prohibition III.E as follows:

Discharge to San Pablo Bay is prohibited during the dry weather season each year from June 1 through August 31, unless (1) Facility inflow will exceeds the capacity of influent storage (after factoring in anticipated wet weather storage needs), and Facility effluent flow will exceed the capacity of the reclamation water distribution and storage system (described in Fact Sheet section II.A.5) to meet reclaimed water

demand; and (2) the discharge meets the advanced treatment limits specified in Table 5 below. . . .

We revised the Fact Sheet section II.B (second paragraph) as follows:

From June 1 through August 31 effluent is sent to the two storage ponds and reclaimed. Discharge is prohibited during this timeframe except when effluent volume will ~~exceeds~~ reclamation water demand. When this occurs, the Discharger discharges from the storage ponds any surplus water not used for reclamation through a pipeline connected to Discharge Point No. 001.

District Comment 3: *The District requests that language in the previous order waiving waste discharge requirements for sludge disposal operations be retained. It also requests that biosolids disposal at the dedicated disposal site be allowed anytime conditions are dry (i.e., outside the May through October period).*

Response to District Comment 3: We disagree. The tentative order does not waive waste discharge requirements because it actually contains waste discharge requirements. Provision VI.C.4.b requires that all sludge and biosolids be disposed of, managed, or reused in accordance with 40 C.F.R. part 503 and other requirements.

When biosolids are disposed at the dedicated disposal site, dry conditions are necessary for evaporation. From November through April, even when conditions appear to be dry, wet conditions could soon follow and may be difficult to anticipate. During these months, disposal at the dedicated disposal site should be unnecessary because the District should anticipate that this entire period could be wet. Wet conditions are far less likely to occur from May through October.

District Comment 4: *The District requests that language allowing discharge of surplus water from the reclamation storage ponds be retained from the previous order.*

Response to District Comment 4: We agree that surplus water may be discharged from the reclamation storage ponds through Discharge Point No. 001 and revised Fact Sheet section II.A.5 as follows (these revisions include changes made in response to District Comment 6 and other changes necessary for clarity):

Reclamation Activities. The Discharger's reclamation system includes two storage ponds with a combined storage capacity of 180 million gallons, a wildlife pond, an irrigation pump station, and 820 acres of irrigated pasturelands. From June 1 through August 31 (and typically longer), the Discharger diverts effluent into the two storage ponds. Effluent from these ponds meets California Code of Regulations, Title 22, section 60304(d) standards and is used to irrigate the pasturelands, which are used for beef cattle grazing and irrigated hay production ~~and meets California Code of Regulations, Title 22, section 60304(d) standards.~~ Alternatively, plant pond ~~plant pond~~ effluent is diverted for additional treatment to a Recycled Water Treatment Facility ~~to a Recycled Water Treatment Facility~~ to produce tertiary-treated effluent for golf course irrigation and other uses. This water ~~and~~ meets California Code of Regulations, Title 22, section 60304(a) standards. Regional Water Board Order No. 92-065 specifies the requirements for the Discharger's reclamation activities.

Any surplus water in the storage ponds not used for reclamation may be discharged through Discharge Point No. 001.

District Comment 5: *The District asks that plant flow monitoring occur at Monitoring Location INF-001 since that is where the flow is measured now. Specifically, the District notes that influent flow monitoring occurs after screening and grit removal. In addition, the District asks that Monitoring Location EFF-001REC be removed because it relates to reclaimed water, not the wastewater discharges covered by this permit. The District asserts that flow monitoring requirements at Monitoring Location EFF-001REC duplicate monitoring requirements in reclamation permits. The District also points out that it measures reclamation flows in several ways and cannot measure all reclamation flows at once. The District proposes to report effluent flows at Monitoring Location EFF-001 by subtracting various reclamation flows from the influent flow measured at Monitoring Location INF-001.*

Response to District Comment 5: We agree that flow monitoring should be at Monitoring Location INF-001 but disagree about Monitoring Location EFF-001REC. To calculate flows for Monitoring Location EFF-001, the District proposes to subtract reclamation flows from influent flows. Therefore, monitoring reclamation flows is a necessary component of this permit. The tentative order does not require the District to report its individual reclamation flows, but it does require the District to report the calculated sum of its reclamation flows that are used to calculate the flows for Monitoring Location EFF-001. Reporting the reclamation flows through the CIWQS database will help the Regional Water Board and others track and distinguish reclamation flows and effluent discharges.

