

**San Francisco Bay Regional Water Quality Control Board**

**TENTATIVE ORDER No. R2-2015-XXXX**  
**NPDES No. CA0038342**

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

**Table 1. Discharger Information**

<b>Discharger</b>	East Bay Municipal Utility District
<b>Facility Name</b>	Orinda Water Treatment Plant
<b>Facility Address</b>	190 Camino Pablo, Orinda
<b>CIWQS Place Number</b>	246192

**Table 2. Discharge Location**

<b>Discharge Point <sup>[1]</sup></b>	<b>Effluent Description</b>	<b>Discharge Point Latitude (North)</b>	<b>Discharge Point Longitude (West)</b>	<b>Receiving Water</b>
003	Clarified filter backwash water	37°53'40" N	122°12'08" W	San Pablo Creek

Footnote:

<sup>[1]</sup> Discharge Point Nos. E-001, E-002, and E-004 of the previous order are now covered under the *Statewide NPDES Permit for Drinking Water System Discharges to Waters of the United States*, State Water Board Order No. WQ-2014-0194-DWQ.

**Table 3. Administrative Information**

This Order was adopted on:	<b>DATE</b>
This Order shall become effective on:	<b>January 1, 2016</b>
This Order shall expire on:	<b>December 31, 2020</b>
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:	<b>March 31, 2020</b>
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:	Minor

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.

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Bruce H. Wolfe, Executive Officer

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## I. FACILITY INFORMATION

Information describing the Orinda Water Treatment Plant is summarized in Table 1 and 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.** No provision or requirement in this Order is included to implement State law only.
- 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 No. R2-2009-0067, as amended by Order No. R2-2013-0003, (collectively the previous order) is rescinded upon the effective date of this Order, except for enforcement purposes. 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.

## III. DISCHARGE PROHIBITION

Discharge of treated filter backwash water at a location or in a manner different from that described in this Order is prohibited.

#### IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

- A. Specific Parameters.** The Discharger shall comply with the following effluent limitations at Discharge Point No. 003, with compliance measured at Monitoring Location EFF-003 as described in the Monitoring and Reporting Program (MRP):

**Table 4. Effluent Limitations**

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Total Suspended Solids (TSS)	mg/L	30	45	---	---	---
Settleable Matter	mL/L-hr	0.1	---	0.2	---	---
pH	standard units	---	---	---	6.5	8.5
Total Residual Chlorine <sup>[1]</sup>	mg/L	---	---	---	---	0.0
Dichlorobromomethane	µg/L	3.2	---	4.4	---	---

Unit Abbreviations:

mg/L = milligrams per liter  
µg/L = micrograms per liter  
mL/L-hr = milliliters per liter per hour

Footnote:

- <sup>[1]</sup> The Discharger shall calibrate and maintain total residual chlorine field test kits and analyzers (U.S. EPA-approved Standard Methods 4500-Cl F and G) to reliably quantify values of 0.1 mg/L and greater. This 0.1 mg/L shall be the minimum level (ML) for total residual chlorine; this ML shall also be the reporting limit (RL).

- B. Whole Effluent Acute Toxicity.** The Discharger shall comply with the following whole effluent acute toxicity limitations at Discharge Point No. 003, with compliance measured at Monitoring Location EFF-003 as described in the MRP:

1. Three-sample median value of not less than 90 percent survival; and
2. Single-sample maximum value of not less than 70 percent survival.

Bioassays shall be performed using the most up-to-date U.S. EPA protocols and species as specified in the MRP. A bioassay test showing survival of less than 90 percent represents a violation of the three-sample median limitation if one or more of the past two or fewer bioassay tests also show less than 90 percent survival.

#### 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                      7.0 mg/L, minimum  
  
The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent 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. 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.
  3. Nutrients                                      Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths that 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. 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 Program (MRP) Requirements**

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 and its 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 waste discharge requirements addresses requirements similar to this discharge.
- f. 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. Best Management Practices (BMPs) Plan**

The Discharger shall (1) continue to implement its BMPs Plan, (2) review and update the effectiveness and adequacy of the implemented BMPs Plan annually, or more often as necessary, and (3) report to the Regional Water Board a summary of the review and update in the annual self-monitoring report required by the MRP. The BMPs Plan shall address all specific means of controlling the discharge of pollutants from the Facility.

## ATTACHMENT A – DEFINITIONS

### **Arithmetic Mean ( $\mu$ )**

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 (CV)**

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 ( $\sigma$ )**

Measure of variability calculated as follows:

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

where:

x is the observed value;

$\mu$  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.

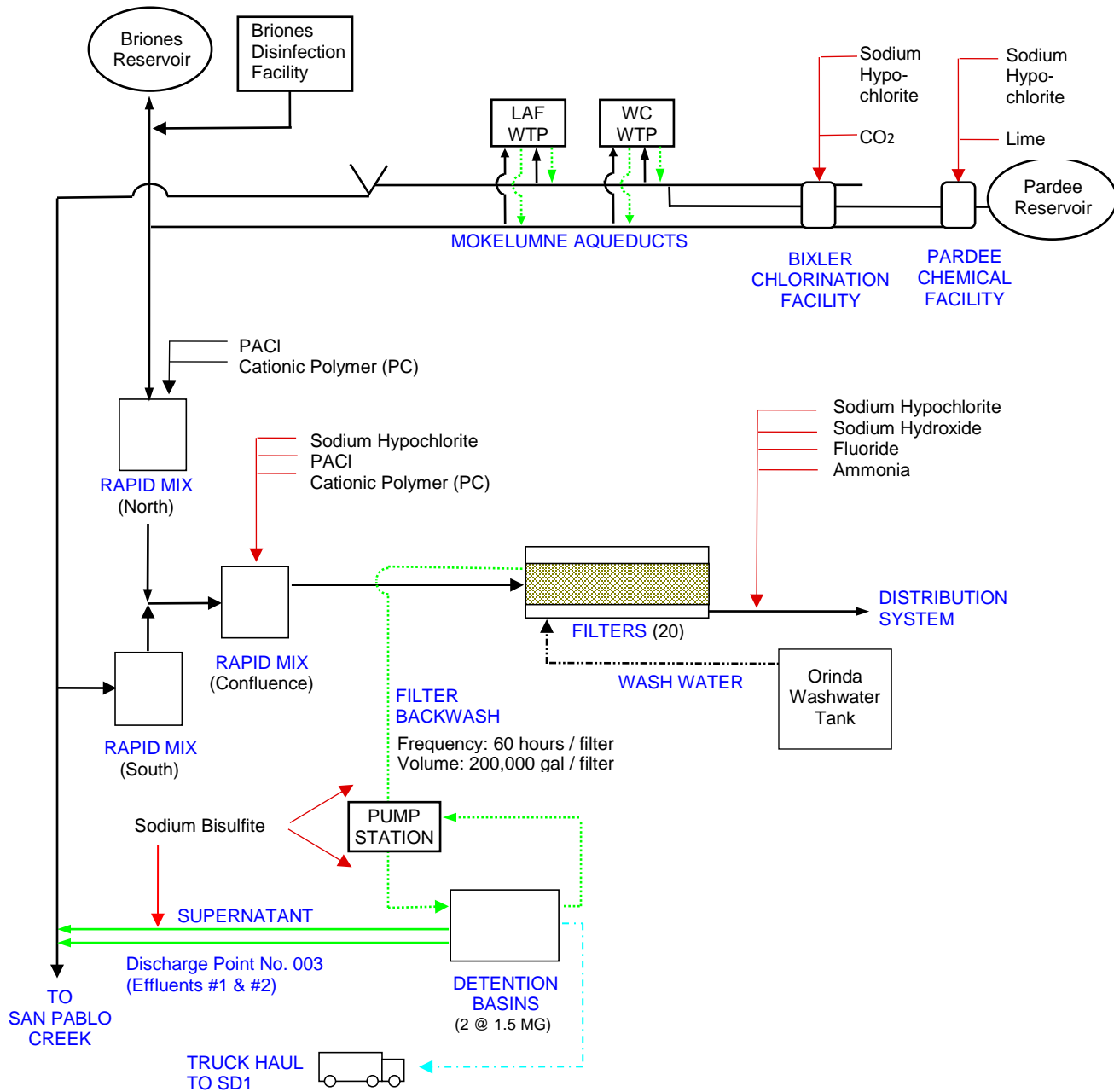
## ATTACHMENT B – FACILITY MAP



## ATTACHMENT B – FACILITY DISCHARGE LOCATION WITH MIXING ZONE



## ATTACHMENT C – PROCESS FLOW DIAGRAM



### KEY

—— Gravity Flow      ..... Gravity/  
..... Pumped Flow      Pumped Flow  
Combination

PC - Coagulant Polymer  
PT - Treatment Polymer  
PS - Solids Polymer  
PACI - Polyaluminum Chloride

## **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 Order under several provisions of the Water Code, including, but not limited to, sections 13268, 13385, 13386, and 13387.

