

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

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waterboards.ca.gov/sanfranciscobay

**ORDER R2-2025-0002
NPDES PERMIT CA0038318**

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

Discharger **City and County of San Francisco, by and through the Airport Commission, and North Bayside System Unit (NBSU)**

Name of Facility **San Francisco International Airport, Mel Leong Treatment Plant (Sanitary Plant and Industrial Plant) and sanitary sewer system**

Facility Address **Bldg. 910 Clearwater Drive
San Francisco, California 94128
San Mateo County**

Table 1. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
002	Secondary-Treated Sanitary Wastewater, Treated Industrial Wastewater, and Stormwater	37.665278°	-122.361389°	Lower San Francisco Bay
003	Stormwater	37.605741°	-122.378054°	Lower San Francisco Bay
004	Stormwater	37.630348°	-122.388322°	Lower San Francisco Bay
005	Stormwater	37.612194°	-122.366247°	Lower San Francisco Bay
006	Stormwater	37.618217°	-122.362252°	Lower San Francisco Bay
007	Stormwater	37.628546°	-122.371541°	Lower San Francisco Bay
008	Stormwater	37.627920°	-122.373454°	Lower San Francisco Bay
009	Stormwater	37.629243°	-122.376839°	Lower San Francisco Bay
010	Stormwater	37.639143°	-122.390416°	Lower San Francisco Bay

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
013	Stormwater	37.635249°	-122.385588°	Lower San Francisco Bay

This Order was adopted on: **February 12, 2025**
This Order shall become effective on: **April 1, 2025**
This Order shall expire on: **March 31, 2030**
CIWQS regulatory measure number: **459999**

The Discharger shall file a Report of Waste Discharge as an application for updated WDRs in accordance with title 23, California Code of Regulations, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than **June 1, 2029**. The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, San Francisco Bay Region (Regional Water Board) have classified this discharge as “**major**.”

I hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the Regional Water Board on the date indicated above.

Eileen White, Executive Officer

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1. FACILITY INFORMATION

Information describing San Francisco International Airport, Mel Leong Treatment Plant (Sanitary Plant and Industrial Plant) and sanitary sewer systems (Facility) is summarized on the cover page and in Fact Sheet (Attachment F) sections 1 and 2. Fact Sheet section 1 also includes information regarding the permit application.

2. FINDINGS

The Regional Water Board finds the following:

- 2.1. Legal Authorities.** This Order serves as WDRs pursuant to California Water Code article 4, chapter 4, division 7 (commencing with § 13260). This Order is also issued pursuant to federal Clean Water Act (CWA) section 402 and implementing regulations adopted by U.S. EPA and Water Code chapter 5.5, division 7 (commencing with § 13370). It shall serve as an NPDES permit authorizing the Discharger to discharge into waters of the United States as described in Table 1 subject to the WDRs in this Order.
- 2.2. 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, G, and S are also incorporated into this Order.
- 2.3. Notification of Interested Parties.** The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe these WDRs and has provided an opportunity to submit written comments and recommendations. Fact Sheet section 8.1 provides details regarding the notification.
- 2.4. Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Fact Sheet section 8.3 provides details regarding the public hearing.

THEREFORE, IT IS HEREBY ORDERED that Order No. R2-2018-0045 (previous order), as amended by Orders R2-2021-0028 and R2-2023-0023, 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 violations of the previous order.

3. DISCHARGE PROHIBITIONS

- 3.1. Discharge of treated or partially-treated wastewater at a location or in a manner different than described in this Order is prohibited.
- 3.2. Discharge at Discharge Point 002 is prohibited when treated wastewater does not receive at least the dilution described in Fact Sheet section 4.3.4.2. Compliance shall be achieved by proper operation and maintenance of the discharge outfall to ensure that it (or its replacement, in whole or part) is in good working order and is consistent with or can achieve better mixing than that described in Fact Sheet section 4.3.4.2. The Discharger shall address measures taken to ensure this in its application for permit reissuance.
- 3.3. Bypass of untreated or partially-treated wastewater to waters of the United States is prohibited, except as provided for in Attachment D, section I.7.
- 3.4. Average dry weather flow in excess of 1.2 MGD at the Sanitary Plant or 1.2 MGD at the Industrial Plant is prohibited. Average dry weather influent flow shall be determined from three consecutive dry weather months (between May 1 and September 30) each year, with compliance measured at Monitoring Locations INF-001-San and INF-001-Ind, as described in the Monitoring and Reporting Program (MRP) (Attachment E).
- 3.5. Any sanitary sewer spills that results in a discharge of untreated or partially-treated wastewater to waters of the United States is prohibited.
- 3.6. The discharge of deicing fluid that contains urea is prohibited.

4. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

- 4.1. **Effluent Limitations.** The discharge at Discharge Point 002 shall meet the following effluent limitations, with compliance measured at Monitoring Location EFF-001-San, EFF-001-Ind, or both, or at Monitoring Location EFF-001 or EFF-002, as described in the MRP:

Table 2. Effluent Limitations

Parameter	Units	Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	One-Hour Average
Carbonaceous Biochemical Oxygen Demand, 5-day @ 20°C (CBOD ₅) ^[1]	mg/L	25	40	-	-	-	-
Biochemical Oxygen Demand, 5-day @ 20°C (BOD ₅) ^[2]	mg/L	30	45	-	-	-	-
Total Suspended Solids (TSS) ^[3]	mg/L	30	45	-	-	-	-
pH ^[3,4]	s.u.	-	-	-	6.0	9.0	-

Parameter	Units	Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	One-Hour Average
Chlorine, Total Residual ^[5]	mg/L	-	-	-	-	-	0.48
Ammonia, Total ^[6]	mg/L as N	120	-	310	-	-	-
Copper, Total Recoverable ^[6]	µg/L	42	-	84	-	-	-
Cyanide, Total ^[7]	µg/L	18	-	44	-	-	-
Dioxin-TEQ ^[6]	µg/L	1.4 x 10 ⁻⁸	-	2.8 x 10 ⁻⁸	-	-	-

Footnotes:

- [1] Compliance shall be measured at Monitoring Location EFF-001-San.
- [2] Compliance shall be measured at Monitoring Location EFF-001-Ind.
- [3] Compliance shall be measured at Monitoring Locations EFF-001-San and EFF-001-Ind.
- [4] If the Discharger monitors pH continuously, pursuant to 40 C.F.R. section 401.17 the Discharger shall be in compliance with this pH limitation provided that both of the following conditions are satisfied: (i) the total time during which the pH is outside the required range shall not exceed 7 hours and 26 minutes in any calendar month; and (ii) no individual excursion from the required pH range shall exceed 60 minutes.
- [5] Compliance shall be measured at Monitoring Location EFF-002.
- [6] Compliance shall be measured at Monitoring Location EFF-001.
- [7] Compliance shall be measured at Monitoring Location EFF-001 or EFF-002.

4.2. Percent Removal. The average monthly percent removal of CBOD₅ and TSS after wastewater treatment at the Sanitary Plant shall not be less than 85 percent (i.e., in each calendar month, the arithmetic mean of CBOD₅ and TSS, by concentration, of effluent samples collected at Monitoring Location EFF-001-San, as described in the MRP, shall not exceed 15 percent of the arithmetic mean of CBOD₅ and TSS, by concentration, of influent samples collected at Monitoring Location INF-001-San, as described in the MRP, at approximately the same times during the same periods).

4.3. *Enterococcus* Bacteria. The discharge at Discharge Point 002 shall meet the following *Enterococcus* effluent limitations, with compliance measured at Monitoring Location EFF-001, as described in the MRP:

- 4.3.1. The six-week rolling geometric mean of *Enterococcus* bacteria, calculated weekly, shall not exceed 290 colony forming units per 100 milliliters (CFU/100 mL). Compliance with this limitation shall be determined weekly by calculating the geometric mean of all *Enterococcus* sample results from the past six weeks; and
- 4.3.2 No more than 10 percent of all *Enterococcus* bacteria samples collected in a calendar month shall exceed 1,100 CFU/100 mL. Compliance with this limitation shall be determined based on measured sample results. The Discharger shall not report interpolated results. If the Discharger has 9 or fewer sample results in a calendar month, compliance shall be based on the highest result. If the Discharger has 10 to 19 sample results, compliance shall be based on the second highest result, and so on.

5. RECEIVING WATER LIMITATIONS

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

- 5.1.1. Floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses;
- 5.1.2. 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;
- 5.1.3. Suspended material in concentrations that cause nuisance or adversely affect beneficial uses;
- 5.1.4. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;
- 5.1.5. 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;
- 5.1.6. 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, or above 55 nephelometric turbidity units in areas where natural turbidity is less than or equal to 50 nephelometric turbidity units;
- 5.1.7. Coloration that causes nuisance or adversely affects beneficial uses;
- 5.1.8. Visible, floating, suspended, or deposited oil or other products of petroleum origin; or
- 5.1.9. 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.