We revised Monitoring and Reporting Program Table E-1 as follows:

Table E-1. Monitoring Locations

Sampling Location Type	Monitoring Location Name	Monitoring Location Description ^[1]
Influent	INF-001	A point in the plant headworks at which all waste tributary to the treatment system is present, <u>following screening and grit removal</u> and preceding any treatment phase that could alter influent quality (formerly A-002)
Effluent	EFF-001	A point in the plant at which all treatment phases are complete, including disinfection (formerly E-002). Effluent flow may be monitored at any location representative of the discharge to the receiving water at Discharge Points No. 001 and No. 002 after the discharge is relocated. <i>Latitude 38.100000 Longitude -122.553056</i>
Effluent	EFF-001REC	A point in the plant at which all treatment phases are complete, including disinfection (formerly E-002). Effluent flow may be monitored at any location representative of the <u>total</u> flow to reclamation storage ponds facilities (including recycled water).
⋮	⋮	⋮

We revised Monitoring and Reporting Program Table E-2 as follows (these revisions include editorial corrections):

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow ^[1]	MGD/MG	Continuous	Continuous/D
Biochemical Oxygen Demand (5-day @ 20°C)(BOD ₅)	mg/L	C-24	1/Week
Total Suspended Solids (TSS)	mg/L	C-24	1/Week
Cyanide, Total	µg/L	Grab	1/Month

⋮

Sampling Types and Frequencies:

⋮

Continuous/D = measured continuously, and recorded and reported daily

1/Week = once per week

2/Week = twice per week

3/Week = three times per week

1/Month = once per month

Footnote:

^[1] The following flow information shall be reported in monthly self-monitoring reports:

- Daily average flow (MGD)
- Monthly average flow (MGD)
- Total monthly flow volume (MG)
- Maximum and minimum daily average flow rates (MGD)

We revised Monitoring and Reporting Program section IV.A (including Table E-3) as follows (these revisions include editorial corrections):

The Discharger shall monitor plant effluent at Monitoring Location EFF-001 and EFF-001REC as follows:

Table E-3. Effluent Monitoring — Plant Discharges

Parameter ^[1]	Units	Sample Type	Minimum Sampling Frequency
Flow ^[2]	MGD/MG	Continuous Calculation	Continuous/D
Biochemical Oxygen Demand (5-day @ 20°C)(BOD ₅)	mg/L	C-24	1/Week
⋮	⋮	⋮	⋮

⋮

Sampling Types and Frequencies:

C-24 = 24 hour composite

Grab = grab sample

Continuous = measured continuously

Continuous/D = measured continuously, and recorded and reported daily

~~12/Week~~ = ~~twice~~ once per week

3/Week = three times per week

5/Week = five times per week

1/Month = once per month

~~5/Month~~ = ~~five times~~ per month

1/Quarter = once per quarter

2/Year = twice per year

Footnotes:

- [1] For Monitoring Location EFF-001REC, only the flow shall be monitored and reported electronically. Other parameters are not required.
- [2] Flows shall be calculated based on influent and reclamation flow monitoring. The following flow information shall be reported in monthly self-monitoring reports:
- Daily average flow (MGD)
 - Monthly average flow (MGD)
 - Total monthly flow volume (MG)
 - Maximum and minimum daily average flow rates (MGD)
- [3] Oil and grease sampling and analysis shall be conducted in accordance with U.S. EPA Method 1664A.
- ⋮

We revised Fact Sheet section VII.A as follows:

