

San Francisco Bay Regional Water Quality Control Board

TENTATIVE ORDER No. R2-2020-00XX
NPDES No. CA0038733

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

Table 1. Discharger Information

Discharger	Union Sanitary District
Facility Name	Raymond A. Boege Alvarado Wastewater Treatment Plant Old Alameda Creek Intermittent Wet Weather Discharge
Facility Address	5072 Benson Road Union City, CA 94587 Alameda County
CIWQS Place Number	269044

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Secondary-Treated Municipal Wastewater	37.59397°	-122.09192°	Old Alameda Creek

Table 3. Administrative Information

This Order was adopted on:	XXX
This Order shall become effective on:	December 1, 2020
This Order shall expire on:	November 30, 2025
CIWQS Regulatory Measure Number	XXX
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:	February 28, 2025
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 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.

Michael Montgomery, Executive Officer

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I. FACILITY INFORMATION

Information describing the Raymond A. Boege Alvarado Wastewater Treatment Plant, Old Alameda Creek Intermittent Wet Weather Discharge (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. 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.
- D. Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. The Fact Sheet provides details regarding the public hearing.

THEREFORE, IT IS HEREBY ORDERED that Order No. R2-2015-0045 (previous order) is rescinded upon the effective date of this Order, except for enforcement purposes, and, in order to meet the provisions of Water Code division 7 (commencing with § 13000) and regulations adopted thereunder and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the Regional Water Board from taking enforcement action for past violations of the previous order.

III. DISCHARGE PROHIBITIONS

- A.** Discharge of treated or partially-treated wastewater at a location or in a manner different from that described in this Order is prohibited.
- B.** Discharge to Old Alameda Creek is prohibited, except during peak wet weather flows after the Discharger fully utilizes its maximum capacity in the East Bay Dischargers Authority (EBDA) pipeline (considering available and projected hydraulic capacity) and the Discharger optimizes Facility operations to minimize discharges to Old Alameda Creek and except during exercise of the

discharge flap gate as described in Prohibition III.D. Discharge during flap gate exercises shall not exceed 140,000 gallons per discharge event, with compliance measured at Monitoring Location EFF-WW as described in the Monitoring and Reporting Program (MRP, Attachment E).

Upon satisfying Provision VI.C.5.b of this Order, discharge to Old Alameda Creek is prohibited, except after peak wet weather flows exceed at least 36 million gallons per day (MGD) and the Discharger optimizes Facility operations to minimize discharges to Old Alameda Creek and except during exercise of the discharge flap gate.

- C. Bypass of untreated or partially-treated wastewater to waters of the United States is prohibited, except as provided for in Attachment D section I.G of this Order.
- D. Discharge to Old Alameda Creek during discharge flap gate exercises more than twice per year is prohibited and shall only take place during the wet season, November 1 to April 30, when there is a significant flow increase in Old Alameda Creek.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The Discharger shall comply with the following effluent limitations at Discharge Point No. 001, with compliance measured at Monitoring Location EFF-002D (or, for total residual chlorine, Monitoring Location EFF-WW) as described in the MRP:

Table 4. Effluent Limitations

Parameter	Units	Average Monthly Limit	Average Weekly Limit	Maximum Daily Limit	Instantaneous Minimum Limit	Instantaneous Maximum Limit
Carbonaceous Biochemical Oxygen Demand, 5-day @ 20°C (CBOD ₅)	mg/L	-	40	-	-	-
Total Suspended Solids (TSS)	mg/L	-	45	-	-	-
Oil and Grease	mg/L	-	-	20	-	-
pH ^[1]	standard units	-	-	-	6.5	8.5
Copper, Total Recoverable	µg/L	11	-	16	-	-
Lead, Total Recoverable	µg/L	3.4	-	7.1	-	-
Escherichia Coliform Bacteria	CFU/100 mL	-	-	320	-	-
Chlorine, Total Residual	mg/L	-	-	-	-	0.0

Abbreviations:

mg/L = milligrams per liter
µg/L = micrograms per liter
CFU/100 mL = colony forming units per 100 milliliters

V. RECEIVING WATER LIMITATIONS

- A.** The discharge shall not cause the following conditions in receiving waters at any place:
1. Floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses;
 2. Alteration of suspended sediment in such a manner as to cause nuisance or adversely affect beneficial uses or detrimental increase in the concentrations of toxic pollutants in sediments or aquatic life;
 3. Suspended material in concentrations that cause nuisance or adversely affect beneficial uses;
 4. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;
 5. Alteration of temperature beyond present natural background levels unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect 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 (NTU), or turbidity increases above 55 NTU in areas where natural turbidity is less than 50 NTU;
 7. Coloration that causes nuisance or adversely affects beneficial uses;
 8. Visible, floating, suspended, or deposited oil or other products of petroleum origin; or
 9. Toxic or other deleterious substances in concentrations or quantities that cause deleterious effects on wildlife, waterfowl, or other aquatic biota, or render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.
- B.** The discharge shall not cause the following limits to be exceeded in receiving waters at any place within one foot of the water surface:
1. Dissolved Oxygen 5.0 mg/L, minimum
The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation. When natural factors cause concentrations less than that specified above, the discharge shall not cause further reduction in ambient dissolved oxygen concentrations.
 2. Dissolved Sulfide Natural background levels
 3. pH The pH shall not be depressed below 6.5 or raised above 8.5. The discharge shall not cause changes greater than 0.5 pH units in normal ambient pH levels.

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

- C. The discharge shall not cause a violation of any water quality standard for receiving waters adopted by the Regional Water Board or State Water Resources Control Board (State Water Board) as required by the CWA and regulations adopted thereunder. 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” in Attachment G.

B. Monitoring and Reporting

The Discharger shall comply with the MRP (Attachment E) and future revisions thereto and applicable sampling and reporting requirements in Attachments D and G.

C. Special Provisions

1. Reopener Provisions

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

- a. If present or future investigations demonstrate that the discharges governed by this Order have or will have a reasonable potential to cause or contribute to adverse impacts on water quality or beneficial uses of the receiving waters.
- b. If new or revised water quality objectives or total maximum daily loads (TMDLs) come into effect for San Francisco Bay or contiguous water bodies (whether statewide, regional, or site-specific). In such cases, effluent limitations in this Order may be modified as necessary to reflect the updated water quality objectives and wasteload allocations in the TMDLs. Adoption of the effluent limitations in this Order is not intended to restrict in any way future modifications based on legally-adopted water quality objectives or TMDLs or as otherwise permitted under federal regulations governing NPDES permit modifications.
- c. If translator, dilution, or other water quality studies provide a basis for determining that a permit condition should be modified.

- d. If State Water Board precedential decisions, new policies, new laws, or new regulations are adopted.
- e. If an administrative or judicial decision on a separate NPDES permit or WDRs addresses requirements similar to this discharge.
- f. If the Discharger requests adjustments in effluent limits due to the implementation of stormwater diversion pursuant to the Municipal Regional Stormwater Permit (Permit No. CAS612008) for redirecting dry weather and first flush discharges from the storm drain system to the sanitary sewer system as a stormwater pollutant control strategy.
- g. Or as otherwise authorized by law.

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

2. Effluent Characterization Study and Report

- a. **Study Elements.** The Discharger shall characterize and evaluate the discharge from Discharge Point No. 001 at Monitoring Location EFF-002D, as required by the MRP, to verify that the reasonable potential analysis conclusions of this Order remain valid and to inform the next permit reissuance. If the concentration of any of the priority pollutants listed in Attachment G, Table B, significantly increases 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 exceedance of applicable water quality objectives. This requirement may be satisfied through identification of the constituent as a “pollutant of concern” in the Discharger’s Pollutant Minimization Program, described in Provision VI.C.4 and NPDES Permit No. CA0037869 (for the EBDA common outfall).
- b. **Reporting Requirements.** The Discharger shall summarize the data evaluation and any applicable source investigation in the annual self-monitoring report associated with the year in which samples were collected. The Discharger shall also report the pollutants detected at or above applicable water quality objectives (see Fact Sheet Table F-6 for the objectives) in the report’s transmittal letter.

3. Pollutant Minimization Program

- a. The Discharger shall develop and conduct a Pollutant Minimization Program as further described below when there is evidence that a priority pollutant is present in the effluent above an effluent limitation (e.g., sample results reported as detected but not quantified [DNQ] when the effluent limitation is less than the method detection limit [MDL], sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, or results of benthic or aquatic organism tissue sampling) and either:

- i. A sample result is reported as DNQ and the effluent limitation is less than the Reporting Level (RL); or
 - ii. A sample result is reported as not detected (ND) and the effluent limitation is less than the MDL, using definitions in Attachment A and reporting protocols described in the MRP.
- b. If triggered by the reasons set forth in Provision VI.C.4.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:
 - (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.

The Discharger may satisfy this provision by instead including this information in the Pollutant Minimization Program annual report submitted under NPDES Permit No. CA0037869 (for the EBDA common outfall) and referencing this submittal in its annual self-monitoring report.

4. Other Special Provisions

- a. **Plant Upgrades Annual Status Report.** The Discharger shall submit a status report with its annual self-monitoring report (see MRP section V.B.2) that estimates the completion date for plant upgrades and the termination date for discharging to Hayward Marsh. Each report shall describe the tasks completed and tasks yet to be completed. Each report shall

also highlight any changes made to the plant upgrades schedule and Hayward Marsh discharge termination date.

- b. Completion of Plant Upgrades.** After the Discharger completes proposed upgrades to its wastewater treatment plant (see Fact Sheet section II.E), it shall submit the following documentation:
- i.** Documentation that the reliability, capability, and performance of the plant upgrades will maintain compliance with the waste discharge requirements (i.e., the Discharger shall evaluate the hydraulic and organic loading capacities of the treatment facilities by appropriate combinations of desk-top analyses and treatment process stress testing to simulate design peak loading conditions under both dry weather and wet weather design flow conditions);
 - ii.** Certification by a licensed professional that the plant upgrades have been constructed as designed, have been tested, and are ready for use;
 - iii.** Demonstration of compliance with all applicable CEQA provisions (California Public Resources Code Division 13, Chapter 3, Section 21100 et seq.);
 - iv.** Updates to the Operations and Maintenance Manual and Contingency Plan to include the plant upgrades, including protocols for optimizing use of onsite storage; and
 - v.** Specific date the Discharger proposes to commence use of the upgraded treatment plant.

Under Water Code section 13385(j)(1)(D), the Discharger may, at least 30 days in advance of operating the upgraded treatment plant, submit a startup operations plan. The plan should describe the actions the Discharger will take during a specific period that requires adjusting and testing new treatment plant units, including steps to prevent violations of the requirements of this Order. If the Discharger pursues this option, it shall define the shortest reasonable time required for the period of adjusting and testing, which is not to exceed 90 days for biological treatment units and not to exceed 30 days for any other treatment unit.

- c. Wet Weather Discharge Annual Technical Report.** The Discharger shall submit a summary of all wet weather discharges that occurred during the preceding year in its annual self-monitoring report (see MRP section V.B.2). The Discharger shall include a description of how the Facility was operated to fully optimize operations to minimize the need to discharge to Old Alameda Creek.

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 (CV)

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

Daily Discharge

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

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

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

Detected, but Not Quantified (DNQ)

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

Dilution Credit

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

Effluent Concentration Allowance (ECA)

Value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the CV for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as 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 reported with 99 percent confidence that the measured concentration is distinguishable from method blank results, 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.

