

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

STAFF SUMMARY REPORT (James Parrish)
MEETING DATE: March 14, 2018

ITEM **5A**

SUBJECT: **Oro Loma and Castro Valley Sanitary Districts, Oro Loma and Castro Valley Sanitary Districts Water Pollution Control Plant – Intermittent Wet Weather Discharge, San Lorenzo, Alameda County –**
Issuance of NPDES Permit

CHRONOLOGY: The Board has not previously considered this item.

DISCUSSION: This Revised Tentative Order (Appendix A) would issue a new NPDES permit for the Districts to discharge treated wastewater through a shallow-water outfall to Lower San Francisco Bay during peak wet weather events and occasionally during the dry season to prevent sediment accumulation in the outfall.

The Districts own a wastewater treatment plant that serves about 190,000 people in the San Lorenzo and Castro Valley areas of Alameda County. The Districts currently discharge all of their treated wastewater to the Bay through the East Bay Dischargers Authority (EBDA) Common Outfall in San Leandro but plan to reduce their wet weather allotment for the EBDA Common Outfall from 69.2 million gallons per day (MGD) to 30 MGD in 2020. The new NPDES permit would allow the Districts to discharge through the shallow-water outfall during infrequent peak storm events where the discharge to the EBDA Common Outfall would otherwise exceed 30 MGD. Before authorizing the shallow-water discharge to commence, the Revised Tentative Order would require that the Districts optimize the treatment plant for nitrification and partial denitrification. The Revised Tentative Order includes an annual average ammonia limit for the plant and seasonal (dry and wet weather) discharge limits for the shallow-water outfall.

We received no comments on a draft order circulated for public review but made minor grammatical and formatting changes. We also added a requirement for the Districts to receive written concurrence from the Executive Officer before conducting a dry season discharge study under Provision VI.C.4.d. We expect this item to remain uncontested.

RECOMMEN-
DATION: Adoption of the Revised Tentative Order

FILE: CW-246217

APPENDIX A: Revised Tentative Order

Appendix A

Revised Tentative Order

San Francisco Bay Regional Water Quality Control Board

REVISED TENTATIVE ORDER No. R2-2018-00XX
NPDES No. CA0037559

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

Table 1. Discharger Information

Discharger	Oro Loma Sanitary District Castro Valley Sanitary District
Facility Name	Oro Loma and Castro Valley Sanitary Districts Water Pollution Control Plant - Intermittent Wet Weather Discharge
Facility Address	2600 Grant Avenue San Lorenzo, CA 94580 Alameda County
CIWQS Place Number	246217

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Advanced secondary-treated municipal wastewater	37.6654	-122.1636	Lower San Francisco Bay

Table 3. Administrative Information

This Order was adopted on:	DATE
This Order shall become effective on:	January 1, 2019
This Order shall expire on:	December 31, 2023
CIWQS Regulatory Measure Number	
The Discharger shall file a Report of Waste Discharge for updated WDRs in accordance with California Code of Regulations, title 23, and as an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	March 30, 2023
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.

Bruce H. Wolfe, Executive Officer

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I. FACILITY INFORMATION

Information describing the Oro Loma and Castro Valley Sanitary Districts Water Pollution Control Plant and the intermittent wet weather discharge from the shallow-water outfall (Facility) 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 a National Pollutant Discharge Elimination System (NPDES) permit authorizing the Discharger to discharge into waters of the United States as listed in Table 2 subject to the WDRs in this Order.
- 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 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, 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.

III. DISCHARGE PROHIBITIONS

- A.** Discharge of treated wastewater at a location or in a manner different from that described in this Order is prohibited.
- B.** Discharge to Lower San Francisco Bay is prohibited, except (1) during peak wet weather flows that exceed at least 30 million gallons per day (MGD) provided the Discharger optimizes onsite storage, (2) during operational maintenance exercises as described in Prohibition III.D, and (3) during the

Continuous Discharge Evaluation pursuant to Provision VI.C.4.d. Peak wet weather flows shall be evaluated at Monitoring Location EFF-002C as described in the Monitoring and Reporting Program (MRP).

- C. The bypass of untreated or partially-treated wastewater to waters of the United States is prohibited, except as provided for in Attachment D sections I.G.2 and I.G.3 of this Order.
- D. Discharge to Lower San Francisco Bay during operational maintenance exercises more than ten days per calendar year, more than two consecutive days, or above 10.0 MGD is prohibited, with compliance evaluated at Monitoring Location EFF-WW. Maintenance discharges shall occur during the dry season, May 1 through October 31, in advance of the wet season, November 1 through April 30, and shall comply with dry season effluent limitations.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

- A. **Effluent Limitations.** Discharges at Discharge Point No. 001 shall comply with the following effluent limitations, with compliance measured at Monitoring Locations EFF-002C or EFF-WW as described in the MRP:

Table 4. Effluent Limitations

Parameter	Unit	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Wet Season (November 1 through April 30)						
Carbonaceous Biochemical Oxygen Demand (5-day @ 20°C) (CBOD ₅)	mg/L	25	40	---	---	---
Total Suspended Solids (TSS)	mg/L	30	45	---	---	---
Oil and Grease (O&G)	mg/L	10	---	20	---	---
Dry Season (May 1 through October 31)						
Carbonaceous Biochemical Oxygen Demand (5-day @ 20°C) (CBOD ₅)	mg/L	15	30	---	---	---
Total Suspended Solids (TSS)	mg/L	15	30	---	---	---
Oil and Grease (O&G)	mg/L	5	---	10	---	---
Year-Round						
pH ^[1]	standard units	---	---	---	6.5	8.5
Copper, Total	µg/L	13	---	18	---	---
Cyanide, Total	µg/L	6.3	---	13	---	---
Benzo(a)Anthracene	µg/L	0.14	---	0.37	---	---
Bis(2-Ethylhexyl)Phthalate	µg/L	11	---	23	---	---
Fecal Coliform	MPN/100 mL	---	---	130	---	---
Total Residual Chlorine	mg/L	---	---	---	---	0.0

Unit Abbreviations:

mg/L = milligrams per liter
µg/L = micrograms per liter
MPN/100 mL = most probable number per 100 milliliters

Footnote:

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

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

- B. Total Ammonia.** The annual average total ammonia percent removal shall not be less than 70 percent (i.e., in each calendar year, the arithmetic mean of total ammonia, by concentration, for effluent samples collected at Monitoring Location EFF-002C as described in the MRP, shall not exceed 30 percent of the arithmetic mean of total ammonia, by concentration, for influent samples collected at Monitoring Location INF-002C).

V. RECEIVING WATER LIMITATIONS

- A.** The discharge shall not cause the following conditions to exist in receiving waters:
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 such that the temperature alteration adversely affects beneficial uses;
 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 limitations to be exceeded in receiving waters at any place within one foot of the water surface:
1. Dissolved Oxygen 5.0 mg/L, minimum

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

2. Dissolved Sulfide Natural background levels
 3. pH The pH shall not be depressed below 6.5 or raised above 8.5. The discharge shall not cause changes greater than 0.5 pH units in normal ambient pH levels.
 4. Nutrients Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.
- C. The discharge shall not cause a violation of any water quality standard for receiving waters adopted by the Regional Water Board or the 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

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, or will cease to have, a reasonable potential to cause or contribute to 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 (whether statewide, regional, or site-specific). In such cases, effluent limitations in this Order may be modified as necessary to reflect the updated water quality objectives and wasteload allocations in the TMDLs. Adoption of the effluent limitations in this Order is not intended to restrict in any way future modifications based on legally-adopted water quality objectives or TMDLs or as otherwise permitted under federal regulations governing NPDES permit modifications.

- c. If translator, dilution, or other water quality studies provide a basis for determining that a permit condition should be modified.
- d. If State Water Board precedential decisions, new policies, new laws, or new regulations are adopted.
- e. If an administrative or judicial decision on a separate NPDES permit or WDRs addresses requirements similar to this discharge.
- g. Or as otherwise authorized by law.

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

2. Effluent Characterization Study and Report

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

<u>Discharge Point</u>	<u>Monitoring Location</u>	<u>Minimum Frequency</u>
001	EFF-002C	Once

Samples shall be collected between November 1 and April 30. The samples shall be analyzed for the pollutants listed in Attachment G, Table B, except for those pollutants for which there are no water quality criteria (see Fact Sheet Table F-5). The samples shall also be analyzed for total ammonia, temperature, and pH. Total ammonia, temperature, and pH shall be monitored concurrently. Compliance with this requirement shall be achieved in accordance with the specifications of Attachment G sections III.A.1 and III.A.2.

The Discharger shall evaluate whether concentrations of any of these pollutants significantly increase over past performance. The Discharger shall investigate the cause of any such increase. The investigation may include, but need not be limited to, an increase in monitoring frequency, monitoring of internal process streams, and monitoring of influent sources. The Discharger shall establish remedial measures addressing any increase resulting in reasonable potential to cause or contribute to an excursion above applicable water quality objectives. This requirement may be satisfied through identification of the constituent as a “pollutant of concern” in the Discharger’s Pollutant Minimization Program, required by Provision VI.C.3 and NPDES Permit No. CA0037869.

b. Reporting Requirements

- i. **Routine Reporting.** The Discharger shall, after receipt of analytical results, report the following in the transmittal letter for the next annual self-monitoring report:

- (a) Indication that a sample for this study was collected; and
 - (b) Identity of pollutants detected at or above applicable water quality criteria (see Fact Sheet Table F-5) and the detected concentrations of those pollutants.
- ii. **Final Report.** The Discharger shall submit a final report that presents all these data with the application for permit reissuance.

3. Pollutant Minimization Program

- a. The Discharger shall continue to implement its Pollutant Minimization Program as further described below when there is evidence that a priority pollutant is present in the effluent above an effluent limitation (e.g., sample results reported as detected but not quantified [DNQ] when the effluent limitation is less than the method detection limit [MDL], sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, or results of benthic or aquatic organism tissue sampling) and either:
 - i. A sample result is reported as DNQ and the effluent limitation is less than the Reporting Level (RL); or
 - ii. A sample result is reported as not detected (ND) and the effluent limitation is less than the MDL, using definitions in Attachment A and reporting protocols described in the MRP.
- b. If triggered by the reasons set forth in Provision VI.C.3.a, above, the Discharger's Pollutant Minimization Program shall include, but not be limited to, the following actions and submittals:
 - i. Annual review and semi-annual monitoring of potential sources of the reportable priority pollutants, which may include fish tissue monitoring and other bio-uptake sampling, or alternative measures when source monitoring is unlikely to produce useful analytical data;
 - ii. Quarterly monitoring for the reportable priority pollutants in the influent to the Facility. The Executive Officer may approve alternative measures when influent monitoring is unlikely to produce useful analytical data;
 - iii. Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutants in the effluent at or below the effluent limitation;
 - iv. Implementation of appropriate cost-effective control measures for the reportable priority pollutants, consistent with the control strategy; and
 - v. Inclusion of the following specific items within the annual self-monitoring report required by Provision VI.C.3 and NPDES Permit No. CA0037869 (EBDA Common Outfall).
 - (a) All Pollutant Minimization Program monitoring results for the previous year;

- (b) List of potential sources of the reportable priority pollutants;
- (c) Summary of all actions undertaken pursuant to the control strategy; and
- (d) Description of actions to be taken in the following year.

4. Other Special Provisions

- a. **Wet Weather Discharges Annual Technical Report.** In the annual self-monitoring report required in MRP section VI.B.2, the Discharger shall include a detailed summary of all wet weather discharges that occurred during the preceding wet season, including a description of how the Facility and storage was operated to fully use the maximum allowed hydraulic capacity available in the EBDA pipeline and avoid discharges. If the Discharger violates any discharge prohibition or effluent limitation, it shall comply with the notification and reporting requirements in section V.E of Attachments D and G.
- b. **Wet Weather Facilities Management Plan.** The Discharger shall include a Wet Weather Facilities Management Plan review with the annual self-monitoring report required in MRP section V.B.2, including a description of strategies to maximize storage and export capacity and minimize discharge during wet weather events.
- c. **Plant Optimization Improvements and Shallow-Water Outfall Use.** After the Discharger completes proposed optimization improvements to its wastewater treatment plant (as described in Fact Sheet section II.E), it shall submit the following documentation:
 - i. Certification by a licensed professional that the optimization improvements (i.e., installation of fine-bubble aeration systems in the aeration basins) have been constructed as designed and are ready for use so as to enhance nitrification and denitrification;
 - ii. Compliance with all applicable provisions of CEQA (California Public Resources Code Division 13, Chapter 3, Section 21100 et seq.);
 - iii. Updates to the Operations and Maintenance Manual and Contingency Plan to include the facility upgrades, including financial provisions; and
 - iv. The specific date the Discharger proposes to commence discharge to its shallow-water outfall.

Prior to commencing discharge at Discharge Point No. 001, the Discharger shall receive written concurrence from the Executive Officer that the documentation above has been submitted, acceptable to the Executive Officer.

- d. **Continuous Discharge Evaluation Plan.** The Discharger shall submit a Continuous Discharge Evaluation Plan prior to commencing a dry season discharge study at Discharge Point No. 001. It shall, at a minimum, submit the following information:
 - i. The number of receiving water monitoring stations and their locations;
 - ii. A map describing the location of the receiving water monitoring stations relative to the shallow-water outfall;

- iii.** Monitoring frequencies for copper, lead, nickel, zinc, cyanide, total ammonia, temperature, pH, salinity, and dissolved oxygen. At a minimum, copper, cyanide, and total ammonia shall be monitored at the edge of their respective mixing zones (see Fact Sheet section IV.C.4);
- iv.** A plan for surveying shellfish beds in the vicinity of the largest mixing zone (see Fact Sheet section IV.C.4). The final survey shall be certified by a licensed marine biologist;
- v.** The duration (in days) of the continuous discharge. The discharge shall not exceed 30 days and shall occur during the dry season (May 1 through October 31); and
- vi.** The specific date the Discharger proposes to commence the evaluation.

Prior to commencing the dry season discharge study at Discharge Point No. 001, the Discharger shall receive written concurrence from the Executive Officer that the discharge plan above has been submitted, acceptable to the Executive Officer.

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ)

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

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

Average Monthly Effluent Limitation (AMEL)

The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL)

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

Bioaccumulative

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

Carcinogenic

Known to cause cancer in living organisms.

Coefficient of Variation

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

Daily Discharge

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

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

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

Detected, but Not Quantified (DNQ)

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

Dilution Credit

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

Effluent Concentration Allowance (ECA)

Value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the CV for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as wasteload 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.

Minimum Level (ML)

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

Mixing Zone

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

Not Detected (ND)

Sample results less than the laboratory's MDL.

Persistent Pollutants

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

Pollutant Minimization Program

Program of waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the Pollutant Minimization Program is to reduce all potential sources of a priority pollutant through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. Cost effectiveness may be considered when establishing the requirements of a Pollutant Minimization Program. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), is considered to fulfill Pollutant Minimization Program requirements.