## **VII. ADDITIONAL PROVISIONS—NOTIFICATION LEVELS**

### **A. Non-Municipal Facilities**

Existing manufacturing, commercial, mining, and silvicultural Dischargers shall notify the Regional Water Board as soon as they know or have reason to believe (40 C.F.R. § 122.42(a)):

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following “notification levels” (40 C.F.R. § 122.42(a)(1)):
  - a. 100 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(1)(i));
  - b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(1)(ii));
  - c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(1)(iii)); or
  - d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(1)(iv).)
2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following “notification levels” (40 C.F.R. § 122.42(a)(2)):
  - a. 500 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(2)(i));
  - b. 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(2)(ii));
  - c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(2)(iii)); or
  - d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(2)(iv).)

### **B. Publicly-Owned Treatment Works (POTWs)**

All POTWs shall provide adequate notice to the Regional Water Board of the following (40 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. part 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**

Monitoring Location Type	Monitoring Location Name	Monitoring Location Description
Effluent	EFF-003	Any point between the point of discharge to the receiving water (i.e., Discharge Point No. 003) and the point at which all waste tributary to that outfall is present.
Receiving Water	RSW-003U	A point in the receiving water located upstream of Discharge Point No. 003 where impacts from the discharge would not be expected.
	RSW-003D	A point in the receiving water within 50 feet downstream of Discharge Point No. 003.
	RSW-005	A point in the mid-channel area of the San Pablo Reservoir midway between the inlet from San Pablo Creek and the point that transects the boat launch (see Attachment B).

### III. EFFLUENT MONITORING REQUIREMENTS

The Discharger shall monitor effluent at Monitoring Location EFF-003 as follows:

**Table E-2. Effluent Monitoring**

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow rate and volume <sup>[1]</sup>	MGD/MG	Continuous	Continuous/D
Total Suspended Solids (TSS)	mg/L	Grab	1/Month
Total Settleable Matter	mg/L	Grab	1/Month
Total Residual Chlorine <sup>[2]</sup>	mg/L	Continuous or Grab	1/Hour
pH	standard units	Grab	2/Week

Parameter	Units	Sample Type	Minimum Sampling Frequency
Acute Toxicity <sup>[3]</sup>	% survival	Grab	1/Quarter
Chronic Toxicity <sup>[4]</sup>	TU <sub>c</sub>	Grab	Once
Dichlorobromomethane	µg/L	Grab	1/Month
Priority Pollutants <sup>[5][6]</sup>	µg/L	Grab	Once

Unit Abbreviations:

MG	= million gallons
MGD	= million gallons per day
mg/L	= milligrams per liter
µg/L	= micrograms per liter
TU <sub>c</sub>	= chronic toxicity units
%	= percent

Sample Types and Frequencies:

Continuous	= measured continuously
Continuous/D	= measured continuously, and recorded and reported daily
Grab	= grab sample
1/Hour	= once per hour
2/Week	= twice per week
1/Month	= once per month
1/Quarter	= once per quarter
Once	= once during the term of this Order (as specified in MRP Table E-5)

Footnotes:

- [1] Flow shall be monitored by flow meter or, if no flow meter is in place, estimated. The Executive Officer may require the Discharger to install a flow meter. The following shall be reported in self-monitoring reports:
- Daily average flow (MGD)
  - Monthly average flow (MGD)
  - Total monthly flow volume (MG)
  - Maximum and minimum daily average flow rates (MGD)
- [2] Effluent residual chlorine concentrations shall be monitored continuously or, at a minimum, every hour. The Discharger shall describe all excursions of the chlorine limit in the transmittal letter of self-monitoring reports as required by Attachment G section V.C.1.a. If monitoring continuously, the Discharger shall report through data upload to CIWQS, from discrete readings of the continuous monitoring every hour on the hour, the maximum for each day and any other discrete hourly reading that exceeds the effluent limit, and, for the purpose of mandatory minimum penalties required by Water Code section 13385(i), compliance shall be based only on these discrete readings. The Discharger shall retain continuous monitoring readings for at least three years. The Regional Water Board reserves the right to use all continuous monitoring data for discretionary enforcement.
- The Discharger may elect to use a continuous on-line monitoring system for measuring or determining that residual dechlorinating agent is present. This monitoring system may be used to prove that anomalous residual chlorine exceedances measured by on-line chlorine analyzers are false positives and are not valid total residual chlorine detections because it is chemically improbable to have chlorine present in the presence of sodium bisulfite. If Regional Water Board staff finds convincing evidence that chlorine residual exceedances are false positives, the exceedances are not violations of this Order's total residual chlorine limit.
- [3] Acute bioassay tests shall be performed in accordance with MRP section IV.A.
- [4] Chronic bioassay tests shall be performed in accordance with MRP section IV.B.
- [5] The Discharger shall use ultra-clean sampling (U.S. EPA 1669) and ultra-clean analytical method (U.S. EPA 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] Priority pollutant monitoring is not required for pollutants sampled within the previous order term and not otherwise listed in this table.

## IV. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

### A. Whole Effluent Acute Toxicity

1. Acute toxicity at Discharge Point No. 003 shall be evaluated at Monitoring Location EFF-003 by measuring survival of test organisms exposed to 96-hour 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*, 5<sup>th</sup> Edition (EPA-821-R-02-012).
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 is authorized to adjust the effluent pH in order to suppress the level of any un-ionized ammonia.
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 a large grab sample of the effluent at the compliance point specified in Table E-2 above for critical life stage toxicity testing. For toxicity tests requiring renewals, the Discharger shall collect grab samples on alternating days. If discharge discontinues during the test, renewals shall be made up of the most recently collected effluent sample.
- b. **Test Species.** The test species shall be the water flea (*Ceriodaphnia dubia*) and fathead minnow (*Pimephales promelas*).
- c. **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. These are *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, currently fourth edition (EPA-821-R-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.

**d. Dilution Series.** The Discharger shall conduct tests at 100, 50, 25, 12.5, and 6.25 percent effluent.

**2. Reporting Requirements.** The Discharger shall provide toxicity test results with the next self-monitoring report and shall include the following, at a minimum, for each test:

**a.** Sample date(s)

**b.** Test initiation date

**c.** Test species

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

**e.** No Observable Effect Level (NOEL) values in percent effluent. The NOEL shall equal the IC<sub>25</sub> or EC<sub>25</sub> (see MRP Appendix E-1). If the IC<sub>25</sub> or EC<sub>25</sub> 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.

**f.** IC<sub>15</sub>, IC<sub>25</sub>, IC<sub>40</sub>, and IC<sub>50</sub> values (or EC<sub>15</sub>, EC<sub>25</sub>, EC<sub>40</sub>, and EC<sub>50</sub>) as percent effluent

**g.** TU<sub>c</sub> values (100/NOEL, where NOEL = IC<sub>25</sub>, EC<sub>25</sub>, or NOEC)

**h.** Mean percent mortality (±s.d.) after 96 hours in 100% effluent (if applicable)

**i.** IC<sub>50</sub> or EC<sub>50</sub> values for reference toxicant tests

**j.** Available water quality measurements for each test (pH, dissolved oxygen, temperature, conductivity, hardness, salinity, ammonia)

## V. RECEIVING WATER MONITORING REQUIREMENTS

The Discharger shall monitor receiving waters at Monitoring Locations RSW-003U, RSW-003D, and RSW-005 as follows:

**Table E-3. Receiving Water Monitoring**

Parameter	Units	Sample Type <sup>[1]</sup>	Minimum Sampling Frequency
Dichlorobromomethane	µg/L	Grab	2/Year
Priority Pollutants <sup>[2][3][4]</sup>	µg/L	Grab	Once

Unit Abbreviation:

µg/L = micrograms per liter

Sample Types and Frequencies:

Grab = grab sample

2/Year = twice per year

Once = once during the term of this Order (as specified in MRP Table E-5)

Footnotes:

<sup>[1]</sup> Samples shall be collected approximately one foot below the surface of the receiving water body. The Discharger shall note in its annual report any monitoring locations that could not be sampled and explain why they could not be sampled (e.g., they were dry).

- [2] The Discharger shall use ultra-clean sampling (U.S. EPA 1669) and ultra-clean analytical method (U.S. EPA 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.
- [3] Priority pollutant monitoring is not required at Monitoring Location RSW-005.
- [4] Priority pollutant monitoring is not required for pollutants sampled within the previous order term and not otherwise listed in this table.

## VI. 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 as shown in section VII, 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. **Annual SMR** — Annual SMRs shall be due February 1 each year, covering the previous calendar year. The annual SMR shall contain the applicable items described in sections V.B and V.C of both Attachments D and G. See also Provision VI.C.2 (Best Management Practices Plan) of this Order for requirements to submit reports with the annual SMR.
  - b. **Specifications for Submitting SMRs to CIWQS** — The Discharger shall submit analytical results and other information using one of the following methods:

**Table E-4. 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 <sup>[1]</sup>	Discharger may use this method for all results or keep records
Antimony Arsenic Beryllium Cadmium Chromium Copper Cyanide Dioxins & Furans (by U.S. EPA Method 1613) Other Pollutants (by U.S. EPA methods 601,	Lead Mercury Nickel Selenium Silver Thallium Zinc Required for all results <sup>[2]</sup>	

Parameter	Method of Reporting	
	EDF/CDF data upload or manual entry	Attached File
602, 608, 610, 614, 624, and 625)		
Volume and Duration of Blended Discharge <sup>[3]</sup>	Required for all blended effluent discharges	
Analytical Method	Not required (Discharger may select “data unavailable”) <sup>[1]</sup>	
Collection Time Analysis Time	Not required (Discharger may select “0:00”) <sup>[1]</sup>	

**Footnotes:**

- <sup>[1]</sup> 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.
- <sup>[2]</sup> 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).
- <sup>[3]</sup> 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.