Figure B-1. Topographic Map of Treatment Plant and Surrounding Areas

Figure B-1. Topographic Map of Treatment Plant and Surrounding Areas

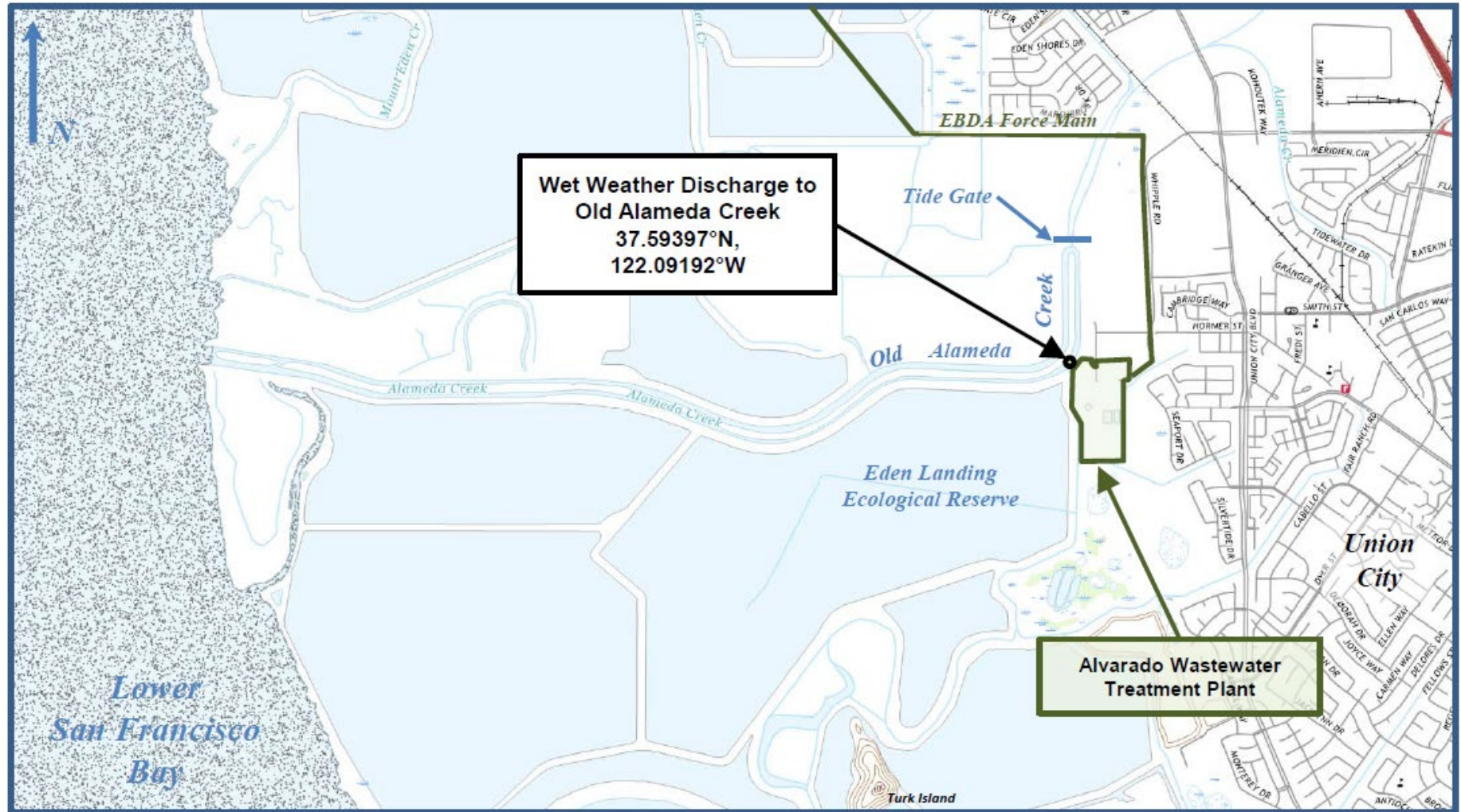
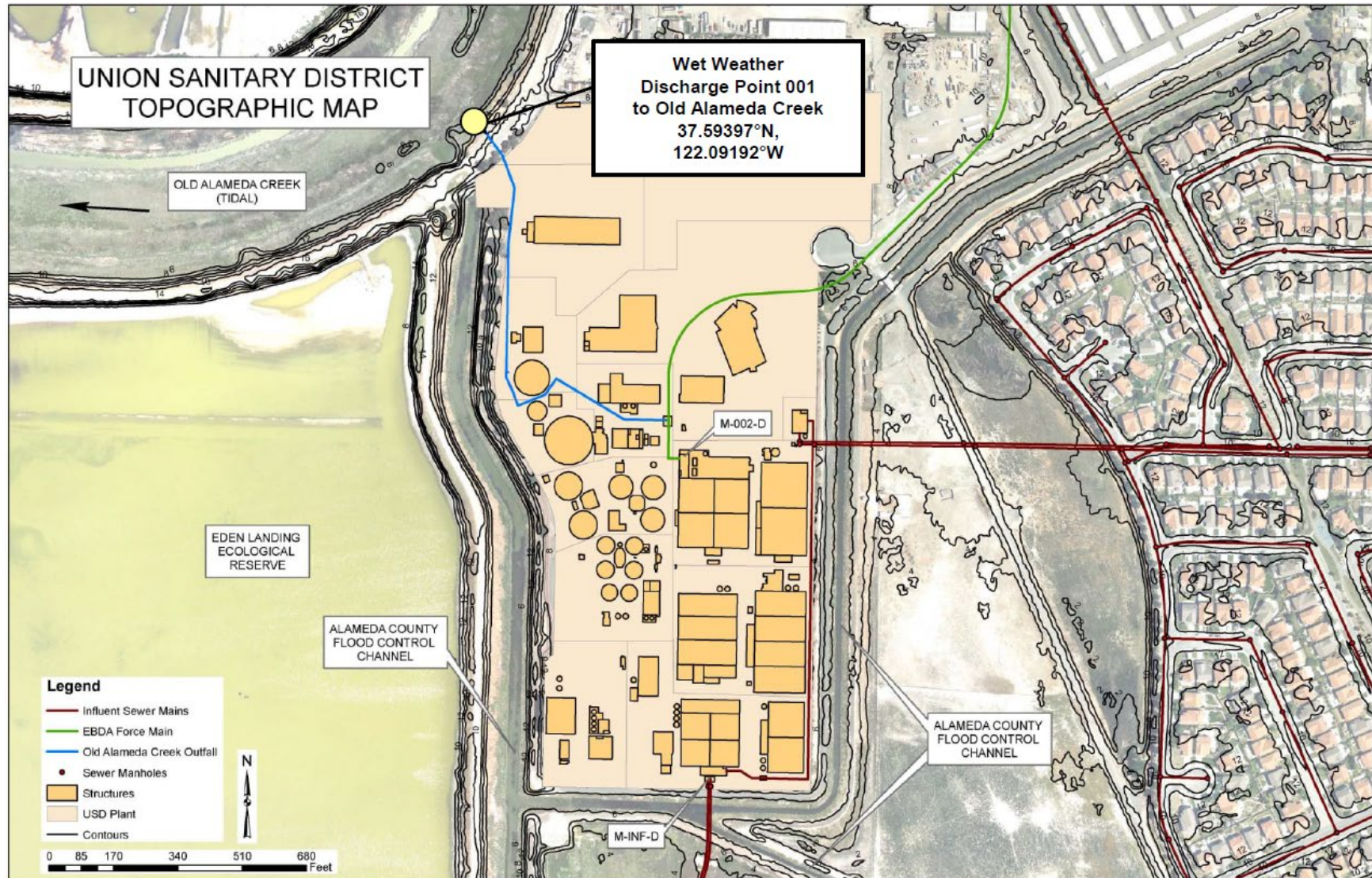


Figure B-2. Topographic Map of Treatment Plant



ATTACHMENT C – PROCESS FLOW DIAGRAM

Figure C-1A. Influent and Effluent Transport System Schematic (With Hayward Marsh)

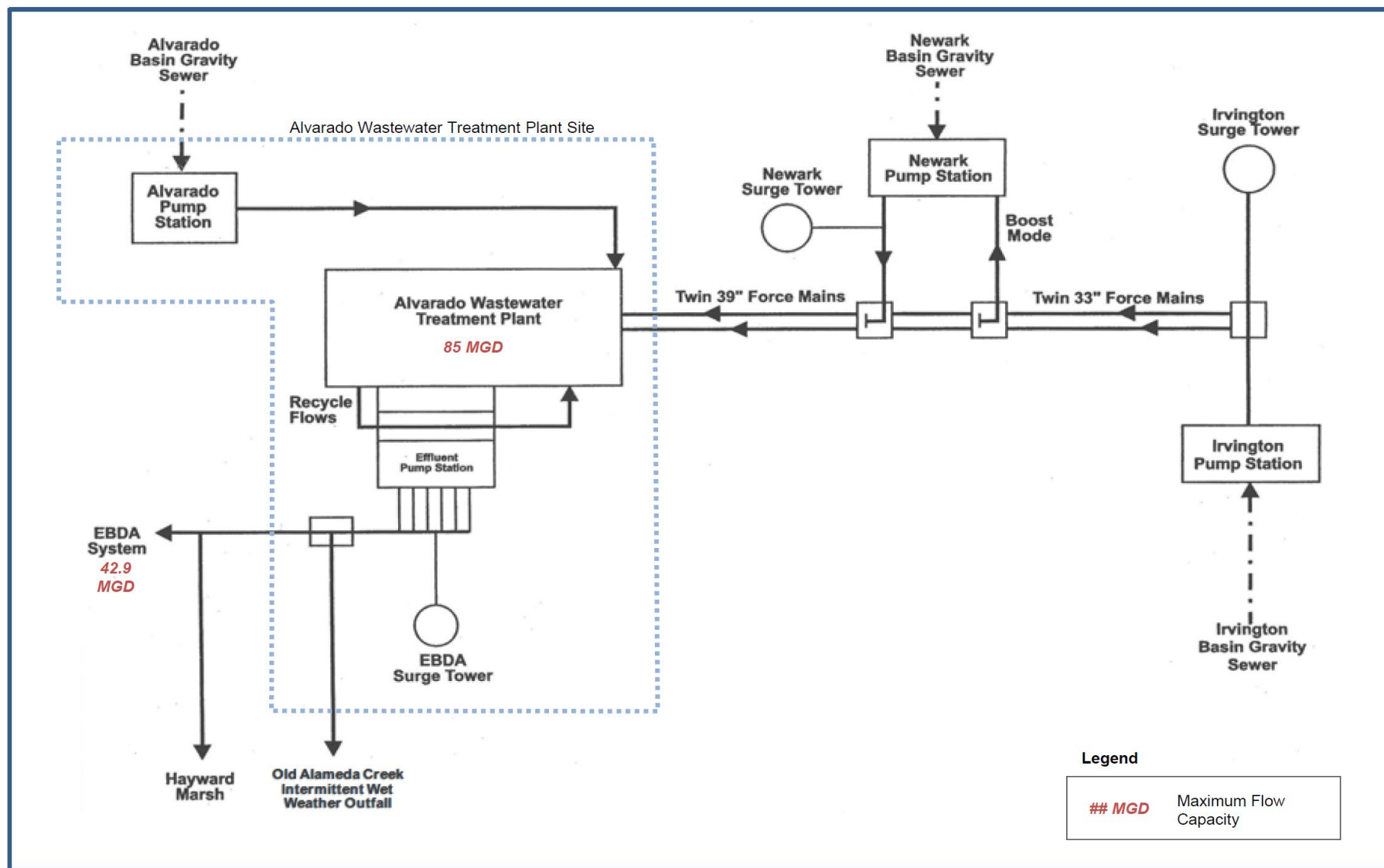


Figure C-1B. Influent and Effluent Transport System Schematic (Without Hayward Marsh)

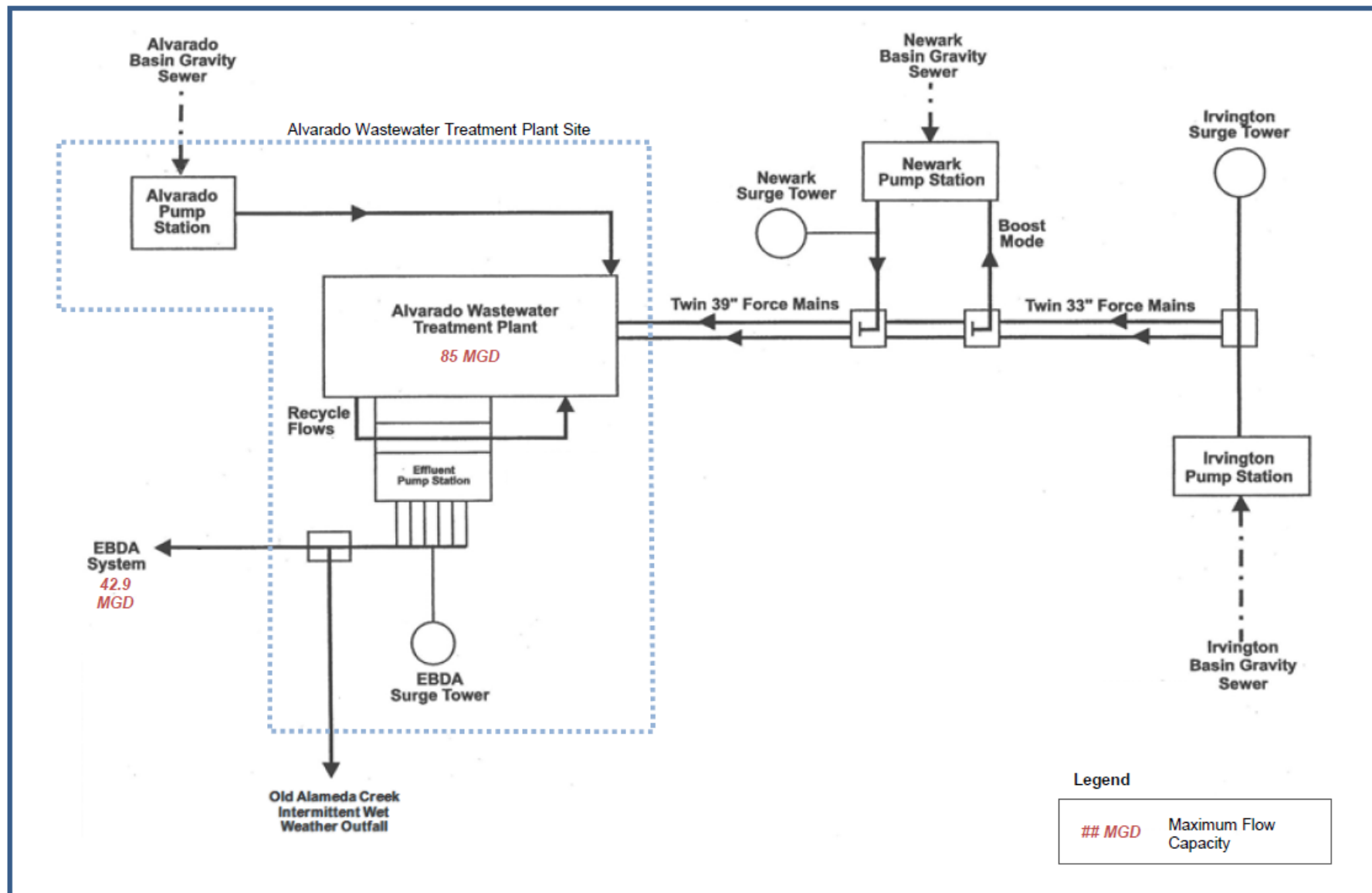


Figure C-2A. Treatment Plant Schematic (With Hayward Marsh)