5.2. The discharge shall not cause the following limits to be exceeded at any place in receiving waters within one foot of the water surface:

- 5.2.1. 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

- 5.2.2. Dissolved Sulfide Natural background levels
- 5.2.3. pH The pH shall not be depressed below 6.5 nor raised above 8.5. The discharge shall not cause changes greater than 0.5 pH units in normal ambient pH levels.
- 5.2.4. 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.

5.3. 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 beyond any mixing zone established through this Order. 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.

6. PROVISIONS

6.1. Standard Provisions

- 6.1.1. The Discharger shall comply with all “Standard Provisions” in Attachment D.
- 6.1.2. 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.
- 6.1.3. For discharges from Discharge Points 003 through 013, the Discharger shall comply with the applicable provisions of Attachment S (*Stormwater Provisions, Monitoring, and Reporting Requirements*). Attachment S, section 1.7 is supplemented to include the following action levels for copper and zinc.

Table 3. Supplemental Stormwater Action Levels

Parameter	Unit	Instantaneous Action Level	Annual Action Level
Copper	µg/L	-	33.2
Zinc	µg/L	-	260

- 6.1.4. If there is any conflict, duplication, or overlap between provisions in this Order, the more stringent provision shall apply.

6.2. Monitoring and Reporting Provisions

The Discharger shall comply with the Monitoring and Reporting Program (MRP, Attachment E) and future revisions thereto, and applicable monitoring and reporting requirements in Attachments D and G.

6.3. Special Provisions

6.3.1. 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 or as otherwise authorized by law. The Discharger may request a permit modification based on any of these circumstances. With any such request, the Discharger shall include antidegradation and anti-backsliding analyses as necessary.

- 6.3.1.1. 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;
- 6.3.1.2. 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 or wasteload allocations. Adoption of the effluent limitations in this Order does not 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;
- 6.3.1.3. If translator, dilution, or other water quality studies provide a basis for determining that a permit condition should be modified;
- 6.3.1.4. If a State Water Board precedential decision, new policy, new law, or new regulation is adopted;
- 6.3.1.5. 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
- 6.3.1.6. If an administrative or judicial decision on a separate NPDES permit or WDRs addresses requirements similar to this discharge.

6.3.2. Effluent Characterization Study and Report

6.3.2.1. **Study Elements.** The Discharger shall characterize and evaluate the discharge from Discharge Point 002 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 concentrations of any of the priority pollutants listed in Attachment G, Table B, significantly increase over past performance, the Discharger shall investigate the cause of any such increase. The investigation may include, but need not be limited to, an increase in monitoring frequency, monitoring of internal process streams, and monitoring of influent sources. The Discharger shall establish remedial measures addressing any increase resulting in reasonable potential to cause or contribute to an 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 6.3.3.

6.3.2.2. Reporting Requirements

6.3.2.2.1. **Routine Reporting.** The Discharger shall report the pollutants detected at or above applicable water quality objectives (see Fact Sheet Table F-11 for the objectives) in the transmittal letter for the self-monitoring report associated with the month in which samples were collected. This requirement does not apply to pollutants with effluent limitations (see Table 2 of this Order).

6.3.2.2.2. **Annual Reporting.** The Discharger shall summarize the data evaluation and any applicable source investigation in the annual self-monitoring report.

6.3.3. Pollutant Minimization Program

6.3.3.1. The Discharger shall continue to improve its existing Pollutant Minimization Program to promote minimization of pollutant loadings to the treatment plant and therefore to the receiving waters.

6.3.3.2. The Discharger shall submit an annual report no later than **February 28** of each calendar year. Each annual report shall include at least the following information:

6.3.3.2.1. **Brief description of treatment plant.** The description shall include the treatment plant processes.

6.3.3.2.2. **Discussion of current pollutants of concern.** Periodically, the Discharger shall analyze its circumstances to determine which pollutants are currently a problem and which pollutants may be potential future problems. This discussion shall include the reasons for choosing the pollutants.

- 6.3.3.2.3. **Identification of sources for pollutants of concern.** This discussion shall include how the Discharger intends to estimate and identify pollutant sources. The Discharger shall include sources or potential sources not directly within the ability or authority of the Discharger to control, such as pollutants in the potable water supply and air deposition.
- 6.3.3.2.4. **Identification of tasks to reduce the sources of pollutants of concern.** This discussion shall identify and prioritize tasks to address the Discharger's pollutants of concern. The Discharger may implement the tasks by itself or participate in group, regional, or national tasks that address its pollutants of concern. The Discharger is strongly encouraged to participate in group, regional, or national tasks that address its pollutants of concern whenever it is efficient and appropriate to do so. An implementation timeline shall be included for each task.
- 6.3.3.2.5. **Outreach to employees.** The Discharger shall inform employees about the pollutants of concern, potential sources, and how they might be able to help reduce the discharge of these pollutants of concern into the Facility. The Discharger may provide a forum for employees to provide input.
- 6.3.3.2.6. **Discussion of criteria used to measure Pollutant Minimization Program and task effectiveness.** The Discharger shall establish criteria to evaluate the effectiveness of its Pollutant Minimization Program. This discussion shall identify the specific criteria used to measure the effectiveness of each task in Provisions 6.3.3.2.3, 6.3.3.2.4, and 6.3.3.2.5.
- 6.3.3.2.7. **Documentation of efforts and progress.** This discussion shall detail all of the Discharger's Pollutant Minimization Program activities during the reporting year.
- 6.3.3.2.8. **Evaluation of Pollutant Minimization Program and task effectiveness.** The Discharger shall use the criteria established in Provision 6.3.3.2.6 to evaluate the program and task effectiveness.
- 6.3.3.2.9. **Identification of specific tasks and timelines for future efforts.** Based on the evaluation, the Discharger shall explain how it intends to continue or change its tasks to more effectively reduce the amount of pollutants flowing to the treatment plant, and subsequently in its effluent.
- 6.3.3.3. The Discharger shall develop and conduct a Pollutant Minimization Program as 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 aquatic toxicity, health advisories for fish consumption, or results of benthic or aquatic organism tissue sampling) and either:

- 6.3.3.3.1. A sample result is reported as DNQ and the effluent limitation is less than the Reporting Level (RL); or
- 6.3.3.3.2. A sample result is reported as not detected (ND) and the effluent limitation is less than the MDL, using definitions described in Attachment A and reporting protocols described in the MRP.
- 6.3.3.4. If triggered for a reason set forth in Provision 6.3.3.3, above, the Discharger's Pollutant Minimization Program shall include, but not be limited to, the following actions and submittals:
 - 6.3.3.4.1. An 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;
 - 6.3.3.4.2. Quarterly monitoring for the reportable priority pollutants in the influent to the wastewater treatment system. The Executive Officer may approve alternative measures when influent monitoring is unlikely to produce useful analytical data;
 - 6.3.3.4.3. 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;
 - 6.3.3.4.4. Implementation of appropriate cost-effective control measures for the reportable priority pollutants, consistent with the control strategy; and
 - 6.3.3.4.5. Inclusion of the following specific items within the annual report required by Provision 6.3.3.2, above:
 - 6.3.3.4.5.1. All Pollutant Minimization Program monitoring results for the previous year;
 - 6.3.3.4.5.2. List of potential sources of the reportable priority pollutants;
 - 6.3.3.4.5.3. Summary of all actions undertaken pursuant to the control strategy; and
 - 6.3.3.4.5.4. Description of actions to be taken in the following year.

6.3.4. **Special Provisions**

6.3.4.1. **Sludge and Biosolids Management**

- 6.3.4.1.1. Sludge and biosolids treatment and storage shall not create a nuisance.
- 6.3.4.1.2. Sludge and biosolids treatment and storage facilities shall be adequate to divert surface runoff from adjacent areas, to protect site boundaries from

erosion, and to prevent conditions that would cause drainage from stored materials. Adequate protection is defined as protection from at least a 100-year storm and the highest possible tidal state that may occur.

6.3.4.1.3. This Order does not authorize permanent onsite sludge or biosolids storage or disposal. A Report of Waste Discharge shall be filed and the site brought into compliance with applicable regulations prior to commencement of any such activity

6.3.4.2. **Sanitary Sewer System Management.** The Discharger shall properly operate and maintain its collection system (see Attachments D and G, section 1.4), report any noncompliance with respect to its collection system (see Attachment D, section 5.5.1, and Attachment G, sections 5.5.1 and 5.5.2), and mitigate any discharges in violation of this Order associated with its collection system (see Attachments D and G, section 1.3).

State Water Board Order WQ 2022-0103-DWQ, *Statewide Waste Discharge Requirements General Order for Sanitary Sewer Systems* (statewide WDRs) contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer spills. The statewide WDRs clearly and specifically stipulate requirements for operation and maintenance and for reporting and mitigating sanitary sewer spills. Implementing the requirements for operation and maintenance and mitigation of sanitary sewer spills set forth in the statewide WDRs (and any subsequent order updating these requirements) shall satisfy the corresponding federal NPDES requirements specified in Attachments D and G of this Order for the collection systems. Following the reporting requirements set forth in the statewide WDRs (and any subsequent order updating those requirements) shall satisfy the NPDES reporting requirements for sanitary sewer spills specified in Attachments D and G.