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

**Table E-5. Monitoring Periods**

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period
Continuous	Order effective date	All times
1/Hour	Order effective date	Every hour, beginning at midnight (e.g., 12:00 a.m. through 12:59 a.m.)
Daily	Order effective date	Every day, beginning at midnight (e.g., 12:00 a.m. through 11:59 p.m.)
2/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	Closest January 1, April 1, July 1, or October 1 following or on Order effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31
2/Year	Closest January 1 or July 1 before or after Order effective date <sup>[1]</sup>	January 1 through June 30 July 1 through December 31
Once	Order effective date	Anytime such that results can be submitted with application for permit reissuance

Footnote:

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

**4. Reporting Level (RL) and Method Detection Limit (MDL) Reporting.** The Discharger shall report with each sample result the RL and 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.

**5. Compliance Determination.** Compliance with effluent limitations 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 pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

**C. Discharge Monitoring Reports (DMRs)**

1. The State Water Board or Regional Water Board may notify the Discharger to electronically submit DMRs. Unless such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.
2. The Discharger shall submit a paper DMR. The Discharger shall sign and certify each DMR 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 <sup>th</sup> 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.

## VII. 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*

## 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 this Order, the Regional Water Board incorporates this Fact Sheet as its findings supporting the issuance of this Order.

### I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility:

**Table F-1. Facility Information**

<b>CIWQS Place ID</b>	246192
<b>Discharger</b>	East Bay Municipal Utility District
<b>Facility Name</b>	Orinda Water Treatment Plant
<b>Facility Address</b>	190 Camino Pablo
	Orinda, CA 94563
<b>Facility Contact, Title, Phone</b>	Chris Burquez, Supervisor, Water Treatment, (510) 287-1963
<b>Authorized Person to Sign and Submit Reports</b>	Chris Burquez
<b>Mailing Address</b>	East Bay Municipal Utility District 375 Eleventh Street (MS #704) Oakland, CA 94607
<b>Billing Address</b>	Same
<b>Facility Type</b>	Water Treatment Plant
<b>Major or Minor Facility</b>	Minor
<b>Threat to Water Quality</b>	3
<b>Complexity</b>	C
<b>Pretreatment Program</b>	No
<b>Reclamation Requirements</b>	None
<b>Permitted Flow</b>	30 million gallons per day (maximum), 3.4 million gallons per day (average)
<b>Watershed</b>	San Pablo Creek
<b>Receiving Water</b>	San Pablo Creek
<b>Receiving Water Type</b>	Freshwater

- A. The East Bay Municipal Utility District (Discharger) owns and operates the Orinda Water Treatment Plant (Facility), a potable water treatment plant in Orinda. The Facility discharges wastewater to San Pablo Creek, a water of the United States.

For the purposes of this Order, references to the “discharger” or “permittee” in applicable federal and State laws, regulations, plans, or policies 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. CA0038342. The Discharger was previously subject to the NPDES permit in Order No. R2-2009-0067 as amended by Order No. R2-2013-0003 (collectively previous order), which became effective on December 1, 2009, and was administratively extended by operation of law past its stated expiration date (November 30, 2014).

Discharge Point Nos. E-001, E-002, and E-004, described in the previous order, are now covered by the *Statewide NPDES Permit for Drinking Water System Discharges to Waters of the United States*, State Water Board Order No. WQ 2014-0194-DWQ.

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 June 2, 2014.

## II. FACILITY DESCRIPTION

### A. Operations and Wastewater Controls

- 1. Location and Service Area.** The Facility is one of six potable water treatment facilities the Discharger operates in the East Bay to treat water prior to distribution to 1.34 million customers in Alameda and Contra Costa counties. The Facility has the largest output of the six facilities, with a maximum design capacity of 200 million gallons per day (MGD). The Facility provides potable water to all or parts of Alameda, Albany, Berkeley, El Cerrito, Emeryville, Moraga, Oakland, Orinda, Piedmont, Richmond, and San Leandro. The other treatment facilities (Upper San Leandro in Oakland, San Pablo in Kensington, Sobrante in El Sobrante, Lafayette, and Walnut Creek) supply water in varying amounts to the balance of the Discharger's service area.
- 2. Influent Water.** The Facility receives water from the Pardee Reservoir, located in the foothills of the Sierra Nevada. The water flows by gravity from the Pardee Reservoir to the East Bay via three 90-mile-long Mokelumne Aqueducts. As the water enters the Mokelumne Aqueducts at Pardee, it is treated with liquid lime for corrosion protection and sodium hypochlorite for disinfection. Additional sodium hypochlorite is added to the Mokelumne Aqueducts at the Walnut Creek water treatment plant, as needed. The Discharger does not use copper sulfate to treat water in the Mokelumne Aqueducts. Depending on seasonal and other influences, however, water from the Pardee Reservoir may contain detectable levels of naturally occurring copper.

In Walnut Creek, Mokelumne Aqueducts No. 1 and No. 2 combine to become Lafayette Aqueduct No. 1, and Mokelumne Aqueduct No. 3 becomes Lafayette Aqueduct No. 2. The aqueducts are typically operated so that no chlorine residual remains in the water reaching the Facility through Lafayette Aqueduct No. 1. To comply with drinking water requirements, a chlorine residual between approximately 0.09 and 0.15 mg/L is maintained in the water reaching the Facility through Lafayette Aqueduct No. 2. The water is dechlorinated with sodium bisulfite as it approaches the Facility.

The Facility also receives water as needed from the Briones Reservoir, located approximately one mile northeast of the Facility, via Lafayette Aqueduct No. 2.

- 3. Wastewater Treatment.** At the Facility, water passes through dual media filters to remove soil and other small particles, and alum and a polymer are added to facilitate solids removal. Every 8

to 96 hours, each filter is backwashed to remove accumulated solids. The backwashing frequency depends on influent water quality, which varies seasonally. The volume of backwash water generated during each cycle varies between 100,000 and 300,000 gallons.

Backwash water is pumped to one of two adjacent 0.75-acre, 1.5-million-gallon, concrete-lined settling basins to remove suspended solids prior to discharge. The filters collect water leakage, which is also piped to the settling basins. The maximum pumping capacity to the settling basins is 30 MGD.

The two basins alternate between active and passive modes. The active basin receives backwash water from the filters, and solids settle as water flows through the active basin. Clarified filter backwash water from the active basin is dechlorinated before discharge to San Pablo Creek. The settling basins are designed to store the settled solids generated in approximately one month. Depending on seasonal demands, a basin may be active or passive for four to six weeks.

When the active basin is taken out of service, washwater flows are diverted to the other basin, and the active basin becomes the passive basin. The remaining water from the now passive basin is decanted to the inlet sump and pumped to the now active basin at a slow rate (i.e., over a few days to a week). Accumulated solids from the bottom of the passive basin have an estimated solids content of 0.5 to 3 percent, and are pumped from the basin to a tank truck loading station for offsite disposal. Any spillage that may occur at the sludge truck loading station is piped back to the active basin.

## B. Discharge Point and Receiving Waters

Clarified filter backwash water decanted from the active settling basin is dechlorinated and discharged to San Pablo Creek at Discharge Point No. 003. Water is discharged daily; however, the volume varies based on the frequency of filter backwashing. The average flow at Discharge Point No. 003 is 3.4 MGD.

## C. Previous Requirements and Self-Monitoring Report (SMR) Data

The effluent limitations in the previous order and representative monitoring data from the previous order term are presented below:

**Table F-2. Previous Effluent Limitations and Monitoring Data**

Parameter	Units	Effluent Limitations					Monitoring Data (2012 – 2014)
		Monthly Average	Weekly Average	Daily Maximum	Instant- aneous Minimum	Instant- aneous Minimum	Highest Daily Discharge
pH	standard units	---	---	---	6.5	8.5	6.6 – 8.3 <sup>[2]</sup>
Total Suspended Solids (TSS)	mg/L	30	45	---	---	---	19
Settleable Matter	mL/L-hr	0.1	---	0.2	---	---	0.2 <sup>[3]</sup>
Total Residual Chlorine	mg/L	---	---	---	---	0.0	<0.05
Dichloro- bromomethane <sup>[1]</sup>	µg/L	3.2	---	4.4	---	---	2.5

Acute Toxicity	% survival	Not less than 90% (3-sample median)	20 – 100% <sup>[2]</sup>
		Not less than 70% (single-sample maximum)	10 – 100% <sup>[2]</sup>

Unit Abbreviations:

mg/L = milligrams per liter  
 µg/L = micrograms per liter  
 mL/L-hr = milliliters per liter per hour  
 % = percent

Footnotes:

- <sup>[1]</sup> Order No. R2-2013-0003 amended Order No. R2-2009-0067 to replace the original dichlorobromomethane effluent limitations based on a mixing zone study and dilution credit in accordance with the State Implementation Policy. The original effluent limitations, which never became effective, were a daily maximum of 1.1 µg/L and a monthly average of 0.56 µg/L.
- <sup>[2]</sup> Range of lowest and highest values.
- <sup>[3]</sup> The maximum monthly average was <0.1 mL/L-hr.