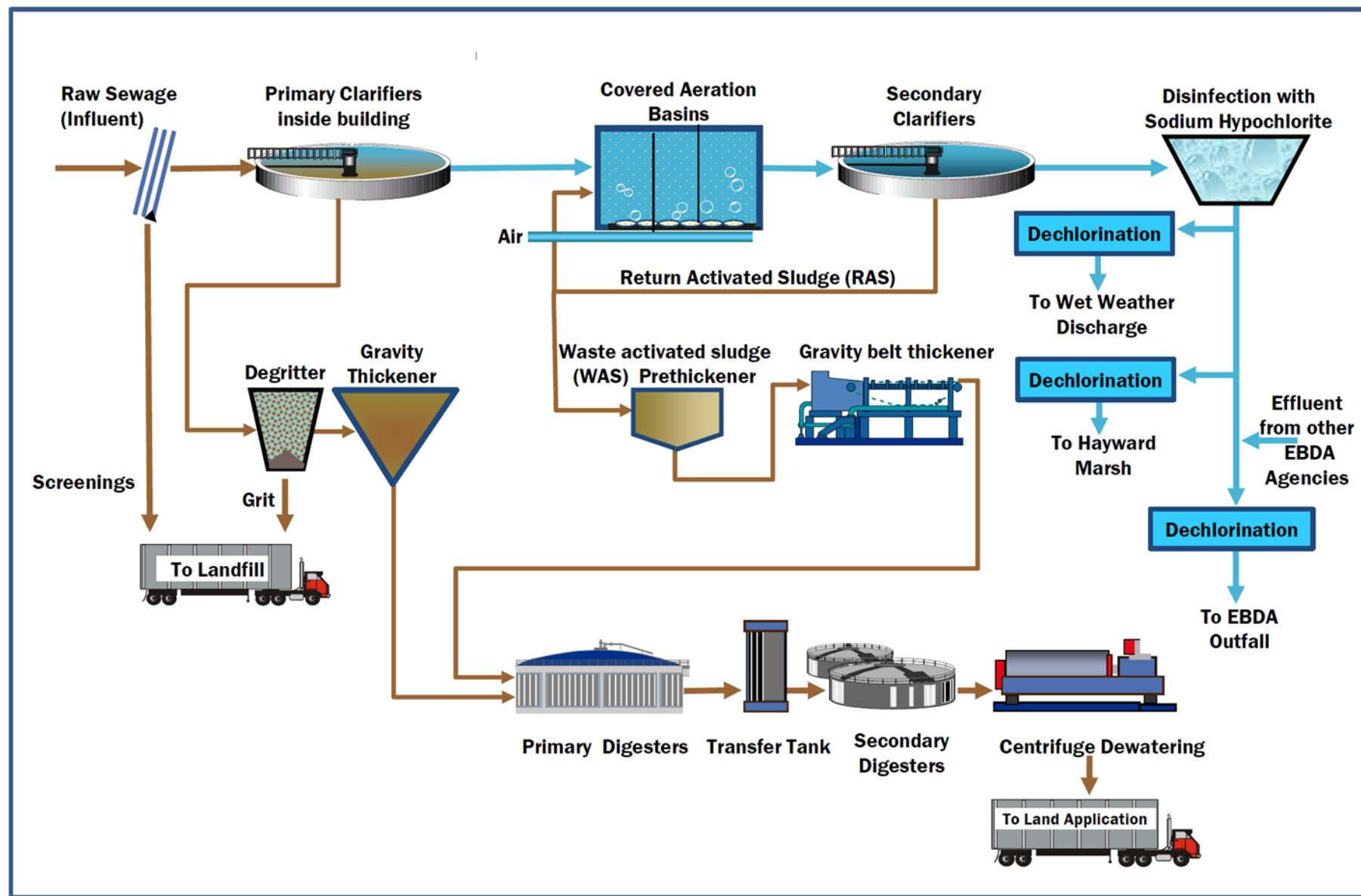
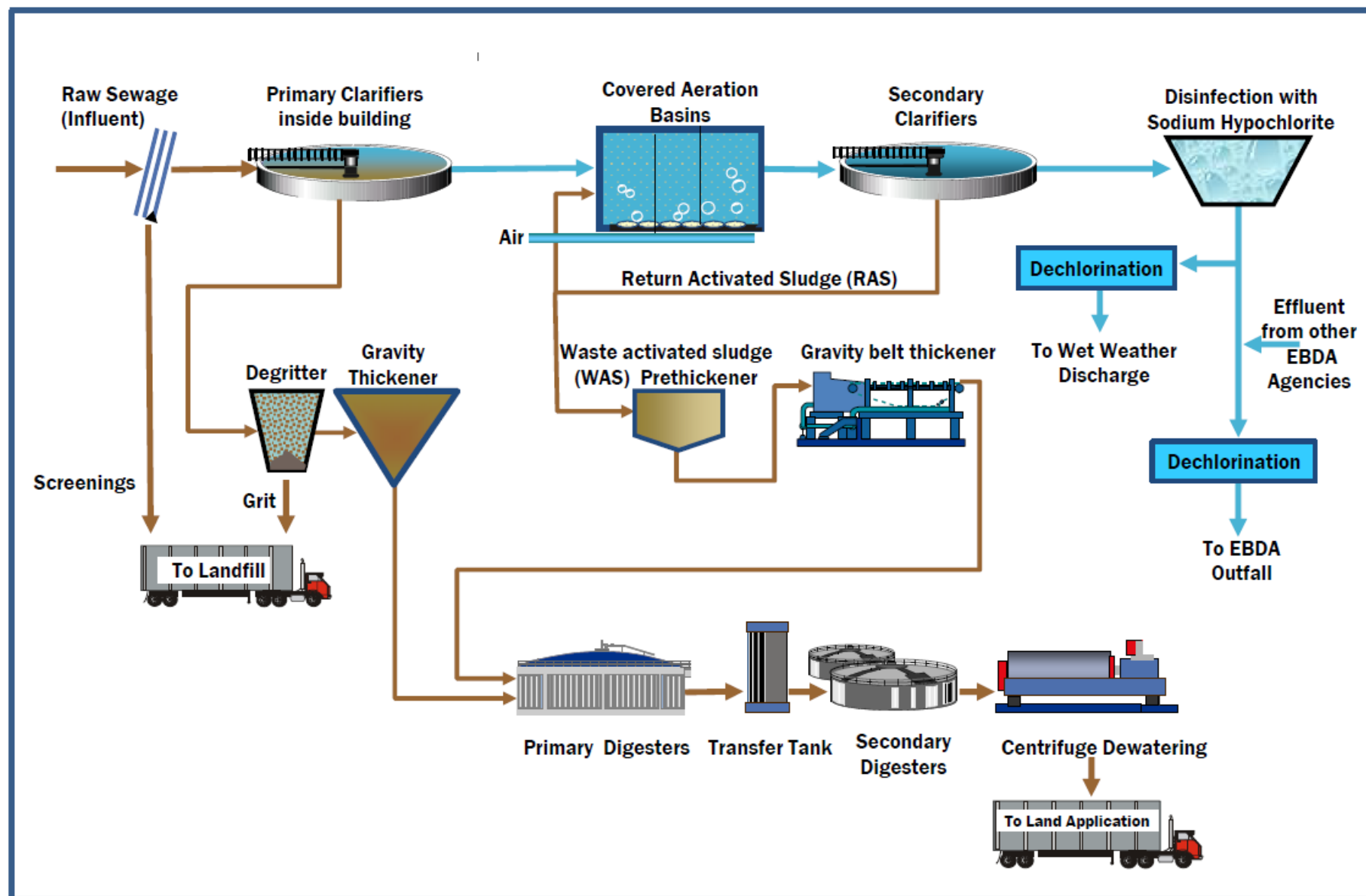


Figure C-2B. Treatment Plant Schematic (Without Hayward Marsh)



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, and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i); Wat. Code, §§ 13267, 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(B)(i); 40 C.F.R. § 122.41(i)(1); Wat. Code, §§ 13267, 13383);
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(2)); Wat. Code, §§ 13267, 13383);
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(3); Wat. Code, §§ 13267, 13383); and
4. Sample or monitor, at reasonable times, for the purposes of 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));

- ## 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).)

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));

- ### C. Monitoring Reports

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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, subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written 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 under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):
 - a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)

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

VII. ADDITIONAL PROVISIONS—NOTIFICATION LEVELS

A. 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.
- 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

Sampling Location Type	Monitoring Location Name	Monitoring Location Description
Effluent	EFF-002D	A point in the plant where all phases of treatment are complete, excluding dechlorination, and just prior to where the Discharger transfers its effluent to the East Bay Dischargers Authority (EBDA) pipeline. (Formerly M-002D)
Effluent	EFF-WW	A point in the plant where all phases of treatment are complete, including dechlorination, and just prior to discharge through Discharge Point No. 001.
Receiving Water	RSW-001	A point in Old Alameda Creek at most 200 feet downstream of Discharge Point No. 001.

Sampling Location Type	Monitoring Location Name	Monitoring Location Description
Receiving Water	RSW-002	A point in Old Alameda Creek at least 100 feet upstream of Discharge Point No. 001 or, if access is limited, at the first accessible point upstream. If no wastewater is present, the monitoring location may be the same as Monitoring Location RSW-001.

III. EFFLUENT MONITORING REQUIREMENTS

A. Wet Weather Discharges

When discharging to Old Alameda Creek during wet weather, the Discharger shall monitor plant effluent at Monitoring Locations EFF-002D and EFF-WW as follows:

Table E-2. Effluent Monitoring—Wet Weather

Parameter	Units	Sample Type	Minimum Sampling Frequency	Monitoring Location
Carbonaceous Biochemical Oxygen Demand (5-day @ 20°C) (CBOD ₅)	mg/L	C-24 ^[1]	1/Discharge	EFF-002D
Total Suspended Solids (TSS)	mg/L	C-24 ^[1]	1/Discharge	EFF-002D
Oil and Grease	mg/L	Grab	1/Discharge	EFF-002D
pH	standard units	Grab	1/Discharge	EFF-002D
Temperature	°C	Grab	1/Discharge	EFF-002D
Ammonia, Total	mg/L as N	C-24 ^[1]	1/Discharge	EFF-002D
Copper, Total Recoverable	µg/L	C-24 ^[1]	1/Discharge	EFF-002D
Lead, Total Recoverable	µg/L	C-24 ^[1]	1/Discharge	EFF-002D
Escherichia Coliform Bacteria	CFU/100 mL ^[2]	Grab	1/Discharge	EFF-002D
Chlorine, Total Residual	mg/L	Grab	Once every two hours during discharge ^[3]	EFF-WW
Discharge Duration	hours or minutes	Continuous	1/Discharge	EFF-WW
Discharge Volume	gallons	Continuous	1/Discharge	EFF-WW

Abbreviations:

mg/L = milligrams per liter
mg/L as N = milligrams per liter as nitrogen
µg/L = micrograms per liter
CFU/100 mL = coliform forming units per 100 milliliters
°C = degrees Celsius
C-24 = 24-hour composite

Footnotes:

- ^[1] If the discharge is expected to last less than 24 hours, the Discharger may take a grab sample or a composite sample by manually or mechanically compositing samples once every two hours for the discharge duration.
- ^[2] Results may be reported as either MPN/100 mL if the laboratory method used provides results in MPN/100 mL or CFU/100 mL if the laboratory method used provides results in CFU/100 mL.
- ^[3] The Discharger shall collect at least one sample per discharge and continue sampling every two hours for longer duration discharges.

B. Flap Gate Exercise Discharges

When discharging to Old Alameda Creek during flap gate exercises, the Discharger shall monitor plant effluent at Monitoring Locations EFF-002D and EFF-WW as follows:

Table E-3. Effluent Monitoring—Flap Gate Exercises

Parameter	Units	Sample Type	Minimum Sampling Frequency	Monitoring Location
Escherichia Coliform Bacteria	CFU/100 mL ^[1]	Grab	1/Discharge	EFF-002D
Chlorine, Total Residual	mg/L	Grab	1/Discharge	EFF-WW
Discharge Duration	hours or minutes	Continuous	1/Discharge	EFF-WW
Discharge Volume	gallons	Continuous	1/Discharge	EFF-WW

Abbreviations:

CFU/100 mL = coliform forming units per 100 milliliters
mg/L = milligrams per liter

Footnote:

- ^[1] Results may be reported as either MPN/100 mL if the laboratory method used provides results in MPN/100 mL or CFU/100 mL if the laboratory method used provides results in CFU/100 mL.

C. Effluent Characterization Study

The Discharger shall monitor plant effluent between November 1 and April 30 at Monitoring Location EFF-002D as follows:

Table E-4. Effluent Monitoring—Characterization Study

Parameter	Units	Sample Type	Minimum Sampling Frequency	Monitoring Location
pH	standard units	Grab	1/Year ^[1]	EFF-002D ^[3]
Temperature	°C	Grab	1/Year ^[1]	EFF-002D ^[3]
Ammonia, Total	mg/L as N	C-24	1/Year ^[1]	EFF-002D ^[3]
Priority Pollutants ^[2]	µg/L	C-24	Once	EFF-002D ^[3]

Abbreviations:

°C = degrees Celsius
mg/L as N = milligrams per liter as nitrogen
µg/L = micrograms per liter
C-24 = 24-hour composite

Footnotes:

- ^[1] pH, temperature, and ammonia sampling shall occur on the same day to allow for the calculation of the un-ionized ammonia fraction. The Discharger may satisfy these sampling requirements pursuant to MRP Table E-2.
- ^[2] The Discharger shall monitor 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-6).
- ^[3] Monitoring conducted at Monitoring Location EFF-002D in accordance with NPDES Permit No. CA0037869 (for the EBDA common outfall) may be used to satisfy these sampling requirements.

IV. RECEIVING WATER MONITORING REQUIREMENTS

A. Wet Weather Discharges

When discharging to Old Alameda Creek during flap gate exercises or during wet weather, the Discharger shall monitor receiving waters at Monitoring Location RSW-001 as follows:

Table E-5. Receiving Water Monitoring—Wet Weather Discharges

Parameter	Units	Sample Type	Minimum Sampling Frequency	Monitoring Location
Standard Observations ^[1]	-	-	1/Discharge	RSW-001
pH	standard units	Grab	Once ^[2]	RSW-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Monitoring Location
Temperature	°C	Grab	Once ^[2]	RSW-001
Salinity	ppt	Grab	Once ^[2]	RSW-001
Ammonia, Total	mg/L as N	Grab	Once ^[2]	RSW-001
Dissolved Oxygen	mg/L	Grab	Once	RSW-001

Abbreviations:

°C = degrees Celsius
ppt = parts per thousand
mg/L = milligrams per liter
mg/L as N = milligrams per liter as nitrogen

Footnotes:

^[1] Standard observations are set forth in Attachment G section III.B.1.