Pollution Prevention

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

Reporting Level (RL)

ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order, including an additional factor if applicable as discussed herein. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from SIP Appendix 4 in accordance with SIP section 2.4.2 or established in accordance with SIP section 2.4.3. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

Source of Drinking Water

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

Standard Deviation (σ)

Measure of variability calculated as follows:

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

where:

x is the observed value;

μ is the arithmetic mean of the observed values; and

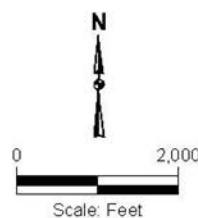
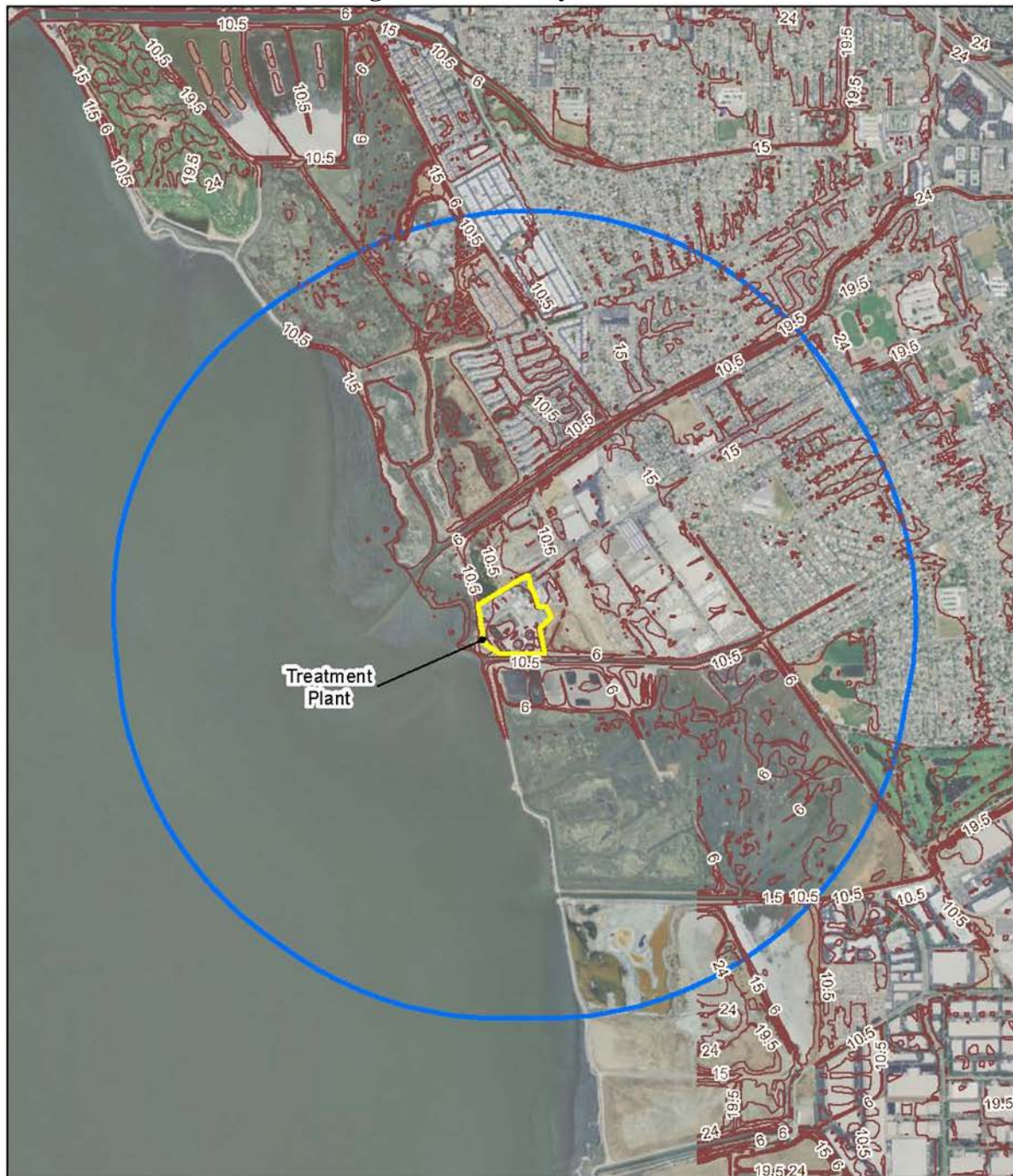
n is the number of samples.

Toxicity Reduction Evaluation (TRE)

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

ATTACHMENT B – FACILITY MAPS

Figure B-1. Facility Location



Oro Loma Sanitary District
San Lorenzo, California

**Treatment Plant
1 Mile Buffer
Topographic Map**

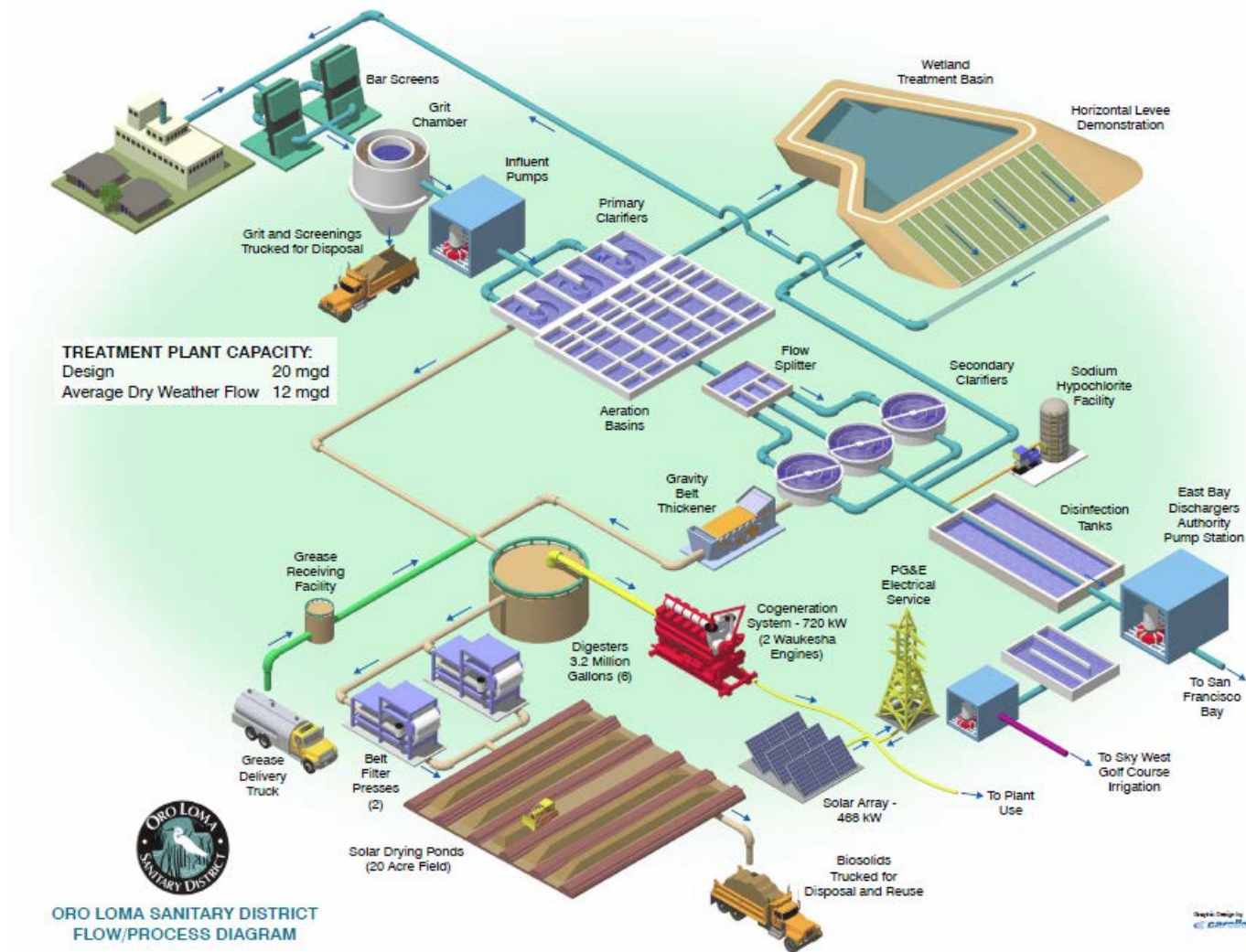
January 2011

Figure B-2. Facility Overview



ATTACHMENT C – PROCESS FLOW DIAGRAM

Figure C-1. Process Overview¹



Footnote:

^[1] Operation of the wetland treatment basin and horizontal levee demonstration are not required components of the process for purposes of this Order.

Figure C-3. Facility Legend



FACILITIES LEGEND

1. GRIT DETRITOR
2. PRIMARY SEDIMENTATION TANKS
3. DIGESTERS
4. SECONDARY CLARIFIERS
5. GRAVITY BELT THICKENER
6. BELT FILTER PRESS
7. SOLAR DRYING BEDS

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; for permit termination, revocation and reissuance, or modification; or 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 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 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, 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 assuring 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 prior notice, if possible at least 10 days before the date of the bypass. The notice shall be sent to the Regional Water Board. As of December 21, 2020, a notice shall also be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J below. Notices shall comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(m)(3)(i).)
- b. **Unanticipated bypass.** The Discharger shall submit a notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). The notice shall be sent to the Regional Water Board. As of December 21, 2020, a notice shall also be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J below. Notices shall comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (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 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. chapter 1, subchapter N. Monitoring must be conducted according to sufficiently sensitive test methods approved under 40 C.F.R. part 136 for the analysis of pollutants or pollutant parameters or required under 40 C.F.R. chapter 1, subchapter N. For the purposes of this paragraph, a method is sufficiently sensitive when:
 - 1.** The method minimum level (ML) is at or below the level of the effluent limitation established in the permit for the measured pollutant or pollutant parameter, and either (a) the method ML is at or below the level of the applicable water quality criterion for the measured pollutant or pollutant parameter, or (b) the method ML is above the applicable water quality criterion but the amount of the pollutant or pollutant parameter in a facility's discharge is

high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or

2. The method has the lowest ML of the analytical methods approved under 40 C.F.R. part 136 or required under 40 C.F.R. chapter 1, subchapter N, for the measured pollutant or pollutant parameter.

In the case of pollutants or pollutant parameters for which there are no approved methods under 40 C.F.R. part 136 or otherwise required under 40 C.F.R. chapter 1, subchapter N, monitoring must be conducted according to a test procedure specified in this Order for such pollutants or pollutant parameters. (40 C.F.R. §§ 122.21(e)(3), 122.41(j)(4), 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS—RECORDS

- A. 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, V.B.5, and V.B.6 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).)
6. Any person providing the electronic signature for documents described in Standard Provisions – V.B.1, V.B.2, or V.B.3 that are submitted electronically shall meet all relevant requirements of Standard Provisions – Reporting V.B, and shall ensure that all relevant requirements of 40 C.F.R. part 3 (Cross-Media Electronic Reporting) and 40 C.F.R. part 127 (NPDES Electronic Reporting Requirements) are met for that submission. (40 C.F.R. § 122.22(e).)

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. As of December 21, 2016, all reports and forms must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J and comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (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. chapter 1, subchapter N, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR reporting form specified by the Regional Water Board or State 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 report shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The report 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.

For noncompliance related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (i.e., combined sewer overflow, sanitary sewer overflow, or bypass event), type of overflow structure (e.g., manhole, combined sewer overflow outfall), discharge volume untreated by the treatment works treating domestic sewage, types of human health and environmental impacts of the event, and whether the noncompliance was related to wet weather.

As of December 21, 2020, all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events must be submitted to the Regional Water Board and must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J. The reports shall comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. The Regional Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 C.F.R. § 122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours:
 - 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).)

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. For noncompliance related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports shall contain the information described in Standard Provision – Reporting V.E and the applicable required data in appendix A to 40 C.F.R. part 127. The Regional Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (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).)

J. Initial Recipient for Electronic Reporting Data

The owner, operator, or duly authorized representative is required to electronically submit NPDES information specified in appendix A to 40 C.F.R. part 127 to the initial recipient defined in 40 C.F.R. section 127.2(b). U.S. EPA will identify and publish the list of initial recipients on its website and in the Federal Register, by state and by NPDES data group (see 40 C.F.R. § 127.2(c)). U.S. EPA will update and maintain this list. (40 C.F.R. § 122.41(l)(9).)

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, 13350, 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. section 136 and must be specified in this permit. All testing shall be conducted in compliance with requirements of Water Code Division 7, Article 4, Section 13176.
- C. The Discharger shall ensure that results of the Discharge Monitoring Report-Quality Assurance (DMR-QA) Study or most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Board at the following address:
- State Water Resources Control Board
Quality Assurance Program Officer
Office of Information Management and Analysis
1001 I Street, Sacramento, CA 95814
- D. The Discharger shall implement a Quality Assurance-Quality Control Program for any onsite field tests (e.g., turbidity, pH, temperature, dissolved oxygen, conductivity, disinfectant residual) analyzed by a noncertified laboratory. The Discharger shall keep a manual onsite containing the steps followed in this program and must demonstrate sufficient capability to adequately perform these field tests (e.g., qualified and trained employees, properly calibrated and maintained field instruments). The program shall conform to U.S. EPA guidelines or other approved procedures.

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
Influent	INF-002C	A point in the treatment plant headworks at which all waste tributary to the treatment system is present and preceding any phase of treatment.
Effluent	EFF-002C	A point at which adequate disinfection has occurred and just prior to where the Discharger transfers control of the effluent to the EBDA pipeline.
Effluent	EFF-WW	A point where all phases of treatment are complete (including dechlorination) just prior to discharge through Discharge Point No. 001

III. INFLUENT MONITORING REQUIREMENTS

The Discharger shall monitor treatment plant influent at Monitoring Location INF-002C as follows:

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Ammonia, Total	mg/L as N	C-24	1/Month
Kjeldahl Nitrogen, Total	mg/L as N	C-24	1/Month
Nitrate-Nitrite	mg/L as N	C-24	1/Month
Nitrogen, Total	mg/L as N	Calculated	1/Month

Unit Abbreviation:

mg/L as N = milligrams per liter as nitrogen

Sampling Type and Frequency:

1/Month = once per month

IV. EFFLUENT MONITORING REQUIREMENTS

A. Wet Weather Discharges

During wet weather, when discharging from Discharge Point 001, the Discharger shall monitor treatment plant effluent at Monitoring Location EFF-002C or EFF-WW as follows:

Table E-3. Effluent Monitoring—Wet Weather

Parameter	Units	Sample Type	Minimum Sampling Frequency
Monitoring Location EFF-002C			
Carbonaceous Biochemical Oxygen Demand (5-day @ 20°C) (CBOD ₅)	mg/L	Grab or C-24 ^[1]	1/Discharge
Total Suspended Solids (TSS)	mg/L	C-24 ^[1]	1/Discharge
Oil and Grease	mg/L	Grab	1/Year ^[2]
pH	standard units	Grab	1/Discharge
Fecal Coliform	MPN/100 mL ^[3]	Grab	1/Discharge
Copper, Total	µg/L	Grab or C-24 ^[1]	1/Year ^[2]
Cyanide, Total ^[4]	µg/L	Grab	1/Year ^[2]
Benzo(a)Anthracene	µg/L	Grab	1/Year ^[2]
Bis(2-Ethylhexyl)Phthalate	µg/L	Grab	1/Year ^[2]
Monitoring Location EFF-WW			
Flow ^{[5][6]}	MGD	Calculated	1/Discharge
Total Residual Chlorine ^[7]	mg/L	Continuous or Grab	Continuous or once every two hours during discharge
Discharge Duration	hours and minutes	Calculated	1/Discharge

Unit Abbreviations:

mg/L = milligrams per liter

µg/L = micrograms per liter

MPN/100 mL = most probable number per 100 milliliters

mg/L as N = milligrams per liter as nitrogen

°C = degrees Celsius

C-24 = 24-hour composite

Grab = grab sample
1/Discharge = once per discharge event during a 24-hour period.
1/Year = once per calendar year

Footnotes:

- [1] If the discharge is expected to last less than 24 hours, the Discharger may take a composite sample by mechanically or manually compositing samples once every two hours for the discharge duration.
- [2] If a TSS sample collected on the same day exceeds 45 mg/L, sample(s) shall also be analyzed for this constituent.
- [3] Results may be reported as Colony Forming Units (CFU)/100 mL if the laboratory method used provides results in CFU/100 mL
- [4] The Discharger may, at its option, analyze for cyanide as weak acid dissociable cyanide using protocols specified in Standard Method Part 4500-CN-I, U.S. EPA Method OI 1677, or an equivalent method in the latest Standard Method edition.
- [5] If the Discharger discharges on the same day EBDA samples for mercury or PCBs pursuant to NPDES Permit No. CA0038849, the Discharger shall report the flow to EBDA to be included in the mercury and PCBs loading calculations at the EBDA common outfall.
- [6] Flow shall be the calculated average over a 24-hour period, beginning at midnight.
- [7] The Discharger may elect to use a continuous on-line monitoring system or sample, at a minimum, every other 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 other hour on the hour, the maximum for each day and any other discrete every other hour reading that exceed 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.

B. Dry Season Discharges

During the dry season, when discharging from Discharge Point 001, the Discharger shall monitor treatment plant effluent at Monitoring Location EFF-002C or EFF-WW as follows:

Table E-4. Effluent Monitoring—Dry Season

Parameter	Units	Sample Type	Minimum Sampling Frequency
Monitoring Location EFF-002C			
Carbonaceous Biochemical Oxygen Demand (5-day @ 20°C) (CBOD ₅)	mg/L	Grab or C-24 ^[1]	1/Discharge
Total Suspended Solids (TSS)	mg/L	C-24 ^[1]	1/Discharge
Oil and Grease	mg/L	Grab	1/Discharge
pH	standard units	Grab	1/Discharge
Fecal Coliform	MPN/100 mL ^[2]	Grab	1/Discharge
Monitoring Location EFF-WW			
Flow ^{[3][4]}	MGD	Calculated	1/Discharge
Total Residual Chlorine ^[5]	mg/L	Continuous or Grab	Continuous or once every two hours during discharge
Discharge Duration	hours and minutes	Calculated	1/Discharge

Unit Abbreviations:

mg/L = milligrams per liter
MPN/100 mL = most probable number per 100 milliliters
1/Discharge = once per discharge event of up to 48 hours.