## D. Compliance Summary

The Discharger exceeded the previous order's numeric acute toxicity effluent limitations five times during the previous order term, as summarized in the table below.

**Table F-3. Exceedances of Numeric Effluent Limits**

Exceedance Date	Exceeded Parameter	Units	Effluent Limitation	Reported % Survival
1/3/2011	Acute Toxicity (Single-Sample Maximum)	% Survival	Not less than 70%	37
1/6/2014	Acute Toxicity (Single-Sample Maximum)	% Survival	Not less than 70%	20
1/21/2014	Acute Toxicity (Single-Sample Maximum)	% Survival	Not less than 70%	10
1/21/2014	Acute Toxicity (3-Sample Median)	% Survival	Not less than 90%	20
1/27/2014	Acute Toxicity (3-Sample Median)	% Survival	Not less than 90%	20

Unit Abbreviation:

% = percent

Although the Discharger was unable to determine the exact cause of the January 2014 toxicity, it concluded that using a new polymer (BASF Magnafloc) may have contributed to the bioassay failures and discontinued using the polymer. The cause of the January 2011 toxicity is unknown.

The Discharger violated other conditions of the previous order three times during the previous order term, as summarized in the table below.

**Table F-4. Violations of Order Conditions**

Violation Date	Provision Violated	Violation Description
February 2013	MRP Section III.A	The Discharger failed to monitor total suspended solids, total settleable matter, and dichlorobromomethane at Monitoring Location EFF-003.
October 2013	Discharge Prohibition III.A	The Discharger discharged approximately 1,200 gallons of chlorinated irrigation water from a broken irrigation line to San Pablo Creek via a drop inlet. The Discharger speculates that the discharge was dechlorinated upon mixing with excess dechlorination agent present in the creek. Upstream and downstream receiving water monitoring did not detect a chlorine residual.
February 2014	Discharge Prohibition III.A	The Discharger discharged approximately 405 gallons of water from a leaking 6-inch pipe to San Pablo Creek via a storm drain. About 210 gallons of this water were not dechlorinated.

## E. Planned Changes

The Discharger plans no changes to its operations.

## 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). 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 the 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, Public Resources Code division 13, chapter 3 (commencing with § 21100).

## 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. Beneficial uses applicable to San Pablo Creek are as follows:

**Table F-5. Beneficial Uses**

Discharge Point	Receiving Water	Beneficial Uses
003	San Pablo Creek	Municipal and Domestic Supply (MUN) Freshwater Replenishment (FRESH) Cold Freshwater Habitat (COLD) Fish Migration (MIGR) Preservation of Rare and Endangered Species (RARE) Fish Spawning (SPWN) Warm Freshwater Habitat (WARM) Wildlife Habitat (WILD) Water Contact Recreation (REC1) Noncontact Water Recreation (REC2)

- 2. 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.
- 3. 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.

- 4. Domestic Water Quality.** In accordance with Water Code section 106.3, it is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This Order complies with that policy by requiring discharges to meet maximum contaminant levels designed to protect human health and ensure that water is safe for domestic use.
  - 5. Antidegradation Policy.** Federal regulations at 40 C.F.R. section 131.12 requires 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 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 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 68-16.
  - 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.
- 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 waters 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 Creek is listed as impaired by diazinon, a pesticide. Basin Plan section 7.1.1 contains a diazinon and pesticide-related toxicity TMDL for San Pablo Creek. The Facility is not a source of pesticide-related toxicity; therefore, the TMDL does not contain a specific wasteload allocation or other implementation requirements for the Facility.

San Pablo Reservoir, downstream of San Pablo Creek, is listed as impaired by chlordane, dieldrin, heptachlor epoxide, mercury, PCBs, and toxaphene. As discussed in Fact Sheet section IV.C.3, the discharge is not a source of chlordane, dieldrin, heptachlor epoxide, PCBs, or toxaphene because concentrations of these pollutants have not been detected in Facility

discharges. The Facility is an insignificant source of mercury because background and discharge concentrations are consistently at least one order of magnitude below water quality objectives. TMDL wasteload allocations have not been established for San Pablo Reservoir.

#### **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 Prohibition**

###### **1. Prohibitions in this Order**

- a. Discharge Prohibition III (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. (Some Facility discharges may be covered under the Statewide NPDES Permit for Drinking Water System Discharges to Waters of the United States, State Water Board Order No. WQ-2014-0194-DWQ.)

###### **2. Exception to Non-Tidal Water Discharge Prohibition**

The Facility discharges to San Pablo Creek, a non-tidal water. Basin Plan Table 4-1, Discharge Prohibition 1, prohibits discharges to non-tidal waters. 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 provides an exception to Basin Plan Discharge Prohibition 1 for the following reasons:

- An inordinate burden would be placed on the Discharger relative to the beneficial uses protected if this Order were to require discharge to non-tidal waters (i.e., San Pablo Bay or San Francisco Bay) due to the necessary construction and operation of a discharge pipe many miles long. Moreover, the discharge to San Pablo Creek is a necessary part of EBMUD's drinking water system that provides safe potable water to all or parts of Alameda, Albany, Berkeley, El Cerrito, Emeryville, Moraga, Oakland, Orinda, Piedmont, Richmond, and San Leandro. Discharge to tidal waters would waste this important resource.
- An equivalent level of environmental protection is provided because Provision VI.C.2 of this Order requires the Discharger to maintain and implement a Best Management Practices (BMPs) Plan that describes measures and safeguards that minimize the discharge of pollutants. This is adequate for this Facility in consideration of the high quality of the Discharger's influent water source.

## **B. Technology-Based 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 CWA requires that technology-based effluent limitations be established based on several levels of control:

- a. Best practicable treatment control technology (BPT) for toxic, conventional, and non-conventional pollutants;
- b. Best available technology economically achievable (BAT) for toxic and non-conventional pollutants;
- c. Best conventional pollutant control technology (BCT) for conventional pollutants; and
- d. New source performance standards (NSPS).

The CWA requires U.S. EPA to develop effluent limitations, guidelines, and standards representing these levels of control, and CWA section 402(a)(1) and 40 C.F.R. section 125.3 authorize the use of best professional judgment when U.S. EPA has not done so. U.S. EPA has not developed effluent limitations, guidelines, and standards for the type of industry represented by the Facility. However, Basin Plan Table 4-2 specifies some technology-based effluent limitations, which, based on best professional judgment, the Regional Water Board finds will provide sufficient technology-based controls.

### **2. Effluent Limitations**

- a. **Total Suspended Solids (TSS).** The TSS effluent limitations are based on Basin Plan Table 4-2. While these limitations were developed primarily for sewage treatment plants, they also apply to other discharges. They are necessary to ensure that the Facility adequately removes suspended solids before discharge.

- b. Settleable Matter.** The settleable matter effluent limitations are based on Basin Plan Table 4-2. They are necessary to ensure that the Facility adequately removes settleable matter before discharge.
- c. pH.** The pH effluent limitations are based on Basin Plan Table 4-2. These technology-based controls also implement the pH water quality objective in Basin Plan section 3.3.9.
- d. Total Residual Chlorine.** The total residual chlorine effluent limitation is 0.0 mg/L, based on Basin Plan Table 4-2. For the purpose of compliance determination, the Order specifies a minimum level (ML) of 0.1 mg/L. This ML is appropriate due to the capabilities of commercially available field instruments. It was calculated using U.S. EPA guidance (U.S. EPA, 1994. *National Guidance for the Permitting, Monitoring, and Enforcement of Water Quality-Based Effluent Limitations Set below Analytical Detection/Quantitation Levels*. NTIS PB95-159109) and method detection limit data generated by the Missouri Department of Natural Resources for a field colorimeter (Missouri Department of Natural Resources, 2004. *Water Pollution Control Permits Manual*, “Appendix T: Total Residual Chlorine Study”). Total residual chlorine results below 0.1 mg/L are not reliable due to analytical noise.

## C. Water Quality-Based 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. 003 discharges to San Pablo Creek. Fact Sheet section III.C.1, above, identifies the beneficial uses of San Pablo Creek. 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 many pollutants, including pollutants for which primary and secondary maximum

contaminant levels have been established pursuant to Title 22 of the California Code of Regulations, sections 64431, 64444, and 64449. The Basin Plan also specifies narrative water quality objectives. The toxicity objective in Basin Plan section 3.3.18 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.”