^[2] pH, temperature, salinity, and ammonia sampling shall occur on the same day to allow for the calculation of the un-ionized ammonia fraction.

B. Receiving Water Characterization Study

The Discharger shall monitor receiving waters between November 1 and April 30 at Monitoring Location RSW-002 as follows:

Table E-6. Receiving Water Monitoring—Characterization Study

Parameter	Units	Sample Type	Minimum Sampling Frequency	Monitoring Location
pH	standard units	Grab	Once	RSW-002
Hardness	mg/L as CaCO ₃	Grab	Once	RSW-002
Salinity	ppt	Grab	Once	RSW-002
Priority Pollutants ^[1]	µg/L	Grab	Once	RSW-002

Abbreviations:

mg/L as CaCO₃ = milligrams per liter as calcium carbonate
ppt = parts per thousand
µg/L = micrograms per liter

Footnote:

^[1] The Discharger shall monitor 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-6).

V. 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 (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. **Annual SMR.** The Discharger shall submit an Annual SMR by September 1 each year, covering the previous wet season (November 1 through April 30). The annual SMR shall contain the items described in Attachment G section V.C.1.f. See also Provisions VI.C.2 (Effluent Characterization Study and Report, VI.C.4 (Pollutant Minimization Program), VI.C.5.a (Plant Upgrades Study Report), and VI.C.5.c (Wet Weather Discharges Annual Technical Report) of the Order for requirements to submit reports with annual SMRs.
3. **Specifications for Submitting SMRs to CIWQS** — The Discharger shall submit analytical results and other information using one of the following methods:

Table E-7. CIWQS Reporting

Parameter	Method of Reporting: EDF/CDF data upload or manual entry	Method of Reporting: 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] -
Volume and Duration of Blended Discharge ^[3]	Required for all blended effluent discharges	-
Analytical Method	Not required (Discharger may select “data unavailable”) ^[1]	-
Collection Time Analysis Time	Not required (Discharger may select “0:00”) ^[1]	-

Footnotes:

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

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

for entry into a tabular format, the Discharger shall electronically submit the data in a tabular format as an attachment.

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

Table E-8. Monitoring Periods

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period
Once every two hours	Order effective date	Once every two-hour period, beginning within the first two hours of discharge.
1/Discharge	First moment of discharge	Anytime during a discharge event, defined as all discharges that occur within a 24-hour period following the start of the initial discharge.
1/Year ^[1]	Closest January 1 before or after Order effective date	January 1 through December 31
Once	Order effective date	Once during the permit term within 12 months prior to applying for permit reissuance

Footnote:

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

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

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

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

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

- 6. Compliance Determination.** Compliance with effluent limitations shall be determined using sample reporting protocols defined above and in the Fact Sheet and Attachments A, D, and

G. For purposes of reporting and administrative enforcement by the Regional Water Board and State Water Board, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the pollutant in the monitoring sample is greater than the effluent limitation and, if applicable, 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 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 019060002
CIWQS Place ID	269042
Discharger	Union Sanitary District
Facility Name	Raymond A. Boege Alvarado Wastewater Treatment Plant Old Alameda Creek Intermittent Wet Weather Discharge
Facility Address	5072 Benson Road
	Union City, CA 94587
	Alameda County
Facility Contact, Title, Phone	Armando Lopez, Manager, Treatment & Disposal Services, (510) 477-7517
Authorized Person to Sign and Submit Reports	Same as Facility contact, or designee
Mailing Address	Same as Facility address
Billing Address	Same as Facility 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
Nutrients Requirements	NPDES Permit No. CA0038873
Flap Gate Exercise Permitted Flow	140,000 gallons per discharge
Watershed	Old Alameda Creek
Receiving Water	Old Alameda Creek
Receiving Water Type	Freshwater (during wet weather events)

- A. The Union Sanitary District (Discharger) owns and operates the Raymond A. Boege Alvarado Wastewater Treatment Plant, Old Alameda Creek Intermittent Wet Weather Discharge (Facility). The plant provides secondary treatment of wastewater collected from its service area and, during wet weather, discharges treated effluent to Old Alameda Creek, a water of the United States within the Old Alameda Creek watershed and tributary to Lower San Francisco Bay.

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

- B.** The Discharger's wet weather discharges are regulated pursuant to National Pollutant Discharge Elimination System (NPDES) Permit No. CA0038733. The Discharger was previously subject to Order No. R2-2015-0045 (previous order). The Discharger filed a Report of Waste Discharge and submitted an application for reissuance of its Waste Discharge Requirements (WDRs) and NPDES permit on April 29, 2020.

The Discharger is authorized to discharge subject to WDRs in this Order at the discharge locations described in Table 2 of this Order. Regulations in 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 requirements for continuation of expired permits (40 C.F.R § 122.6[d]).

- C.** The Discharger is a member of the East Bay Dischargers Authority (EBDA). EBDA operates under a Joint Exercise of Powers Agreement among the City of Hayward, City of San Leandro, Union Sanitary District, Oro Loma Sanitary District, Castro Valley Sanitary District, and the Livermore Amador Valley Water Management Agency. By contractual agreement, EBDA transports treated wastewater from its member agencies to its dechlorination station near the San Leandro Marina and then to its deep-water outfall for discharge to San Francisco Bay. The discharge through the deep-water outfall is regulated under NPDES Permit No. CA0037869.

The Discharger is also regulated under NPDES Permit Nos. CA0038849 and CA0038873, which establish requirements on mercury and polychlorinated biphenyls (PCBs) and nutrients from wastewater discharges to San Francisco Bay.

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

II. FACILITY DESCRIPTION

A. Wastewater and Biosolids Treatment

- 1. Location and Service Area.** The plant is located at 5072 Benson Road in Union City. It provides secondary treatment of domestic and commercial wastewater from Fremont, Newark, and Union City. The estimated service area population is about 356,100. Attachment B provides a map of the area around the Facility.
- 2. Collection System.** The Discharger operates approximately 835 miles of separate sewer lines and three pump stations. There is one pump station for each of three basins in the service area: Alvarado Basin, Newark Basin, and Irvington Basin. Wastewater in each basin flows by gravity to the pump station.

- 3. Wastewater Treatment.** The plant can provide secondary treatment for an average daily dry weather design flow of 33 million gallons per day (MGD). Between January 2016 and April 2020, the plant treated a daily average flow of 23.6 MGD, with the maximum daily flow peaking at 42 MGD.

The treatment process consists of influent screening, primary sedimentation, activated sludge aeration, secondary clarification, and chlorination. Attachment C provides a plant flow schematic.

The Discharger is undertaking plant upgrades (see Fact Sheet section II.E). When completed, the plant will also provide biological nutrient removal.

B. Discharge Point and Receiving Waters

Two pipelines transport plant effluent from the Facility for discharge. One leads to the EBDA common outfall (covered under NPDES Permit No. CA0037869) and Hayward Marsh (covered under NPDES Permit No. CA0038636). The other pipeline leads to the intermittent wet weather outfall, Discharge Point No. 001, which discharges to Old Alameda Creek and is the subject of this Order.

The wet weather outfall is a shallow water outfall that does not have a diffuser. The discharge location is about 3.5 miles upstream of Lower San Francisco Bay. The streambed of Old Alameda Creek is split into two channels. The main channel runs along Old Alameda Creek's northern and western edge, and a small sub-channel, separated by a tide control structure, runs along its southern and eastern edge. The two channels are morphologically distinct along the entire tidal section of Old Alameda Creek down to the confluence with Lower San Francisco Bay. The Discharger's outfall is located along the smaller sub-channel, about 2,100 feet downstream of the tide control structure (see Figure 2 on page F-23).

There are two types of discharges from the wet weather outfall: (1) discharges during peak wet weather and (2) discharges from exercising the discharge flap gate located in the wet weather outfall pipeline for maintenance purposes. Discharges during peak wet weather occur when the plant's flow exceeds the maximum capacity of the EBDA pipeline (considering available and projected hydraulic capacity) and after the Discharger optimizes Facility operations to minimize the need to discharge to Old Alameda Creek. The Discharger is part of a Joint Exercise of Powers Agreement with EBDA and its member agencies, which allots the Discharger a discharge capacity of 42.9 MGD (on a 3-hour average basis). At higher flows, the Discharger must discharge to the wet weather outfall to avoid flooding and damaging the plant. The average discharge rate to the EBDA pipeline over the previous order term was 23.6 MGD.

Historically, the Discharger has routed approximately 3.0 MGD to Hayward Marsh, with somewhat higher flows during wet weather. Hayward Marsh is a constructed marsh system owned and operated by the East Bay Regional Parks District. The marsh system includes treatment marshes and waters of the United States. Sediment has accumulated within a portion of the system, restricting flows through the system. Due to the high projected cost of dredging the sediment and the need for continual maintenance, routing wastewater to Hayward Marsh is no longer practical. During this Order term, the East Bay Regional Parks District plans to restore the entire marsh to establish a full tidal connection to San Francisco Bay. Hayward Marsh discharges will be re-routed to the EBDA

common outfall, except when peak wet weather capacity constraints require discharge through the wet weather outfall.

The Discharger exercises the discharge flap gate to ensure that the line is flushed and the gate is operational when it is necessary to use the outfall during wet weather. The discharge flap gate is exercised briefly up to twice per year during the wet season (November 1 to April 30) when there is a significant increase in Old Alameda Creek flow. During the previous order term, these discharges ranged from about 69,000 to 97,000 gallons.

Other than discharges during discharge flap gate exercises, no wet weather discharges to Old Alameda Creek have occurred since February 1998. On three days that month, discharge volumes ranged from 0.98 million gallons (MG) to 1.34 MG, and discharge durations ranged from two to three hours each time. Eliminating the Hayward Marsh discharge is expected to increase the wet weather discharge frequency to Old Alameda Creek to approximately 3 times per year on average. As the Discharger upgrades its treatment plant (see Fact Sheet section II.E), it intends to reduce its reliance on the EBDA common outfall during wet weather, resulting in discharging up to 12 times per year to Old Alameda Creek (see Fact Sheet section II.E). Wet weather discharges will continue to be relatively short in duration (most less than ten hours) and small in volume (most less than 0.5 MG). The discharges will average about 5.0 MG per year to Old Alameda Creek prior to plant upgrades, and about 11 MG per year after plant upgrades.

C. Previous Requirements and Monitoring Data

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

Table F-2. Previous Effluent Limitations and Monitoring Data

Parameter	Units	Average Monthly Limit	Average Weekly Limit	Maximum Daily Limit	Other Limits	Long-Term Average November – April (1/2016 – 4/2020)	Highest Daily Discharge November – April (1/2016 – 4/2020)
Carbonaceous Biochemical Oxygen Demand (5-day @ 20°C) (CBOD ₅)	mg/L	-	40	-	-	7.1	16
Total Suspended Solids (TSS)	mg/L	-	45	-	-	15	54
pH	s.u.	-	-	-	6.5 – 8.5 ^[1]	7.2	7.0 – 7.5 ^[2]
Lead, Total Recoverable	µg/L	3.4	-	8.3	-	0.11 DNQ	0.26 DNQ
Fecal Coliform Bacteria	MPN/100 mL	-	-	400	-	47 ^[3]	328 ^[3]
Chlorine, Total Residual	mg/L	-	-	-	0.0 ^[4]	0.0 ^[5]	0.0 ^[5]
Flap Gate Exercise Discharge Volume	gallons	-	-	-	140,000 ^[6]	81,000	97,000

Abbreviations:

mg/L = milligrams per liter
µg/L = micrograms per liter

MPN/100mL = most probable number per 100 milliliters
s.u. = standard units

Footnotes:

- [1] The limit was expressed as an instantaneous minimum and instantaneous maximum.
- [2] Range of lowest to highest pH values.
- [3] This result represents treatment performance during the total of the wet weather seasons (November 1 – April 30) from the previous order term, and not treatment performance during wet weather discharges to Old Alameda Creek. Discharges to Old Alameda Creek occurred three times during the previous order term via flap gate exercises. The average and maximum fecal coliform bacteria results from those discharges were 26 MPN/100mL and 47 MPN/100 mL.
- [4] The limit was expressed as an instantaneous maximum.
- [5] This result represents treatment performance during wet weather discharges to Old Alameda Creek because the Discharger does not dechlorinate when it discharges to the EBDA pipeline. Discharges to Old Alameda Creek occurred three times during the previous order term via flap gate exercises.
- [6] The previous order prohibited flap gate exercise discharges greater than 140,000 gallons per discharge event.

D. Compliance Summary

The Discharger did not violate any requirement of the previous order.

E. Planned Changes

By July 31, 2027, the Discharger plans to complete plant upgrades that will enhance effluent quality by providing significant nitrogen removal (approximately 50 percent total inorganic nitrogen removal and 90 percent total ammonia removal on an average annual basis) and more reliable solids removal. In addition, the Discharger plans to replace aging facilities and may provide up to 2.5 MG of wet weather storage by repurposing its existing secondary clarifiers into equalization basins. The planned upgrades include the following changes:

- Retrofitting existing aeration basins to operate with an anaerobic selector and a biological nutrient removal process. This will include constructing deoxygenation, anoxic, and flexible aeration zones; installing internal recycle pumps; and establishing new step-feed aeration and surface wasting operations.
- Constructing new effluent facilities. This will include building new chlorination and dechlorination contact basins and a new effluent pump station, and relocating the existing effluent force main.
- Constructing larger secondary clarifiers. This will include four 155-foot diameter secondary clarifiers, a mixed liquor control box, and a centralized return-activated sludge pump station.
- Retrofitting existing secondary clarifiers to operate as wet weather flow equalization basins.
- Constructing one or more new buildings. This will include site, landscaping, and utility improvements and the demolition of existing buildings.