Footnotes:

- [1] If the discharge is expected to last less than 24 hours, the Discharger may take a composite sample by mechanically or manually compositing samples once every two hours for the discharge duration.
- [2] Results may be reported as Colony Forming Units (CFU)/100 mL if the laboratory method used provides results in CFU/100 mL
- [3] If the Discharger discharges on the same day EBDA samples for mercury or PCBs pursuant to NPDES Permit No. CA0038849, the Discharger shall report the flow to EBDA to be included in the mercury and PCBs loading calculations at the EBDA common outfall.
- [4] Flow shall be the averaged over a 24-hour period, beginning at midnight.
- [5] The Discharger may elect to use a continuous on-line monitoring system or sample, at a minimum, every other 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 other hour on the hour, the maximum for each day and any other discrete every other hour reading that exceed 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.

C. Year-Round Monitoring

Year-round, the Discharger shall monitor treatment plant effluent at Monitoring Location EFF-002C as follows:

Table E-5. Effluent Monitoring—Year-Round

Parameter	Units	Sample Type	Minimum Sampling Frequency
Ammonia, Total ^[1]	mg/L as N	C-24	1/Month
Kjeldahl Nitrogen, Total	mg/L as N	C-24	1/Month
Nitrate-Nitrite	mg/L as N	C-24	1/Month
Nitrogen, Total	mg/L as N	Calculated	1/Month

Unit Abbreviations:

mg/L as N = milligrams per liter as nitrogen
C-24 = 24-hour composite
1/Month = once per month

Footnotes:

- [1] Total ammonia samples shall be collected concurrently with influent samples. Total ammonia percent removal shall be reported for each calendar month in accordance with section IV.B of the Order.

V. RECEIVING WATER MONITORING REQUIREMENTS

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

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.

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) website (http://www.waterboards.ca.gov/water_issues/programs/ciwqs). 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 June 15 each year, covering the preceding wet season (November 1 through April 30). The annual SMR shall contain the items described in sections V.C.1.f of Attachment G. See Provision VI.C.2 (Effluent Characterization Study and Report), and Provision VI.C.4 (Other Special Provisions) of this Order for information that must also be reported with the annual SMR.
 - b. **Specifications for Submitting SMRs to CIWQS** — The Discharger shall submit analytical results and other information using one of the methods in the table below:

Table E-6. CIWQS Reporting

Parameter	Method of Reporting	
	EDF/CDF data upload or manual entry	Attached File
All parameters identified in influent, effluent, and receiving water monitoring tables (except Dissolved Oxygen and Temperature)	Required for all results	
Dissolved Oxygen Temperature	Required for monthly maximum and minimum results only ^[1]	Discharger may use this method for all results or keep records
Antimony Arsenic Beryllium Cadmium Chromium Copper Cyanide Lead Mercury Nickel Selenium Silver Thallium Zinc Dioxins & Furans (by U.S. EPA Method 1613) Other Pollutants (by U.S. EPA methods 601, 602, 608, 610, 614, 624, and 625)	Required for all results ^[2]	
Analytical Method	Not required (Discharger may select “data unavailable”) ^[1]	
Collection Time Analysis Time	Not required (Discharger may select “0:00”) ^[1]	

Footnotes:

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

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-7. Monitoring Periods

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period
Once every two hours	Order effective date	Once every two-hour period, beginning at first moment of discharge
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/Discharge	First moment of discharge	Anytime during discharge event
1/Year	Closest January 1 before or after Order effective date.	January 1 through December 31
Once	Order effective date	Once during permit term within 12 months prior to applying for permit reissuance.

- 4. RL and MDL Reporting.** The Discharger shall report with each sample result the Reporting Level (RL) and Method Detection Limit (MDL) as determined by the procedure in 40 C.F.R. part 136. The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

- a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

For purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ. The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (+/- a percentage of the reported value), numerical ranges (low to high), or any other means the laboratory considers appropriate.

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

- 5. Compliance Determination.** Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined above and in the Fact Sheet and

Attachments A, D, and G. For purposes of reporting and administrative enforcement by the Regional Water Board and State Water Board, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the RL.

C. Discharge Monitoring Reports (DMRs)

DMRs are U.S. EPA reporting requirements. The Discharger shall electronically certify and submit DMRs together with SMRs using the Electronic Self-Monitoring Reports module eSMR 2.5 or the latest upgraded version. Electronic DMR submittal shall be in addition to electronic SMR submittal. Information about electronic DMR submittal is available at the DMR website at http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring.

ATTACHMENT F - FACT SHEET

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ATTACHMENT F – FACT SHEET

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

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility:

Table F-1. Facility Information

WDID	2 019032001
CIWQS Place ID	246217
CIWQS Party ID	32789
Discharger	Oro Loma Sanitary District Castro Valley Sanitary District
Facility Name	Oro Loma and Castro Valley Sanitary Districts Water Pollution Control Plant - Intermittent Wet Weather Discharge
Facility Address	2600 Grant Avenue San Lorenzo, CA 94580 Alameda County
Facility Contact, Title, Phone	Jason Warner, General Manager, (510) 276-4700
Authorized Person to Sign and Submit Reports	Jason Warner
Mailing Address	Same as facility address
Billing Address	Same as mailing address
Facility Type	Publicly-Owned Treatment Works (POTW)
Major or Minor Facility	Minor
Threat to Water Quality	2
Complexity	B
Pretreatment Program	Yes (under NPDES Permit No. CA0037869)
Mercury and PCBs Requirements	NPDES Permit No. CA0038849
Nutrient Requirements	NPDES Permit No. CA0038873
Maintenance Exercise Discharge Permitted Flow	10 million gallons per discharge
EBDA Pipeline Contractual Capacity	30.0 million gallons per day (MGD)
Facility Design Flow	20.0 MGD – average daily dry weather design flow
Expected Intermittent Maximum Discharge Rate	42.0 MGD to Lower San Francisco Bay
Watersheds	San Lorenzo Creek
Receiving Waters	Lower San Francisco Bay
Receiving Water Type	Marine

- A. The Oro Loma Sanitary District and the Castro Valley Sanitary District (collectively, the Discharger) jointly own the Water Pollution Control Plant. The Oro Loma Sanitary District operates the plant. The Oro Loma Sanitary District and the Castro Valley Sanitary District individually own and operate their own wastewater collection systems. The plant and the Oro Loma and Castro Valley Sanitary Districts' respective wastewater collection systems (collectively, the Facility) provide advanced-secondary treatment of the wastewater collected from the plant's service area. During wet weather, the plant will discharge treated effluent from a shallow-water outfall to Lower San Francisco Bay. The discharge location is indicated in Table 2 of this Order and shown in Attachment B.

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

- B.** During the dry season, the Discharger will provide advanced-secondary treatment and discharge effluent through the East Bay Dischargers Authority (EBDA) deepwater outfall. The Discharger has a contract with EBDA that specifies the terms and conditions of its discharge through the EBDA system. EBDA operates under a Joint Exercise of Powers Agreement among the City of Hayward, the City of San Leandro, the Union Sanitary District, the Oro Loma Sanitary District, and the Castro Valley Sanitary District. EBDA transports treated wastewater from its member agencies, including the Discharger, to the EBDA dechlorination station near the San Leandro Marina before discharging it via a deepwater outfall to Lower San Francisco Bay. The discharge through the deepwater outfall is regulated under NPDES Permit No. CA0037869. The Discharger’s wet weather discharge is the subject of this Order (NPDES Permit No. CA0037559). Regulations at 40 C.F.R. section 122.46 limit the duration of NPDES permits to a fixed term not to exceed five years. Accordingly, Table 3 of this Order limits the effective period for the discharge authorization. Pursuant to California Code of Regulations, title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Discharger complies with all federal NPDES regulation requirements for continuation of expired permits.

The Discharger filed a Report of Waste Discharge and submitted an application for issuance of its Waste Discharge Requirements (WDRs) and NPDES permit on June 14, 2017.

II. FACILITY DESCRIPTION

A. Wastewater Collection and Treatment

- 1. Location and Service Area.** The Facility is located at 2600 Grant Avenue in San Lorenzo. It provides secondary treatment and disinfection of domestic and commercial wastewater from the communities of San Lorenzo, Ashland, Cherryland, Castro Valley, and Fairview, and portions of the cities of San Leandro and Hayward. The estimated service area population is about 190,000. Attachment B provides maps of the area around the Facility.

Wastewater Treatment. After completion of nitrogen treatment optimization upgrades (see Fact Sheet section II.E), the plant will provide advanced-secondary treatment for an average dry weather design flow of 20.0 MGD. (Between 2012 and 2017, the average daily flow to the EBDA pipeline was 12.1 MGD.) The wastewater treatment process will consist of screening, grit removal, primary sedimentation, activated sludge year-round nitrification and partial denitrification, secondary clarification, and chlorine disinfection. Prior to any wet weather or maintenance exercise discharge, or discharge associated with a continuous discharge evaluation in accordance with Provision VI.C.4.d, the Discharger will also dechlorinate the wastewater. Attachment C provides flow schematics.

Effluent ammonia concentrations may be higher during lower temperature winter conditions because nitrification (conversion of ammonia to nitrate) will be mediated by specific bacteria that are less efficient in converting ammonia to nitrate at lower temperatures. Effluent ammonia concentrations may also be higher during peak wet weather events when the nitrifying bacteria will be more susceptible to hydraulic washout. During such events, the plant may not provide adequate residence time for nitrification and denitrification

(conversion of nitrate to nitrogen gas, which is released to the atmosphere). The Discharger will use available basins to store solids containing the necessary microorganisms and reduce the potential for washout.

- 2. Stormwater.** The Discharger is not required to be covered under the statewide NPDES permit for stormwater discharges associated with industrial activities (NPDES General Permit No. CAS000001) because all stormwater flows in contact with equipment or wastewater at the Facility are collected and directed to the plant headworks for treatment.

B. Discharge Point and Receiving Water

This Order covers intermittent discharges of secondary-treated, disinfected, and dechlorinated municipal wastewater to the Discharger's wet weather outfall. These discharges will occur in Lower San Francisco Bay (Discharge Point No. 001). During the dry season, the Discharger will provide advanced-secondary treatment and discharge effluent through the EBDA deepwater outfall.

The wet weather outfall is a shallow-water outfall without a diffuser. The discharge location is approximately 920 feet offshore. There will be two types of discharges from the shallow-water outfall: (1) discharges during peak wet weather events, and (2) discharges during the dry season from maintenance exercises to ensure outfall operability. The Discharger may also submit a proposal to discharge for up to 30 days during the dry season to evaluate the potential for using the shallow-water outfall year-round.

The contract with EBDA and its member agencies allots 30.0 MGD of flow capacity in the EBDA pipeline to the Discharger. If the plant effluent flow exceeds the 30.0 MGD maximum contractual capacity and available equalization basin storage, the Discharger will discharge to the shallow-water outfall. The Discharger will stop discharging to the shallow-water outfall when plant effluent flow drops below approximately 30.0 MGD.

The Discharger will conduct maintenance exercise discharges to ensure that the shallow-water outfall line is flushed of naturally-occurring sediment accumulation and that control valves and dechlorination equipment are operational in advance of the wet season (November 1 to April 30) when it may be necessary to discharge during peak wet weather events. The maintenance exercise discharges may be conducted for up to ten days per year during the dry season (May 1 to October 31) and will not exceed two consecutive days of discharge or more than 10 MGD.

Wet weather discharges will be infrequent. The Discharger will minimize discharges to Lower San Francisco Bay by using its 8.0-million-gallon (MG) Ecotone Project equalization basin to store peak flows. When the equalization basin is full (or projected to be full given peak flows), effluent flow above the Discharger's contractual flow of 30.0 MGD will be discharged to the shallow-water outfall. At the end of each storm, water stored in the equalization basin will be routed back to the plant headworks. Wet weather discharges are only expected during peak wet weather events when natural flows in adjacent San Lorenzo Creek and Bockman Canal are higher than the average dry weather flow.

C. Summary of Previous Requirements and Monitoring Data

This Order is a new NPDES permit, but prior to adoption of this Order, discharges from the Facility were regulated under NPDES Permit No. CA0037869 (EBDA Common Outfall), most

recently reissued on May 10, 2017. The effluent limitations and representative monitoring data from the Discharger's flows to the EBDA pipeline and the EBDA outfall during the previous five years are presented below. These data, collected from March 2, 2012, to July 31, 2017, indicate the likely quality of the discharge, with the exception of total ammonia. Total ammonia levels are expected to be lower due to the Discharger's implementation of year-round nitrification and partial denitrification.

Table F-2. Existing Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitations			Monitoring Data to EBDA Pipeline (3/1/2012-7/31/2017)	
		Monthly Average	Weekly Average	Daily Maximum	No. of Samples / No. Below Detection Limit	Highest Daily Discharge
Carbonaceous Biochemical Oxygen Demand (BOD ₅)	mg/L	25	40	---	570/0	24
Total Suspended Solids (TSS)	mg/L	30	45	---	1,149/0	96 ^[1]
Oil and Grease ^[2]	mg/L	10	---	20	21/7	7.4
pH	standard units	6.0 - 9.0			576/0	7.1-7.6 ^[3]
Residual Chlorine, Total ^[2]	mg/L	0.0 maximum ^[4]			^[5]	^[5]
Fecal Coliform Bacteria ^[2]	MPN/100 mL	500 MPN/100 mL (monthly geometric mean)			610/59	1,700 ^[6]
		1,100 MPN/100 mL (11-sample 90 th percentile)				
Enterococci Bacteria ^[2]	MPN/100 mL	242 MPN/ 100 mL (monthly geometric mean)			646/49	3,106 ^[7]
Copper, Total Recoverable	µg/L	53	---	69	66/0	9.3
Cyanide, Total	µg/L	21	---	40	66/56	9.0
Total Ammonia, as N	mg/L	91	---	120	21/0	42.8
Acute Toxicity ^[2]	% Survival	Not less than 70% (single sample)			33/0	80 ^[8]
Chronic Toxicity ^[2]	TU _c	No chronic toxicity in the discharge as discharged			18/18	<2.0

Unit Abbreviations:

mg/L = milligrams per liter
µg/L = micrograms per liter
MPN/100ml = most probable number per 100 milliliters

Footnote:

- ^[1] The Discharger did not violate the monthly or weekly average effluent limitation in this instance because the maximum reported concentration is a daily value.
- ^[2] Effluent limitations and data apply to and reflect the combined effluent of the Discharger and other EBDA member agencies at the EBDA common outfall. No data are available for the Discharger alone.
- ^[3] The highest and lowest reported pH value.
- ^[4] Applied as an instantaneous maximum
- ^[5] All values were reported as not detected.
- ^[6] The Discharger did not violate the monthly geometric mean or 11-sample 90th percentile effluent limitation in this instance because the maximum reported concentration is a daily value.
- ^[7] The Discharger did not violate the monthly geometric mean effluent limitation in this instance because the maximum reported concentration is a daily value.
- ^[8] The lowest single-sample percent survival was 80 percent.

D. Compliance Summary

There is no record of the Discharger violating the EBDA Common Outfall order (NPDES Permit No. CA0037869).

E. Planned Changes

Prior to commencing the shallow-water discharge, the Discharger plans to replace the aeration basin mechanical surface aeration devices with a fine-bubble aeration system that will provide sufficient aeration capacity, together with an increase in solids retention time, to facilitate year-round nitrification. The Discharger will rehabilitate and convert existing, unused secondary clarifiers to operate as denitrification basins.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

A. Legal Authorities

This Order serves as WDRs pursuant to California Water Code article 4, chapter 4, division 7 (commencing with § 13260) for discharges to waters of the State. This Order is also issued pursuant to Clean Water Act (CWA) section 402 and implementing regulations adopted by U.S. EPA, and Water Code chapter 5.5, division 7 (commencing with § 13370). It shall serve as an NPDES permit authorizing the Discharger to discharge into waters of the United States at the discharge location described in Table 2 subject to the WDRs in this Order.