- 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 “water and organisms” apply to San Pablo Creek because municipal and domestic supply (MUN) is designated as a beneficial use.
- 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 Creek.
- d. 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 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.

San Pablo Creek is a freshwater creek based on salinity data generated through the Surface Water Ambient Monitoring Program (SWAMP). Salinity data were collected at the Orinda Village (206SPA220) and Lauterwasser Creek (206SPA200) sampling locations on September 19, 2001. Because the salinity was equal to or less than 1 ppt in 100 percent of the samples, San Pablo Creek is classified as freshwater, and the reasonable potential analysis and WQBELs are based on freshwater water quality criteria and objectives.

- e. Receiving Water Hardness.** An ambient hardness of 290 mg/L as  $\text{CaCO}_3$  was used to calculate freshwater water quality objectives that are hardness-dependent based on two samples collected in San Pablo Creek upstream of Discharge Point No. 003 on January 26, 2012.
- f. 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, 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, CTR default translators were used for all metals.

### 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 December 2009 through December 2014 and ambient background data the Discharger collected in San Pablo Creek upstream of the discharge point in August 2014.

In some cases, reasonable potential cannot be determined because effluent data are limited or ambient background concentrations are unavailable. The MRP requires the Discharger to monitor for these constituents in its effluent using analytical methods that provide the best feasible detection limits as needed to inform future permit development. 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.

#### **b. Priority Pollutants**

- i. Methodology.** SIP section 1.3 sets forth the methodology to be used to assess whether a priority pollutant has reasonable potential to exceed a CTR or NTR water quality objective. The same methodology may be used with respect to other priority pollutant objectives (e.g., certain maximum contaminant levels). 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 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 priority pollutant. Reasonable potential was not determined for all priority pollutants because there are not water quality objectives for all of them, and monitoring data are unavailable for others. Dichlorobromomethane exhibits reasonable potential by Trigger 1. (The reasonable potential analysis for non-priority pollutants is discussed in Fact Sheet section IV.C.3.c, below.)

**Table F-6. Reasonable Potential Analysis for Priority Pollutants**

CTR No.	Priority Pollutants	Governing criterion or objective (µg/L) <sup>[1]</sup>	MEC or Minimum DL (µg/L) <sup>[2][3]</sup>	B or Minimum DL (µg/L) <sup>[2][3]</sup>	RPA Results <sup>[4]</sup>
1	Antimony	6.0	<0.30	<0.30	No
2	Arsenic	10	0.44	3.1	No
3	Beryllium	4.0	<0.041	<0.030	No
4	Cadmium	2.6	<0.051	<0.020	No
5a	Chromium (III)	50	<0.20 <sup>[5]</sup>	<0.40 <sup>[5]</sup>	No
5b	Chromium (VI)	10	<0.20 <sup>[5]</sup>	<0.40 <sup>[5]</sup>	No
6	Copper	23	1.6	2.0	No
7	Lead	12	<0.3	<0.051	No
8	Mercury	0.025	0.0024	0.0017	No
9	Nickel	100	0.49	3.3	No
10	Selenium	5.0	<0.30	<0.40	No
11	Silver	25	<0.081	<0.071	No
12	Thallium	1.7	<0.61	<0.20	No
13	Zinc	300	<1.0	1.4	No
14	Cyanide	5.2	<0.0030	<0.0030	No
15	Asbestos	7 MFL	<0.20	<0.20	No
16	2,3,7,8-TCDD	1.3E-8	<sup>[6]</sup>	<sup>[6]</sup>	No
17	Acrolein	320	<2.1	<2.9	No
18	Acrylonitrile	0.059	Unavailable	<0.42	U
19	Benzene	1.0	<0.10	<0.10	No
20	Bromoform	4.3	<0.18	<0.18	No
21	Carbon Tetrachloride	0.25	<0.14	<0.14	No
22	Chlorobenzene	70	<0.12	<0.13	No
23	Chlorodibromomethane	0.40	<0.14	<0.13	No
24	Chloroethane	No Criteria	<0.18	<0.18	U
25	2-Chloroethylvinyl ether	No Criteria	<0.25	<0.25	U
26	Chloroform	No Criteria	24	0.27	U
<b>27</b>	<b>Dichlorobromomethane</b>	<b>0.56</b>	<b>2.5</b>	<b>&lt;0.13</b>	<b>Yes</b>
28	1,1-Dichloroethane	5	<0.13	<0.13	No
29	1,2-Dichloroethane	0.38	<0.14	<0.14	No
30	1,1-Dichloroethylene	0.057	<0.19	<0.19	No
31	1,2-Dichloropropane	0.52	<0.13	<0.13	No
32	1,3-Dichloropropylene	0.50	<0.13	<0.13	No

CTR No.	Priority Pollutants	Governing criterion or objective (µg/L) <sup>[1]</sup>	MEC or Minimum DL (µg/L) <sup>[2][3]</sup>	B or Minimum DL (µg/L) <sup>[2][3]</sup>	RPA Results <sup>[4]</sup>
33	Ethylbenzene	300	<0.13	<0.13	No
34	Methyl Bromide	48	<0.23	<0.23	No
35	Methyl Chloride	No Criteria	<0.32	<0.32	U
36	Methylene Chloride	4.7	<0.24	<0.24	No
37	1,1,2,2-Tetrachloroethane	0.17	<0.12	<0.12	No
38	Tetrachloroethylene	0.80	<0.18	<0.18	No
39	Toluene	150	<0.11	<0.11	No
40	1,2-Trans-Dichloroethylene	10	<0.19	<0.19	No
41	1,1,1-Trichloroethane	200	<0.16	<0.16	No
42	1,1,2-Trichloroethane	0.60	<0.20	<0.20	No
43	Trichloroethylene	2.7	<0.16	<0.16	No
44	Vinyl Chloride	0.50	<0.090	<0.090	No
45	2-Chlorophenol	120	<0.55	<0.56	No
46	2,4-Dichlorophenol	93	<0.60	<0.61	No
47	2,4-Dimethylphenol	540	<0.36	<0.36	No
48	2-Methyl- 4,6-Dinitrophenol	13	<0.97	<0.98	No
49	2,4-Dinitrophenol	70	<0.97	<0.98	No
50	2-Nitrophenol	No Criteria	<0.49	<0.50	U
51	4-Nitrophenol	No Criteria	<1.8	<1.9	U
52	3-Methyl 4-Chlorophenol	No Criteria	<0.55	<0.56	U
53	Pentachlorophenol	0.28	<1.7	<1.8	No
54	Phenol	21,000	<0.94	<0.95	No
55	2,4,6-Trichlorophenol	2.1	<0.58	<0.59	No
56	Acenaphthene	1,200	<0.45	<0.039	No
57	Acenaphthylene	No Criteria	<0.43	<0.43	U
58	Anthracene	9,600	<0.34	<0.064	No
59	Benzidine	0.00012	<4.8	<4.9	No
60	Benzo(a)Anthracene	0.0044	<0.51	<0.020	No
61	Benzo(a)Pyrene	0.0044	<0.46	<0.044	No
62	Benzo(b)Fluoranthene	0.0044	<0.48	<0.031	No
63	Benzo(ghi)Perylene	No Criteria	<0.71	<0.023	U
64	Benzo(k)Fluoranthene	0.0044	<0.29	<0.015	No
65	Bis(2-Chloroethoxy)Methane	No Criteria	<0.54	<0.55	U
66	Bis(2-Chloroethyl)Ether	0.031	<0.71	<0.73	No
67	Bis(2-Chloroisopropyl)Ether	1,400	<0.53	<0.54	No
68	Bis(2-Ethylhexyl)Phthalate	1.8	<1.2	1.3	No
69	4-Bromophenyl Phenyl Ether	No Criteria	<0.61	<0.62	U
70	Butylbenzyl Phthalate	3,000	<0.64	<0.65	No
71	2-Chloronaphthalene	1,700	<0.47	<0.48	No
72	4-Chlorophenyl Phenyl Ether	No Criteria	<0.58	<0.59	U
73	Chrysene	0.0044	<0.48	<0.017	No
74	Dibenzo(a,h)Anthracene	0.0044	<0.53	<0.016	No
75	1,2-Dichlorobenzene	600	<0.13	<0.13	No
76	1,3-Dichlorobenzene	400	<0.17	<0.17	No