This Order authorizes these changes subject to the conditions set forth in Provision VI.C.5.

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

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plan.** The Regional Water Board adopted the *Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan), which designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements in this Order implement the Basin Plan. In addition, this Order implements State Water Board Resolution No. 88-63, which established State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Total dissolved solids levels in Old Alameda Creek commonly exceed 3,000 mg/L, even during the wet season from November 1 to April 30, because of the tidal influence of San Francisco Bay. Old Alameda Creek may exhibit freshwater conditions during peak wet weather when discharges are necessary, but these short-term circumstances are too short-lived to provide a good source of drinking water and support the municipal and domestic supply beneficial use. Therefore, Old Alameda Creek meets an exception to State Water Board Resolution No. 88-63. Beneficial uses applicable to Old Alameda Creek are as follows:

Table F-3. Basin Plan Beneficial Uses

Discharge Points	Receiving Water Name	Beneficial Uses
001	Old Alameda Creek	Estuarine Habitat (EST) Wildlife Habitat (WILD) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2)

2. **Bacteria.** The State Water Board adopted the *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California – Part 3, Bacteria Provisions and a Water Quality Standards Variance Policy* on August 7, 2018, and it became effective on March 22, 2019. This plan establishes new *Escherichia coli* form water quality objectives and related implementation provisions for discharges to freshwater receiving waters that support the water contact recreation beneficial use.

3. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** U.S. EPA adopted the NTR on December 22, 1992, and amended it on May 4, 1995, and November 9, 1999. About 40 criteria in the NTR apply in California. On May 18, 2000, U.S. EPA adopted the CTR. The CTR promulgated new toxics criteria for California and incorporated the previously adopted NTR criteria that applied in the State. U.S. EPA amended the CTR on February 13, 2001. These rules contain water quality criteria for priority pollutants.
4. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria U.S. EPA promulgated for California through the NTR and the priority pollutant objectives the Regional Water Board established in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria U.S. EPA promulgated through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives, and provisions for chronic toxicity control. Requirements of this Order implement the SIP.
5. **Antidegradation Policy.** Federal regulations at 40 C.F.R. section 131.12 require that state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy through State Water Board Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California*, which is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. Permitted discharges must be consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16. (See Fact Sheet § IV.D.1.)
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 § IV.D.2.)
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 the beneficial uses of waters of the State, including protecting rare, threatened, or endangered species. The Discharger is responsible for meeting all applicable Endangered Species Act requirements.

D. Impaired Waters on CWA 303(d) List

On April 6, 2018, U.S. EPA approved a revised list of impaired waters 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 nonpoint sources and are established to achieve water quality standards.

Old Alameda Creek is listed as impaired by trash. The discharge is not a source of trash because it is screened and treated to secondary treatment standards. The mercury and PCBs TMDLs for San Francisco Bay (see Basin Plan sections 7.2.2 and 7.2.3) include allocations for discharges to Old Alameda Creek. These TMDLs are implemented through NPDES Permit No. CA0038849.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants discharged into waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations: 40 C.F.R. section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 C.F.R. section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of receiving waters.

A. Discharge Prohibitions

1. Prohibitions in this Order

- a. Discharge Prohibition III.A (No discharge other than as described in this Order):**
This prohibition is based on 40 C.F.R. section 122.21(a) and Water Code section 13260, which require filing an application and Report of Waste Discharge before a discharge can occur. Discharges not described in the application and Report of Waste Discharge, and subsequently in this Order, are prohibited.
- b. Discharge Prohibition III.B (No discharge except during peak wet weather):** This prohibition ensures that discharges to Old Alameda Creek occur only during peak wet weather when the maximum capacity available in the EBDA pipeline is fully utilized or when exercising the discharge flap gate. When Hayward Marsh discharges cease, peak wet weather discharges are expected to exceed the available capacity in the EBDA pipeline approximately 3 times per year on average. After plant upgrades (see Fact Sheet section II.E), the Discharger's allocated discharge flow to the EBDA common outfall will be reduced from 42.9 MGD to 36 MGD. This lower threshold will reduce the Discharger's wet weather reliance on the EBDA pipeline. Peak wet weather discharges are then expected to exceed the available capacity in the EBDA pipeline approximately 12 times per year. Flows above 140,000 gallons are prohibited during flap gate exercises so discharges only occur to the extent necessary to complete the maintenance tests. Prohibiting discharges except under these conditions is consistent with Basin Plan Discharge Prohibition 1 (Basin Plan Table 4-1).

- c. **Discharge Prohibition III.B (No bypass):** This prohibition is based on 40 C.F.R. section 122.41(m) (see Attachment D § I.G).
- d. **Discharge Prohibition III.C (No more than two flap gate exercises per year):** This prohibition restricts potential water quality impacts on Old Alameda Creek resulting from discharge flap gate exercises by limiting such discharges to twice per year and requiring that they occur during the wet season (November 1 through April 30), when flow in Old Alameda Creek is high. This prohibition ensures that discharges only occur when Old Alameda Creek flows provide significant mixing and dilution, and during conditions that reflect the assumptions underlying the reasonable potential analysis, effluent limitations, and other requirements of this Order

2. Exceptions to Basin Plan Discharge Prohibitions

Basin Plan Table 4-1, Discharge Prohibition 1, prohibits discharges of wastewater that has particular characteristics of concern to beneficial uses at any point at which the wastewater does not receive a minimum of 10:1 initial dilution or discharges into any nontidal water, dead-end slough, or similar confined waters and their tributaries. Discharge Point No. 001 is an outfall to shallow waters where a minimum initial dilution of 10:1 is not achieved. 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.

Discharge Prohibition 1 does not apply to this discharge for the following reasons:

- Discharges are infrequent and not continuous. Wet weather discharges are expected to occur on average 3 times per year, and 12 times per year once the Discharger completes plant upgrades (see Fact Sheet section IV.A.1.b). Discharges will not have continuous effects on Old Alameda Creek beneficial uses because they will occur only during wet weather, when discharges are flushed and diluted by increased creek flows and stormwater from the Alvarado Flood Control Pump Station outfall located about 100 feet downstream of the discharge outfall.
- There is little risk that plant upsets will result in abnormal discharges with characteristics of concern to beneficial uses. Under most possible upset conditions, Facility effluent would flow to the EBDA common outfall, not Old Alameda Creek. Discharge to Old Alameda Creek requires an intentional flow diversion. In addition, the Discharger has a good compliance record (see Fact Sheet section II.D), demonstrating consistent reliable treatment.
- There is little potential for public contact with undiluted waste. Discharges occur only during wet weather, when they are flushed and diluted by increased creek flows and stormwater from the Alvarado Flood Control Pump Station outfall located about 100 feet downstream of the discharge outfall.

- The discharge will not cause visual impacts. Discharge is treated to Secondary Treatment Standards, which address potentially objectionable color and turbidity. In addition, the Discharger has a good compliance record, demonstrating consistent reliable treatment and adherence with discharge prohibitions that would not result in adverse visual impacts.

Basin Plan section 4.2 also provides for exceptions to Discharge Prohibition 1 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:

In reviewing requests for exceptions, the Water Board will consider the reliability of the discharger's system in preventing inadequately treated wastewater from being discharged to the receiving water and the environmental consequence of such discharges.

This discharge would qualify for an exception to Discharge Prohibition 1 for the following reasons:

- a. An inordinate burden would be placed on the Discharger relative to the beneficial uses protected to require the discharge to achieve 10:1 dilution. Achieving 10:1 dilution would require the Discharger construct a deepwater outfall or expand the capacity of the EBDA pipeline. Doing either of these tasks would be unreasonably costly for a discharge that only occurs at most approximately 12 times per year.
- b. The Discharger achieves a level of environmental protection equivalent to adherence to the discharge prohibition by preventing discharges to Old Alameda Creek more frequently than approximately 3 times per year, or 12 times per year once the Discharger completes the plant upgrades. In addition, the Discharger is taking actions to provide significant nutrient removal (approximately 50 percent total inorganic nitrogen removal and 90 percent total ammonia removal on an average annual basis) and more reliable solids removal.

B. Technology-Based Effluent Limitations

1. Scope and Authority

CWA section 301(b) and 40 C.F.R. section 122.44 require that permits include conditions meeting technology-based requirements, at a minimum, and any more stringent effluent limitations necessary to meet water quality standards. The discharges authorized by this Order must meet minimum federal technology-based requirements based on the Secondary Treatment Standards at 40 C.F.R. section 133 as summarized below. Basin Plan Table 4 2 imposes additional technology-based requirements.

Table F-4. Secondary Treatment Standards

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

Abbreviation:

mg/L = milligrams per liter

Footnotes:

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

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

2. Effluent Limitations

- a. **CBOD₅ and TSS.** The CBOD₅ and TSS effluent limitations of 40 mg/L and 45 mg/L are based on the Secondary Treatment Standards and Basin Plan Table 4-2. Due to the infrequent nature of the discharge, this Order contains only the weekly average limitations, not the monthly average limitations. NPDES Permit No. CA0037869 (for the EBDA common outfall) ensures that the Facility satisfies monthly average effluent limitations in accordance with the Secondary Treatment Standards.
- b. **Oil and Grease.** The oil and grease effluent limitation of 20 mg/L is based on Basin Plan Table 4-2. Due to the infrequent nature of the discharge, this Order contains only the maximum daily limitation, not the monthly average limitation. NPDES Permit No. CA0037869 (for the EBDA common outfall) ensures that the Facility satisfies the monthly average effluent limitation in accordance with the Basin Plan.
- c. **pH.** The pH effluent limitations are a minimum of 6.5 and a maximum of 8.5. They are based on Basin Plan Table 4-2.
- d. **Total Residual Chlorine.** The total residual chlorine effluent limitation of 0.0 mg/L is based on Basin Plan Table 4-2.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

This Order contains 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 to 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 Old Alameda Creek. Fact Sheet section III.C.1, above, identifies the beneficial uses of Old Alameda Creek. 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, including numeric objectives for ten priority pollutants and un-ionized ammonia, and narrative objectives for bioaccumulation and toxicity.
- 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 Old Alameda Creek because it is not a source of drinking water.
- c. **NTR Criteria.** The NTR establishes numeric aquatic life and human health criteria for a number of toxic pollutants for San Francisco Bay waters upstream to and including Suisun Bay and the Sacramento-San Joaquin Delta. The NTR criteria apply to Old Alameda Creek.
- d. **Bacteria Water Quality Objectives.** The *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California – Part 3, Bacteria Provisions and a Water Quality Standards Variance Policy* establishes *Escherichia coli* form bacteria water quality objectives to limit cases of gastrointestinal illness from water contact recreation. The *Escherichia coli* form objectives apply to freshwaters.
- e. **Receiving Water Salinity.** Basin Plan section 4.6.2 (like the CTR and NTR) states that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water are to be considered in determining the applicable water quality objectives. Freshwater criteria apply to discharges to waters with salinities equal to or less than one part per thousand (ppt) at least 95 percent of the time. Saltwater criteria apply to discharges to waters with salinities equal to or greater than 10 ppt at least 95 percent of the time in a normal water year. For discharges to water with salinities in 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 criteria (the latter calculated based on ambient hardness) for each substance.

The receiving water receives upstream freshwater flows but is tidally influenced, being located approximately three miles upstream from Lower San Francisco Bay. However, under peak wet weather conditions the receiving water is freshwater because of the large amount of stormwater flow from upstream. Because the receiving water would be

freshwater during wet weather discharges, this Order's effluent limitations are based on the freshwater water quality objectives and criteria.

- f. Receiving Water Hardness.** Ambient hardness data were used to calculate freshwater water quality objectives that are hardness dependent. The Discharger collected receiving water hardness data between March 2009 and December 2016. Within this data set, eight data points reflect freshwater conditions (salinity less than or equal to 1 ppt). The geometric mean of these eight data points is 133 mg/L. This value was used to calculate the objectives.
- g. Site-Specific Metals Translators.** Effluent limitations for metals must be expressed as total recoverable metal (40 C.F.R. § 122.45[c]). Since the water quality objectives for metals are typically expressed as dissolved metal, translators must be used to convert metals concentrations from dissolved to total recoverable and vice versa. This Order relies on CTR default translators.

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 and ambient background monitoring data the Discharger collected from January 2016 through April 2020.

SIP section 1.4.3 requires that background water quality data be representative of the ambient receiving water that will mix with the discharge. Background data used for this analysis were collected at Monitoring Location RSW-002, upstream of Discharge Point No. 001 and just outside the influence of the Discharger's effluent.

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

b. Priority Pollutants

- i. Methodology.** SIP section 1.3 sets forth the methodology used for this Order for assessing whether a priority pollutant has reasonable potential to exceed a water quality objective. The analysis begins with identifying the maximum effluent concentration (MEC) observed for each pollutant based on available effluent concentration data and the ambient background concentration (B). SIP section 1.4.3 states that ambient background concentrations are either the maximum ambient concentration observed or, for water quality objectives intended to protect human health, the arithmetic mean of observed concentrations. There are three triggers in determining reasonable potential:

- (a) **Trigger 1** is activated if the maximum effluent concentration is greater than or equal to the lowest applicable water quality objective ($MEC \geq$ water quality objective).
- (b) **Trigger 2** is activated if the ambient background concentration observed in the receiving water is greater than the lowest applicable water quality objective ($B >$ water quality objective) *and* the pollutant is detected in any effluent sample.
- (c) **Trigger 3** is activated if a review of other information indicates that a WQBEL is needed to protect beneficial uses.
- ii. **Analysis.** The maximum effluent concentrations, most stringent applicable water quality criteria and objectives, and ambient background concentrations used in the analysis are presented in the following table, along with the reasonable potential analysis results (yes, no, or unknown) for each pollutant. Copper and lead exhibit reasonable potential by Trigger 2.