6.3.4.3. **Chlorine Process Control Plan.** The Discharger shall implement a Chlorine Process Control Plan to ensure that it adds sufficient dechlorinating chemicals to target a chlorine residual of 0.0 mg/L at the discharge point. The Operation and Maintenance Manual shall include the information necessary to implement the Chlorine Process Control Plan

6.3.5. **Other Special Provisions**

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

Table 4. Copper Action Plan

Task No.	Task	Deadline
1	Implement Copper Control Program. Continue implementing existing program to reduce identified copper sources.	Implementation shall be ongoing
2	Implement Additional Actions. If the Regional Water Board notifies the Discharger that the three-year rolling mean dissolved copper concentration in Lower San Francisco Bay (north of Hayward Shoals) exceeds 2.2 µg/L, then within 90 days of the notification, evaluate the effluent copper concentration trend and, if it is increasing, develop and begin implementation of additional measures to control copper discharges. Report the conclusion of the trend analysis and provide a schedule for any new actions to be taken within the next 12 months.	With next annual pollution minimization program report due February 28 (at least 90 days following notification)
3	Report Status. Submit an annual report documenting copper control program implementation that evaluates the effectiveness of the actions taken, including any additional actions required by Task 2 above, and provides a schedule for actions to be taken within the next 12 months.	Annually, with annual pollution minimization program report due February 28 each year

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

Table 5. Cyanide Action Plan

Task No.	Task	Deadline
1	Review Potential Cyanide Sources. Submit an up-to-date inventory of potential cyanide sources. If no cyanide source is identified, Tasks 2 and 3, below, are not required unless the Discharger receives a request to discharge detectable levels of cyanide to the sewer. In such case, notify the Executive Officer and implement Tasks 2 and 3.	With annual pollution minimization program report due February 28, 2026
2	Implement Cyanide Control Program. Implement a control program to minimize cyanide discharges consisting, at a minimum, of the following elements: <ol style="list-style-type: none"> a. Inspect each potential source to assess the need to include that source in the control program. b. Inspect sources included in the control program annually. Inspection elements may be based on U.S. EPA guidance, such as <i>Industrial User Inspection and Sampling Manual for POTWs</i> (EPA 831-B-94-01). c. Develop and distribute educational materials regarding the need to prevent cyanide discharges to sources included in the control program. d. Prepare an emergency monitoring and response plan to be implemented if a significant cyanide discharge occurs. If the plant influent cyanide concentration exceeds 10 µg/L, the Discharger shall collect a follow-up sample within 5 days of becoming aware of the laboratory results. If the results of the follow-up sample also exceed 10 µg/L, then a “significant cyanide discharge” is occurring.	Implementation shall be ongoing following Executive Officer notification under Task 1

Task No.	Task	Deadline
3	Implement Additional Measures. If the Regional Water Board notifies the Discharger that ambient monitoring shows cyanide concentrations are 1.0 µg/L or higher in the main body of San Francisco Bay, then within 90 days of the notification, commence actions to identify and abate cyanide sources responsible for the elevated ambient concentrations, report on the progress and effectiveness of the actions taken, and provide a schedule for actions to be taken within the next 12 months.	With next annual pollution minimization program report due February 28 (at least 90 days following notification)
4	Report Status of Cyanide Control Program. Submit an annual report documenting cyanide control program implementation and addressing the effectiveness of actions taken, including any additional cyanide controls required by Task 3, above, and provide a schedule for actions to be taken within the next 12 months.	Annually, with annual pollution minimization program report due February 28 each year

6.3.5.3. Sanitary Plant Upgrades, Advanced Water Treatment, and Combined Effluent Treatment

6.3.5.3.1 Documentation. After the Discharger completes its proposed treatment plant upgrades, including the water recycling project (see Fact Sheet section 2.5), it shall submit the following documentation:

- 6.3.5.3.1.1. Documentation that the reliability, capability, and performance of the plant upgrades will maintain compliance with this Order (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);
- 6.3.5.3.1.2. Certification by a licensed professional that the plant upgrades have been constructed as designed, have been tested and are ready for use;
- 6.3.5.3.1.3. Demonstration of compliance with all applicable provisions of CEQA (California Public Resources Code Division 13, Chapter 3, Section 21100 et seq.);
- 6.3.5.3.1.4. Updates to the Operation and Maintenance Manual and Contingency Plan to include plant upgrades; and
- 6.3.5.3.1.5. Specific date the Discharger proposes the commencement of the plant upgrades.

To avail itself of the penalty exemption for new wastewater treatment plant units 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 must include the following: (1) a description of the actions the Discharger will take during a defined period of adjusting and testing new treatment plant units, including steps

to prevent violations of this Order; and (2) identification of the shortest reasonable time required for the defined period of adjusting and testing, which is not to exceed 90 days for biological treatment units and 30 days for any other treatment unit.

- 6.3.5.3.2. **Priority Pollutants.** Within 120 days of completing the proposed treatment plant upgrades, including the water recycling project (see Fact Sheet section 2.5), the Discharger shall monitor for priority pollutants and provide an analysis of whether pollutant concentrations will trigger reasonable potential under worst-case conditions for the water quality objectives listed in Fact Sheet Table F-12.
- 6.3.5.3.3. **Species Sensitivity Screening.** Within 18 months of completing the proposed treatment plant upgrades, including the water recycling project (see Fact Sheet section 2.5), the Discharger shall complete and submit the results of a species sensitivity screening consistent with the Monitoring and Reporting Program, Appendix E-1, section 2.1.3. This requirement supersedes the requirement to complete a species sensitivity screening within 18 months of the effective date of this Order, as required by Monitoring and Reporting Program, Appendix E-1, section 2.1.1. If plant upgrades are delayed, the Discharger shall complete a species sensitivity screening and submit the results with its application for permit reissuance, consistent with Appendix E-1, section 2.1.2.
- 6.3.5.3.4. **PFAS Demonstration Project.** With its Annual Self-Monitoring Report due February 1 of each year (MRP section 8.2.2.2), the Discharger shall include a summary of PFAS treatment methods used (e.g., granular activated carbon units, ion exchange resin), any operational changes implemented to improve PFAS removal, and PFAS data that it collected during the calendar year.
- 6.3.5.4. **Relocation of Stormwater Discharge Points.** Stormwater discharge points are described in Table 1 and Fact Sheet section 2.2. The Discharger shall provide notice at least 30 days in advance of changing any of these stormwater discharge point locations or the contributing areas described in Table 1 and Fact Sheet section 2.2. With the notice, the Discharger shall submit the following:
- 6.3.5.4.1. Documentation of the changes and dates of implementation and confirmation that all stormwater will be effectively captured, monitored, and discharged in accordance with the requirements of the MRP and Attachment S; and
- 6.3.5.4.2. Revised Stormwater Pollution Prevention Plan reflecting all changes (e.g., stormwater outfall locations, site maps, and any changes in best management practices for affected drainage areas).

- 6.3.5.5. **Construction and Development Stormwater.** In areas where stormwater is not subject to physical treatment, the Discharger shall obtain coverage, as applicable, under the NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (NPDES Permit CAS000002). These requirements do not apply to stormwater routed to a wastewater treatment plant or stormwater treated in earthen basins via physical settling.
- 6.3.5.6. **Deicing Operations.** Consistent with the requirements of 40 C.F.R. section 449.10, the Discharger shall certify annually that it does not use airfield deicing products containing urea. This certification shall be due February 1 each year as part of the annual self-monitoring report required by MRP section 8.2.2.2.

ATTACHMENT A – DEFINITIONS AND ABBREVIATIONS

DEFINITIONS

Alternative Hypothesis

Statement used to propose a statistically significant relationship in a set of given observations. Under the TST approach, when the Null Hypothesis is rejected, the Alternative Hypothesis is accepted in its place, indicating a relationship between variables and an acceptable level of toxicity.

Arithmetic Mean (μ)

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

$$\text{Arithmetic mean} = \mu = \Sigma x / n$$

where: Σx is the sum of the measured ambient water concentrations,
and n is the number of samples

Average Monthly Effluent Limitation (AMEL)

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)

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, through epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Calendar Month(s)

Period from the first day of a month through the last day of a month (e.g., January 1 to January 31). For toxicity monitoring, the period is from the first day of a routine monitoring test to the day before the corresponding day of the next month (e.g., from June 15 to July 14), or to the last day of the next month if there is no corresponding day (e.g., January 31 to February 28).

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 a constituent discharged over a calendar day (12:00 a.m. through 11:59 p.m.) 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 a constituent over a 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 results 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 through conducting a mixing zone study or modeling of the discharge and receiving water.

Effective Concentration (EC)

The EC is a point estimate of the toxicant concentration that would cause an adverse effect on a quantal, "all or nothing," response (such as death, immobilization, or serious incapacitation) in a given percent of the test organisms. If the effect is death or immobility, the term lethal concentration (LC) may be used. EC values may be calculated using point estimation techniques such as probit, logit, and Spearman-Kärber. EC25 is the concentration of toxicant (in percent effluent) that causes a response in 25 percent of the test organisms.