CTR No.	Priority Pollutants	Governing criterion or objective (µg/L) <sup>[1]</sup>	MEC or Minimum DL (µg/L) <sup>[2][3]</sup>	B or Minimum DL (µg/L) <sup>[2][3]</sup>	RPA Results <sup>[4]</sup>
77	1,4-Dichlorobenzene	5.0	<0.15	<0.15	No
78	3,3 Dichlorobenzidine	0.040	<0.57	<0.58	No
79	Diethyl Phthalate	23,000	<0.40	<0.40	No
80	Dimethyl Phthalate	310,000	<0.18	<0.19	No
81	Di-n-Butyl Phthalate	2,700	3.6	<0.86	No
82	2,4-Dinitrotoluene	0.11	<0.46	<0.50	No
83	2,6-Dinitrotoluene	No Criteria	<0.46	<0.47	U
84	Di-n-Octyl Phthalate	No Criteria	<0.97	<0.98	U
85	1,2-Diphenylhydrazine	0.04	<0.48	Unavailable	No
86	Fluoranthene	300	<0.53	<0.027	No
87	Fluorene	1,300	<0.44	<0.049	No
88	Hexachlorobenzene	0.00075	<0.49	<0.50	No
89	Hexachlorobutadiene	0.44	<0.55	<0.56	No
90	Hexachlorocyclopentadiene	50	<3.1	<3.1	No
91	Hexachloroethane	1.9	<0.50	<0.49	No
92	Indeno(1,2,3-cd)Pyrene	0.044	<0.50	<0.016	No
93	Isophorone	8.4	<0.56	<0.57	No
94	Naphthalene	No Criteria	<0.53	<0.071	U
95	Nitrobenzene	17	<0.69	<0.70	No
96	N-Nitrosodimethylamine	0.00069	<0.72	<0.74	No
97	N-Nitrosodi-n-Propylamine	0.0050	<0.80	<0.81	No
98	N-Nitrosodiphenylamine	5.0	<0.58	Unavailable	No
99	Phenanthrene	No Criteria	<0.43	<0.042	U
100	Pyrene	960	<0.018	<0.029	No
101	1,2,4-Trichlorobenzene	5.0	<0.49	<0.51	No
102	Aldrin	0.00013	<0.0017	<0.0029	No
103	Alpha-BHC	0.0039	<0.0030	<0.0029	No
104	Beta-BHC	0.014	<0.0045	<0.0029	No
105	Gamma-BHC	0.019	<0.0028	<0.0020	No
106	Delta-BHC	No Criteria	<0.0029	<0.0029	U
107	Chlordane	0.00057	<0.013	<0.014	No
108	4,4'-DDT	0.00059	<0.0036	<0.0039	No
109	4,4'-DDE	0.00059	<0.0024	<0.0029	No
110	4,4'-DDD	0.00083	<0.0021	<0.0020	No
111	Dieldrin	0.00014	<0.0021	<0.0039	No
112	Alpha-Endosulfan	0.056	<0.0023	<0.0039	No
113	beta-Endosulfan	0.056	<0.0026	<0.0039	No
114	Endosulfan Sulfate	110	<0.0033	<0.0020	No
115	Endrin	0.036	<0.0021	<0.0029	No
116	Endrin Aldehyde	0.76	<0.0037	<0.0039	No
117	Heptachlor	0.00021	<0.0029	<0.0029	No
118	Heptachlor Epoxide	0.00010	<0.0021	<0.0029	No
119-125	PCBs sum	0.00017	<0.55 <sup>[7]</sup>	<0.50 <sup>[7]</sup>	No

CTR No.	Priority Pollutants	Governing criterion or objective (µg/L) <sup>[1]</sup>	MEC or Minimum DL (µg/L) <sup>[2][3]</sup>	B or Minimum DL (µg/L) <sup>[2][3]</sup>	RPA Results <sup>[4]</sup>
126	Toxaphene	0.00020	<0.068	<0.071	No

Abbreviations:

MFL = million fibers per liter (The maximum contaminant level applies to fibers exceeding 10 µm in length.)  
µg/L = micrograms per liter  
WQC = water quality criterion

Footnotes:

- <sup>[1]</sup> The governing water quality criteria and objectives are the most stringent of the Basin Plan objective, CTR and NTR criteria, and maximum contaminant levels.
- <sup>[2]</sup> 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).
- <sup>[3]</sup> The maximum effluent concentration or ambient background concentration is "Unavailable" when there are no monitoring data for the constituent.
- <sup>[4]</sup> 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  
= U (Unknown; cannot determine) if no criteria have been promulgated or data are insufficient.
- <sup>[5]</sup> Chromium (III) and chromium (VI) data are unavailable. The result shown is for total recoverable chromium.
- <sup>[6]</sup> All dioxin and furan congener concentrations were below the minimum levels.
- <sup>[7]</sup> Each PCB congener concentration was below the detection limit.

**c. Other Pollutants.** Basin Plan section 3.3.22 specifies that the maximum contaminant levels for drinking water are water quality objectives for waters with the municipal supply beneficial use. Priority pollutants with maximum contaminant levels are discussed in Fact Sheet section IV.C.3.b, above. Non-priority pollutants with maximum contaminant levels have no reasonable potential because the Discharger manages the Facility, San Pablo Reservoir, nearby portions of San Pablo Creek, and other water treatment facilities to comply with maximum contaminant levels per State regulations and State Water Board Division of Drinking Water permits (*East Bay Municipal Utility District 2014 Annual Water Quality Report*).

**d. Whole Effluent Toxicity**

**i. Acute Toxicity.** The whole effluent acute toxicity effluent limitations in this Order are based on Basin Plan Table 4-3.

**ii. Chronic Toxicity**

**(a) 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<sub>c</sub>). Toxic units are an indicator of the pollutant of concern (i.e., toxicity). At 1.0 TU<sub>c</sub>, there is no observable detrimental effect when an indicator organism is exposed to 100 percent effluent; therefore, 1.0 TU<sub>c</sub> is a direct translation of the narrative objective into a number. In *Technical Support*

*Document for Water Quality-based Toxics Control* (Technical Support Document or TSD) (EPA/505/2-90-001, section 3.3.3, page 60), U.S. EPA recommends that  $1.0 \text{ TU}_c$  be used as a criterion continuous concentration (TSD, Appendix D, page D-2).

- (b) **Analysis.** In March 2014, the Discharger conducted chronic toxicity tests using the water flea (*Ceriodaphnia dubia*) and fathead minnow (*Pimephales promelas*). No toxicity was observed. However, based on the dilution series used (40%, 20%, 10%, 5%, and 2% effluent), both results were reported as less than  $2.5 \text{ TU}_c$ . These data are insufficient to determine whether any chronic toxicity was present above the translated chronic toxicity objective ( $1.0 \text{ TU}_c$ ); therefore, the reasonable potential analysis is inconclusive. The Monitoring and Reporting Program (Attachment E) requires the Discharger to continue monitoring of chronic toxicity and changes the dilution series to include a test using 100% effluent.

#### 4. Water Quality-Based Effluent Limitations (WQBELs)

WQBELs were developed for the pollutant determined to have reasonable potential to cause or contribute to exceedances of water quality objectives (i.e., dichlorobromomethane). The WQBEL calculations are based on the procedures specified in SIP section 1.4.

- a. **Dichlorobromomethane.** The source of dichlorobromomethane in the Facility's effluent is the water it receives from the Mokelumne Aqueduct, which is chlorinated upstream of the Facility to control bacteria and algae growth. Trihalomethanes, including dichlorobromomethane, are formed when chlorine reacts with organic matter in water. The formation of trihalomethanes depends on a number of variables, such as temperature, organic substrate availability, and chlorine contact time.

Dichlorobromomethane is a contaminant commonly present in potable water supplies, and the levels in the discharge generally meet standards for drinking water (total trihalomethanes of  $80 \mu\text{g/L}$ ). However, to protect human health from potential exposure to dichlorobromomethane in San Pablo Creek and San Pablo Reservoir, the CTR contains a more stringent water quality criterion of  $0.56 \mu\text{g/L}$  for waters where both water and organisms are consumed.

- b. **Mixing Zone and Dilution Credit.** SIP section 1.4.2 allows dilution credits for completely-mixed discharges and, under certain circumstances, incompletely-mixed discharges. This Order authorizes a mixing zone and dilution credit for dichlorobromomethane based on site-specific information and SIP procedures for incompletely-mixed discharges, as discussed below.

The Discharger completed a mixing zone study, *Effluent Mixing Zone / Dilution Credits Study* (October 12, 2012), to justify a dichlorobromomethane mixing zone for the existing outfall. The study used effluent and receiving water monitoring data to characterize the extent of dilution within San Pablo Creek and San Pablo Reservoir. The analysis demonstrated that a hypothetical mixing zone extending from Discharge Point No. 003 to a point 2.4 miles downstream in San Pablo Reservoir (see Attachment B) corresponds to a dilution ratio of 23:1 (the actual mixing zone established through this Order is much smaller).

The SIP allows mixing zones and dilution credits to be based on the procedures for incompletely-mixed discharges if the procedures for completely-mixed discharges are inappropriate due to site-specific issues. Here, the site-specific issues are as follows:

- The allowance of a mixing zone is appropriate because the pollutant limits at issue are primarily based on protection of water to support municipal supply, but the pollutant itself is the direct result of operations required and necessary to meet the same public demand for potable water.
- The use of the procedures for completely-mixed discharges would result in an overly conservative dilution credit due to the high variability in natural San Pablo Creek flows. Creek flows are usually less than discharge flows. Meaningful dilution does not occur until the combined flow of the discharge and creek reaches San Pablo Reservoir.
- The total trihalomethanes drinking water standard (80 µg/L) will be maintained throughout the entirety of any dichlorobromomethane mixing zone. Dichlorobromomethane is one of four pollutants that make up the total trihalomethanes drinking water standard. The maximum effluent concentration of dichlorobromomethane observed is 2.5 µg/L. The other three trihalomethanes are chloroform, bromoform, and chlorodibromomethane. Under a worst case scenario (i.e., the maximum effluent concentrations of all four trihalomethanes occur at the same time), the total trihalomethanes concentration would still be below 80 µg/L.