Table F-5. Reasonable Potential Analysis

CTR No.	Pollutants	C or Governing Criterion or Objective (µg/L)	MEC or Minimum MDL (µg/L) ^{[1][2]}	B or Minimum MDL (µg/L) ^{[1][2]}	RPA Results ^[3]
1	Antimony	4,300	0.40 DNQ	0.39 DNQ	No
2	Arsenic	150	1.0	4.8	No
3	Beryllium	No Criteria	<.020	0.33	U
4	Cadmium	1.40	0.047 DNQ	0.18	No
5a	Chromium (III)	261	1.1 ^[4]	34	No
5b	Chromium (VI)	11	1.1 ^[4]	< 3.0	No
6	Copper	12	10	30	Yes
7	Lead	4.6	0.26 DNQ	11	Yes
8	Mercury ^[5]	-	-	-	-
9	Nickel	66	4.7	44	No
10	Selenium	5.0	0.71 DNQ	0.58 DNQ	No
11	Silver	6.6	0.047 DNQ	<0.05	No
12	Thallium	6.3	<.025	0.084 DNQ	No
13	Zinc	153	41	66	No
14	Cyanide	5.2	3.6 DNQ	<3.9	No
15	Asbestos ^[6]	-	-	-	-
16	2,3,7,8-TCDD	1.4E-08	<1.4E-10	<1.3E-10	No
17	Acrolein	780	<0.94	<4.8	No
18	Acrylonitrile	0.66	<0.39	<2.0	No
19	Benzene	71	<0.10	<0.51	No
20	Bromoform	360	<0.18	<0.92	No
21	Carbon Tetrachloride	4.4	<0.14	<0.71	No
22	Chlorobenzene	21000	<0.12	<0.61	No
23	Chlorodibromomethane	34	0.17 DNQ	<0.66	No
24	Chloroethane	No Criteria	<0.18	<0.92	U

CTR No.	Pollutants	C or Governing Criterion or Objective (µg/L)	MEC or Minimum MDL (µg/L) ^{[1][2]}	B or Minimum MDL (µg/L) ^{[1][2]}	RPA Results ^[3]
25	2-Chloroethylvinyl ether	No Criteria	<0.25	<1.3	U
26	Chloroform	No Criteria	1.3	<0.76	U
27	Dichlorobromomethane	46	0.25 DNQ	<1.0	No
28	1,1-Dichloroethane	No Criteria	<0.13	<0.66	U
29	1,2-Dichloroethane	99	<0.14	<0.71	No
30	1,1-Dichloroethylene	3.2	<0.19	<0.97	No
31	1,2-Dichloropropane	39	<0.13	<0.66	No
32	1,3-Dichloropropylene	1,700	<0.18	<1.6	No
33	Ethylbenzene	29,000	<0.13	<0.66	No
34	Methyl Bromide	4,000	<0.23	<1.2	No
35	Methyl Chloride	No Criteria	<0.32	<1.6	U
36	Methylene Chloride	1,600	0.39 DNQ	<1.2	No
37	1,1,2,2-Tetrachloroethane	11	<0.12	<0.61	No
38	Tetrachloroethylene	8.9	<0.18	<0.92	No
39	Toluene	200,000	0.28 DNQ	<0.56	No
40	1,2-Trans-Dichloroethylene	140,000	<0.19	<0.97	No
41	1,1,1-Trichloroethane	No Criteria	<0.16	<0.82	U
42	1,1,2-Trichloroethane	42	<0.20	<1.0	No
43	Trichloroethylene	81	<0.16	<0.82	No
44	Vinyl Chloride	525	<0.090	<0.46	No
45	2-Chlorophenol	400	<0.18	<0.19	No
46	2,4-Dichlorophenol	790	1.1 DNQ	<0.18	No
47	2,4-Dimethylphenol	2,300	0.59 DNQ	<0.11	No
48	2-Methyl- 4,6-Dinitrophenol	765	<0.91	<0.95	No
49	2,4-Dinitrophenol	14,000	<0.61	<0.63	No
50	2-Nitrophenol	No Criteria	<0.82	<0.86	U
51	4-Nitrophenol	No Criteria	<0.094	<0.099	U
52	3-Methyl 4-Chlorophenol	No Criteria	<0.19	0.86 DNQ	U
53	Pentachlorophenol	7.4	<1.8	<1.9	No
54	Phenol	4,600,000	0.11 DNQ	<0.087	No
55	2,4,6-Trichlorophenol	6.5	<0.79	<0.83	No
56	Acenaphthene	2,700	<0.015	<0.016	No
57	Acenaphthylene	No Criteria	<0.015	0.043 DNQ	U
58	Anthracene	110,000	<0.0099	0.088 DNQ	No
59	Benzidine	0.00054	<1.6	<1.7	No
60	Benzo(a)Anthracene	0.049	<0.0075	<0.0079	No
61	Benzo(a)Pyrene	0.049	<0.011	<0.011	No
62	Benzo(b)Fluoranthene	0.049	<0.0089	<0.0093	No
63	Benzo(ghi)Perylene	No Criteria	<0.0077	<0.0081	U
64	Benzo(k)Fluoranthene	0.049	<0.0062	<0.0065	No
65	Bis(2-Chloroethoxy)Methane	No Criteria	<0.39	<0.40	U
66	Bis(2-Chloroethyl)Ether	1.4	<0.16	<0.17	No
67	Bis(2-Chloroisopropyl)Ether	170,000	<0.12	<0.12	No

CTR No.	Pollutants	C or Governing Criterion or Objective (µg/L)	MEC or Minimum MDL (µg/L) ^{[1][2]}	B or Minimum MDL (µg/L) ^{[1][2]}	RPA Results ^[3]
68	Bis(2-Ethylhexyl)Phthalate	5.9	<3.5	5.4	No
69	4-Bromophenyl Phenyl Ether	No Criteria	<0.13	<0.13	U
70	Butylbenzyl Phthalate	5,200	0.32 DNQ	0.57 DNQ	No
71	2-Chloronaphthalene	4,300	<0.091	<.095	No
72	4-Chlorophenyl Phenyl Ether	No Criteria	<0.11	<.011	U
73	Chrysene	0.049	<0.0079	0.12 DNQ	No
74	Dibenzo(a,h)Anthracene	0.049	<0.0089	<0.0093	No
75	1,2-Dichlorobenzene	17,000	<0.13	<0.66	No
76	1,3-Dichlorobenzene	2,600	<0.17	<0.87	No
77	1,4-Dichlorobenzene	2,600	<0.15	<0.76	No
78	3,3 Dichlorobenzidine	0.077	<0.25	<0.26	No
79	Diethyl Phthalate	120,000	<0.089	<0.093	No
80	Dimethyl Phthalate	2,900,000	<0.11	<0.11	No
81	Di-n-Butyl Phthalate	12,000	<0.079	0.48	No
82	2,4-Dinitrotoluene	9.1	<0.12	0.12	No
83	2,6-Dinitrotoluene	No Criteria	<0.14	<0.45 DNQ	U
84	Di-n-Octyl Phthalate	No Criteria	0.59 DNQ	0.090	U
85	1,2-Diphenylhydrazine	0.54	Unavailable	Unavailable	No
86	Fluoranthene	370	<0.012	0.21 DNQ	No
87	Fluorene	14,000	<0.015	<0.016	No
88	Hexachlorobenzene	0.00077	<0.11	<0.11	No
89	Hexachlorobutadiene	50	<0.089	<0.093	No
90	Hexachlorocyclopentadiene	17,000	<0.18	<0.19	No
91	Hexachloroethane	8.9	<0.099	<0.10	No
92	Indeno(1,2,3-cd)Pyrene	0.049	<0.0083	<0.0087	No
93	Isophorone	600	<0.13	0.91 DNQ	No
94	Naphthalene	No Criteria	0.042 DNQ	0.018 DNQ	U
95	Nitrobenzene	1,900	<0.11	<0.11	No
96	N-Nitrosodimethylamine	8.1	<0.078	<0.082	No
97	N-Nitrosodi-n-Propylamine	1.4	<0.18	<0.19	No
98	N-Nitrosodiphenylamine	16	<0.093	<0.098	No
99	Phenanthrene	No Criteria	<0.014	0.015 DNQ	U
100	Pyrene	11,000	<0.097	0.056 DNQ	No
101	1,2,4-Trichlorobenzene	No Criteria	<0.12	0.32 DNQ	U
102	Aldrin	0.00014	<0.00288	<0.0030	No
103	Alpha-BHC	0.013	<0.00288	<0.0030	No
104	Beta-BHC	0.046	<0.00288	<0.0030	No
105	Gamma-BHC	0.063	<0.00192	<0.0020	No
106	Delta-BHC	No Criteria	<0.00288	<0.0030	U
107	Chlordane	0.00059	<0.0134	<0.014	No
108	4,4'-DDT	0.00059	<0.00384	<0.0040	No
109	4,4'-DDE	0.00059	<0.00288	<0.0030	No
110	4,4'-DDD	0.00084	<0.00192	<0.0020	No

CTR No.	Pollutants	C or Governing Criterion or Objective (µg/L)	MEC or Minimum MDL (µg/L) ^{[1][2]}	B or Minimum MDL (µg/L) ^{[1][2]}	RPA Results ^[3]
111	Dieldrin	0.00014	<0.00384	<0.0040	No
112	Alpha-Endosulfan	0.056	<0.00384	<0.0040	No
113	beta-Endosulfan	0.056	<0.00384	<0.0040	No
114	Endosulfan Sulfate	240	<0.00192	<0.0020	No
115	Endrin	0.036	<0.00288	<0.0030	No
116	Endrin Aldehyde	0.81	<0.00384	<0.0040	No
117	Heptachlor	0.00021	<0.00288	<0.0030	No
118	Heptachlor Epoxide	0.00011	<0.00288	<0.0030	No
119-125	PCBs sum ^[5]	-	-	-	-
126	Toxaphene	0.0002	<0.0691	<.072	No

Abbreviations:

B = background concentration
C = water quality criterion or objective
MDL = method detection limit
MEC = maximum effluent concentration
RPA = reasonable potential analysis
DNQ = detected, but not quantified
µg/L = micrograms per liter
mg/L = milligrams per liter

Footnotes:

- ^[1] The maximum effluent concentration and ambient background concentration are the actual detected concentrations unless preceded by a “<” sign, in which case the value shown is the minimum method detection limit (MDL).
- ^[2] The maximum effluent concentration or ambient background concentration is “Unavailable” when there are no monitoring data for the constituent.
- ^[3] RPA Results = Yes, if MEC ≥ WQC, B > WQC and MEC is detected, or Trigger 3
= No, if MEC and B are < WQC or all effluent data are undetected
= Unknown (U) if no criteria have been promulgated or data are insufficient.
- ^[4] The maximum effluent concentrations are the total chromium concentration. The chromium (III) and chromium (IV) concentrations are unknown but less than these values.
- ^[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, which include the Discharger’s wet weather discharges to Old Alameda Creek. Mercury and PCBs from wastewater discharges are regulated by NPDES Permit No. CA0038849, which implements the San Francisco Bay Mercury and PCBs TMDLs.
- ^[6] Asbestos sampling is only required for discharges to waters with the municipal or domestic supply (MUN) beneficial use.

c. Ammonia

- i. **Methodology.** Ammonia is a toxic pollutant, but not a priority pollutant as defined by the CTR. 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 if ammonia in the discharge has reasonable potential to cause a water quality objective to be exceeded in the receiving water. According to the Technical Support Document, the reasonable potential analyses can be performed based on the receiving water concentrations projected using effluent data or measured receiving water concentrations. Both values may be compared directly with the Basin Plan un-ionized ammonia objectives. The following summarizes the steps using effluent data:

Step 1. Determine the total number of observations (n) and the highest value (the maximum effluent concentration or MEC) in the effluent data set.

Step 2. Determine the coefficient of variation (CV) of 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 a ratio (R) for projecting an upper bound concentration based on a selected confidence interval (e.g., 95th or 99th percentile) and assuming a lognormal distribution as follows:

Determine the percentile represented by the MEC in the data set (P_n) based on the selected confidence interval.

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

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

$$C_P = \exp(Z_P\sigma - 0.5\sigma^2)$$

Where: $\sigma^2 = \ln(CV^2 + 1)$

P is the percentile (either P_n or the selected upper bound percentile)

Z_p is the standard normal distribution value for the percentile P
(available from statistical references)

Finally, calculate R as:

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

Step 4. Calculate the projected maximum receiving water concentration (RWC) as follows:

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

The dilution ratio can be defined as:

$$\text{dilution ratio} = \frac{(D + [1 \text{ part effluent}])}{[1 \text{ part effluent}]}$$

Where: D is the parts receiving water available to dilute 1 part effluent

Thus:

$$\text{RWC} = (\text{MEC} \times R) / (D + 1)$$

Step 5. Compare the RWC to the Basin Plan's ammonia water quality objectives. There is reasonable potential if the RWC is greater than or equal to a water quality objective.

ii. Analysis

(a) **Ammonia Objective.** Basin Plan section 3.3.20 contains water quality objectives for un-ionized ammonia of 0.025 mg/L as an annual median and 0.4 mg/L (as nitrogen) as a maximum for Lower San Francisco Bay, the water body to which Old Alameda Creek flows. The annual median objective is not applicable to this Order because the discharge is so infrequent that it cannot affect the annual median concentration in Old Alameda Creek.

(b) **Ammonia Data Translation.** Effluent and receiving water data are available for total ammonia, but not un-ionized ammonia, because (1) sampling and laboratory methods are unavailable to analyze for un-ionized ammonia, and (2) the fraction of total ammonia that exists in the toxic un-ionized form depends on pH, salinity, and temperature.