Effluent Concentration Allowance (ECA)

Value derived from the water quality criterion or 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 Bays

Indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest

distance between 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 a substance below the ML 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 shall be 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 included, 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.

Inhibition Concentration (IC)

The IC is a point estimate of the toxicant concentration that would cause a given percent reduction in a nonlethal, nonquantal biological measurement, such as growth. For example, an IC25 is the estimated concentration of toxicant that would cause a 25 percent reduction in average young per female or growth. IC values may be calculated using a linear interpolation method such as U.S. EPA's Bootstrap Procedure.

Inland Surface Waters

All surface waters of the state that are not 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).

Instream Waste Concentration (IWC)

Concentration of effluent in the receiving water after any dilution credit is applied. The IWC is the inverse of 1 plus the dilution credit, D, or $IWC = 1/(1+D)$, expressed as a percentage (e.g., if D = 9, the IWC is 10 percent). If no dilution credit is granted, the IWC is 100 percent.

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 toxicity, the MDEL is based on the outcome of the TST and the percent effect at the IWC (applied to the results of any single bioassay). 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.

Maximum Daily Effluent Target (MDET)

Target based on a single independent toxicity test using the TST used to determine whether a TRE should be conducted. Not meeting the MDET is not a violation of an effluent limitation. The MDET only applies to discharges with no numeric toxicity limits.

Median

Middle measurement in a data set. The median of a data set 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 $n/2+1$).

Median Monthly Effluent Limitation (MMEL)

Highest allowable median of daily discharges over a calendar month, calculated as the median of all daily discharges measured during a calendar month. For aquatic toxicity, the MMEL is an effluent limitation based on a maximum of three independent toxicity tests analyzed using the TST during a calendar month.

Median Monthly Effluent Target (MMET)

Target based on a maximum of three independent toxicity tests using the TST during a calendar month used to determine whether a TRE should be conducted. Not meeting a MMET is not a violation of an effluent limitation. The MMET only applies to discharges with no numeric toxicity limits.

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, Appendix B.

Minimum Level (ML)

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

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.

MMEL Compliance Test

For chronic toxicity monitoring, one of up to two tests used in addition to a routine monitoring test to determine compliance with the chronic toxicity MMEL and MDEL.

MMET Test

For chronic toxicity monitoring, one of up to two tests used in addition to a routine monitoring test to evaluate if the discharge meets the chronic toxicity MMET and MDET.

No Observed Effect Concentration (NOEC).

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

No Observed Effect level (NOEL).

For compliance determination, the NOEL is equal to IC25 or EC25. If the IC25 or EC25 cannot be statistically determined, the NOEL shall be equal to the NOEC derived using hypothesis testing.

Not Detected (ND)

Sample results less than the laboratory's MDL.

Null Hypothesis

Statement used in statistical testing that has been put forward either because it is believed to be true or because it is to be used as a basis for argument, but has not been proved.

Percent Effect

Value that denotes the difference in response between a test concentration and a control, divided by the mean control response and multiplied by 100.

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 a 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 the 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 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 Resources Control Board or Regional Water Board.

Regulatory Management Decision (RMD)

Decision that represents the maximum allowable error rates and thresholds for toxicity and non-toxicity that would result in an acceptable risk to aquatic life.

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. For priority pollutants, 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 State Implementation Plan (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.

Response

Measured biological effect (e.g., on survival, reproduction, growth) of exposure to a stimulus.

Routine Monitoring

Regular chronic toxicity monitoring required during the permit term. Routine monitoring results may trigger MMEL compliance tests. If a violation of the MDEL or MMEL occurs, Routine monitoring also includes one sample collected during the following month (regardless of the regular monitoring frequency), which is used to determine if a TRE is necessary. Routine monitoring does not include surveillance monitoring.

Source of Drinking Water

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

Standard Deviation (σ)

Measure of variability calculated as follows:

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

where: x is the observed value
 μ is the arithmetic mean of the observed values
 n is the number of samples

Surveillance Monitoring

Chronic toxicity monitoring performed using the most sensitive species at an effluent concentration at least double the IWC. Surveillance monitoring results are not for assessing compliance with the chronic toxicity MMEL or MDEL.

Test of Significant Toxicity (TST)

Statistical approach used to analyze aquatic toxicity test data, as described in section III.B.3 of *State Water Board's State Policy for Water Quality Control: Toxicity Provisions*.

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.

ABBREVIATIONS

°F	degrees Fahrenheit
°C	degrees Celsius
%	Percent
µg/L	Micrograms per liter
1/Blending Event	Once per blending event
1/Discharge	Once per discharge
1/Day	Once per day
1/Month	Once per month
1/Quarter	Once per quarter
1/Week	Once per week
1/Year	Once per year
2/Month	Two times per month
2/Week	Twice per week
2/Year	Twice per year

3/Week	Three times per week
4/Week	Four times per week
5/Week	Five times per week
Once	Once during the term of the Order
AMEL	Average monthly effluent limitation
AWEL	Average weekly effluent limitation
B	Background concentration
bpd	Barrels per day
C	Water quality criterion or objective
C-24	24-hour composite
CFU/100 mL	Colony forming units per 100 milliliters
CIWQS	California Integrated Water Quality System
Continuous	Measured continuously
Continuous/D	Measured continuously, and recorded and reported daily
Continuous/H	Measured continuously, and recorded and reported hourly
CTR	California Toxics Rule
CV	Coefficient of Variation
DMR	Discharge Monitoring Report
DNQ	Detected, but not quantified
DL	Detection level
ECA	Effluent Concentration Allowance
gpm	Gallons per minute
Grab	Grab sample
IWC	Instream Waste Concentration
MDEL	Maximum Daily Effluent Limitation
MDET	Maximum Daily Effluent Target
MDL	Method detection limit
MEC	Maximum effluent concentration
MG	Million gallons
mg/L	Milligrams per liter
mg/L as N	Milligrams per liter as nitrogen
MGD	Million gallons per day

ML	Minimum level
MMEL	Median Monthly Effluent Limitation
MMET	Median Monthly Effluent Target
MPN/100 mL	Most probable number per 100 milliliters
MRP	Monitoring and Reporting Program (Attachment E)
ND	Not detected
NTR	National Toxics Rule
NTU	Nephelometric turbidity units
ppt	Parts per thousand
RL	Reporting level
RPA	Reasonable potential analysis
SIP	<i>Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California</i> (State Implementation Policy)
SMR	Self-Monitoring Report
s.u.	Standard pH units
TIE	Toxicity identification evaluation
TRE	Toxicity reduction evaluation
TST	Test of Significant Toxicity
WDRs	Waste discharge requirements
WQBEL	Water quality-based effluent limitation