Hence, the procedures for a completely-mixed discharge would be too limiting for the Discharger to continue its operations as necessary to provide safe drinking water to its customers.

Based on the requirements for incompletely-mixed discharges, the hypothetical dichlorobromomethane mixing zone extending from Discharge Point No. 003 to a point 2.4 miles downstream in San Pablo Reservoir would meet the requirements of SIP section 1.4.2.2.A because it would not do any of the following:

- i. Compromise the integrity of the entire water body.** At 18.7 miles long, San Pablo Creek drains a watershed area of 41 square miles above San Pablo Reservoir. The mixing zone encompasses 1.0 mile of the creek, or about five percent of the creek above the reservoir. San Pablo Reservoir is 4.2 miles long and has an average surface area of 720 acres and average volume of 12.5 billion gallons of water. The mixing zone comprises a maximum of seven percent of the reservoir volume. Because the mixing zone would occupy relatively small areas and volumes of San Pablo Creek and San Pablo Reservoir, it would not compromise the integrity of these waters.
- ii. Cause acutely toxic conditions to aquatic life passing through the mixing zone.** The mixing zone would not cause acutely toxic conditions to aquatic life because dichlorobromomethane poses little threat to aquatic organisms at the concentrations discharged. Neither the CTR nor the Basin Plan has a water quality objective to protect aquatic life from dichlorobromomethane. Moreover, U.S. EPA has not recommended any water quality criteria for dichlorobromomethane to protect aquatic life. The State Water Board's *Compilation of Water Quality Goals* refers to 11,000 µg/L total trihalomethanes as the lowest observable effects level for

freshwater aquatic life, which is far above the effluent concentrations observed. Therefore, no acutely toxic effects would be expected from dichlorobromomethane within the mixing zone.

Moreover, this Order requires whole effluent acute toxicity testing to demonstrate compliance with acute toxicity effluent limitations. These limitations do not account for any dilution; therefore, compliance with these limits ensures that acutely toxic conditions will not exist inside the mixing zone.

- iii. **Restrict the passage of aquatic life.** As discussed above, the discharge will not cause acutely toxic conditions to aquatic life, so it would not threaten aquatic life passing through the mixing zone. Moreover, dichlorobromomethane is not viscous and does not affect water clarity, so it cannot create a physical or visual barrier that could restrict the passage of aquatic life.
- iv. **Adversely impact biologically sensitive or critical habitats, including, but not limited to, habitats of species listed under federal or State endangered species laws.** The mixing zone would not harm biologically sensitive or critical habitats because discharges from the Facility have been occurring for many years without any adverse impacts to biologically sensitive or critical habitats. Surveys conducted on the eastern side of San Pablo Reservoir and within San Pablo Creek have not identified the presence of red-legged frogs (the only potential species of concern in the area of the discharge). The closest red-legged frog sightings have been in the education pond at Wagner Ranch School, downstream of the Facility. Red-legged frogs may use San Pablo Creek for brief periods, as they move between pond and creek habitats in the area; however, they do not tend to stay in San Pablo Creek due to the presence of largemouth bass, bullfrogs, and other predators. Dichlorobromomethane is not known to harm frogs or any other aquatic life at the concentrations discharged.
- v. **Produce undesirable or nuisance aquatic life.** Dichlorobromomethane is not a biostimulant or plant nutrient so it does not cause growth of aquatic nuisance species. The Facility's discharges have occurred for many years without producing undesirable or nuisance aquatic life. Moreover, this Order contains receiving water limitations that prohibit bottom deposits and aquatic growths to the extent that such deposits or growth cause nuisance or adversely affect beneficial uses.
- vi. **Result in floating debris, oil, or scum.** The mixing zone would not result in floating debris, oil, or scum because dichlorobromomethane is not an oil, does not float, and does not cause scum. The low dichlorobromomethane concentrations in the discharge are completely dispersed within the discharge. Moreover, this Order contains 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.** Dichlorobromomethane at discharge concentrations cannot significantly affect color, odor, taste, or turbidity. Dichlorobromomethane is a colorless, clear liquid so it would not produce objectionable color or turbidity in the mixing zone. A study of rats fed varying dichlorobromomethane concentrations found a taste-aversion threshold of 700 parts

per million (ppm). For humans, the odor threshold is 1,680 milligrams per cubic meter. Dichlorobromomethane discharge concentrations are in the range of one one-thousandth of a part per million, far below the taste and odor thresholds.

- viii. Cause objectionable bottom deposits.** The mixing zone would not cause objectionable bottom deposits because dichlorobromomethane does not readily bind to sediment or persist in the environment. The SIP defines objectionable bottom deposits as an accumulation of materials or substances on or near the bottom of a water body that creates conditions adversely affecting aquatic life, human health, beneficial uses, or aesthetics. These conditions include, but are not limited to, the accumulation of pollutants in sediment and other conditions that result in harm to benthic organisms, production of food chain organisms, or fish egg development. This Order contains 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. Discharges of settled filter backwash water have occurred for many years without causing objectionable bottom deposits.
- ix. Cause nuisance.** The mixing zone would not cause a nuisance because dichlorobromomethane is colorless and odorless at discharge concentrations. Water Code section 13050(m) defines “nuisance” to mean anything that meets all three of the following criteria:
- is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property;
  - affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; and
  - occurs during, or as a result of, the treatment or disposal of wastes.
- The mixing zone would not be injurious to health because drinking water standards would continue to be maintained within it. Likewise, the water quality objective that protects human health from fish consumption (46 µg/L) would also be maintained within the mixing zone.
- The mixing zone would not result in dichlorobromomethane concentrations that are indecent or offensive to the senses and would not interfere with the comfortable enjoyment of life or property because the dichlorobromomethane in the discharges is imperceptible and not harmful to aquatic life or human health. Attachment G section I.I.1 specifically prohibits discharges from causing a nuisance as defined in Water Code section 13050.
- x. Dominate the receiving water body or overlap a mixing zone from different outfalls.** The dichlorobromomethane mixing zone would not dominate the receiving waters or overlap any other established mixing zones (the Regional Water Board has not established any other mixing zones in these receiving waters). As discussed above, the mixing zone would encompass approximately five percent of the total

creek length and a maximum of seven percent of the reservoir volume. Because the mixing zone would occupy relatively small areas and volumes of the receiving waters, it would not dominate them.

- xi. Be allowed at or near any drinking water intake.** The mixing zone would not be at or near a drinking water intake. The Sobrante Water Treatment Plant intake is located at the far side of San Pablo Reservoir, opposite the plant, approximately three miles from the mixing zone boundary. The water quality in this area meets the CTR water quality criterion for dichlorobromomethane of 0.56 µg/L. Therefore, the mixing zone would not affect the use of San Pablo Creek and San Pablo Reservoir as a source of drinking water.

SIP section 1.4.2.2.B requires that mixing zones protect beneficial uses. The hypothetical dichlorobromomethane mixing zone described above would protect beneficial uses because the effluent limitations would be met at the edge of the mixing zone. Additionally, dichlorobromomethane is not carcinogenic, mutagenic, teratogenic, persistent, or bioaccumulative.

SIP section 1.4.2.2 requires mixing zones to be as small as practicable. The hypothetical mixing zone assessed above corresponds to a dilution ratio of 23:1. However, if the Discharger can comply with a smaller mixing zone, then a smaller mixing zone is practicable. This Order authorizes a smaller mixing zone corresponding to a dilution ratio of 7.5:1 (D=6.5) because the Discharger can comply with WQBELs based on this mixing smaller zone.