1. **Influent Monitoring.** Influent flow monitoring is necessary to evaluate compliance with Prohibition III.C (average dry weather influent flow not to exceed dry weather design capacity) and to understand Facility operations. BOD₅ and TSS monitoring is necessary to evaluate compliance with this Order's 85 percent removal requirement. Basin Plan section 4.7.2.2 requires cyanide monitoring because this Order is based on site-specific cyanide water quality objectives.
 2. **Effluent Monitoring.** Effluent flow monitoring is necessary to evaluate compliance with Prohibition III.~~DE~~ (average dry weather flow discharge to San Pablo Bay during the dry weather period of June 1 through August 31 is prohibited) and to understand Facility operations. Reclamation flow monitoring is necessary to calculate effluent flows from influent flows. Monitoring for the other parameters is necessary to evaluate compliance with this Order's effluent limitations.
- ⋮

District Comment 6: *The District requests several small modifications to more accurately describe its reclamation activities.*

Response to District Comment 6: We agree and revised Fact Sheet section II.A.5 as shown in our response to District Comment 4.

District Comment 7: *The District requests that a reference to the 2008 cease and desist order be removed.*

Response to District Comment 7: We agree and revised Fact Sheet section II.E.1 (second paragraph) as follows:

Cease and Desist Order No. R2-2010-0075 established a time schedule for the Discharger to complete necessary facility upgrades to address imminent and threatened violations of the copper, carbon tetrachloride, dieldrin, and total ammonia effluent limitations. ~~It was also recognized that completion of the upgrades would improve compliance with BOD, TSS, and bacteria limits, violations of which were addressed in a prior 2008 cease and desist order.~~ The Discharger completed the facility upgrades and subsequently complied with the

copper, carbon tetrachloride, dieldrin, and total ammonia effluent limitations. Therefore, this Order rescinds Cease and Desist Order No. R2-2010-0075.

District Comment 8: *The District believes the median sanitary sewer overflow (SSO) rates for the San Francisco Bay Region presented in Fact Sheet Table F-3 are inaccurate because they are more than twice the values reported in the Sanitary Sewer Improvement Program status report presented to the Regional Water Board at its July 9, 2014, meeting.*

Response to District Comment 8: We agree that Fact Sheet Table F-3 needs revision, but we disagree that all the values for the region are inaccurate. The 2014 Sanitary Sewer Improvement Program status report values were not calculated in the same way as the values presented in the tentative order and, therefore, are not comparable. The status report values reflect SSO rates only for agencies that reported SSOs. Statewide, many did not; therefore, including all agencies would have resulted in median values of zero. In contrast, the tentative order values reflect SSO rates for all agencies. Region-wide, most agencies reported SSOs; therefore the median values were not zero. Nevertheless, we corrected some inaccuracies by revising Fact Sheet Table F-3 as follows:

Table F-3. SSO Rates (total SSOs/100 miles of sewer)
(based on CIWQS data analysis completed in February 2015)^[1]

	Length (miles)	Average Age (years)	2011	2012	2013	2014
Novato Sanitary District	229	41	6.2	8.0	4.4	4.8
Marin County median of 4 large systems (≥ 100 miles)	173	55	11.5	12.4	7.4	10.3
San Francisco Bay Region median of 45 large systems (≥ 100 miles)	230	50	5.1	5.0	4.5	3.4 <u>5.2</u>
San Francisco Bay Region median of all 132 systems	42	45	4.0	4.6	4.5	2.7 <u>6.2</u>

We revised Fact Sheet section II.E.2 as follows (these revisions include changes made in response to District Comment 9):

~~Throughout the previous order term, the SSO rates of the Discharger’s collection system have been lower than the Marin County medians throughout the previous order term, for large collection systems, but generally higher than the and lower than the San Francisco Bay Region medians for large collection systems in 2013 and 2014.~~ During the previous order term, the Discharger completed significant collection system improvements costing over \$7 million, including over \$2 million on small capital improvements that included collection system repairs and over \$4.7 million replacing and rehabilitating pump stations. In 2014, the Discharger budgeted over \$6 million for capital improvement projects and spent about \$1.5 million for collection system improvements. This level of funding will rehabilitate approximately 3.4 miles, or 1.5 percent, of the Discharger’s 229-mile system per year. This rehabilitation rate is based on the annual capital expenditure the Discharger reported for the year 2014 (\$3,379,000) divided by an estimated \$1 million cost per mile of collection system rehabilitation, divided by the total number of miles of collection system. ~~Because of the average age of the system,~~

Regional Water Board staff will be monitoring the adequacy of the Discharger's collection system capital improvement activities annually during this Order's term.