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 (WQOs), 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 establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Because of the marine influence on Lower San Francisco Bay, total dissolved solids exceed 3,000 mg/L; therefore, Lower San Francisco Bay meets an exception to State Water Board Resolution No. 88-63. Beneficial uses applicable to Lower San Francisco Bay are as follows:

Table F-3. Beneficial Uses

001	Lower San Francisco Bay	Industrial Service Supply (IND) Ocean, Commercial and Sport Fishing (COMM) Shellfish Harvesting (SHELL) Estuarine Habitat (EST) Fish Migration (MIGR) Preservation of Rare and Endangered Species (RARE) Fish Spawning (SPWN) Wildlife Habitat (WILD) Water Contact Recreation (REC-1) Non-Contact Water Recreation (REC-2) Navigation (NAV)
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2. **Sediment Quality.** The State Water Board adopted the *Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1, Sediment Quality* on September 16, 2008, and it became effective on August 25, 2009. This plan supersedes other narrative sediment quality objectives, and establishes new sediment quality objectives and related implementation provisions for specifically defined sediments in most bays and estuaries. This Order implements the sediment quality objectives of this plan.
3. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** U.S. EPA adopted the NTR on December 22, 1992, and amended it on May 4, 1995 and November 9, 1999. About 40 criteria in the NTR apply in California. On May 18, 2000, U.S. EPA adopted the CTR. The CTR promulgated new toxics criteria for California and incorporated the previously adopted NTR criteria that applied in the State. U.S. EPA amended the CTR on February 13, 2001. These rules contain water quality criteria for priority pollutants.
4. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria U.S. EPA promulgated for California through the NTR and the priority pollutant objectives the Regional Water Board established in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria U.S. EPA promulgated through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives, and provisions for chronic toxicity control. Requirements of this Order implement the SIP.
5. **Antidegradation Policy.** Federal regulations at 40 C.F.R. section 131.12 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 No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California*, which is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. Permitted discharges must be consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16.

- 6. Anti-Backsliding Requirements.** CWA sections 402(o) and 303(d)(4) and 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. (See Fact Sheet section IV.D.1.)
- 7. Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, §§ 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. §§ 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect beneficial uses, including protecting rare, threatened, or endangered species. The Discharger is responsible for meeting all Endangered Species Act requirements.
- 8. Sludge and Biosolids.** U.S. EPA administers 40 C.F.R. Part 503, Standards for the Use or Disposal of Sewage Sludge, which regulates the final use or disposal of sewage sludge generated during the treatment of domestic sewage in a municipal wastewater treatment facility. This Order does not authorize any act that violates those requirements. The Discharger is responsible for meeting all applicable requirements of 40 C.F.R. Part 503.

D. Impaired Waters on CWA 303(d) List

In July 2015, U.S. EPA approved a revised list of impaired waters prepared pursuant to CWA section 303(d), which requires identification of specific water bodies where it is expected that water quality standards will not be met after implementation of technology-based effluent limitations on point sources. Where it has not done so already, the Regional Water Board plans to adopt total maximum daily loads (TMDLs) for pollutants on the 303(d) list. TMDLs establish wasteload allocations for point sources and load allocations for non-point sources and are established to achieve the water quality standards for the impaired waters.

Lower San Francisco Bay is listed as impaired by chlordane, DDT, dieldrin, dioxin compounds (including 2,3,7,8-TCDD), furan compounds, invasive species, mercury, PCBs, dioxin-like PCBs, and trash. On February 12, 2008, U.S. EPA approved a TMDL for mercury in San Francisco Bay. On March 29, 2010, U.S. EPA approved a TMDL for PCBs in San Francisco Bay. The mercury and PCBs TMDLs apply to this discharge and are implemented through NPDES Permit No. CA0038849.

As shown in Fact Sheet section IV.C.3, the discharge is an insignificant source of chlordane, DDT, dieldrin, and dioxin compounds because these pollutants have not been detected in the discharge. The discharge is also not a source of invasive species because it is disinfected. Finally, it is not a source of trash because the discharge is screened and treated to at least secondary treatment standards.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants discharged into waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations: 40 C.F.R. section 122.44(a) requires

that permits include applicable technology-based limitations and standards, and 40 C.F.R. section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of receiving waters.

A. Discharge Prohibitions

1. Prohibitions in this Order

- a. Discharge Prohibition III.A (Discharge different than described):** This prohibition is based on 40 C.F.R. section 122.21(a) and Water Code section 13260, which require filing an application and Report of Waste Discharge before a discharge can occur. Discharges not described in the application and Report of Waste Discharge, and subsequently in this Order, are prohibited.
- b. Discharge Prohibition III.B (Discharge to Lower San Francisco Bay, except during peak wet weather):** This prohibition ensures that discharges to Lower San Francisco Bay occur only during peak wet weather when the maximum hydraulic capacity in the EBDA pipeline of 30.0 MGD is fully utilized, when discharging during maintenance exercise discharges, or when discharging for up to 30 days pursuant to a special study to evaluate the potential for year-round shallow-water discharges. Peak wet weather discharges are expected to exceed the available capacity in the EBDA pipeline about eight times per calendar year.
- c. Discharge Prohibition III.D (Bypass):** This prohibition is based on 40 C.F.R. section 122.41(m) (see Attachment D section I.G).
- d. Discharge Prohibition III.E (Discharge for operational maintenance more than ten days per year):** This prohibition restricts potential water quality impacts to Lower San Francisco Bay resulting from maintenance exercise discharges by limiting such discharges to 10 MGD for a maximum of two consecutive days in advance of the wet season. Maintenance exercise discharges in advance of the wet season are needed to ensure operability of the wet weather outfall when wet weather discharges are necessary. The flow limitation of 10 MGD is based on the Discharger's estimate of the volume needed to complete a maintenance exercise.

2. Basin Plan Discharge Prohibition 1

The shallow-water discharges will not receive an initial dilution of at least 10:1 as they enter Lower San Francisco Bay. Basin Plan Table 4-1, Discharge Prohibition 1, prohibits wastewater discharges that have particular characteristics of concern to beneficial uses if they do not receive a minimum initial dilution of at least 10:1 or if they flow to a non-tidal water, a dead-end slough, a similar confined water, or an immediate tributaries thereof. The purpose of Discharge Prohibition 1 is to protect against the following:

- continuous effects of waste discharge;
- effects of abnormal discharges caused by temporary plant upsets or malfunctions;
- public contact with undiluted waste; and
- visual impacts.

Treated sewage and other discharges subject to treatment process upsets are assumed to have particular characteristics of concern unless the discharge of inadequately-treated waste will be reliably prevented. In this case, the discharge of inadequately-treated waste is reliably prevented, and the discharges do not have particular characteristics of concern to the beneficial uses of Lower San Francisco Bay for the following reasons:

- Wet weather discharges will be infrequent and not continuous. Such discharges will occur approximately eight times per year and up to 12 hours per event at a flow of approximately 42 MGD. Therefore, wet weather discharges will not have continuous effects on Lower San Francisco Bay.
- Dry season discharges will be infrequent and not continuous. Dry season maintenance exercise discharges will occur no more than ten days per calendar year, last no more than two consecutive days, and not exceed 10 MGD per discharge event. These discharges will undergo advanced-secondary treatment, including nitrification and partial denitrification, and will also be held to more stringent CBOD₅, TSS, and oil and grease effluent limitations. For these reasons, dry season discharges will not have continuous effects on Lower San Francisco Bay.
- There is little risk that a wastewater treatment plant upset would result in an abnormal discharge. The discharge of inadequately-treated waste will be reliably prevented because, if an upset were to occur at the plant, effluent would likely flow to the EBDA deepwater outfall. Discharge to the shallow-water outfall would require an intentional flow diversion, and it is improbable that an upset would occur simultaneously with an intermittent peak wet weather discharge. Moreover, the Discharger has a good compliance record. The Discharger has not violated any effluent limitation in the previous and current EBDA Common Outfall orders (Order Nos. R2-2012-0004 and R2-2017-0016). Wet weather discharges will receive reliable treatment because the annual maintenance exercise discharges will ensure that the outfall and the equipment necessary for discharge (e.g., dechlorination equipment) remain in good working order.
- There will be little potential for public contact with undiluted waste because discharges will occur 920 feet offshore and there are no public beaches or accesses to the receiving water within the discharge vicinity. During wet weather, the discharges are flushed and diluted by increased flows from the adjacent San Lorenzo Creek.
- The discharges will not cause visual impacts. The discharges will be treated to Secondary Treatment Standards, which address objectionable color and turbidity.

In short, the issues of concern underlying the Discharge Prohibition do not apply to these discharges. Basin Plan section 4.2 also provides exceptions to the Discharge Prohibition 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.

The discharge would qualify for an exception to Discharge Prohibition 1 based on the following:

- a. Conveying all discharges, including intermittent peak wet-weather flows, to the EBDA deepwater outfall (e.g., by purchasing additional contract capacity in the EBDA pipeline, constructing additional onsite storage capacity, or significantly increasing the rate of collection system pipeline replacement to reduce peak flows) would constitute an inordinate burden on the Discharger because it would be unreasonably costly for discharges that occur approximately eight times per year.
- b. The Discharger will provide an equivalent level of environmental protection by preventing nearly all discharges from its shallow-water outfall. During intermittent peak wet weather, shallow-water discharges will occur approximately eight times per year for up to 12 hours. Dry season maintenance exercise discharges will be infrequent, occurring no more than 10 intermittent days per year. Moreover, the Discharger will reliably prevent inadequately-treated wastewater from being discharged because, under most possible upset conditions, effluent would flow to the EBDA deepwater outfall, not the shallow waters of Lower San Francisco Bay.
- c. The Discharger will also provide an equivalent level of environmental protection by providing advanced-secondary treatment during the dry season (May 1 through October 31) (i.e., by complying with more stringent CBOD₅, TSS, and oil and grease effluent limits). The Discharger will also remove ammonia and some nitrogen through nitrification and partial denitrification, thereby reducing the potential for eutrophication impacts to Lower San Francisco Bay.

B. Conventional and Non-Conventional Pollutant Effluent Limitations

1. Scope and Authority

CWA section 301(b) and 40 C.F.R. section 122.44 require that permits include conditions meeting technology-based requirements, at a minimum, and any more stringent effluent limitations necessary to meet water quality standards. The discharges authorized by this Order must meet minimum federal technology-based requirements based on the Secondary Treatment Standards at 40 C.F.R. section 133 as summarized in Table F-4. The Basin Plan contains additional requirements for certain pollutants.

Table F-4. Secondary Treatment Requirements

Parameter	Units	Monthly Average	Weekly Average	Instantaneous Minimum	Instantaneous Maximum
BOD ₅ ^[1]	mg/L	30	45	---	---
CBOD ₅ ^[1]	mg/L	25	40	---	---
TSS	mg/L	30	45	---	---
pH	standard units	---	---	6.5	8.5

Unit Abbreviation:

mg/L = milligrams per liter

Footnote:

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

2. Effluent Limitations

- a. **CBOD₅ and TSS.** For the wet weather months (November 1 through April 30), the weekly and monthly CBOD₅ and TSS effluent limitations are based on the Secondary Treatment Standards and Basin Plan Table 4-2. For the dry season months (May 1 through October 31), more stringent limitations apply. Effluent data show the more stringent limitations are technologically feasible. They are required to demonstrate a level of water quality protection equivalent to complying with Basin Plan Discharge Prohibition 1 (see Fact Sheet section IV.A.2).
- b. **Oil and Grease.** For the wet weather months (November 1 through April 30), the oil and grease effluent limitation is based on Basin Plan Table 4-2. For the dry season months (May 1 through October 31), more stringent limitations apply. Effluent data show the more stringent limitations are technologically feasible. They are required to demonstrate a level of water quality protection equivalent to complying with Basin Plan Discharge Prohibition 1 (see Fact Sheet section IV.A.2).
- c. **pH.** The pH effluent limitation is based on the Secondary Treatment Standards and Basin Plan Table 4-2.
- d. **Total Residual Chlorine.** The total residual chlorine effluent limitation is based on Basin Plan Table 4-2. The Monitoring and Reporting Program (MRP, Attachment E) provides an allowance for determining false positives when using continuous devices because continuous instruments occasionally have anomalous spikes, and it is chemically improbable to have free chlorine present in the presence of sodium bisulfite. 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.
- e. **Fecal Coliform.** The fecal coliform effluent limitation is based on Basin Plan Table 3-1. Basin Plan Table 4-2A requires total coliform effluent limitations for waters that support the shellfish harvesting beneficial use (footnote b says the Regional Water Board will establish total coliform limitations in lieu of enterococcus limitations for intermittent discharges). However, footnote c of Table 4-2A allows substitution with fecal coliform limits provided that doing so will not result in unacceptable adverse impacts on beneficial uses (i.e., shellfish harvesting).

The daily maximum fecal coliform limitation of 130 MPN/100ml in this Order will protect the shellfish harvesting beneficial use. The limitation reflects a dilution credit of 4:1 based on a mixing zone of 39 acres (see Fact Sheet section IV.C.4), which is comprised entirely of tidal mudflats that are partly exposed during low tides. Shellfish harvesting does not occur in the mixing zone because native oysters (*Ostrea lurida*) avoid the soft substrate of mudflats, preferring a rocky substrate instead. To confirm the absence of native oysters within the mixing zone (i.e., shellfish beds are not migrating into the mixing zone), Provision VI.C.4.d requires the Discharger to survey the vicinity of the discharge as part of a dry season continuous discharge study.

Because the limit is expressed as a daily maximum, it is more protective than the shellfish harvesting water quality objective, which is expressed as a 90th percentile. Expressing the limit as a daily maximum is also more practical than using a 90th percentile due to the short duration of the discharges.

- f. Total Ammonia.** The average annual percent removal effluent limitation for total ammonia is based on the optimized plant's technological feasibility. This limitation is required to demonstrate that the plant will perform as described and that a level of water quality protection equivalent to complying with Basin Plan Discharge Prohibition 1 is met (see Fact Sheet section IV.A.2).

C. Toxic Pollutant Effluent Limitations

1. Scope and Authority

This Order contains water quality-based effluent limitations (WQBELs) 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.

2. Beneficial Uses and Water Quality Criteria and Objectives

Discharge Point No. 001 discharges to Lower San Francisco Bay. Fact Sheet section III.C.1, above, identifies the beneficial uses of Lower San Francisco Bay. Water quality criteria and objectives to protect these beneficial uses are described below:

- a. Basin Plan Objectives.** The Basin Plan specifies numerous water quality objectives, such as numeric objectives for 10 priority pollutants and narrative objectives for toxicity. Basin Plan section 3.3.20 contains water quality objectives for un-ionized ammonia of

0.025 mg/L (as nitrogen) as an annual median and 0.4 mg/L (as nitrogen) as a maximum for Lower San Francisco Bay. The annual median, however, is not meaningful for intermittent wet weather discharges because they cannot affect annual median concentrations in Lower San Francisco Bay.

- b. CTR Criteria.** The CTR specifies numeric aquatic life and human health criteria for numerous priority pollutants. These criteria apply to inland surface waters and enclosed bays and estuaries. Some human health criteria are for consumption of “water and organisms” and others are for consumption of “organisms only.” The criteria applicable to “organisms only” apply to Lower San Francisco Bay because it is not a source of drinking water.
- c. NTR Criteria.** The NTR establishes numeric aquatic life and human health criteria for a number of toxic pollutants for San Francisco Bay waters upstream to and including Suisun Bay and the Sacramento-San Joaquin Delta. These NTR criteria apply to Lower San Francisco Bay.
- d. Sediment Quality Objectives.** The *Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1, Sediment Quality* contains a narrative water quality objective: “Pollutants in sediments shall not be present in quantities that, alone or in combination, are toxic to benthic communities in bays and estuaries of California.” This objective is to be implemented by integrating three lines of evidence: sediment toxicity, benthic community condition, and sediment chemistry. The policy requires that if the Regional Water Board determines that a discharge has reasonable potential to cause or contribute to an exceedance of this objective, it is to impose the objective as a receiving water limit.
- e. Receiving Water Salinity.** Basin Plan section 4.6.2 (like the CTR and NTR) states that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water are to be considered in determining applicable water quality objectives. Freshwater criteria apply to discharges to waters with salinities equal to or less than 1 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.

Lower San Francisco Bay is a saltwater environment based on salinity data collected through the RMP at the Yerba Buena sampling station (BC10) between 1993 and 2013. During that period, the average salinity was 25 ppt, with a range from 12 to 33 ppt. Because the salinity was greater than 10 ppt in 100 percent of the samples, the reasonable potential analysis and effluent limitations in this Order are based on saltwater water quality objectives.