ATTACHMENT B – MAPS

Figure B-1. Facility Location Drawing

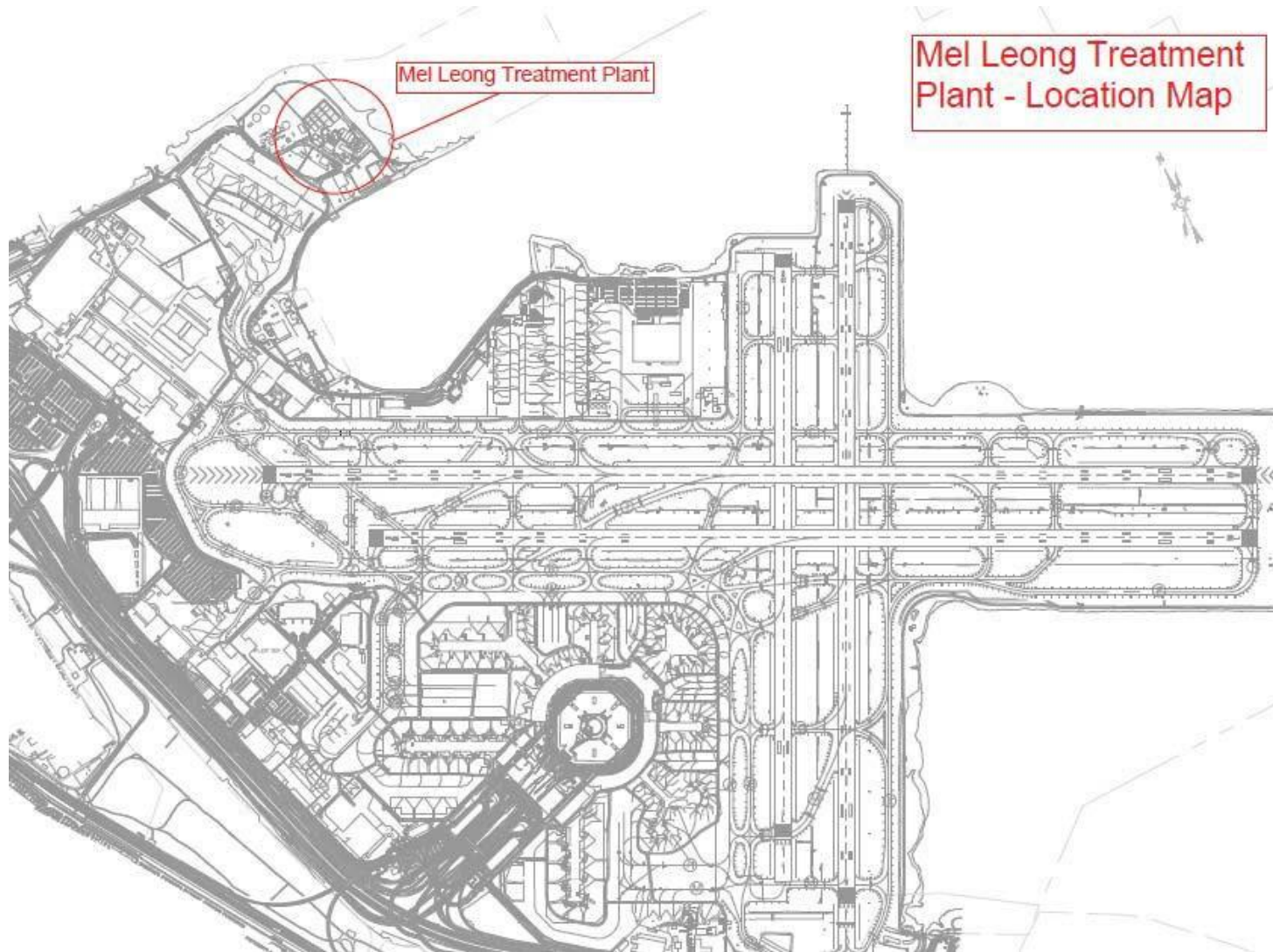


Figure B-2. Facility and Discharge Location Map



Figure B-3. Stormwater Drainage and Outfall Map

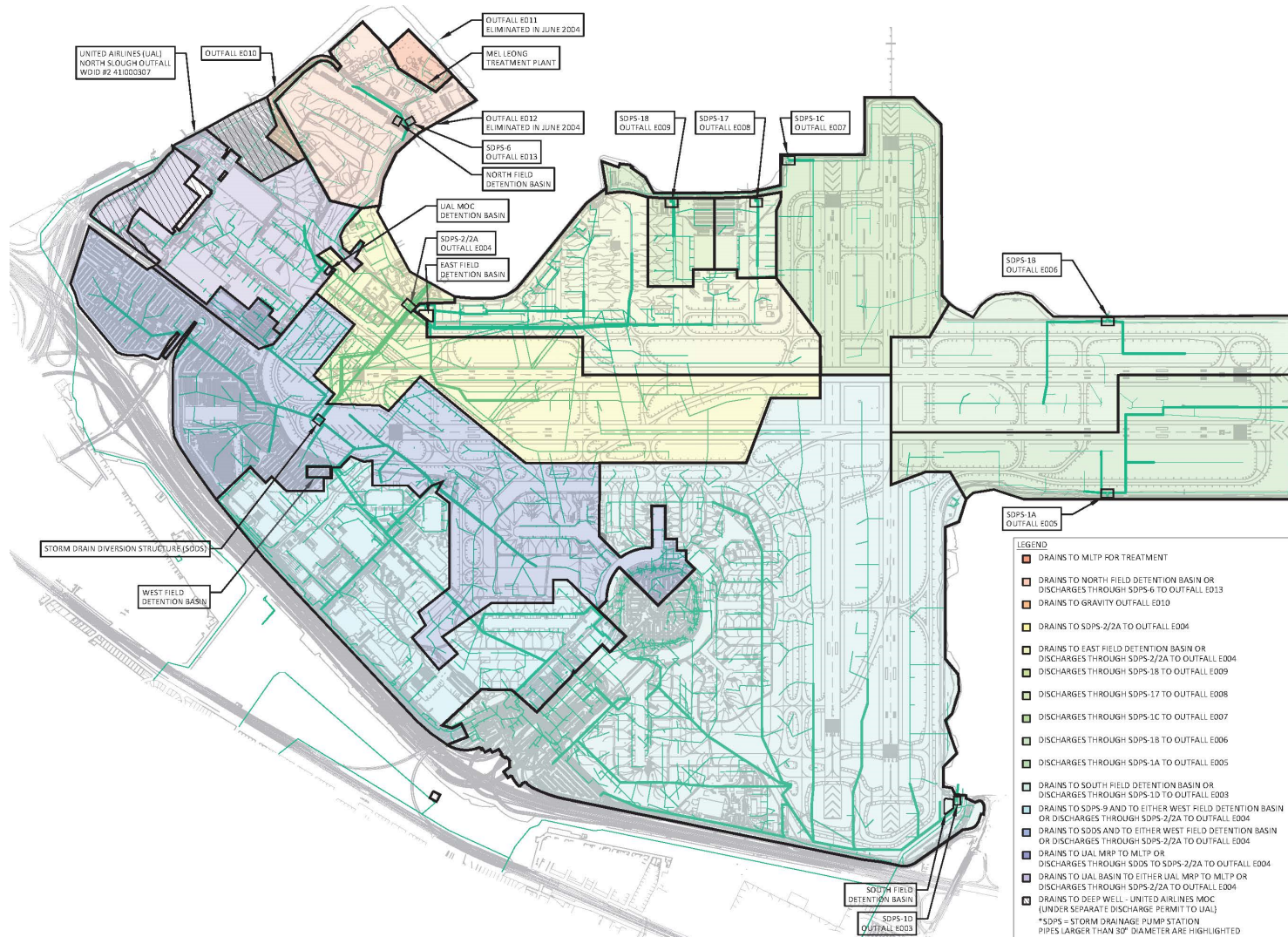
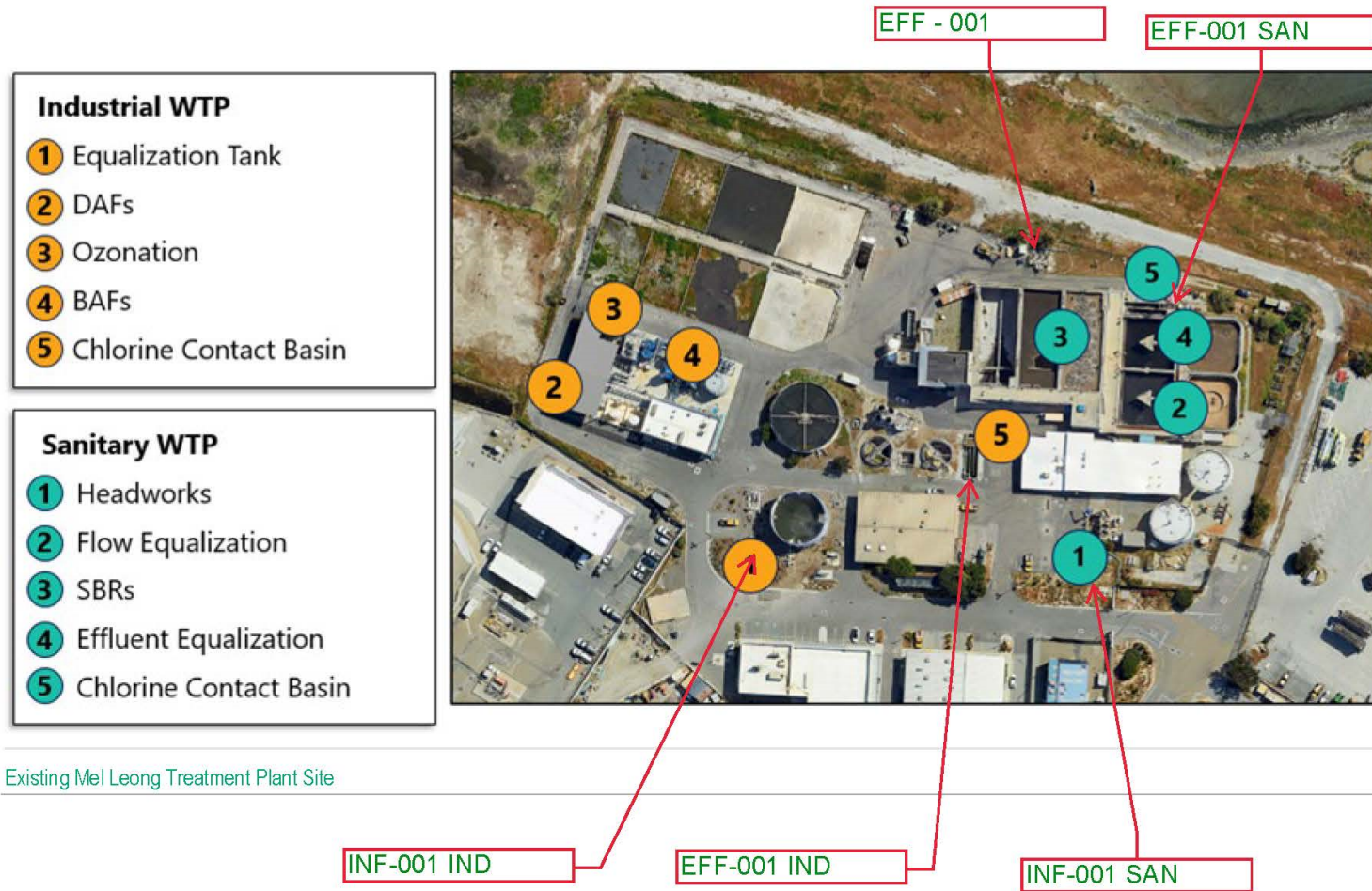