Total ammonia concentrations (as nitrogen) were translated into un-ionized ammonia concentrations for comparison with the Basin Plan un-ionized objectives based on the following equations (U.S. EPA, 1989, Ambient Water Quality Criteria for Ammonia (Saltwater)—1989, EPA Publication 440/5-88-004):

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

Where:

$$pK = 0.09018 + 2729.92/T$$

T = temperature in Kelvin

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

Where:

$$pK = 9.245 + 0.116*(I) + 0.0324*(298-T) + 0.0415*(P)/T$$

I = the molal ionic strength of saltwater
 $= 19.9273*(S)/(1000 - 1.005109*S)$
 S = salinity (parts per thousand)
 T = temperature in Kelvin
 P = pressure (one atmosphere)

Paired salinity and ammonia data are unavailable, but the effluent was assumed to be freshwater and the equation for waters of salinity < 1 ppt was used.

(c) **Ammonia Mixing Zone and Dilution Credit.** The Technical Support Document allows for mixing zones and dilution credits to be considered when conducting a reasonable potential analysis. This Order authorizes an ammonia mixing zone corresponding to a dilution credit of 2:1 (2 parts total water [mixed effluent plus receiving water] to 1 part effluent; D=1) at Discharge Point No. 001 in accordance with SIP section 1.4.2.2. The receiving water concentration was assumed to be the

same as the projected upper bound concentration, i.e., $RWC = (MEC \times R)/(D+1)$ (see Step 4 above).

The Discharger's mixing zone study, *Mixing Zone Analysis* (Woodard and Curran, April 29, 2020) indicates that the effluent receives at least 3.6:1 dilution at the edge of an area encompassing about halfway across the Old Alameda Creek sub-channel where the outfall is located, or 200 feet, and extends downstream about 110 feet to the Alvarado Storm Water Pump Station, equating to a mixing zone of about 0.50 acres. This mixing zone was modeled under the driest and most conservative conditions for which a discharge could plausibly occur: no upstream flow in Old Alameda Creek, maximum Facility discharge volume during no creek flow (1.4 MG), minimum discharge volume from the downstream Alvarado Storm Water Pump Station during a Facility discharge event (5.0 MG), less contract capacity in the EBDA pipeline than currently available (40 MGD versus 42.9 MGD), and no flow equalization capacity at the Facility to prevent a discharge. The modeled area of this mixing zone can be seen in Figures 1 and 2, below.

Figure 1. Aerial View of the Mixing Zone



Figure 2. Aerial View of the Mixing Zone Relative to Old Alameda Creek



Because this Order authorizes a mixing zone corresponding to 2:1 dilution, and because discharge conditions will likely result in better mixing than modeled, the ammonia mixing zone will be much smaller than the modeled 0.50 acres. The ammonia mixing zone meets the requirements of SIP section 1.4.2.2.A and the Technical Support Document because it does not do any of the following:

- (1) Compromise the integrity of the water body.** The mixing zone will not compromise the integrity of the receiving waters because it comprises less than 1 percent of the Old Alameda Creek sub-channel (see Fact Sheet Figure 2).
- (2) Cause acute toxicity to aquatic life passing through the mixing zone.** The mixing zone will not cause acute toxicity to aquatic life passing through the mixing zone because, even under conservative low flow conditions, drifting organisms will pass through the mixing zone in less than 15 minutes. This is less than the 24-hour exposure time upon which the Basin Plan's acute ammonia water quality objective is based, and is more protective than guidance in the Technical Support Document, which states that travel time through a mixing zone should be less than 15 minutes if the mixing zone is based on water quality criteria expressed in terms of a 1-hour exposure. Furthermore, the Discharger's effluent is subject to acute toxicity requirements for the EBDA common outfall as set forth in NPDES Permit No. CA0037869.

- (3) **Restrict the passage of aquatic life.** The mixing zone will not interfere with the movement of aquatic species or restrict the passage of aquatic life because it encompasses about half the width of a sub-channel of Old Alameda Creek, leaving about half of the sub-channel and the entire main channel the free of the mixing zone.
- (4) **Adversely impact biologically sensitive or critical habitats, including, but not limited to, habitats of species under federal or State endangered species laws.** The mixing zone is not located within and will not adversely affect any biologically sensitive or critical habitats. The area surrounding Discharge Point No. 001 consists of sheltered tidal flats and low vegetated riverine banks, which do not provide critical habitat to any State or federally-listed endangered or sensitive species. Mudflats about three miles downstream of Discharge Point No. 001 provide habitat for the endangered California Ridgway's Rail and salt marsh harvest mouse, but these are outside of the mixing zone. The Eden Landing Ecological Reserve, which contains critical habitat for the western snowy plover, is downstream of Discharge Point No. 001 but is physically separated from Old Alameda Creek by levees. Additionally, the Old Alameda Creek sub-channel, where the mixing zone is located, is not a suitable spawning location for salmonids due to the upstream tide control structure preventing the passage of migratory fish.
- (5) **Produce undesirable or nuisance aquatic life.** The mixing zone will not produce undesirable or nuisance aquatic life because the effluent receives secondary treatment and disinfection prior to discharge. Moreover, provision V.A of this Order specifically 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. This Order also requires the Discharger to conduct standard observations after each discharge event to ensure nuisance conditions are not present.
- (6) **Result in floating debris, oil, or scum.** The mixing zone will not result in floating debris, oil, or scum because the treatment plant is equipped with scum baffles (collection devices) that collect and dispose of debris, oil, and scum. In addition, the treatment plant has screens that remove any remaining floatables from the effluent. Moreover, provision V.A of this Order specifically imposes receiving water limitations that prohibit floating debris, oil, or scum at any place and at any time. This Order also requires the Discharger to conduct standard observations after each discharge event to ensure floating debris, oil, or scum are not present.
- (7) **Produce objectionable color, odor, taste, or turbidity.** The mixing zone will not produce objectionable color, odor, taste, or turbidity because the effluent receives secondary treatment and is disinfection prior to discharge. Secondary treatment addresses objectionable odor, taste, and turbidity through the biological degradation of organic compounds and clarification. In addition, provision V.A of this Order specifically prohibits alteration of color or turbidity beyond natural background levels. This Order also requires the

Discharger to conduct standard observations after each discharge event to ensure objectionable color, odor, or turbidity are not present.

(8) Cause objectionable bottom deposits. The SIP defines objectionable bottom deposits as an accumulation of materials or substances on or near the bottom of a water body that creates conditions adversely affecting aquatic life, human health, beneficial uses, or aesthetics. These conditions include, but are not limited to, the accumulation of pollutants in sediments and other conditions that result in harm to benthic organisms, production of food chain organisms, or fish egg development. The mixing zone will not cause objectionable bottom deposits because the effluent receives secondary treatment, which biologically degrades and removes suspended particles that could contribute to receiving water bottom deposits. Ammonia does not bind to particles and is therefore unlikely to accumulate in sediment. In addition, provision V.A of this Order specifically prohibits bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses.

(9) Cause nuisance. The mixing zones will not cause a nuisance because the effluent receives secondary treatment and is disinfected prior to discharge. Water Code section 13050(m) defines “nuisance” to mean anything that meets all three of the following criteria:

- is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property;
- affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; and
- occurs during, or as a result of, the treatment or disposal of wastes.

Provision V.A of this Order specifically prohibits discharges from causing a nuisance. This Order also requires the Discharger to conduct standard observations after each discharge event to ensure nuisance conditions are not present.

(10) Dominate the receiving water body or overlap a mixing zone from a different outfall. The mixing zone will not dominate the receiving waters (see Fact Sheet section IV.C.4.b.i and Figure 2, above) or overlap any other mixing zones. As discussed above, this mixing zone represents relatively small portion of the receiving water, covering less than 1 percent of the Old Alameda Creek sub-channel. The Regional Water Board has not established any other mixing zones nearby.

(11) Be located at or near any drinking water intake. There are no drinking water intakes near the mixing zone, which is in a tidally influenced segment of Old Alameda Creek that is not generally suitable for drinking water supplies.

SIP section 1.4.2.2 requires that mixing zones be as small as practicable. This mixing zone corresponds to a dilution ratio of 2:1, which provides the smallest dilution credit ($D=1$) that the Discharger can comply with to meet the acute un-ionized ammonia objective. Therefore, this mixing zone, consistent with SIP section 1.4.2.2.B, protects beneficial uses and complies with all regulatory requirements.

(d) Two Approaches. According to the Technical Support Document, the reasonable potential analysis can be performed based on the RWC projected using effluent data (the steps summarized above) or actual measured RWCs. Both values may be compared directly with Basin Plan un-ionized objectives.

(1) Analysis Based on Effluent Data. Effluent total ammonia as nitrogen, pH, and temperature data collected from January 2016 through April 2019 were used to evaluate reasonable potential for ammonia. Only data from the wet season (November 1 and April 30) were used to represent conditions when the Discharger will discharge. Based on this data set of $n=20$ with a calculated un-ionized ammonia MEC of 0.40 mg/L, P_n at a 95 percent confidence interval is 0.86, indicating the MEC represents the 86th percentile of the ammonia effluent data. With the upper bound set at the 99th percentile, R is 1.5 (C_{Pn} was 1.3 and $C_{upper\ bound}$ was 2.0), and with $D=1$, the projected RWC is 0.30 mg/L, which is less than the Basin Plan's acute un-ionized ammonia water quality objective of 0.4 mg/L. Therefore, there is no reasonable potential for ammonia based on the effluent data.

(2) Analysis Based on Receiving Water Data. Total ammonia, pH, salinity, and temperature data were collected at Monitoring Location RSW-001, just downstream of Discharge Point No. 001, during a flap gate exercise on December 15, 2016, to evaluate reasonable potential for ammonia after discharge had mixed with the receiving water. The maximum calculated un-ionized ammonia concentration of 0.17 mg/L is less than the acute water quality objective of 0.4 mg/L. Therefore, there is no reasonable potential for ammonia based on the receiving water data.

(3) Conclusion. The analyses based on effluent and receiving water data conclude there is no reasonable potential for ammonia to exceed the acute water quality objective of 0.4 mg/L. Therefore, this Order does not include total ammonia effluent limitations.

d. Toxicity. Because wet weather discharges are rare (expected to occur about 3 times per year, and 12 times per year after plant upgrades), toxicity effluent limitations are unwarranted due to the short-term and infrequent nature of the discharge. Moreover, toxicity is indirectly limited as part of the Discharger's requirements for discharges to the EBDA common outfall as set forth in NPDES Permit No. CA0037869. Thus, this Order does not require the Discharger to conduct acute or chronic toxicity bioassays.

e. Escherichia Coliform Bacteria. The *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California – Part 3, Bacteria Provisions and a*

Water Quality Standards Variance Policy requires *Escherichia coli* form bacteria effluent limitations for discharges to freshwater receiving waters that support the water contact recreation (REC1) beneficial use.

4. Water Quality-Based Effluent Limitations (WQBELs)

WQBELs were developed for the pollutants determined to have reasonable potential to cause or contribute to exceedances of water quality objectives. With the exception of *Escherichia coli* form bacteria, the WQBEL calculations are based on the procedures in SIP section 1.4.

- a. **WQBEL Expression.** NPDES regulations at 40 C.F.R. section 122.45(d) require that permit limits for publicly-owned treatment works be expressed as average weekly and average monthly limits, unless impracticable. This Order contains daily limits instead of weekly limits because daily limits better protect against acute water quality effects and are necessary to prevent fish kills or mortality to aquatic organisms. Weekly limits could allow acute and chronic toxicity to occur over short periods (acute and chronic aquatic life criteria are typically expressed as one-hour and four-day averages).
- b. **Mixing Zones and Dilution Credits.** SIP section 1.4.2 allows mixing zones and dilution credits under certain circumstances. While this Order grants a small mixing zone for ammonia, this is reasonable because ammonia will rapidly attenuate to a less toxic form. This Order does not authorize copper or lead mixing zones or dilution credits because these pollutants are persistent and SIP section 1.4.2.2 requires that mixing zones be as small as practicable.
- c. **WQBEL Calculations.** The following table shows the WQBEL calculations for copper and lead. These WQBELs are calculated as required by SIP section 1.4.

Table F-6. WQBEL Calculations

Pollutant	Copper	Lead
Units	µg/L	µg/L
Basis and Criteria type	Basin Plan Freshwater Objectives	Basin Plan Freshwater Objectives
Criteria -Acute	18	117
Criteria -Chronic	12	4.6
Site-Specific Objective Criteria - Acute	-	-
Site-Specific Objective Criteria - Chronic	-	-
Water Effects Ratio (WER)	1	1
Lowest WQO	12	4.6
Site Specific Translator - MDEL	-	-
Site Specific Translator - AMEL	-	-
Dilution Factor (D)	0	0
No. of samples per month	4	4
Aquatic life criteria analysis required? (Y/N)	Y	Y

Pollutant	Copper	Lead
HH criteria analysis required? (Y/N)	N	N
Applicable Acute WQO	18	117
Applicable Chronic WQO	12	4.6
HH Criteria	-	-
Background (Maximum Concentration for Aquatic Life Calculation)	30	11
Background (Average Concentration for Human Health Calculation)	-	-
Is the pollutant on the 303d list and/or bioaccumulative (Y/N)?	N	N
ECA Acute	18	117
ECA Chronic	12	4.6
ECA HH	-	-
No. of data points <10 or at least 80% of data reported non-detect? (Y/N)	Y	Y
Average of effluent data points	5.7	0.11
Standard Deviation of effluent data points	1.6	0.050
CV Calculated	0.28	0.49
CV (Selected) - Final	0.28	0.49
ECA Acute Mult99	0.55	0.38
ECA Chronic Mult99	0.73	0.59
LTA Acute	10	44
LTA Chronic	8.7	2.7
Minimum of LTAs	8.7	2.7
AMEL Mult95	1.3	1.4
MDEL Mult99	1.8	2.7
AMEL (Aquatic Life)	11	3.9
MDEL (Aquatic Life)	16	7.1
MDEL/AMEL Multiplier	1.5	1.8
AMEL (Human Health)	-	-
MDEL (Human Health)	-	-
Minimum of AMEL for Aq. Life vs HH	11	3.9
Minimum of MDEL for Aq. Life vs HH	16	7.1
Previous Order Limit - AMEL	-	3.4
Previous Order Limit - MDEL	-	8.3
Final Limit - AMEL	11	3.4
Final Limit - MDEL	16	7.1

- d. Escherichia Coliform Bacteria.** The *Escherichia coliform* effluent limitation is based on the *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California – Part 3, Bacteria Provisions and a Water Quality Standards Variance Policy*, which requires weekly geometric mean and 90th percentile limitations for discharges to receiving waters with the water contact recreation beneficial use.