- f. 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 metals, translators must be used to convert metals concentrations from dissolved to total recoverable and vice versa. The CTR contains default translators; however, site-specific conditions, such as water temperature, pH, total

suspended solids, and organic carbon may affect the form of metal (dissolved, non-filterable, or otherwise) present and therefore available to cause toxicity. In general, dissolved metals are more available and more toxic to aquatic life than other forms. Site-specific translators can account for site-specific conditions, thereby preventing overly stringent or under-protective water quality objectives.

CTR default translators were used for all metals other than copper, nickel, and zinc. Basin Plan Table 7.2.1-2 sets forth site-specific copper translators. The Clean Estuary Partnership's *North of Dumbarton Bridge Copper and Nickel Development and Selection of Final Translators* (March 2005) contains site-specific nickel translators. Additionally, this Order includes site-specific zinc translators calculated using RMP data collected between 1993 and 2003 at the Alameda RMP monitoring station (BB70) and two other Central San Francisco Bay stations near the EBDA deepwater outfall (CB004W and CB006W). These translators are listed in the table below:

Table F-5. Site-Specific Translators

Parameter	Site Specific Translators	
	Acute	Chronic
Copper	0.87	0.73
Nickel	0.85	0.65
Zinc	0.46	0.30

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 March 2012 through July 2017 and ambient background data summarized in the *San Francisco Bay California Toxics Rule Priority Pollutant Ambient Water Monitoring Report* (February 2017), which includes data the RMP collected at the Yerba Buena sampling station (BC10) from March 1993 through August 2015, supplemented by additional Bay Area Clean Water Agencies data from *San Francisco Bay Ambient Water Monitoring Interim Report* (2003) and *Ambient Water Monitoring: Final CTR Sampling Update* (2004). SIP section 1.4.3 requires that background water quality data be representative of the ambient receiving water that will mix with the discharge. RMP monitoring station BC10, relative to other RMP stations, fits SIP guidance for establishing background conditions at Discharge Point No. 001.

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

- b. Priority Pollutants.** For the priority pollutants, the reasonable potential analysis is based on the methodology set forth in SIP section 1.3. 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:

- i. **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).
- ii. **Trigger 2** is activated if the ambient background concentration observed in the receiving water is greater than the lowest applicable water quality objective ($B >$ water quality objective) *and* the pollutant is detected in any effluent sample.
- iii. **Trigger 3** is activated if a review of other information indicates that a WQBEL is needed to protect beneficial uses.

The maximum effluent concentrations (MECs), most stringent applicable water quality criteria and objectives, and background concentrations (B) used in the analysis are presented below, along with the reasonable potential analysis results (yes or no) for each pollutant. Basin Plan sections 7.2.1.2 and 4.7.2.2 require copper and cyanide WQBELs for municipal wastewater treatment facilities that discharge to San Francisco Bay.

Table F-6. Priority Pollutant Reasonable Potential Analysis

CTR No.	Pollutants	Governing Criterion or Objective (µg/L)	MEC or Minimum DL (µg/L) ^{[1][2]}	B or Minimum DL (µg/L) ^{[1][2]}	RPA Results ^[3]
1	Antimony	4,300	0.43	1.8	No
2	Arsenic	36	3.3	2.5	No
3	Beryllium	No Criteria	<0.02	0.22	U
4	Cadmium	9.3	0.031	0.13	No
5a	Chromium (III) ^[4]	No Criteria	1.5	4.4	U
5b	Chromium (VI) ^[4]	50	1.5	4.4	No
6	Copper	8.2	9.3	2.5	Yes
7	Lead	8.5	0.63	0.80	No
8	Mercury ^[5]	---	---	0.0090	^[5]
9	Nickel	13	5.3	3.7	No
10	Selenium	5.0	1.0	0.39	No
11	Silver	2.2	0.086	0.052	No
12	Thallium	6.3	<0.1	0.023	No
13	Zinc	196	40	5.1	No
14	Cyanide	2.9	9.0	0.52	Yes
15	Asbestos	No Criteria	Unavailable	---	U
16	2,3,7,8-TCDD	1.4E-08	<1.5E-07	2.7E-08	U
18	Acrylonitrile	0.66	<0.31	4.1E-08	No
19	Benzene	71	<0.10	<0.50	No
20	Bromoform	360	<0.14	0.030	No
21	Carbon Tetrachloride	4.4	<0.11	<0.050	No
22	Chlorobenzene	21,000	<0.12	<0.15	No
23	Chlorodibromomethane	34	<0.13	0.060	No
24	Chloroethane	No Criteria	<0.11	<0.18	U

CTR No.	Pollutants	Governing Criterion or Objective (µg/L)	MEC or Minimum DL (µg/L) ^{[1][2]}	B or Minimum DL (µg/L) ^{[1][2]}	RPA Results ^[3]
25	2-Chloroethylvinyl ether	No Criteria	<0.17	<0.050	U
26	Chloroform	No Criteria	0.83	<0.38	U
27	Dichlorobromomethane	46	<0.083	<0.28	No
28	1,1-Dichloroethane	No Criteria	<0.097	<0.19	U
29	1,2-Dichloroethane	99	<0.10	<0.050	No
30	1,1-Dichloroethylene	3.2	<0.11	<0.050	No
31	1,2-Dichloropropane	39	<0.11	0.040	No
32	1,3-Dichloropropylene	1,700	<0.10	<0.21	No
33	Ethylbenzene	29,000	<0.080	<0.050	No
34	Methyl Bromide	4,000	<0.23	<0.16	No
35	Methyl Chloride	No Criteria	<0.21	<0.26	U
36	Methylene Chloride	1,600	1.6	<0.30	No
37	1,1,2,2-Tetrachloroethane	11	<0.12	<0.30	No
38	Tetrachloroethylene	8.9	<0.090	22	No
39	Toluene	200,000	1.0	<0.05	No
40	1,2-Trans-Dichloroethylene	140,000	<0.16	<0.05	No
41	1,1,1-Trichloroethane	No Criteria	<0.14	<0.19	U
42	1,1,2-Trichloroethane	42	<0.098	<0.22	No
43	Trichloroethylene	81	<0.10	<0.19	No
44	Vinyl Chloride	525	<0.090	<0.05	No
45	2-Chlorophenol	400	<0.19	<0.20	No
46	2,4-Dichlorophenol	790	<0.18	<0.25	No
47	2,4-Dimethylphenol	2,300	<0.12	<0.70	No
48	2-Methyl- 4,6-Dinitrophenol	765	<0.97	<0.90	No
49	2,4-Dinitrophenol	14,000	<0.64	<0.80	No
50	2-Nitrophenol	No Criteria	<0.51	<0.60	U
51	4-Nitrophenol	No Criteria	<0.1	<0.70	U
52	3-Methyl 4-Chlorophenol	No Criteria	<0.18	<0.80	U
53	Pentachlorophenol	7.9	<1.8	<0.50	No
54	Phenol	4,600,000	<0.088	<0.80	No
55	2,4,6-Trichlorophenol	6.5	<0.6	<0.60	No
56	Acenaphthene	2,700	<0.016	<0.50	U
57	Acenaphthylene	No Criteria	<0.016	<0.97	No
58	Anthracene	110,000	<0.011	0.0020	U
59	Benzidine	0.00054	<1.6	0.0010	U
60	Benzo(a)Anthracene	0.049	<0.13 DNQ	0.0010	Yes
61	Benzo(a)Pyrene	0.049	<0.012	<0.00030	U
62	Benzo(b)Fluoranthene	0.049	<0.0095	0.0050	U
63	Benzo(ghi)Perylene	No Criteria	<0.0082	0.0020	U
64	Benzo(k)Fluoranthene	0.049	<0.0066	0.0050	U
65	Bis(2-Chloroethoxy)Methane	No Criteria	<0.41	0.0030	U
66	Bis(2-Chloroethyl)Ether	1.4	<0.17	0.0020	No
67	Bis(2-Chloroisopropyl)Ether	170,000	<0.13	<0.30	U
68	Bis(2-Ethylhexyl)Phthalate	5.9	8.6	<0.30	Yes

CTR No.	Pollutants	Governing Criterion or Objective (µg/L)	MEC or Minimum DL (µg/L) ^{[1][2]}	B or Minimum DL (µg/L) ^{[1][2]}	RPA Results ^[3]
69	4-Bromophenyl Phenyl Ether	No Criteria	<0.14	<0.60	U
70	Butylbenzyl Phthalate	5,200	4.0 DNQ	<0.50	No
71	2-Chloronaphthalene	4,300	<0.097	<0.23	No
72	4-Chlorophenyl Phenyl Ether	No Criteria	0.12	<0.50	U
73	Chrysene	0.049	<0.0084	<0.30	No
74	Dibenzo(a,h)Anthracene	0.049	<0.0095	<0.30	No
75	1,2-Dichlorobenzene	17,000	<0.13	0.0020	No
76	1,3-Dichlorobenzene	2,600	<0.17	0.0010	No
77	1,4-Dichlorobenzene	2,600	<0.14	<0.27	No
78	3,3 Dichlorobenzidine	0.077	<0.26	<0.18	U
79	Diethyl Phthalate	120,000	1.3 DNQ	<0.18	No
80	Dimethyl Phthalate	2,900,000	<0.12	<0.00020	No
81	Di-n-Butyl Phthalate	12000	1.7 DNQ	<0.20	No
82	2,4-Dinitrotoluene	9.1	<0.13	<0.20	No
83	2,6-Dinitrotoluene	No Criteria	<0.15	<0.50	U
84	Di-n-Octyl Phthalate	No Criteria	<0.092	<0.27	U
85	1,2-Diphenylhydrazine	0.54	Unavailable	<0.29	U
86	Fluoranthene	370	<0.013	<0.38	No
87	Fluorene	14,000	<0.016	0.004	No
88	Hexachlorobenzene	0.00077	<0.12	0.011	U
89	Hexachlorobutadiene	50	<0.095	0.0020	No
90	Hexachlorocyclopentadiene	17,000	<0.19	2.0E+05	No
91	Hexachloroethane	8.9	<0.11	<0.30	No
92	Indeno(1,2,3-cd)Pyrene	0.049	<0.0088	<0.30	No
93	Isophorone	600	0.14	<0.20	U
94	Naphthalene	No Criteria	0.026 DNQ	0.0040	U
95	Nitrobenzene	1,900	<0.12	<0.30	No
96	N-Nitrosodimethylamine	8.1	<0.083	0.0090	No
97	N-Nitrosodi-n-Propylamine	1.4	<0.19	<0.25	No
98	N-Nitrosodiphenylamine	16	<0.099	<0.30	No
99	Phenanthrene	No Criteria	0.036 DNQ	<0.00020	U
100	Pyrene	11,000	0.062	<0.0010	No
101	1,2,4-Trichlorobenzene	No Criteria	<0.13	0.0060	U
102	Aldrin	0.00014	<0.0029	0.019	No
103	Alpha-BHC	0.013	<0.0029	<0.30	No
104	Beta-BHC	0.046	<0.0020	8.5E-06	No
105	Gamma-BHC	0.063	<0.0020	0.00050	No
106	Delta-BHC	No Criteria	<0.0029	0.00040	U
107	Chlordane	0.00059	<0.014	0.0014	No
108	4,4'-DDT	0.00059	<0.0039	0.00020	No
109	4,4'-DDE (linked to DDT)	0.00059	<0.0029	0.0010	No
110	4,4'-DDD	0.00084	<0.0020	0.00030	No
111	Dieldrin	0.00014	<0.0030	0.00030	No
112	Alpha-Endosulfan	0.0087	<0.0020	0.00010	No

CTR No.	Pollutants	Governing Criterion or Objective (µg/L)	MEC or Minimum DL (µg/L) ^{[1][2]}	B or Minimum DL (µg/L) ^{[1][2]}	RPA Results ^[3]
113	Beta-Endosulfan	0.0087	<0.0020	0.00010	No
114	Endosulfan Sulfate	240	<0.0020	0.00010	U
115	Endrin	0.0023	<0.0020	0.000040	No
116	Endrin Aldehyde	0.81	<0.0030	<0.0050	No
117	Heptachlor	0.00021	<0.0029	0.000020	U
118	Heptachlor Epoxide	0.00011	<0.0020	0.00010	U
119-125	PCBs sum ^[5]	---	---	---	[5]
126	Toxaphene	0.0002	0.070	8.2E-7	U

Abbreviations:

MEC = maximum effluent concentration
B = background concentration
WQC = water quality criterion or objective
DL = minimum detection level

Footnotes:

- [1] The maximum effluent concentration and ambient background concentration are the actual detected concentrations unless preceded by a “<” sign, in which case the value shown is the DL.
- [2] The maximum effluent concentration or ambient background concentration is “Unavailable” when there are no monitoring data for the constituent.
- [3] RPA Results = Yes, if $MEC \geq WQC$, $B > WQC$ and MEC is detected, or Trigger 3
= No, if MEC and B are $< WQC$ or all effluent data are undetected
= Unknown (U), if no criteria have been promulgated or data are insufficient.
- [4] This background value shown is a total chromium concentration. The chromium (IV) concentration is less than this value but unknown. Therefore, whether there is reasonable potential is also unknown.
- [5] SIP section 1.3 excludes from its reasonable potential analysis procedure priority pollutants for which a TMDL has been developed. TMDLs have been developed for mercury and PCBs in San Francisco Bay. Mercury and PCBs from wastewater discharges are regulated by NPDES Permit No. CA0038849, which implements the San Francisco Bay Mercury and PCBs TMDLs.

c. Ammonia

- i. **Methodology.** Ammonia is a toxic pollutant but not a priority pollutant; therefore, the procedure outlined in the *Technical Support Document for Water Quality-based Toxics Control* (Technical Support Document) (EPA/505/2-90-001, March 1991) was used to determine that ammonia in the discharges does not have a reasonable potential to cause water quality objectives to be exceeded in the receiving waters. The Technical Support Document allows the use of measured receiving water concentrations or receiving water concentrations projected from effluent data to perform the reasonable potential analysis. In either case, the receiving water concentrations are compared to the Basin Plan objectives. Measured receiving water concentrations do not yet reflect the discharge, so receiving water concentrations must be projected from effluent data to perform the reasonable potential analysis.

Data are available for total ammonia, but not un-ionized ammonia, because (1) sampling and laboratory methods are unavailable to analyze for un-ionized ammonia, and (2) the fraction of total ammonia that exists in the toxic un-ionized form depends on pH, salinity, and temperature. Total ammonia concentrations (as nitrogen) can be converted into un-ionized ammonia concentrations when concurrent pH, salinity, and temperature data are available as follows (U.S. EPA, 1989, *Ambient*

Water Quality Criteria for Ammonia (Saltwater)–1989, EPA Publication 440/5-88-004):

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

Where:

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

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

S = Salinity (parts per thousand)

T = Temperature (Kelvin)

P = Pressure (one atmosphere)

The following summarizes the steps to project receiving water concentrations using effluent data:

- Step 1. Determine the number of total observations (n) for a set of effluent data and determine the highest value from that data set (the maximum effluent concentration or MEC).
- Step 2. Determine the coefficient of variation (CV) from the data set. For a data set where $n < 10$, the CV is estimated to equal 0.6. For a data set where $n \geq 10$, the CV is calculated as the standard deviation divided by the mean.
- Step 3. Determine an appropriate ratio, R , for projecting a selected upper bound concentration (e.g., the 99th or 95th percentile) assuming a lognormal distribution. To do this, the percentile represented by the MEC in a data set of “ n ” samples, p_n , needs to be determined based on the desired confidence interval, e.g., 95% or 99%. The 95% confidence interval was used for evaluating reasonable potential for ammonia for this Order.

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

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

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

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

The ratio, R , is then determined to be:

$$R = C_{\text{upper bound}} / C_{P_n}$$

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

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

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

- ii. **Mixing Zone.** This Order establishes an ammonia mixing zone no larger than 39 acres as explained in Fact Sheet section IV.C.4. This mixing zone provides for a dilution ratio of 4:1 (D=3) (1 part effluent for every 3 parts receiving water after mixing).
- iii. **Analysis.** The Discharger has not collected any coincident total ammonia, pH, and temperature data. Between March 2012 and July 2017, the Discharger collected 21 total ammonia samples (n=21). Four pH samples were collected on the same days during this period. However, the Discharger collected 637 temperature samples between March 2008 and March 2011. For total ammonia data without paired pH data, the pH result for the sample collected closest to the date of the total ammonia sample was used. For temperature, the highest temperature of 26 degrees Celsius was paired with the total ammonia data because this results in the highest un-ionized ammonia estimate. The MEC expressed as un-ionized ammonia was 0.70 mg/L. To project the receiving water concentration, the confidence interval was set at 95 percent. The percentile represented by the MEC (P_n) was calculated to be 0.87, indicating that the MEC represents the 87th percentile of all observed ammonia effluent data. With the upper bound set at the 99th percentile, the R value was determined to be 1.2 (C_{pn} was 1.1 and $C_{\text{upper bound}}$ was 1.3).

$$\begin{aligned}\text{RWC} &= \text{MEC} \times \text{R} / \text{dilution ratio} \\ \text{RWC} &= 0.70 \text{ mg/L} \times 1.2 / 3 = 0.28 \text{ mg/L}\end{aligned}$$

The projected receiving water concentration at the edge of the mixing zone is at most 0.28 mg/L, which is less than the un-ionized ammonia objective of 0.4 mg/L. Therefore, there is no reasonable potential for ammonia.