District Comment 9: *The District objects to language suggesting that the pace of its collection system capital improvement activities is inadequate. The District believes a sentence may have been inadvertently copied from another permit since its collection system is younger than most in the region.*

Response to District Comment 9: The tentative order does not evaluate the adequacy of the District's capital improvement activities. However, we revised Fact Sheet section II.E.2 as shown in our response to District Comment 8.

District Comment 10: *For consistency, the District requests minor revisions clarifying when certain effluent limitations apply.*

Response to District Comment 10: We agree and revised Fact Sheet section IV.B.2 as follows:

- a. **BOD₅, and TSS.** The BOD₅ and TSS effluent limitations, including the 85 percent removal requirements, are based on the Secondary Treatment Standards and Basin Plan Table 4-2 during the wet weather months (November – April). More stringent limitations apply during the dry weather discharge months (May, ~~September, and –~~ October) ~~and when discharge is necessary due to infeasibility of wastewater reclamation if there is unseasonably low demand for recycled water.~~ Effluent data show that the more stringent limits are technologically feasible. They are required to demonstrate a level of water quality protection equivalent to complying with Basin Plan Discharge Prohibition 1 (see Fact Sheet section IV.A.2).

- b. **Oil and Grease.** The oil and grease effluent limitations are based on Basin Plan Table 4-2 during the wet weather months (November – April). More stringent limitations apply during the dry weather discharge months (May, ~~September, and –~~ October) ~~and when discharge is necessary due to infeasibility of wastewater reclamation if there is unseasonably low demand for recycled water.~~ Effluent data show that the more stringent limits are technologically feasible. They are required to demonstrate a level of water quality protection equivalent to complying with Basin Plan Discharge Prohibition 1 (see Fact Sheet section IV.A.2).

- ⋮

District Comment 11: *The District points out that the tentative order erroneously states that the outfall is exposed during extreme dry weather when, in fact, it is exposed during periods of extreme low tides, regardless of weather.*

Response to District Comment 11: We agree and revised Fact Sheet section IV.B.2.f as follows:

Fecal Coliform. Basin Plan Table 4-2A requires total coliform effluent limitations for waters that support the shellfish harvesting beneficial use, but footnote c allows substitution with fecal coliform limits provided that doing so will not result in unacceptable adverse impacts on beneficial uses (i.e., shellfish harvesting). ... The Discharger's mixing zone study (*Proposed Ammonia and Bacterial Effluent Limits Mixing Zone Analysis* [April 7, 2010]), indicates that the effluent receives at least 10:1 dilution within 39 acres of the Discharge Point No. 001 outfall during the most extreme dry weather and low-tide conditions periods (i.e., ~~when the outfall is exposed~~). The Discharger's mixing zone study for the discharge after relocation to Discharge Point No. 002 (*State Implementation Policy [SIP] Mixing Zone Analysis* [September 2014]), indicates that the effluent will receive at least 10:1 dilution within 46 acres of the outfall. ...

District Comment 12: *The District believes the ammonia reasonable potential analysis conclusion should be based on the need to maintain the plant's ability to remove ammonia and the reference to "human waste" should be removed. It also asks that the findings clearly state that effluent and receiving water data do not indicate reasonable potential.*

Response to District Comment 12: We agree that the ammonia reasonable potential finding should be based on the need to maintain the plant's ability to remove ammonia. Since the conclusion, therefore, is that there is reasonable potential (and effluent limits are needed), it would be confusing to also suggest that there is no reasonable potential based on the effluent and receiving water data. We revised Fact Sheet Section IV.C.3.e.iii(c) as follows:

Conclusion. There is reasonable potential for ammonia if nitrification performance is not maintained; thus ~~and~~ this Order contains ammonia WQBELs to ensure that the discharge will not cause or contribute to exceedance of the Basin Plan objective, because human waste is a significant source of ammonia and compounds that breakdown into ammonia. The Discharger was successful in the previous order term at operating the plant to treat ammonia concentrations to below Basin Plan objectives. However, without regulatory assurance that nitrification will continue, the un-ionized ammonia in the effluent could increase and cause or contribute to toxicity outside of the mixing zone. the fraction of un-ionized ammonia in the effluent could increase after discharge to the receiving waters, particularly if the ambient receiving water pH is higher than the effluent pH. The receiving water data evaluated above were collected approximately four miles from the outfall and beyond the influence of the discharge; therefore, they may not represent the highest un-ionized ammonia concentrations present in the receiving waters. Therefore, WQBELs are necessary to will protect against potential toxic impacts from the discharge. WQBELs also avoid backsliding.