Due to the infrequent and short duration of the discharge, this Order does not require a weekly geometric mean limitation and implements the 90th percentile objective as a daily maximum limitation of 320 CFU/100 mL. Expressing the limitation as a daily maximum is more practicable and more stringent than expressing it as a 90th percentile.

D. Discharge Requirement Considerations

- 1. Antidegradation.** This Order complies with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16. It does not authorize lowering water quality as compared to the level of discharge authorized in the previous order, which is the baseline by which to measure whether degradation will occur. This Order does not allow for a reduced level of treatment or less stringent effluent limitations relative to the previous order. This Order also does not affect the total flow from Discharger's treatment plant to San Francisco Bay. However, it does allow the Discharger to shift some of these flows to a different location, specifically 3.5 miles upstream to Old Alameda Creek, a tidal channel of Lower San Francisco Bay. Old Alameda Creek water quality is sufficient to support existing and potential beneficial uses. (Old Alameda Creek is impaired by trash, but the Discharger's fully treated effluent does not contain trash.)

Since the previous order term, the Discharger's flow capacity to the EBDA outfall pipeline has been reduced by two factors, which will likely cause more frequent wet weather discharges to Old Alameda Creek. The first factor is an updated Joint Exercise of Powers Agreement with EBDA and its member agencies that allots 42.9 MGD, on a 3-hour average basis, of capacity in the EBDA outfall pipeline to the Discharger. This new contract is more restrictive than the contract during the previous order term because it limits the Discharger's maximum discharge capacity to a 3-hour average duration, regardless of the actual hydraulic capacity available in the pipeline. The second factor is the impending loss of the Hayward Marsh outfall, which is owned and operated by the East Bay Regional Parks District. Historically, the Discharger routed approximately 3.0 MGD to the Hayward Marsh as a freshwater source, and somewhat higher flows during wet weather. The East Bay Regional Parks District plans to alter Hayward Marsh so it no longer relies on treated wastewater, and plans to ask the Regional Water Board to rescind the Hayward Marsh permit (NPDES Permit No. CA0038636). Due to these two factors, the expected wet weather discharge frequency at the Old Alameda Creek outfall (excluding the biennial discharge flap gate exercises) is expected to increase from once every 10 years to approximately 3 times per year on average, and then up to 12 times per year on average when plant upgrades are completed (see Fact Sheet section IV.A.1.b). Although these discharges will continue to be short in duration (most less than ten hours) and small in volume (most less than 0.50 MG), the increase in discharge frequency will increase pollutant loading into Old Alameda Creek.

In 1990, the State Water Board adopted Administrative Procedures Update (APU) No. 90-004, which provides guidance for implementing the State and federal antidegradation policies. Consistent with APU No. 90-004, the Discharger's increased discharge frequency and pollutant loading into Old Alameda Creek warrants a simple antidegradation analysis because any incremental reduction in water quality will be minor and temporary (during peak wet weather) and will not result in any long-term deleterious effects. The Discharger submitted an antidegradation study, *Antidegradation Analysis* (Woodard and Curran, April 29, 2020), to demonstrate that the increased discharge frequency will comply with federal and State antidegradation policies. The study documents that the increased discharge frequency will not degrade Old Alameda Creek, nor downstream Lower San Francisco Bay. The small, intermittent, and short-duration discharges will continue to occur only during wet weather, when they will be mixed and diluted by upstream flows and downstream stormwater from the Alvarado Flood Control Pump Station outfall before being flushed to Lower San Francisco Bay. Because the discharges will be rapidly flushed from Old Alameda Creek, ambient water quality will not be degraded. In addition, once flushed to Lower San Francisco Bay, these discharges will be offset by reduced discharges through the EBDA common outfall and Hayward Marsh. In fact, overall pollutant loading to Lower San Francisco Bay will be reduced by the Discharger's proposed plant upgrades, which will enhance effluent quality by removing approximately 50 percent of total inorganic nitrogen (the bioavailable form of nitrogen) and 90 percent of total ammonia on an average annual basis. In addition, these upgrades will ensure more reliable solids removal. For all these reasons, the increased frequency in wet weather discharges will not unreasonably affect present and anticipated beneficial uses of Old Alameda Creek or Lower San Francisco Bay, and will result in water quality consistent with State Water Board Resolution No. 68-16's requirement to maintain existing high quality waters unless lower water quality can be justified.

2. **Anti-backsliding.** This Order complies with the anti-backsliding provisions of CWA sections 402(o) and 303(d)(4), and 40 C.F.R. section 122.44(l), which generally require effluent limitations in a reissued permit to be as stringent as those in the previous order. The requirements of this Order are at least as stringent as those in the previous order. The State Water Board adopted the *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California – Part 3, Bacteria Provisions and a Water Quality Standards Variance Policy* on August 7, 2018, which supersedes the bacteria effluent limitations in the Basin Plan. The new effluent limitations are based on *Escherichia coli* form bacteria (instead of fecal coliform bacteria) and a different averaging period than the previous limitations and are therefore not directly comparable.
3. **Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based and WQBELs for individual pollutants. The technology-based requirements implement minimum, applicable federal technology-based requirements. In addition, this Order contains more stringent effluent limitations as necessary to meet water quality standards. Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement CWA requirements.

This Order's WQBELs have been derived to implement water quality objectives that protect beneficial uses. The beneficial uses and water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent

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

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

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

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

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

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

B. Monitoring and Reporting

CWA section 308 and 40 C.F.R. sections 122.41(h), 122.41(j)-(l), 122.44(i), and 122.48 require that NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The MRP establishes monitoring, reporting, and recordkeeping requirements that implement federal and State requirements. For more background regarding these requirements, see Fact Sheet section VII. Regional Water Board Order No. R2-2016-0008 allows the Discharger to opt into certain alternative monitoring requirements.

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 evaluate effluent monitoring data to verify that the reasonable potential analysis conclusions of this Order remain valid. This requirement is authorized pursuant to 40 C.F.R. section 122.41(h) and 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.

4. Other Special Provisions

- a. **Plant Upgrades Annual Status Report.** This provision is based on Water Code section 13383 and is necessary to regularly inform the Regional Water Board of the changes occurring at the plant.
- b. **Completion of Plant Upgrades.** This provision is based on 40 C.F.R. section 122.41(l). It specifies conditions that must be met before the Discharger brings its treatment plant upgrades online (see Fact Sheet section II.E). It is necessary to ensure that the new treatment units are constructed appropriately and can operate in compliance with this Order, and so the Regional Water Board knows when to assess compliance with Discharge Prohibition II.B.

The option to submit a startup operations plan is based on Water Code section 13385(j)(1)(D), which exempts the Discharger from mandatory minimum penalties for violations within a defined startup adjustment and testing period under specific conditions. This option is necessary if the Discharger wants to demonstrate that it adequately satisfied the conditions necessary for exemption from mandatory minimum penalties associated with any potential violations during the upgraded plant's startup period. Pursuant to Water Code section 13385(j)(1)(D), the Discharger is exempt from mandatory minimum penalties for violations within the defined startup adjustment and testing period if the Discharger can demonstrate the following:

- i. Compliance with its operation plan;
 - ii. Violations resulted from the operation of the new or upgraded wastewater treatment units; and
 - iii. Violations could not have been reasonably avoided.
- c. **Wet Weather Discharge Annual Technical Report.** This provision is necessary to evaluate compliance with the requirement that the Discharger optimize Facility operations to minimize discharges to Old Alameda Creek set forth in discharge prohibition III.B of this Order.

VII. RATIONALE FOR MONITORING AND REPORTING PROGRAM (MRP)

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

A. Monitoring Requirements Rationale

1. **Effluent Monitoring.** Effluent monitoring at Monitoring Location EFF-002D is necessary to evaluate compliance with most of this Order's effluent limitations and to conduct future reasonable potential analyses. Effluent monitoring at Monitoring Location EFF-WW is necessary to evaluate compliance with Discharge Prohibition III.B (discharge during peak wet weather) and Discharge Prohibition III.D (discharge during discharge flap gate exercises) and to evaluate compliance with this Order's bacteria and total chlorine residual effluent limitations.
2. **Receiving Water Monitoring.** Receiving water monitoring is necessary to conduct future reasonable potential analyses. Monitoring at Monitoring Location RSW-001 is necessary to ascertain the effect of the discharge on Old Alameda Creek and to evaluate compliance with this Order's receiving water limitations. Monitoring at Monitoring Location RSW-002 is necessary to ascertain background conditions. Hardness monitoring is necessary to calculate applicable water quality objectives. Temperature, salinity, and pH monitoring is necessary to estimate un-ionized ammonia concentrations from total ammonia measurements.
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. The Discharger shall support the Regional Monitoring Program to collect data for

receiving water. This table is for informational purposes only. The actual requirements are specified in the MRP and elsewhere in this Order.

Table F-7. Monitoring Requirements Summary

Parameter	Effluent EFF-002D ^[1]	Effluent EFF-WW ^[1]	Receiving Water RSW-001 ^[1]	Receiving Water RSW-002 ^[1]
CBOD ₅	1/Discharge	-	-	-
TSS	1/Discharge	-	-	-
Oil and Grease	1/Discharge	-	-	-
pH ^[2]	1/Discharge ^[3]	-	Once	Once
Hardness	-	-	-	Once
Temperature ^[2]	1/Discharge ^[3]	-	Once	-
Salinity ^[2]	-	-	Once	Once
Ammonia, Total ^[2]	1/Discharge ^[3]	-	Once	-
Dissolved Oxygen	-	-	Once	-
Copper, Total Recoverable	1/Discharge	-	-	-
Lead, Total Recoverable	1/Discharge	-	-	-
Escherichia Coliform Bacteria	1/Discharge	-	-	-
Chlorine, Total Residual	-	Once every two hours during discharge ^[4]	-	-
Discharge Duration	-	1/Discharge	-	-
Discharge Volume	-	1/Discharge	-	-
Priority Pollutants	Once	-	-	Once
Standard Observations ^[5]	-	-	1/Discharge	-

Footnotes:

^[1] The MRP defines these monitoring locations and sampling frequencies.

^[2] pH, temperature, salinity, and ammonia sampling shall occur on the same day to allow for the calculation of the un-ionized ammonia fraction.

^[3] As part of Provision VI.C.2 (Effluent Characterization Study and Report), the Discharger shall monitor for pH, temperature, and ammonia at least once per year.

^[4] During flap gate exercises, the Discharger may monitor for total residual chlorine once per discharge.

^[5] Standard observations are set forth in Attachment G section III.B.1.

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. The public had access to the agenda and any changes in dates and locations through the Regional Water Board's website at waterboards.ca.gov/sanfranciscobay.

B. Written Comments. Interested persons were invited to submit written comments concerning the tentative WDRs as explained through the notification process. Comments were to be submitted

either in person or by mail to the Executive Office at the Regional Water Board at 1515 Clay Street, Suite 1400, Oakland, California 94612, to the attention of James Parrish.

For full staff response and Regional Water Board consideration, the written comments were due at the Regional Water Board office by 5:00 p.m. on **September 3, 2020**.

- 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:

Date: October 14, 2020
Time: 9:00 a.m.
Contact: James Parrish, (510) 622-2381, james.parrish@waterboards.ca.gov

Interested persons were provided notice of the hearing and information on how to participate. During 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 can change. The Regional Water Board web address is waterboards.ca.gov/sanfranciscobay, where one could access the current agenda for changes.

- 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 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 8:00 a.m. and 5:00 p.m. (except noon to 1:00 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, (510) 622-2381, 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. Expedient 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**
 - i. 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.
 - ii. 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.

- iii. 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).
- iv. 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 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;

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.

- 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

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

2.

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

3. **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:

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

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

4. **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):
 Removal Efficiency (%) = 100 x [1-(Effluent Concentration/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, Analytical Methods, and Minimum Levels (µg/L)²

CTR No.	Pollutant/Parameter	Analytical Method ³	GC	GC MS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYDRIDE	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	-	-	-	-	-	-	-	-	-	-

² 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.

³ 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.

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 ³	GC	GC MS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVA A	DCP
22	Chlorobenzene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
23	Chlorodibromomethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
24	Chloroethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
25	2-Chloroethylvinyl Ether	601	1	1	-	-	-	-	-	-	-	-	-	-
26	Chloroform	601	0.5	2	-	-	-	-	-	-	-	-	-	-
75	1,2-Dichlorobenzene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
76	1,3-Dichlorobenzene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
77	1,4-Dichlorobenzene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-

CTR No.	Pollutant/Parameter	Analytical Method ³	GC	GC MS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVA A	DCP
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	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-

CTR No.	Pollutant/Parameter	Analytical Method ³	GC	GC MS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVA A	DCP
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	-	-	-	-	-	-	-	-	-	-	-

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.

CTR No.	Pollutant/Parameter	Analytical Method ³	GC	GC MS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVA A	DCP
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	-	-	-	-	-	-	-	-	-	-	-