- d. **Whole Effluent Toxicity.** The Discharger has not conducted acute or chronic toxicity bioassays. Toxicity effluent limitations are unwarranted due to the short-term and infrequent nature of the discharge. Wet weather discharges will be rare (occurring approximately eight times per year) and of short duration (approximately 12 hours per event). Dry season maintenance exercise discharges will also be rare (occurring no more than ten days per calendar year and no more than two consecutive days). Moreover, in accordance with NPDES Permit No. CA0037869, whole effluent toxicity is indirectly limited as part of the Discharger's requirements for discharges to the EBDA common outfall. As shown in Table F-2, the EBDA discharge consistently shows no acute or chronic toxicity.

4. Effluent Limitations

- a. Mixing Zones and Dilution.** This Order establishes mixing zones for ammonia, cyanide, and benzo(a)anthracene in accordance with SIP section 1.4.2.2 and the Technical Support Document. This Order satisfies Basin Plan section 4.6.1.2 conditions for granting dilution credits for shallow-water discharges through Provision VI.C.3 (Pollutant Minimization Program), MRP section V (Receiving Water Monitoring Requirements), and the mixing zone analysis below. The Discharger's pretreatment program, covered under NPDES Permit No. CA0037869 (for the EBDA Common Outfall), further satisfies Basin Plan section 4.6.1.2.

The Discharger completed a mixing zone study (July 2017) as part of its permit application. The Discharger also completed a dilution study, *Dilution Analysis of OLSD Proposed Discharge to South San Francisco Bay – Phase 2, Draft Technical Memorandum* (April 2017), using the RMA Bay-Delta model and the Discharger's effluent flow on March 27, 2011, representing a period of high discharge and low dilution in the receiving water, to simulate a year-long continuous discharge through the shallow-water outfall. This study evaluated discharge interactions with Lower San Francisco Bay, nearby San Lorenzo Creek (and its adjacent marsh), and Bockman Canal. The study demonstrated that a mixing zone of 39 acres corresponds to a dilution ratio of at least 4:1 ($D=3$). The dilution is likely to be considerably greater during periods of wet weather discharge, when higher discharge flows and increased flows from San Lorenzo Creek would cause more flushing and mixing.

For ammonia, benzo(a)anthracene, bis(2-ethylhexyl)phthalate, copper, cyanide, and fecal coliform, mixing zones as large as 39 acres meet the requirements of SIP section 1.4.2.2 and Technical Support Document guidance because they do the following:

- i. Maintain the integrity of the water body.** The mixing zones will not compromise the integrity of Lower San Francisco Bay because they are small relative to the size of the water body. The mixing zones would be no greater than 0.04 percent of Lower San Francisco Bay.
- ii. Prevent acute toxicity to aquatic life passing through the mixing zones.** Acutely toxic conditions will not exist inside the mixing zones for copper, cyanide, benzo(a)anthracene, and bis(2-ethylhexyl)phthalate because the maximum effluent concentration for each of these pollutants does not exceed their respective acute criteria. The mixing zones for copper and cyanide are based on chronic criteria, and the mixing zones for benzo(a)anthracene, bis(2-ethylhexyl)phthalate, and fecal coliform are based on human health criteria for consumption of organisms. For ammonia, it is unlikely that aquatic organisms passing through the mixing zone will be exposed more than one hour to acutely toxic conditions due to the rapidly attenuating nature of un-ionized ammonia.
- iii. Allow the passage of aquatic life.** The mixing zones will not interfere with the movement of aquatic species or restrict the passage of aquatic life because of their relatively small size compared to Lower San Francisco Bay. The mixing zones would be no greater than 0.04 percent of Lower San Francisco Bay. Moreover, the bay is not a river or stream through which organisms must pass.

- iv. Protect biologically sensitive or critical habitats, including, but not limited to, habitats of species under federal or State endangered species laws.** The area surrounding the shallow-water outfall consists primarily of intertidal mudflats and low vegetated riverine banks that do not provide critical habitat to federal or State-listed sensitive species.
- v. Prevent undesirable or nuisance aquatic life.** The mixing zones will not produce undesirable or nuisance aquatic life because intermittent ammonia discharges during peak wet weather events or intermittent dry-season discharge exercises cannot support or sustain algal growth or other nuisance aquatic life due to their brief and infrequent nature. Furthermore, dry season discharges will undergo nitrification and partial denitrification, which will reduce nitrogen loads when algal growth is more likely due to warmer temperatures. Additionally, this Order imposes receiving water limitations that prohibit bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses. Benzo(a)anthracene, bis(2-ethylhexyl)phthalate, copper, cyanide, and fecal coliform are not nutrients capable of contributing to undesirable or nuisance aquatic life.
- vi. Prevent floating debris, oil, or scum.** The mixing zone will not result in floating debris, oil, or scum because the treatment plant removes debris, oil, and scum. In addition, this Order imposes receiving water limitations that prohibit floating debris, oil, or scum at any place and at any time.
- vii. Prevent objectionable color, odor, taste, or turbidity.** The mixing zones will not produce objectionable color, odor, taste, or turbidity because all effluent discharged through the wet weather outfall receives secondary treatment. Secondary treatment generally addresses objectionable color, odor, taste, and turbidity through the biological degradation of organic compounds and clarification. In addition, this Order prohibits alteration of color or turbidity in receiving waters beyond natural background levels. The Discharger has not observed objectionable color, odor, or turbidity resulting from its discharge.
- viii. Prevent objectionable bottom deposits.** The mixing zone will not cause objectionable bottom deposits because the effluent receives secondary treatment at the treatment plant. The treatment biologically degrades and removes suspended particles that could contribute to receiving water bottom deposits. During the dry season maintenance exercise discharges, when dilution, flushing, and mixing is less, the discharge will comply with advanced-secondary treatment effluent limitations, resulting in lower total suspended solids. In addition, this Order prohibits bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses.
- ix. Do not cause nuisance.** The mixing zone will not cause a nuisance because the effluent receives secondary treatment and is disinfected prior to discharge. Moreover, this Order prohibits discharges from causing nuisance as defined in Water Code section 13050(m).
- x. Do not dominate the receiving water bodies or overlap a mixing zone from a different outfall.** The mixing zones will not dominate the receiving water because

they represent no more than 0.04 percent of Lower San Francisco Bay. Moreover, the mixing zones will not overlap any other mixing zones because the Regional Water Board has not established any other mixing zones near this outfall.

- xi. Are not located at or near any drinking water intake.** The mixing zones are in marine waters and not located at or near any drinking water intake.

SIP section 1.4.2.2.B calls for mixing zones to protect beneficial uses. The mixing zones described above will protect beneficial uses because ammonia, copper, and cyanide are not carcinogenic, mutagenic, teratogenic, persistent, or bioaccumulative. Benzo(a)anthracene and bis(2-ethylhexyl)phthalate are potential carcinogens; however, benzo(a)anthracene and bis(2-ethylhexyl)phthalate will not pose significant risks in the mixing zones because they will not persist in the environment. Discharges will occur only during peak wet weather events when significantly increased wet weather flows at the mixing zones will provide flushing and dilution.

SIP section 1.4.2.2 requires mixing zones to be as small as practicable. A mixing zone covering 39 acres would correspond to a dilution ratio of 4:1 ($D=3$). However, if the Discharger can comply with effluent limitations based on less dilution, then smaller mixing zones are practicable. Historic monitoring data show that the Discharger can comply with smaller mixing zones for benzo(a)anthracene, bis(2-ethylhexyl)phthalate, copper, and cyanide. Therefore, this Order establishes the 39-acre area as a mixing zone for ammonia and smaller areas as the mixing zones for benzo(a)anthracene, bis(2-ethylhexyl)phthalate, copper, and cyanide. The benzo(a)anthracene and cyanide mixing zones cover 18 acres (corresponding to a dilution ratio of 3:1 [$D=2$]), and the bis(2-ethylhexyl)phthalate and copper mixing zones cover 1.6 acres (corresponding to a dilution ratio of 2:1 [$D=1$]). Figure 1, below, illustrates these mixing zones.

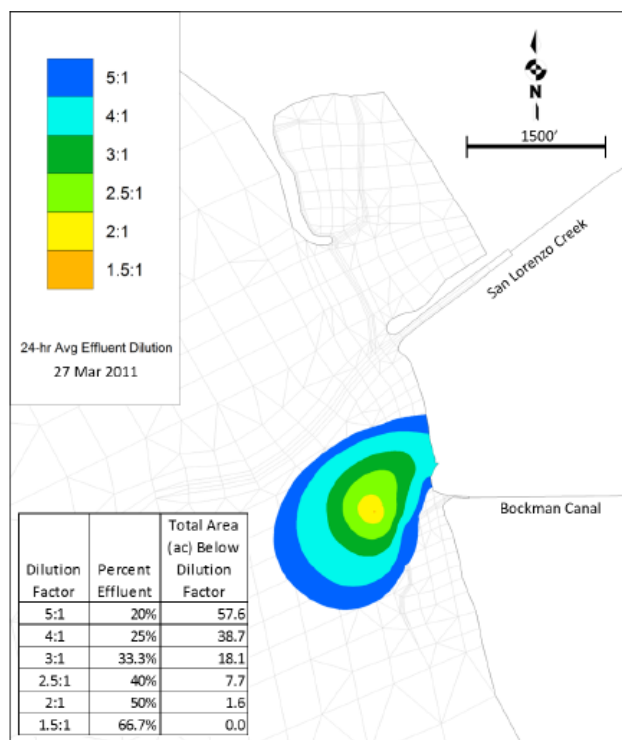


Figure 1. Mixing Zones

- b. WQBEL Calculations.** WQBELs were developed for pollutants with reasonable potential to cause or contribute to exceedances of water quality objectives. The WQBEL calculations are based on the procedures specified in SIP section 1.4. The average monthly effluent limitation (AMEL) and maximum daily effluent limitation (MDEL) were calculated as shown in the table below:

Table F-7. WQBEL Calculations

POLLUTANT	Copper	Cyanide	Benzo(a) Anthracene	Bis (2-Ethylhexyl) Phthalate
Units	ug/L	ug/L	ug/L	ug/L
Basis and Criteria type	Basin Plan SSO	Basin Plan SSO	CTR HH	CTR HH
Criteria -Acute	-----	-----	-----	-----
Criteria -Chronic	-----	-----	-----	-----
SSO Criteria -Acute	9.4	9.4	-----	-----
SSO Criteria -Chronic	6.0	2.9	-----	-----
Water Effects ratio (WER)	2.4	1	-----	-----
Lowest WQO	8.2	2.9	-----	-----
Site Specific Translator - MDEL	0.87	-----	-----	-----
Site Specific Translator - AMEL	0.73	-----	-----	-----
Dilution Factor (D) (if applicable)	1	2	2	1
No. of samples per month	4	4	4	4
Aquatic life criteria analysis required? (Y/N)	Y	Y	N	N
HH criteria analysis required? (Y/N)	N	Y	Y	Y
Applicable Acute WQO	11	9.4	-----	-----
Applicable Chronic WQO	8.2	2.9	-----	-----
HH criteria	-----	220,000	0.049	5.9
Background (Maximum Conc for Aquatic Life calc)	2.6	0.52	-----	-----
Background (Average Conc for Human Health calc)	-----	0.42	0.0013	0.5
Is the pollutant on the 303d list and/or bioaccumulative (Y/N)?	N	N	N	N
ECA acute	19	27	-----	-----
ECA chronic	14	8	-----	-----
ECA HH	-----	6.60E+05	0.14	11
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	N	Y	N	N
Avg of effluent data points	5.7	2.0	0.12	1.9
Std Dev of effluent data points	1.5	1.2	0.13	2.8
CV calculated	0.26	-----	-----	-----
CV (Selected) - Final	0.26	0.60	0.60	0.60
ECA acute mult99	0.57	0.32	-----	-----
ECA chronic mult99	0.75	0.53	-----	-----

POLLUTANT	Copper	Cyanide	Benzo(a) Anthracene	Bis (2-Ethylhexyl) Phthalate
Units	ug/L	ug/L	ug/L	ug/L
LTA acute	11	8.7	-----	-----
LTA chronic	10	4.0	-----	-----
minimum of LTAs	10	4.0	-----	-----
AMEL mult95	1.2	1.6	2.0	1.6
MDEL mult99	1.7	3.1	5.2	3.1
AMEL (aq life)	13	6.3	-----	-----
MDEL(aq life)	18	13	-----	-----
MDEL/AMEL Multiplier	1.4	2.0	2.6	2.0
AMEL (human hlth)	-----	6.6E+05	0.14	11
MDEL (human hlth)		1.3E+06	0.37	23
minimum of AMEL for Aq. life vs HH	13	6.3	0.14	11
minimum of MDEL for Aq. Life vs HH	18	13	0.37	23
Final limit - AMEL	13	6.3	0.14	11
Final limit - MDEL	18	13	0.37	23

D. Discharge Requirement 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 and requirements in a reissued permit to be as stringent as those in the previous order. This Order is a new NPDES permit; therefore, there is no backsliding.
- 2. Antidegradation.** Antidegradation policies require that existing water quality be maintained unless degradation is justified based on specific findings. State Water Board Resolution No. 68-16 sets forth California's Antidegradation policy. Consistent with 40 C.F.R section 131.12, Resolution No. 68-16 incorporates the federal antidegradation policy. The Basin Plan implements, and incorporates by reference, the State and federal antidegradation policies. Permitted discharges must be consistent with these policies.

In 1990, the State Water Board adopted Administrative Procedures Update No. 90-004, which provides guidance for implementing the State and federal anti-degradation policies. The potential for degradation is evaluated by comparing the receiving water quality likely to result from a new discharge to the water quality baseline. The water quality baseline is the best receiving water quality that has existed since 1968 when considering Resolution No. 68-16 or since 1975 under the federal policy, unless a subsequent regulatory action lowered water quality consistent with State and federal antidegradation policies. If poorer water quality was permitted, the most recent water quality resulting from permitted action is the baseline water quality. For purposes of this analysis, existing water quality is assumed to be the best that has existed since 1968 and 1975. No poorer water quality has been permitted. (Water quality in 1968 and 1975 was worse than it is now because most CWA controls, such

as the secondary treatment standards for municipal wastewater treatment, were not yet in place.)

This Order authorizes discharge to Lower San Francisco Bay. The discharge will not degrade existing Lower San Francisco Bay water quality for the following reasons:

- a. Discharge will not be a new discharge to Lower San Francisco Bay. Rather, a portion of the discharge will be relocated from deep water to shallow water adjacent to the treatment plant. Therefore, pollutant loads to Lower San Francisco Bay will not increase.
- b. The quality of the discharge will be higher than the current discharge through the EBDA common outfall because it will undergo advanced-secondary treatment, including nitrification and partial denitrification. The quality of the dry season maintenance exercise discharges will also be higher because they will be subject to more stringent effluent limitations for CBOD₅, TSS, and oil and grease.
- c. The discharge will be intermittent and short-term. Wet weather discharges will occur approximately eight times per year for approximately 12 hours per event. Dry season maintenance exercise discharges will occur at most ten days per year, with each discharge event not exceeding 10 MGD and two consecutive days. The dry season maintenance exercise discharges will protect Lower San Francisco Bay water quality by ensuring proper operation and maintenance of the dechlorination equipment.

Based on these findings, the discharge will not be adverse to the intent and purpose of the State and federal antidegradation policies, and a more comprehensive antidegradation analysis is not required.

3. **Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based and WQBELs 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.

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

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

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

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

Attachment D contains standard provisions that apply to all NPDES permits in accordance with 40 C.F.R. section 122.41 and additional conditions applicable to specific categories of permits in accordance with 40 C.F.R. section 122.42. The Discharger must comply with these provisions. The conditions set forth in 40 C.F.R. sections 122.41(a)(1) and (b) through (n) apply to all state-issued NPDES permits and must be incorporated into 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 MRP establishes monitoring, reporting, and recordkeeping requirements that implement federal and State requirements. For more background regarding these requirements, see Fact Sheet section VII.