District Comment 13: *The District requests removal of language stating that the proposed Discharge Point No. 002 outfall will be designed to include a multiport diffuser and erosion control. The California State Coastal Conservancy has yet to design the outfall.*

Response to District Comment 13: We agree and revised Fact Sheet section IV.C.4.a (fourth paragraph) as follows:

The Discharger proposes to relocate the discharge inland to new wetlands that will expand San Pablo Bay. The new outfall will be appropriately designed to operate in compliance with this Order, ~~including a multiport diffuser and erosion control. The Discharger submitted a new~~ which means that the outfall will achieve the mixing zone described in the Discharger's study for this new outfall, Dilution Analysis of Novato Sanitary District's Proposed Discharge to Bel Marin Keys Unit V (May 2014), demonstrating The study demonstrated that a hypothetical mixing zone covering 31 acres corresponds to a dilution ratio of 5:1. This Order establishes a somewhat smaller ammonia mixing zone for the relocated outfall.

District Comment 14: *The District believes more detail about the cyanide mixing zones should be included. Additionally, it wishes to correct information concerning mixing zone impacts on sensitive species. Specifically, the tentative order should indicate that the proposed new wetland may be used by sensitive species.*

Response to District Comment 14: We disagree that more information regarding the cyanide mixing zones is necessary. The Regional Water Board considered the State Implementation Policy factors for approving mixing zones when it approved the dilution credits for San Pablo Bay in Basin Plan Table 4-6. However, we agree that the information concerning mixing zone impacts on sensitive species requires correction. Additionally, we recognize that the California clapper rail has been renamed as the Ridgway's rail. We revised Fact Sheet section IV.C.4.a.iv as follows:

Adversely impact biologically sensitive or critical habitats, including, but not limited to, habitats of species under federal or State endangered species laws. The current mixing zone will not adversely affect biologically sensitive or critical habitats because it consists primarily of intertidal mudflats that do not provide critical habitat to federal or State-listed sensitive species. The proposed mixing zone will not adversely affect biologically sensitive or critical habitats because the Bel Marin Keys Unit V site does not currently provide any critical habitat to federal or State-listed sensitive species, ~~and most of the mixing zone will be within a new wetland that is not intended for use by sensitive species.~~

Portions of San Pablo Bay are critical habitats for southern green sturgeon, steelhead trout, longfin smelt, and Chinook salmon. Nearby tidal marshes provide habitat for California black rail, ~~California clapper~~ Ridgway's rail, and salt-marsh harvest mouse. California black rail, ~~California clapper~~ Ridgway's rail, and the salt-marsh harvest mouse may also use the new wetland. However, they do not live in water and will not be affected by the mixing zones. Southern green sturgeon, steelhead trout, longfin smelt, and Chinook salmon are unlikely to be affected by the mixing zones because they are anadromous and spend most of their lives in the ocean or freshwater, using estuarine waters such as San Pablo Bay only as a migration zone.

District Comment 15: *The District requests clarification regarding chlorine use at the plant. The district intermittently adds chlorine to influent for odor and corrosion control.*

Response to District Comment 15: We agree and revised Fact Sheet section IV.D.1 (second paragraph) as follows:

This Order does not retain the carbon tetrachloride and dieldrin effluent limits from the previous order because data no longer indicate reasonable potential for these pollutants to exceed water quality objectives. ... Likewise, this Order does not retain chlorine limits because the Discharger now relies solely on ultraviolet (UV) disinfection of treated effluent. (Chlorine is used only for intermittent prechlorination and control of return activated sludge filamentous bacteria, and is not expected to pass through to treated effluent.)