- c. WQBEL Calculations.** For the pollutant with reasonable potential (i.e., dichlorobromomethane), an average monthly effluent limitation (AMEL) and maximum daily effluent limitation (MDEL) were calculated as shown below:

**Table F-7. WQBEL Calculations**

PRIORITY POLLUTANTS	Dichlorobromomethane
Units	µg/L
Basis and Criteria type	CTR HH
Criteria -Acute	----
Criteria -Chronic	----
SSO Criteria -Acute	----
SSO Criteria -Chronic	----
Water Effects ratio (WER)	1
Lowest WQO	0.56
Site Specific Translator - MDEL	----
Site Specific Translator - AMEL	----
Dilution Factor (D) (if applicable)	6.5
No. of samples per month	4
Aquatic life criteria analysis required? (Y/N)	N
HH criteria analysis required? (Y/N)	Y
Applicable Acute WQO	----

PRIORITY POLLUTANTS	Dichlorobromomethane
Applicable Chronic WQO	----
HH criteria	0.56
Background (Maximum Conc for Aquatic Life calc)	----
Background (Average Conc for Human Health calc)	0.13
Is the pollutant on the 303d list and/or bioaccumulative (Y/N)?	N
ECA acute	----
ECA chronic	----
ECA HH	3.36
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	N
Avg of effluent data points	1.56
Std Dev of effluent data points	0.37
CV calculated	0.24
CV (Selected) - Final	0.24
ECA acute mult99	----
ECA chronic mult99	----
LTA acute	----
LTA chronic	----
minimum of LTAs	----
AMEL mult95	1.21
MDEL mult99	1.68
AMEL (aq life)	----
MDEL(aq life)	----
MDEL/AMEL Multiplier	1.39
AMEL (human hlth)	3.36
MDEL (human hlth)	4.66
minimum of AMEL for Aq. life vs HH	3.4
minimum of MDEL for Aq. Life vs HH	4.7
Previous order limit (AMEL)	3.2
Previous order limit (MDEL)	4.4
Final limit - AMEL	3.2
Final limit - MDEL	4.4

Unit Abbreviation:

µg/L = micrograms per liter

## **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 effluent limitations of this Order are at least as stringent as those in the previous order.
- 2. Antidegradation.** This Order complies with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16. It 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 a reduced level of treatment or increase effluent limitations relative to those in the previous order. The Regional Water Board has no evidence to suggest that the existing water quality will be reduced. Therefore, no further antidegradation analysis is required.
- 3. Stringency of Requirements for Individual Pollutants.** This Order contains technology-based effluent limitations for individual pollutants. This Order's 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.

## **V. RATIONALE FOR RECEIVING WATER LIMITATIONS**

The receiving water limitations in sections V.A and V.B of this Order are based on Basin Plan narrative and numeric water quality objectives. The receiving water limitation in section V.C of this 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 the 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 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 Monitoring and Reporting Program (Attachment E) of this Order establishes monitoring, reporting, and recordkeeping requirements that implement federal and State requirements. For more background regarding these requirements, see section VII of this Fact Sheet.

## 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. Best Management Practices (BMPs) Plan.** Provision VI.C.2 is required to justify an exception to Basin Plan Discharge Prohibition 1 (see Fact Sheet section IV.A.2). Basin Plan Discharge Prohibition 1 is intended to protect shallow waters from the effects of abnormal discharges caused by temporary upsets and malfunctions. The Discharger submitted its *NPDES Best Management Practices Plan for EBMUD Lafayette, Orinda, and Walnut Creek Treatment Plants* (April 29, 2014) with its application for permit reissuance on June 2, 2014. This BMPs Plan will prevent abnormal discharges caused by temporary upsets or malfunctions.

## 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 the MRP requirements.

- A. Effluent Monitoring.** Effluent flow monitoring is necessary to understand Facility operations. Monitoring for the other parameters is necessary to evaluate compliance with this Order's effluent limitations and to evaluate reasonable potential for the next permit reissuance. The allowance for using only on-the-hour measurements for mandatory minimum penalty assessment purposes under Water Code section 13385.1 is based on a 2004 strategy developed between the Regional Water Board and the Bay Area Clean Water Agencies to encourage continuous monitoring.
- B. Whole Effluent Toxicity Testing.** Whole effluent acute toxicity testing is necessary to evaluate compliance with the acute toxicity effluent limitations. Whole effluent chronic toxicity testing is necessary to evaluate reasonable potential for the next permit reissuance.
- C. Receiving Water Monitoring.** Receiving water monitoring is necessary to characterize the receiving water and the effects of the discharges this Order authorizes, and to evaluate reasonable potential for the next permit reissuance.

## VIII. PUBLIC PARTICIPATION

The Regional Water Board considered the issuance of these 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 *Contra Costa Times*. 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, Attention: Jessica Watkins.

For full staff response and Regional Water Board consideration, the written comments were due at the Regional Water Board office by 5:00 p.m. on August 7, 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: September 9, 2015  
Time: 9:00 a.m.  
Location: Elihu Harris State Office Building  
1515 Clay Street, 1<sup>st</sup> Floor Auditorium  
Oakland, CA 94612  
Contact: Jessica Watkins, (510) 622-2349, [jessica.watkins@waterboards.ca.gov](mailto:jessica.watkins@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](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 Jessica Watkins at (510) 622-2349 or [jessica.watkins@waterboards.ca.gov](mailto:jessica.watkins@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. Stormwater** – This section is an addition to Standard Provisions (Attachment D)

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

**1. Stormwater 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 stormwater discharges; and
- b. To identify, assign, and implement control measures and management practices to reduce pollutants in stormwater 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 stormwater discharges, or may result in non-stormwater 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 stormwater 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) Stormwater conveyance, drainage, and discharge structures;
  - 2) An outline of the stormwater drainage areas for each stormwater discharge point;
  - 3) Paved areas and buildings;
  - 4) Areas of actual or potential pollutant contact with stormwater or release to stormwater, 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 stormwater 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 stormwater discharges;
  - 3) Material storage, loading, unloading, and access areas;
  - 4) Existing structural and non-structural control measures (if any) to reduce pollutants in stormwater 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 stormwater discharges in significant quantities.

### 3. Stormwater Management Controls

The SWPP Plan shall describe the stormwater 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 stormwater management controls to be implemented shall include, as appropriate:

a. Stormwater 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 stormwater. 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 stormwater 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. Stormwater management practices

Stormwater 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 stormwater discharges in significant quantities, additional stormwater management practices to remove pollutants from stormwater discharges shall be implemented and design criteria shall be described.

f. Sediment and erosion control

Measures to minimize erosion around the stormwater 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 stormwater 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. Stormwater Monitoring

The requirements of this section only apply to facilities that are not covered by an NPDES permit for stormwater 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 stormwater) is directed to the headworks. For stormwater not directed to the headworks during the wet season (October 1 to April 30), the Discharger shall:

- 1) Conduct visual observations of the stormwater discharge locations during daylight hours at least once per month during a storm event that produces significant stormwater 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 stormwater discharge, collect grab samples of stormwater discharge from at least two storm events that produce significant stormwater 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-stormwater discharges shall be conducted no less than twice during the dry season (May 1 to September 30) at all stormwater 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 stormwater is discharged. Samples shall represent the quality and quantity of stormwater discharged from the facility. If a facility discharges stormwater at multiple locations, the Discharger may sample a reduced number of locations if it establishes and documents through the monitoring program that stormwater discharges from different locations are substantially identical.
- 5) Records of all stormwater 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 (Attachment D)

**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  $x$   
 $\text{TEF}_x$  = toxicity equivalency factor for congener  $x$   
 $\text{BEF}_x$  = 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 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 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 Plants<sup>1</sup>

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](http://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;
- 5) Level of treatment prior to discharge (e.g., raw wastewater, primary treated, undisinfected secondary treated, and so on); and

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<sup>1</sup> 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.

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](http://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](http://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 Discharges<sup>1</sup> 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 <b>2 hours</b> 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 <b>2 hours</b> after becoming aware of the unauthorized discharge.	Depends on local health department
	Regional Water Board	As soon as possible, but not later than <b>2 hours</b> after becoming aware of the unauthorized discharge.	Electronic <sup>2</sup> <a href="http://www.wbers.net">www.wbers.net</a>
2. Certify	Regional Water Board	As soon as possible, but not later than <b>24 hours</b> after becoming aware of the unauthorized discharge.	Electronic <sup>3</sup> <a href="http://www.wbers.net">www.wbers.net</a>
3. Report	Regional Water Board	Within <b>5 business days</b> of becoming aware of the unauthorized discharge.	Electronic <sup>4</sup> <a href="http://www.wbers.net">www.wbers.net</a>

<sup>1</sup> 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.

<sup>2</sup> 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.

<sup>3</sup> 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.

<sup>4</sup> 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:

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

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<sub>i</sub>” and “C<sub>i</sub>” 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<sub>i</sub>” is the concentration measured in the composite sample and “Q<sub>i</sub>” 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:

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

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<sub>t</sub>” 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. Stormwater means stormwater 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 <sup>1</sup>	Minimum Levels <sup>2</sup> (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) <sup>3</sup>	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) <sup>4</sup>												
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 <sup>-</sup> C or I				5								
15.	Asbestos (only required for dischargers to MUN waters) <sup>5</sup>	0100.2 <sup>6</sup>												
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										
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										

<sup>1</sup> 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.

<sup>2</sup> 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.

<sup>3</sup> 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).

<sup>4</sup> 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).

<sup>5</sup> MUN = Municipal and Domestic Supply. This designation, if applicable, is in the Findings of the permit.

<sup>6</sup> 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 <sup>1</sup>	Minimum Levels <sup>2</sup> (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
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 Benzo(b)fluoranthene	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										
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										

CTR No.	Pollutant/Parameter	Analytical Method <sup>1</sup>	Minimum Levels <sup>2</sup> (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
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) <sup>7</sup>	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											
119-125	PCBs: Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260	608	0.5											
126.	Toxaphene	608	0.5											

<sup>7</sup> 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.