C. Special Provisions

1. Reopener Provisions

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

2. Effluent Characterization Study and Report

This Order does not include effluent limitations for priority pollutants that do not demonstrate reasonable potential, but this provision requires the Discharger to continue monitoring for these pollutants as described in the MRP and Attachment G. Monitoring data are necessary to verify that the “no” and “unknown” reasonable potential analysis

conclusions of this Order remain valid. This requirement is authorized pursuant to Water Code section 13267 and is necessary to inform the next permit reissuance and to ensure that the Discharger takes timely steps in response to any unanticipated change in effluent quality during the term of this Order.

3. Pollutant Minimization Program

This provision is based on Basin Plan section 4.13.2 and SIP section 2.4.5. The Discharger submits an annual pollution prevention report under NPDES Permit No. CA0037869 that includes copper and cyanide action plans based on Basin Plan sections 7.2.1.2 and 4.7.2.2.

D. Other Special Provisions

- 1. Wet Weather Discharges Annual Technical Report.** This provision is necessary to evaluate compliance with the discharge prohibitions in section III of this Order and the monitoring requirements in MRP sections III and IV.
- 2. Wet Weather Facilities Management Plan.** This provision is necessary to ensure that the Discharger evaluates and manages its Facility to minimize future discharges. Many requirements of this Order are based on the continued infrequency of discharges to Lower San Francisco Bay.
- 3. Plant Optimization Improvements and Shallow-Water Outfall Use.** This provision is based on 40 C.F.R. section 122.41(l). It specifies conditions the Discharger must comply with before discharging from the shallow-water outfall. This is necessary to ensure that the optimized treatment plant will comply with this Order and inform the Regional Water Board when discharge will commence.
- 4. Continuous Discharge Evaluation Plan.** This provision is based on CWA section 1318(a) and Water Code section 13383. CWA section 1318(a) authorizes the collection of information necessary to carry out the objectives of the CWA, including but not limited to developing or assisting in the development of any effluent limitation, other limitation, prohibition, effluent standard, pretreatment standard or standard of performance. The Regional Water Board implements this requirement through Water Code section 13383. This provision is necessary to characterize the receiving water during continuous dry-weather discharges and inform the Regional Water Board of possible water quality impacts of the Discharger expanding to continuous, year-round discharge. If the Discharger were to propose a year-round discharge, it will need to characterize the toxicity of the discharge by conducting screening phase monitoring for chronic toxicity consistent with Appendix E-1 of NPDES Permit No. CA0037869 (EBDA Common Outfall) or as described in applicable State Water Board plan provisions that may become effective after adoption of this Order.

VII. RATIONALE FOR MONITORING AND REPORTING PROGRAM

Attachment E contains the MRP for this Order, which 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. MRP Requirements Rationale

- 1. Influent Monitoring.** Influent monitoring for total ammonia and other nitrogen forms at Monitoring Location INF-002C is necessary to evaluate compliance with this Order's annual average ammonia removal requirement of 70 percent and assess the plant's removal efficiency for total nitrogen. Basin Plan section 4.7.2.2 requires influent cyanide monitoring for the Discharger because this Order is based on site-specific cyanide water quality objectives. The influent cyanide monitoring requirement is covered under NPDES Permit No. CA0037869 (EBDA Common Outfall). The EBDA Common Outfall permit also covers the Discharger's influent CBOD₅ and TSS monitoring to comply with 85 percent removal effluent limitations.
- 2. Effluent Monitoring.** Effluent monitoring at Monitoring Location EFF-002C is necessary to evaluate compliance with this Order's effluent limitations and Discharge Prohibition III.B. It is also necessary to conduct future reasonable potential and nutrient removal analyses. Effluent monitoring at Monitoring Location EFF-WW is necessary to evaluate compliance with this Order's effluent limitations and Discharge Prohibition III.D.
- 3. Other Monitoring Requirements.** Pursuant to CWA section 308, U.S. EPA requires dischargers to participate in a Discharge Monitoring Report-Quality Assurance (DMR-QA) Study Program. The program annually evaluates the analytical abilities of laboratories that perform or support NPDES permit-required monitoring. The program applies to discharger laboratories and contract laboratories. There are two options to comply: (1) dischargers can obtain and analyze DMR-QA samples, or (2) pursuant to a waiver U.S. EPA issued to the State Water Board, dischargers can submit results from the most recent Water Pollution Performance Evaluation Study. Dischargers must submit results annually to the State Water Board, which then forwards the results to U.S. EPA.

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

Table F-8. Monitoring Requirements Summary

Parameter	Influent INF-002C	Effluent EFF-002C	Effluent EFF-WW
Carbonaceous Biochemical Oxygen Demand (CBOD ₅)	---	1/Discharge	---
Total Suspended Solids (TSS)	---	1/Discharge	---
Oil and Grease	---	1/Year	---
pH	---	1/Discharge	---
Fecal Coliform	---	1/Discharge	---
Total Residual Chlorine	---	---	Once every two hours during discharge
Ammonia, Total	1/Month	1/Month ^[1]	---
Kjeldahl Nitrogen, Total	1/Month	1/Month	
Nitrate-Nitrite	1/Month	1/Month	

Parameter	Influent INF-002C	Effluent EFF-002C	Effluent EFF-WW
Nitrogen, Total	1/Month	1/Month	
Copper, Total	---	1/Year ^[1]	---
Cyanide, Total	---	1/Year ^[1]	---
Benzo(a)Anthracene	---	1/Year ^[1]	---
Bis(2-ethylhexyl)Phthalate	---	1/Year ^[1]	---
Discharge Duration	---	---	1/Discharge
Flow	---	---	1/Discharge
Other pollutants	---	Once ^[2]	---

Abbreviation:

1/Discharge = once per discharge event

1/Year = once per year

1/Month = once per month

Footnotes:

^[1] Monitoring is not required during maintenance exercise discharges.

^[2] Provision VI.C.2 of the Order requires this monitoring.

VIII. PUBLIC PARTICIPATION

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

A. Notification of Interested Parties. The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through the *Tri-Valley 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 Officer at the Regional Water Board at 1515 Clay Street, Suite 1400, Oakland, California 94612, Attention: James Parrish.

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 February 20, 2018.

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: **March 14, 2018**

Time: 9:00 a.m.

Location: Elihu Harris State Office Building
1515 Clay Street, 1st Floor Auditorium
Oakland, CA 94612

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

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

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

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

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

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

- E. Information and Copying.** The Report of Waste Discharge, related supporting documents, and comments received are on file and may be inspected at the address above at any time between 9:00 a.m. and 5:00 p.m., Monday through Friday. Copying of documents may be arranged by calling (510) 622-2300.
- F. Register of Interested Persons.** Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference the Facility, and provide a name, address, and phone number.
- G. Additional Information.** Requests for additional information or questions regarding this Order should be directed to James Parrish, at (510) 622- 2381 or James.Parrish@waterboards.ca.gov.

ATTACHMENT G

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

November 2017

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REGIONAL STANDARD PROVISIONS, AND MONITORING AND REPORTING REQUIREMENTS

APPLICABILITY

This document supplements the requirements of Federal Standard Provisions (Attachment D). For clarity, these provisions are arranged using to the same headings as those used in 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 – Supplement to Attachment D, Provision I.C.

- 1. Contingency Plan.** The Discharger shall maintain a Contingency Plan as prudent in accordance with current 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 (see Provision I.C.2, below) into one document. In accordance with Regional Water Board Resolution No. 74-10, discharge in violation of the permit where the Discharger has failed to develop and implement a Contingency Plan as described below may 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, provide for the following:
 - a. Sufficient personnel for continued facility operation and maintenance during employee strikes or strikes against contractors providing services;
 - b. Maintenance of adequate chemicals or other supplies, and spare parts necessary for continued facility operations;
 - c. Emergency standby power;
 - d. Protection against vandalism;
 - e. Expeditious action to repair failures of, or damage to, equipment, including any sewer lines;
 - f. Reporting of spills and discharges of untreated or inadequately treated wastes, including measures taken to clean up the effects of such discharges; and
 - g. Maintenance, replacement, and surveillance of physical condition of equipment and facilities, including any sewer lines.

- 2. Spill Prevention Plan.** The Discharger shall maintain a Spill Prevention Plan to prevent accidental discharges and to minimize the effects of any such discharges. The Spill Prevention Plan shall do the following:
 - a. Identify the possible sources of accidental discharge, untreated or partially-treated waste bypass, and polluted drainage;
 - b. State when current facilities and procedures became operational and evaluate their effectiveness; and
 - c. Predict the effectiveness of any proposed facilities and procedures and provide an implementation schedule with interim and final dates when the proposed facilities and procedures will be constructed, implemented, or operational.

D. Proper Operation and Maintenance – Supplement to Attachment D, Provision I.D

- 1. Operation and Maintenance Manual.** The Discharger shall maintain an Operation and Maintenance 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 Operation and Maintenance Manual shall be kept updated to reflect significant changes in treatment facility equipment and operational practices. The Operation and Maintenance 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 maintain a Wastewater Facilities Status Report and regularly review, revise, or update it, as necessary. 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 Title 23, section 3680, 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 – Addition to 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. 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 shall continue in force and effect until the permit is reissued or the Regional Water Board rescinds the permit.

II. STANDARD PROVISIONS – PERMIT ACTION – Not Supplemented

III. STANDARD PROVISIONS – MONITORING

A. Sampling and Analyses – Supplement to Attachment D, Provisions III.A and III.B

1. **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. **Minimum Levels.** For the 126 priority pollutants, the Discharger should use the analytical methods listed in Table B unless the Monitoring and Reporting Program (MRP, Attachment E) requires a particular method or minimum level (ML). All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.
3. **Monitoring Frequency.** The MRP specifies the minimum sampling and analysis schedule.
 - a. **Sample Collection Timing**
 - d. The Discharger shall collect influent samples on varying days selected at random and shall not include any plant recirculation or other sidestream wastes, unless otherwise stipulated in the MRP. The Executive Officer may approve an alternative influent sampling plan if it is representative of plant influent and complies with all other permit requirements.
 - e. The Discharger shall collect effluent samples on days coincident with influent sampling, unless otherwise stipulated by the MRP. If influent sampling is not required, the Discharger shall collect effluent samples on varying days selected at random, unless otherwise stipulated in the MRP. The Executive Officer may approve an alternative effluent sampling plan if it is representative of plant discharge and in compliance with all other permit requirements.

- f. The Discharger shall collect effluent grab samples during periods of daytime maximum peak flows (or peak flows through secondary treatment units for facilities that recycle effluent).
- g. Effluent sampling for conventional pollutants shall occur on at least one day of any multiple-day bioassay the MRP requires. During the course of the bioassay, on at least one day, the Discharger shall collect and retain samples of the discharge. In the event that a bioassay result does not comply with effluent limitations, the Discharger shall analyze the retained samples for pollutants that could be toxic to aquatic life and for which it has effluent limitations.
 - (a) The Discharger shall perform bioassays on final effluent samples; when chlorine is used for disinfection, bioassays shall be performed on effluent after chlorination and dechlorination; and
 - (b) The Discharger shall analyze for total ammonia nitrogen and calculate the amount of un-ionized ammonia whenever test results fail to meet effluent limitations.

b. Conditions Triggering Accelerated Monitoring

- i. **Average Monthly Effluent Limitation Exceedance.** If the results from two consecutive samples of a constituent monitored in a particular month exceed the average monthly effluent limitation for any parameter (or if the required sampling frequency is once per month or less and the monthly sample exceeds the average monthly effluent limitation), 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 complies with the average monthly effluent limitation.
- ii. **Maximum Daily Effluent Limitation Exceedance.** If a sample result exceeds a maximum daily effluent limitation, the Discharger shall, within 24 hours after the result is received, increase its sampling frequency to daily until the results from two samples collected on consecutive days show compliance with the maximum daily effluent limitation.
- iii. **Acute Toxicity.** If final or intermediate results of an acute bioassay indicate a violation or threatened violation (e.g., the percentage of surviving test organisms of any single acute bioassay is less than 70 percent), the Discharger shall initiate a new test as soon as practical or as described in applicable State Water Board plan provisions that become effective after adoption of these Regional Standard Provisions. The Discharger shall investigate the cause of the mortalities and report its findings in the next self-monitoring report.
- iv. **Chlorine.** 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 limitation is achieved,

unless the Discharger monitors chlorine residual continuously. In such cases, the Discharger shall continue to conduct continuous monitoring.

- v. **Bypass.** Except as indicated below, if a Discharger bypasses any portion of its treatment facility, it shall monitor flows and collect samples at affected discharge points and analyze samples for all constituents with effluent limitations on a daily basis for the duration of the bypass. The Discharger need not accelerate chronic toxicity monitoring. The Discharger also need not collect and analyze samples for mercury, dioxin-TEQ, and PCBs after the first day of the bypass. The Discharger may satisfy the accelerated acute toxicity monitoring requirement by conducting a flow-through test or static renewal test that captures the duration of the bypass (regardless of the method specified in the MRP). If bypassing disinfection units only, the Discharger shall only monitor bacteria indicators daily.
 - (a) **Bypass for Essential Maintenance.** If a Discharger bypasses a treatment unit for essential maintenance pursuant to Attachment D section I.G.2, the Executive Officer may reduce the accelerated monitoring requirements above if the Discharger (i) monitors effluent at affected discharge points on the first day of the bypass for all constituents with effluent limitations, except chronic toxicity; and (ii) identifies and implements measures to ensure that the bypass will continue to comply with effluent limitations.
 - (b) **Approved Wet Weather Bypasses.** If a Discharger bypasses a treatment unit or permitted outfall during wet weather with Executive Officer approval pursuant to Attachment D section I.G.4, the Discharger shall monitor flows and collect and retain samples for affected discharge points on a daily basis for the duration of the bypass. The Discharger shall analyze daily for TSS using 24-hour composites (or more frequent increments) and for bacteria indicators with effluent limitations using grab samples. If TSS exceeds 45 mg/L in any composite sample, the Discharger shall also analyze daily the retained samples for all other constituents with effluent limitations, except oil and grease, mercury, PCBs, dioxin-TEQ, and acute and chronic toxicity. Additionally, at least once each year, the Discharger shall analyze the retained samples for one approved bypass for all other constituents with effluent limitations, except oil and grease, mercury, PCBs, dioxin-TEQ, and acute and chronic toxicity. This monitoring shall be in addition to the minimum monitoring specified in the MRP.

B. Standard Observations – Addition to Attachment D

- 1. **Receiving Water Observations.** The following requirements only apply when the MRP requires standard observations of receiving waters. 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** — color, source, and size of affected area.

- c. **Odor** — presence or absence, characterization, source, and distance of travel.
 - d. **Beneficial Water Use** — estimated number of water-associated waterfowl or wildlife, fisherpeople, and other recreational activities.
 - e. **Hydrographic Condition** — time and height of high and low tides (corrected to nearest National Oceanic and Atmospheric Administration location for the sampling date and time).
 - f. **Weather Conditions** — wind direction, air temperature, and total precipitation during five days prior to observation.
2. **Wastewater Effluent Observations.** The following requirements only apply when the MRP requires standard observations of wastewater effluent. 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 following requirements only apply when the MRP requires standard observations of beaches or shorelines. 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 of number of people participating in recreational water contact, non-water contact, and fishing activities.
4. **Waste Treatment and/or Disposal Facility Periphery Observations.** The following requirements only apply when the MRP requires standard observations of the periphery of waste treatment or disposal facilities. 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 – Supplement to Attachment D, Provision IV.A

The Discharger shall maintain records in a manner and at a location (e.g., the wastewater treatment plant or the Discharger's offices) such that the records are accessible to Regional Water Board staff. The minimum retention period specified in Attachment D, Provision IV, shall be extended during the course of any unresolved litigation regarding permit-related discharges, or when requested by Regional Water Board or U.S. EPA, Region IX, staff.