District Comment 16: *The District requests removal of language reiterating that the collection system is part of the Facility.*

Response to District Comment 16: We agree. The tentative order clearly indicates that the collection system is part of the Facility. We revised Fact Sheet section VI.C.4.c as follows:

Collection System Management. ~~The Discharger's collection system is part of the Facility this Order regulates.~~ This provision explains this Order's requirements as they relate to the Discharger's collection system and promotes consistency with the State Water Board's *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems* (General Collection System WDRs), Order No. 2006-0003-DWQ as amended by Order No. WQ 2013-0058-EXEC. ...

District Comments 17 and 18: *The District points out some typographical errors.*

Response to District Comments 17 and 18: We revised the header on page 2 of the tentative order as follows:

<u>Novato Sanitary District City of Millbrae</u>	TENTATIVE ORDER R2-20132015-XXXX
<u>Water Pollution Control Plant & Collection System</u>	NPDES No. CA0037664
<u>Novato Sanitary District Wastewater Treatment Plant</u>	NPDES No. CA0037958

We revised Fact Sheet section III.B as follows:

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (CEQA), Public Resources Code division 13, chapter 3 (commencing with § 21100). To the extent the permit authorizes continued operations from the existing facility, the permit is exempt from CEQA pursuant to Title 14 of the California Code of Regulations, section 15301. To the extent the permit authorizes a change in the discharge location, it ~~that~~ is also covered by sections 15301 and 15302 because it is a minor alteration of an existing facility involving only a negligible expansion in use. Moreover, the intended discharge area will create new wetlands, an activity that is exempt from CEQA under sections ~~15308~~ 15307 (protection of natural resources) and ~~15309~~ 15308 (protection of the environment).

California State Coastal Conservancy

Conservancy Comment 1: *The Conservancy requests the name of the receiving water for Discharge Point No. 002 be changed to “San Pablo Bay” because the proposed new marsh will be a part of San Pablo Bay.*

Response to Conservancy Comment 1: See our response to District Comment 1.

Conservancy Comment 2: *The Conservancy requests removal of language stating that the proposed Discharge Point No. 002 outfall will be designed to include a multipoint diffuser and erosion control because it has yet to design the outfall.*

Response to Conservancy Comment 2: See our response to District Comment 13.

Conservancy Comment 3: *The Conservancy points out some incorrect information concerning the likely presence of sensitive species in the proposed new wetland. It hopes and expects that the salt marsh harvest mouse, California black rail, and California Ridgway’s rail will use the wetland.*

Response to Conservancy Comment 3: See our response to District Comment 14.

Bay Area Clean Water Agencies (BACWA)

BACWA Comment 1: *BACWA believes that finding reasonable potential for ammonia based on the presence of human waste in wastewater influent sets a precedent for all dischargers to have reasonable potential regardless of treatment performance. It contends that the ammonia reasonable potential analyses should not be based on influent concentrations. BACWA appreciates that there is a regulatory impetus for Novato to continue remove ammonia through nitrification.*

Response to BACWA Comment 1: See our response to District Comment 12.

Napa Sanitation District

Napa Comment 1: *The District appreciates the intent of the dry season discharge prohibition in achieving flexibility for water recycling, but believes the language should be broadened to more effectively maximize water recycling. The District is concerned that the language in the tentative order will serve as a precedent that could limit the District’s own water recycling potential.*

Response to Napa Comment 1: We disagree. We believe that the dry season discharge prohibition, as worded in the tentative order, sufficiently serves the same purpose and that the proposed revision could actually provide less flexibility. Furthermore, this tentative order does not establish any precedent for the Napa Sanitation District permit reissuance.

Napa Comment 2: *The District believes that the presence of human waste in wastewater influent should not necessarily result in a finding that there is reasonable potential for ammonia. Nevertheless, it suggests that the existing ammonia limits should be retained to address nutrient concerns for the San Francisco Bay.*

Response to Napa Comment 2: We partly agree; however, we included effluent limits for ammonia to ensure that Novato continues to remove ammonia through nitrification. The reasonable potential conclusion is not based on nutrient concerns. See our response to District Comment 12.