Figure B-5. Sanitary and Industrial Process Map



ATTACHMENT C – FLOW SCHEMATICS

Figure C-1. Sanitary Plant Process Flow Diagram

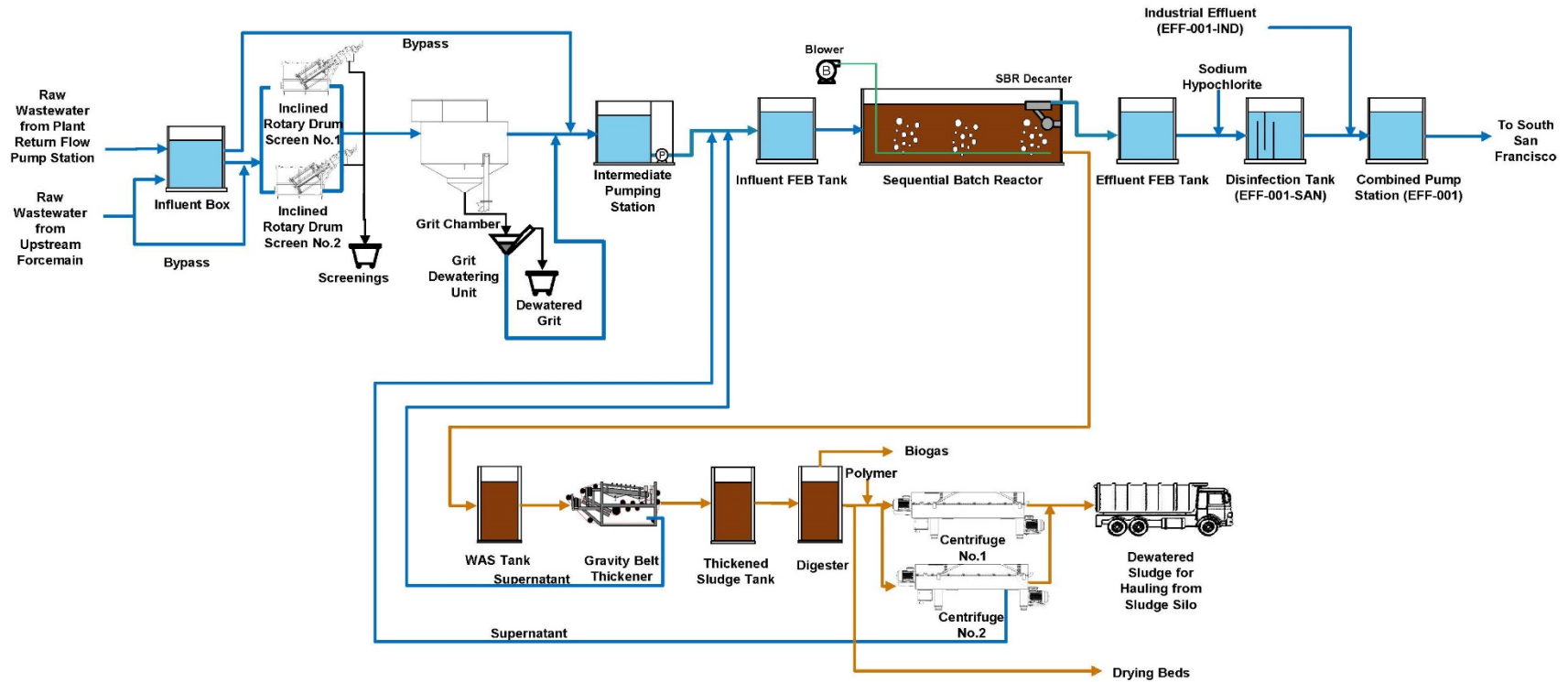


Figure C-2. Industrial Plant Process Flow Diagram

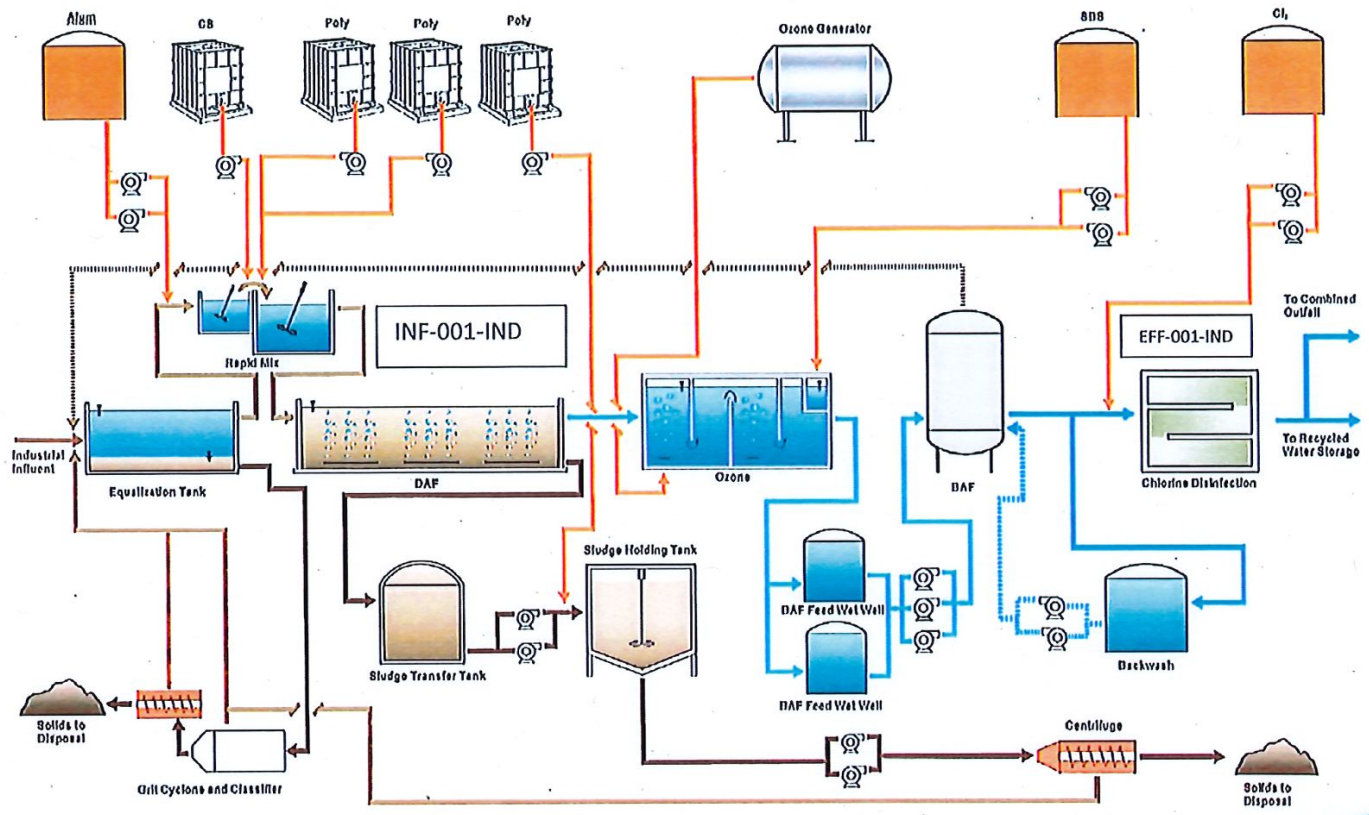
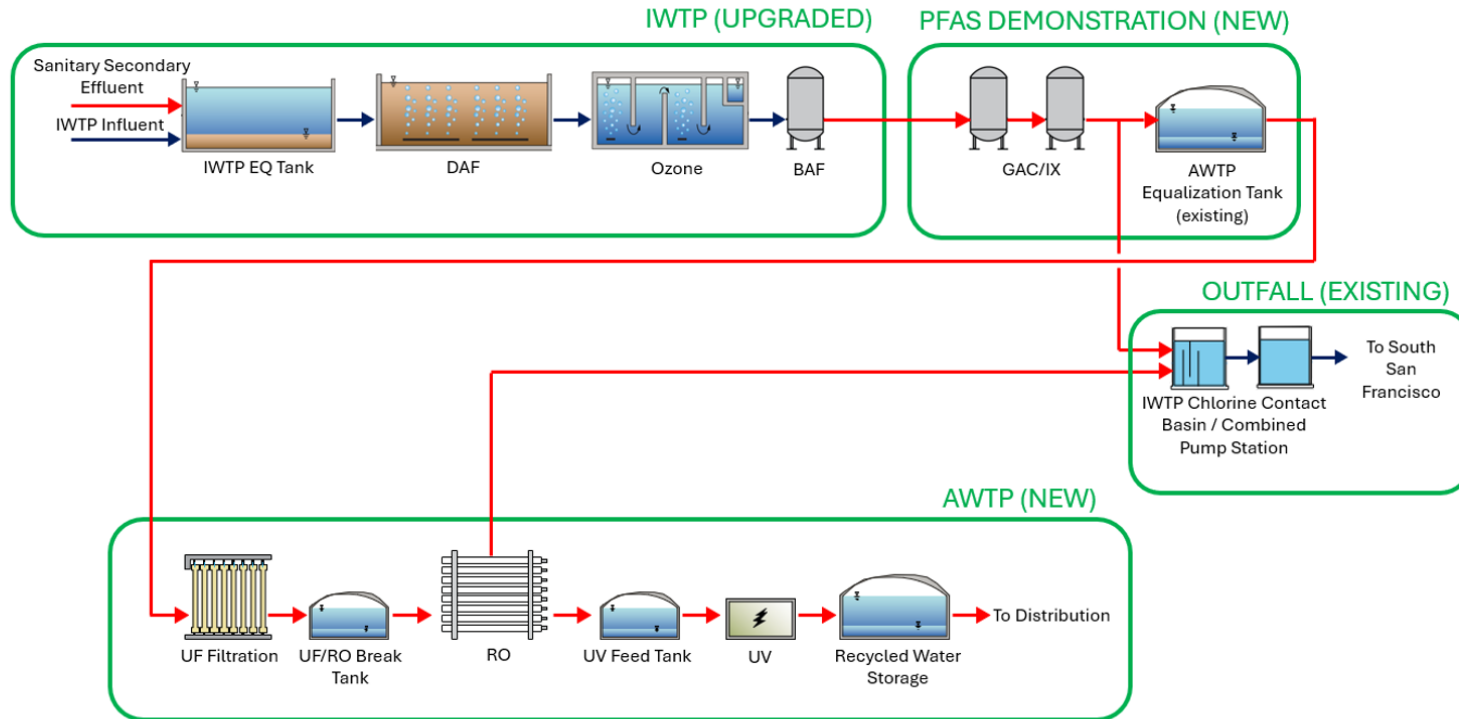