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 – Supplement to Attachment D, Provision IV.B

Monitoring records shall include the following:

- 1. Analytical Information.** Records shall include analytical method detection limits, minimum levels, reporting levels, and related quantification parameters.
- 2. Disinfection Process.** For the disinfection process, records shall include the following:
 - a.** For bacteriological analyses:
 - i.** Wastewater flow rate at the time of sample collection; and
 - ii.** Required statistical parameters for cumulative bacterial values (e.g., moving median or geometric mean for the number of samples or sampling period identified in the MRP).
 - b.** For the chlorination process (when chlorine is used for disinfection), at least daily average values for the following:
 - i.** Chlorine residual of treated wastewater as it enters the chlorine contact basin (mg/L);
 - ii.** Chlorine dosage (kg/day); and
 - iii.** Dechlorination chemical dosage (kg/day).
- 3. Wastewater Treatment Process Solids.** For each treatment unit process that involves solids removal from the wastewater stream, records shall include the following:
 - a.** 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
 - b.** Final disposition of such solids (e.g., landfill, other subsequent treatment unit).
- 4. Treatment Process Bypasses.** For all treatment process bypasses, including wet weather blending, records shall include the following:
 - a.** Chronological log of treatment process bypasses;
 - b.** Identification of treatment processes bypassed;
 - c.** Beginning and ending dates and times of bypasses;
 - d.** Bypass durations;

- e. Estimated bypass volumes; and
- f. Description of, or reference to other reports describing, the bypasses, their cause, the corrective actions taken (except for wet weather blending explicitly approved within the permit and in compliance with any related permit conditions), and any additional monitoring conducted.

5. Treatment Plant Overflows. The Discharger shall retain a chronological log of overflows at the treatment plant, including the headworks and all units and appurtenances downstream, and records supporting the information provided in accordance with Provision V.E.2, below.

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 – Supplement to Attachment D, Provision V.C

1. Self-Monitoring Reports. For each reporting period established in the MRP, the Discharger shall submit a self-monitoring report to the Regional Water Board in accordance with the requirements listed in the MRP and below:

a. Transmittal Letter. Each self-monitoring report shall be submitted with a transmittal letter that includes the following:

- i. Identification of all violations of effluent limitations or other waste discharge requirements found during the reporting period;
- ii. Details regarding the violations, such as parameters, magnitude, test results, frequency, and dates;
- iii. Causes of the violations;
- iv. Corrective actions taken or planned to resolve violations and prevent recurrences, and dates or time schedules for implementation (the Discharger may refer to previously submitted reports that address the corrective actions);
- v. Explanation for any data invalidation. Data should not be submitted in a self-monitoring report if it does not meet quality assurance/quality control standards. However, if the Discharger wishes to invalidate a measurement after submitting it in a self-monitoring report, the Discharger 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. The formal 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), and a discussion of the corrective actions taken or planned (with a time schedule for completion) to prevent recurrence of the sampling or measurement problem;

- vi. Description of blending, if any. If the Discharger blends, it shall describe the duration of blending events and certify whether the blending complied with all conditions for blending;
 - vii. Description of other bypasses, if any. If the Discharger bypasses any treatment units (other than blending), it shall describe the duration of the bypasses and effluent quality during those times; and
 - viii. Signature. The transmittal letter shall be signed in accordance with Attachment D, Provision V.B.
- b. Compliance Evaluation Summary.** Each self-monitoring report shall include a compliance evaluation summary that addresses each parameter for which the permit specifies effluent limitations, the number of samples taken during the monitoring period, and the number of samples that exceed the effluent limitations.
- c. More Frequent Monitoring.** If the Discharger monitors any pollutant more frequently than required by the MRP, the Discharger shall include the results of such monitoring in the calculation and reporting of the data submitted in the self-monitoring report.
- d. Analysis Results**
- i. **Tabulation.** Each self-monitoring report shall include tabulations of all required analyses and observations, including parameters, dates, times, sample stations, types of samples, test results, method detection limits, method minimum levels, and method reporting levels (if applicable), signed by the laboratory director or other responsible official.
 - ii. **Multiple Samples.** Unless the MRP specifies otherwise, when determining compliance with effluent limitations (other than instantaneous effluent limitations) and more than one sample result is available, the Discharger shall compute the arithmetic mean. If the data set contains one or more results that are “Detected, but Not Quantified (DNQ)” or “Not Detected” (ND), the Discharger shall instead compute the median in accordance with the following procedure:
 - (a) 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.
 - (b) The median of the data set shall be determined. If the data set has an odd number of data points, the median is the middle value. If the data set has an even number of data points, the median is the average of the two values around the middle, unless one or both of these values is ND or DNQ, in which case the median shall

be the lower of the two results (where DNQ is lower than a quantified value and ND is lower than DNQ).

- iii. Duplicate Samples.** The Discharger shall report the average of duplicate sample analyses when reporting for a single sample result (or the median if one or more of the duplicates is DNQ or ND [see Provision V.C.1.c.ii, above]). For bacteria indicators, the Discharger shall report the geometric mean of the duplicate analyses.
- iv. Dioxin-TEQ.** The Discharger shall report for each dioxin and furan congener the analytical results of effluent monitoring, including the 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 (MLs) to zero. The Discharger shall calculate and report dioxin-TEQ using the following formula, where the MLs, toxicity equivalency factors (TEFs), and bioaccumulation equivalency factors (BEFs) are as provided in Table A:

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

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

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

Dioxin or Furan Congener	Minimum Level (pg/L)	2005 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	0.0003	0.01
2,3,7,8-TCDF	10	0.1	0.8
1,2,3,7,8-PeCDF	50	0.03	0.2
2,3,4,7,8-PeCDF	50	0.3	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	0.0003	0.02

- e. 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 may require additional time to complete analytical processes and report results. In these cases, the Discharger shall describe the circumstances in the self-monitoring report and include the data for these parameters and relevant discussions of any violations in the next self-monitoring report due after the results are available.
- f. Annual Self-Monitoring Reports.** By the date specified in the MRP, the Discharger shall submit an annual self-monitoring report covering the previous calendar year. The report shall contain the following:

 - i.** Comprehensive discussion of treatment plant performance, including documentation of any blending or other bypass events, 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 the performance and reliability of wastewater collection, treatment, or disposal practices;
 - ii.** List of approved analyses, including the following:

 - (a)** List of analyses for which the Discharger is certified;
 - (b)** List of analyses performed for the Discharger by a separate certified laboratory (copies of reports signed by the laboratory director of that laboratory need not be submitted but shall be retained onsite); and
 - (c)** List of “waived” analyses, as approved;
 - iii.** Plan view drawing or map showing the Discharger’s facility, flow routing, and sampling and observation station locations; and
 - iv.** Results of facility report reviews. The Discharger shall regularly review, revise, and update, as necessary, the Operation and Maintenance Manual, Contingency Plan, Spill Prevention Plan, and Wastewater Facilities Status Report so these documents remain useful and relevant to current practices. At a minimum, reviews shall be conducted annually. The Discharger shall describe or summarize its review and evaluation procedures, recommended or planned actions, and estimated time schedule for implementing these actions. The Discharger shall complete changes to these documents to ensure that they remain up-to-date.

D. Compliance Schedules – Not supplemented

E. Twenty-Four Hour Reporting – Supplement to Attachment D, Provision V.E

1. Oil or Other Hazardous Material Spills

- a.** Within 24 hours of becoming aware of a spill of oil or other hazardous material not contained onsite and completely cleaned up, the Discharger shall report as follows:
 - i.** If the spill exceeds reportable quantities for hazardous materials listed in 40 C.F.R. part 302. The Discharger shall call the California Office of Emergency Services (800-852-7550).
 - ii.** If the spill does not exceed reportable quantities for hazardous materials listed in 40 C.F.R., part 302, the Discharger shall call the Regional Water Board (510-622-2369).
- b.** The Discharger shall submit a written report to the Regional Water Board within five working days following either of the above telephone notifications unless directed otherwise by Regional Water Board staff. A report submitted electronically is acceptable. The written report shall include the following:
 - i.** Date and time of spill, and duration if known;
 - ii.** Location of spill (street address or description of location);
 - iii.** Nature of material spilled;
 - iv.** Quantity of material spilled;
 - v.** Receiving water body affected, if any;
 - vi.** Cause of spill;
 - vii.** Estimated size of affected area;
 - viii.** Observed impacts to receiving waters (e.g., oil sheen, fish kill, water discoloration);
 - ix.** Corrective actions taken to contain, minimize, or clean up the spill;
 - x.** Future corrective actions planned to prevent recurrence, and implementation schedule; and
 - xi.** Persons or agencies notified.

2. Unauthorized Municipal Wastewater Treatment Plant Discharges¹

- a. Two-Hour Notification.** For any unauthorized discharge that enters a drainage channel or surface water, the Discharger shall, as soon as possible, but not later than

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

two hours after becoming aware of the discharge, notify the California Office of Emergency Services (800-852-7550) and the local health officer or director of environmental health with jurisdiction over the affected water body. Notification shall include the following:

- i. Incident description and cause;
 - ii. Location of threatened or involved waterways or storm drains;
 - iii. Date and time that the unauthorized discharge started;
 - iv. Estimated quantity and duration of the unauthorized discharge (to the extent known), and estimated amount recovered;
 - v. Level of treatment prior to discharge (e.g., raw wastewater, primary-treated wastewater, or undisinfected secondary-treated wastewater); and
 - vi. Identity of person reporting the unauthorized discharge.
- b. Five-Day Written Report.** Within five business days following the two-hour notification, the Discharger shall submit a written report that includes, in addition to the information listed in Provision V.E.2.a, above, the following:
- i. Methods used to delineate the geographical extent of the unauthorized discharge within receiving waters;
 - ii. Efforts implemented to minimize public exposure to the unauthorized discharge;
 - iii. Visual observations of the impacts (if any) noted in the receiving waters (e.g., fish kill, discoloration of receiving water) and extent of sampling if conducted;
 - iv. Corrective measures taken to minimize the impact of the unauthorized discharge;
 - v. Measures to be taken to minimize the potential for a similar unauthorized discharge in the future;
 - vi. Summary of Spill Prevention Plan or Operation and Maintenance Manual modifications to be made, if necessary, to minimize the potential for future unauthorized discharges; and
 - vii. Quantity and duration of the unauthorized discharge, and the amount recovered.

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 – Addition to Attachment D

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

A. Arithmetic Calculations –

- 1. Geometric Mean.** 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

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

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

- 2. Mass Emission Rate.** The rate of discharge expressed in mass. The mass emission rate is obtained from the following calculation for any calendar day:

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

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

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

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

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

- 3. Removal Efficiency.** 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):

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

- B. Blending** – the practice of bypassing biological treatment units and recombining the bypass wastewater with biologically-treated wastewater.
- C. Composite Sample** – 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 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 protocol.
- D. Duplicate Sample** – a second sample taken from the same source and at the same time as an initial sample (such samples are typically analyzed identically to measure analytical variability).
- E. Grab Sample** – an individual sample collected during a short period not exceeding 15 minutes. Grab samples represent only the condition that exists at the time the sample is collected.
- F. Overflow** – the intentional or unintentional spilling or forcing out of untreated or partially-treated waste from a transport system (e.g., through manholes, at pump stations, or at collection points) upstream of the treatment plant headworks or from any part of a treatment plant.
- G. Priority Pollutants** – those constituents referred to in 40 C.F.R. part 122 as promulgated in the Federal Register, Vol. 65, No. 97, Thursday, May 18, 2000, also known as the California Toxics Rule.
- H. Untreated waste** – raw wastewater.

Table B
List of Monitoring Parameters and Analytical Methods

CTR No.	Pollutant/Parameter	Analytical Method ²	Minimum Levels ³ (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) ⁴	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) ⁵												
9	Nickel	249.2					50	5	20	1	5			1000
10	Selenium	200.8 or SM 3114B or C						5	10	2	5	1		1000
11	Silver	272.2					10	1	10	0.25	2			1000
12	Thallium	279.2					10	2	10	1	5			1000
13	Zinc	200 or 289					20		20	1	10			
14	Cyanide	SM 4500 CN ⁻ C or I				5								
15	Asbestos (only required for dischargers to MUN waters) ⁶	0100.2 ⁷												
16	2,3,7,8-TCDD and 17 congeners (Dioxin)	1613												
17	Acrolein	603	2.0	5										
18	Acrylonitrile	603	2.0	2										
19	Benzene	602	0.5	2										
33	Ethylbenzene	602	0.5	2										
39	Toluene	602	0.5	2										
20	Bromoform	601	0.5	2										
21	Carbon Tetrachloride	601	0.5	2										
22	Chlorobenzene	601	0.5	2										
23	Chlorodibromomethane	601	0.5	2										
24	Chloroethane	601	0.5	2										
25	2-Chloroethylvinyl Ether	601	1	1										
26	Chloroform	601	0.5	2										

² 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.

³ 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.

⁴ 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).

⁵ The Discharger shall use ultra-clean sampling (U.S. EPA Method 1669) and ultra-clean analytical methods (U.S. EPA Method 1631) for mercury monitoring. The minimum level for mercury is 2 ng/l (or 0.002 µg/l).

⁶ MUN = Municipal and Domestic Supply. This designation, if applicable, is in the Findings of the permit.

⁷ 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 ²	Minimum Levels ³ (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
75	1,2-Dichlorobenzene	601	0.5	2										
76	1,3-Dichlorobenzene	601	0.5	2										
77	1,4-Dichlorobenzene	601	0.5	2										
27	Dichlorobromomethane	601	0.5	2										
28	1,1-Dichloroethane	601	0.5	1										
29	1,2-Dichloroethane	601	0.5	2										
30	1,1-Dichloroethylene or 1,1-Dichloroethene	601	0.5	2										
31	1,2-Dichloropropane	601	0.5	1										
32	1,3-Dichloropropylene or 1,3-Dichloropropene	601	0.5	2										
34	Methyl Bromide or Bromomethane	601	1.0	2										
35	Methyl Chloride or Chloromethane	601	0.5	2										
36	Methylene Chloride or Dichloromethane	601	0.5	2										
37	1,1,2,2-Tetrachloroethane	601	0.5	1										
38	Tetrachloroethylene	601	0.5	2										
40	1,2-Trans-Dichloroethylene	601	0.5	1										
41	1,1,1-Trichloroethane	601	0.5	2										
42	1,1,2-Trichloroethane	601	0.5	2										
43	Trichloroethene	601	0.5	2										
44	Vinyl Chloride	601	0.5	2										
45	2-Chlorophenol	604	2	5										
46	2,4-Dichlorophenol	604	1	5										
47	2,4-Dimethylphenol	604	1	2										
48	2-Methyl-4,6-Dinitrophenol or Dinitro-2-methylphenol	604	10	5										
49	2,4-Dinitrophenol	604	5	5										
50	2-Nitrophenol	604		10										
51	4-Nitrophenol	604	5	10										
52	3-Methyl-4-Chlorophenol	604	5	1										
53	Pentachlorophenol	604	1	5										
54	Phenol	604	1	1		50								
55	2,4,6-Trichlorophenol	604	10	10										
56	Acenaphthene	610 HPLC	1	1	0.5									
57	Acenaphthylene	610 HPLC		10	0.2									
58	Anthracene	610 HPLC		10	2									
60	Benzo(a)Anthracene or 1,2 Benzanthracene	610 HPLC	10	5										
61	Benzo(a)Pyrene	610 HPLC		10	2									
62	Benzo(b)Fluoranthene or 3,4 Benzofluoranthene	610 HPLC		10	10									
63	Benzo(ghi)Perylene	610 HPLC		5	0.1									
64	Benzo(k)Fluoranthene	610 HPLC		10	2									
74	Dibenzo(a,h)Anthracene	610 HPLC		10	0.1									
86	Fluoranthene	610 HPLC	10	1	0.05									
87	Fluorene	610 HPLC		10	0.1									
92	Indeno(1,2,3-cd) Pyrene	610 HPLC		10	0.05									
100	Pyrene	610 HPLC		10	0.05									
68	Bis(2-Ethylhexyl)Phthalate	606 or 625	10	5										
70	Butylbenzyl Phthalate	606 or 625	10	10										
79	Diethyl Phthalate	606 or 625	10	2										

CTR No.	Pollutant/Parameter	Analytical Method ²	Minimum Levels ³ (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
80	Dimethyl Phthalate	606 or 625	10	2										
81	Di-n-Butyl Phthalate	606 or 625		10										
84	Di-n-Octyl Phthalate	606 or 625		10										
59	Benzidine	625		5										
65	Bis(2-Chloroethoxy)Methane	625		5										
66	Bis(2-Chloroethyl)Ether	625	10	1										
67	Bis(2-Chloroisopropyl)Ether	625	10	2										
69	4-Bromophenyl Phenyl Ether	625	10	5										
71	2-Chloronaphthalene	625		10										
72	4-Chlorophenyl Phenyl Ether	625		5										
73	Chrysene	625		10	5									
78	3,3'-Dichlorobenzidine	625		5										
82	2,4-Dinitrotoluene	625	10	5										
83	2,6-Dinitrotoluene	625		5										
85	1,2-Diphenylhydrazine (note) ⁸	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											

⁸ 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.