Figure C-3. PFAS Demonstration and Advanced Treatment Process Flow Diagram



ATTACHMENT D – STANDARD PROVISIONS

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ATTACHMENT D – STANDARD PROVISIONS

1. STANDARD PROVISIONS – PERMIT COMPLIANCE

1.1. Duty to Comply

- 1.1.1. The Discharger must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 C.F.R. § 122.41(a); Wat. Code, §§ 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)
- 1.1.2. 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).)

1.2. 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).)

1.3. 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).)

1.4. 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) that 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).)

1.5. Property Rights

- 1.5.1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)
- 1.5.2. 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).)

1.6. 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, §§, 13383):

- 1.6.1. 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, §§ , 13383);
- 1.6.2. 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, §§, 13383);
- 1.6.3. 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, §§, 13383); and
- 1.6.4. Sample or monitor, at reasonable times, for the purposes of ensuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i)(4); Wat. Code, §§, 13383.)

1.7. Bypass

1.7.1. Definitions

- 1.7.1.1. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)
- 1.7.1.2. "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).)

1.7.2. **Bypass not exceeding limitations.** The Discharger may allow any bypass to occur that does not cause exceedances of effluent limitations, but only if it is for essential maintenance to ensure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance sections 1.7.3, 1.7.4, and 1.7.5 below. (40 C.F.R. § 122.41(m)(2).)

1.7.3. **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)):

- 1.7.3.1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));
- 1.7.3.2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and
- 1.7.3.3. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance section 1.7.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)
- 1.7.4. **Approval.** The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance section 1.7.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)
- 1.7.5. **Notice**
 - 1.7.5.1. **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, 2025, a notice shall also be submitted electronically to the initial recipient defined in Standard Provisions – Reporting section 5.10 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).)
 - 1.7.5.2. **Unanticipated bypass.** The Discharger shall submit a notice of an unanticipated bypass as required in Standard Provisions – Reporting section 5.5 below (24-hour notice). The notice shall be sent to the Regional Water Board. As of December 21, 2025, a notice shall also be submitted electronically to the initial recipient defined in Standard Provisions – Reporting section 5.10 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).)
- 1.8. **Upset.** Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. § 122.41(n)(1).)

- 1.8.1. **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 section 1.8.2 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).)
- 1.8.2. **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)):
 - 1.8.2.1. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));
 - 1.8.2.2. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));
 - 1.8.2.3. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting section 5.5.2.2 below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and
 - 1.8.2.4. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance section 1.3 above. (40 C.F.R. § 122.41(n)(3)(iv).)
- 1.8.3. **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).)

2. STANDARD PROVISIONS – PERMIT ACTION

- 2.1. **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).)
- 2.2. **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).)
- 2.3. **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 Water Code. (40 C.F.R. §§ 122.41(l)(3), 122.61.)g

3. STANDARD PROVISIONS – MONITORING

- 3.1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)
- 3.2. 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 as required under 40 C.F.R. chapter 1, subchapter N. For the purposes of this paragraph, a method is sufficiently sensitive when:
 - 3.2.1. The method minimum level (ML) is at or below the level of the most stringent effluent limitation established in the permit for the measured pollutant or pollutant parameter, and either the method ML is at or below the level of the most stringent applicable water quality criterion for the measured pollutant or pollutant parameter or the method ML is above the applicable water quality criterion but the amount of the pollutant or pollutant parameter in the facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or
 - 3.2.2. 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).)

4. STANDARD PROVISIONS – RECORDS

- 4.1. 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).)
- 4.2. Records of monitoring information shall include:
 - 4.2.1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));

- 4.2.2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));
 - 4.2.3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));
 - 4.2.4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));
 - 4.2.5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and
 - 4.2.6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)
- 4.3.** Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):
- 4.3.1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and
 - 4.3.2. Permit applications and attachments, permits, and effluent data. (40 C.F.R. § 122.7(b)(2).)

5. STANDARD PROVISIONS – REPORTING

5.1. 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 that 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, §§ , 13383.)

5.2. Signatory and Certification Requirements

- 5.2.1. 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 sections 5.2.2, 5.2.3, 5.2.4, 5.2.5, and 5.2.6 below. (40 C.F.R. § 122.41(k).)
- 5.2.2. 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: (1) 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 (2) the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions that 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 ensure 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 municipal, 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 (1) the chief executive officer of the agency, or (2) 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).)

- 5.2.3. 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 section 5.2.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - 5.2.3.1. The authorization is made in writing by a person described in Standard Provisions – Reporting section 5.2.2 above (40 C.F.R. § 122.22(b)(1));
 - 5.2.3.2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and
 - 5.2.3.3. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)
- 5.2.4. If an authorization under Standard Provisions – Reporting section 5.2.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting section 5.2.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)
- 5.2.5. Any person signing a document under Standard Provisions – Reporting section 5.2.2 or 5.2.3 above shall make the following certification:

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

- 5.2.6. Any person providing the electronic signature for documents described in Standard Provisions – Reporting sections 5.2.1, 5.2.2, or 5.2.3 that are submitted electronically shall meet all relevant requirements of Standard Provisions – Reporting section 5.2, and shall ensure that all relevant requirements of 40 C.F.R. part 3 (Cross-Media Electronic Reporting) and 40 C.F.R. part 127 (NPDES Electronic Reporting Requirements) are met for that submission. (40 C.F.R. § 122.22(e).)

5.3. Monitoring Reports

- 5.3.1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.41(l)(4).)
- 5.3.2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board. All reports and forms must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting section 5.10 and comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(l)(4)(i).)
- 5.3.3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 C.F.R. part 136, or another method required for an industry-specific waste stream under 40 C.F.R. chapter 1, subchapter N, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or reporting form specified by the Regional Water Board or State Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)
- 5.3.4. Calculations for all limitations that require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

- 5.4. 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).)

5.5. Twenty-Four Hour Reporting

- 5.5.1. 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, 2025, 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 section 5.10. 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).)

- 5.5.2. The following shall be included as information that must be reported within 24 hours:
- 5.5.2.1. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)
- 5.5.2.2. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)
- 5.5.3. The Regional Water Board may waive the above required written report on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(ii)(B).)

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

- 5.6.1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 C.F.R. section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or
- 5.6.2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order unless the discharge is an existing manufacturing, commercial, mining, or silvicultural discharge as referenced in 40 C.F.R. section 122.42(a). (40 C.F.R. § 122.41(l)(1)(ii).) If the discharge is an existing manufacturing, commercial, mining, or silvicultural discharge as referenced in 40 C.F.R. section 122.42(a), this notification applies to pollutants that are subject neither to effluent limitations in this Order nor to notification requirements under 40 C.F.R. section 122.42(a)(1) (see Additional Provisions – Notification Levels section 7.1.1). (40 C.F.R. § 122.41(l)(1)(ii).)
- 5.7. Anticipated Noncompliance.** The Discharger shall give advance notice to the Regional Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with this Order’s requirements. (40 C.F.R. § 122.41(l)(2).)
- 5.8. Other Noncompliance.** The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting sections 5.3, 5.4, and 5.5 above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting section 5.5 above. For noncompliance related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports shall contain the information described in Standard Provision – Reporting section 5.5 and the applicable required data in appendix A to 40 C.F.R. part 127. The Regional Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 C.F.R. § 122.41(l)(7).)
- 5.9. Other Information.** When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or U.S. EPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)
- 5.10. 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. section 127.2(c)]. U.S. EPA will update and maintain this list. (40 C.F.R. § 122.41(l)(9).)

6. STANDARD PROVISIONS – ENFORCEMENT

6.1. 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, Water Code sections 13268, 13385, 13386, and 13387.

7. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

7.1. **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)):

7.1.1. 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)):

7.1.1.1. 100 micrograms per liter ($\mu\text{g/L}$) (40 C.F.R. § 122.42(a)(1)(i));

7.1.1.2. 200 $\mu\text{g/L}$ for acrolein and acrylonitrile; 500 $\mu\text{g/L}$ 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));

7.1.1.3. Five (5) times the maximum concentration reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(1)(iii)); or

7.1.1.4. The level established by the Regional Water Board in accordance with 40 C.F.R. section 122.44(f). (40 C.F.R. § 122.42(a)(1)(iv).)

7.1.2. 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)):

7.1.2.1. 500 micrograms per liter ($\mu\text{g/L}$) (40 C.F.R. § 122.42(a)(2)(i));

7.1.2.2. 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(2)(ii));

7.1.2.3. Ten (10) times the maximum concentration reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(2)(iii)); or

7.1.2.4. The level established by the Regional Water Board in accordance with 40 C.F.R. section 122.44(f). (40 C.F.R. § 122.42(a)(2)(iv).)

7.2 Publicly Owned Treatment Works (POTWs)

7.2.1. All POTWs shall provide adequate notice to the Regional Water Board of 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)).

- 7.2.2. All POTWs shall provide adequate notice to the Regional Water Board of 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).)
- 7.2.3. 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

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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

1. GENERAL MONITORING PROVISIONS

- 1.1. The Discharger shall comply with this MRP. The Executive Officer may amend this MRP pursuant to 40 C.F.R. section 122.63. 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.
- 1.2. The Discharger shall conduct all monitoring in accordance with Attachment D section 3, 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.
- 1.3. For the analysis of monitoring samples, the Discharger shall use laboratories certified by the State Water Resources Control Board (State Water Board) in accordance with Water Code section 13176 and shall obtain quality assurance/quality control data with laboratory reports. For any onsite field tests (e.g., turbidity, pH, temperature, dissolved oxygen, conductivity, disinfectant residual) analyzed by a noncertified laboratory, the Discharger shall implement a Quality Assurance-Quality Control Program. The Discharger shall keep a manual onsite containing the steps followed in this program and shall 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.
- 1.4. The Discharger shall ensure that the 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 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

2. MONITORING LOCATIONS

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

Table E-1. Monitoring Locations

Monitoring Location Type	Monitoring Location	Monitoring Location Description
Influent	INF-001-San	A point in the Sanitary Plant upstream of the influent flow equalization basins at which all waste tributary to the treatment system is present.
Influent	INF-001-Ind	A point in the Industrial Plant headworks where all industrial waste tributary to the treatment system is present, preceding any phase of treatment and any plant recirculation or other side streams.
Effluent	EFF-001-San	A point following all treatment from the Sanitary Plant, prior to combining with effluent from the Industrial Plant. After completing plant upgrades described in Provision 6.3.5.3, this point shall be prior to entering the Industrial Plant equalization basin. The Discharger may relocate its sampling location if plant upgrades cause the identified location to be infeasible. The Discharger shall notify the Executive Officer at least 30 days before relocating its sampling location and provide documentation that it will be representative of Sanitary Plant effluent.
Effluent	EFF-001-Ind	Prior to completing the plant upgrades described in Provision 6.3.5.3, a point following all treatment from the Industrial Plant, prior to combining with effluent from the Sanitary Plant. After completing the plant upgrades described in Provision 6.3.5.3, this point shall be before or immediately after PFAS removal shown in Figure C-3. The Discharger may relocate its sampling location if plant upgrades cause the identified location to be infeasible. The Discharger shall notify the Executive Officer at least 30 days before relocating its sampling location and provide documentation that it will be representative of Industrial Plant effluent.
Effluent	EFF-001	A point following all treatment, at which all treated effluent from the Sanitary Plant and Industrial Plant is present but prior to commingling with other flows to the North Bayside System Unit (NBSU) shared use forcemain.
Effluent	EFF-002	A point following all treatment, including dechlorination, at which all waste tributary to Discharge Point 002 is present but prior to discharge.
Effluent	REC-001	A point following all treatment, including disinfection, at which all effluent leaving the treatment plants for recycled water use, and thus not discharged at Discharge Point 002, is present.

Monitoring Location Type	Monitoring Location	Monitoring Location Description
Stormwater	EFF-003	The point of discharge from Pump Station 1-D.
Stormwater	EFF-004	The point of discharge from Pump Stations 2 and 2-A.
Stormwater	EFF-005	The point of discharge from Pump Station 1-A.
Stormwater	EFF-006	The point of discharge from Pump Station 1-B.
Stormwater	EFF-007	The point of discharge from Pump Station 1-C.
Stormwater	EFF-008	The point of discharge from Pump Station 17.
Stormwater	EFF-009	The point of discharge from Pump Station 18.
Stormwater	EFF-010	The point of discharge from North Access Road.
Stormwater	EFF-013	The point of discharge from Pump Station 6.
Toxicity Surveillance	SUR-001	A point following all treatment at the treatment plant prior to commingling with other flows to the NBSU shared force main. This location may be the same as Monitoring Location EFF-001.

3. INFLUENT MONITORING

The Discharger shall monitor treatment plant influent at Monitoring Location INF-001-San and INF-001-Ind as follows:

Table E-2. Influent Monitoring – Monitoring Location INF-001

Parameter	Unit	Sample Type	Minimum Sampling Frequency	Monitoring Location
Flow ^[1]	MG/MGD	Continuous	Continuous/D	INF-001-San INF-001-Ind
Carbonaceous Biochemical Oxygen Demand (5-day @ 20°C) (CBOD ₅) ^[2]	mg/L	C-24	3/Week	INF-001-San
Total Suspended Solids (TSS) ^[2]	mg/L	C-24	3/Week	INF-001-San
Cyanide, Total ^[3]	µg/L	Grab	2/Year	INF-001-San INF-001-Ind

Footnotes:

^[1] Flow shall be monitored continuously, and the following flow information shall be reported in monthly self-monitoring reports:

- Daily average flow rate (MGD)
- Total monthly flow volume (MG)

^[2] CBOD₅ and TSS samples at Monitoring Location INF-001-San shall be collected concurrently with effluent samples collected at Monitoring Location EFF-001-San.

^[3] The Discharger may, at its option, analyze for cyanide as weak acid dissociable cyanide using protocols specified in Standard Method Part 4500-CN-I, U.S. EPA Method OI 1677, or an equivalent method in the latest Standard Method edition

4. EFFLUENT MONITORING

4.1. Sanitary Plant and Industrial Plant. The Discharger shall monitor treatment plant effluent at Monitoring Locations EFF-001-San, EFF-001-Ind, EFF-001, and EFF-002 as follows:

Table E-3. Effluent Monitoring

Parameter	Unit	Sample Type	Minimum Sampling Frequency	Monitoring Location
Flow ^[1]	MG/MGD	Continuous	Continuous/D	EFF-001-San EFF-001-Ind EFF-001
CBOD ₅ ^[2]	mg/L	C-24	3/Week	EFF-001-San
Biochemical Oxygen Demand (5-day @ 20°C) BOD ₅	mg/L	C-24	1/Week ^[3]	EFF-001-Ind
TSS ^[2]	mg/L	C-24	3/Week	EFF-001-San
TSS ^[2]	mg/L	C-24	1/Week ^[3]	EFF-001-Ind
pH ^[4]	s.u.	Grab	2/Week	EFF-001-San EFF-001-Ind
Chlorine, Total Residual ^[5]	mg/L	Continuous	1/Hour	EFF-002
Ammonia, Total	mg/L as N	C-24	1/Month	EFF-001
Copper, Total Recoverable	µg/L	C-24	1/Month	EFF-001
Cyanide, Total ^[6]	µg/L	Grab	1/Month	EFF-001 ^[7]
Dioxin-TEQ	µg/L	Grab	Once	EFF-001
Enterococcus Bacteria	MPN/100 mL ^[8]	Grab	1/Month	EFF-001
Chronic Toxicity – Routine ^[11]	“pass” or “fail” and % effect ^[15]	C-24	2/Year	EFF-001 ^[10]
Chronic Toxicity – Surveillance ^[14]	“pass” or “fail” and % effect ^[15]	C-24	2/Year	SUR-001
Priority Pollutants ^{[12] [13]}	µg/L	Grab	Once	EFF-001

Footnotes:

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

- Daily average flow (MGD)
- Total monthly flow volume (MG)

^[2] CBOD₅ and TSS effluent samples at Monitoring Location EFF-001-San shall be collected concurrently with influent samples at Monitoring Location INF-001-San. CBOD₅ and TSS percent removal at the Sanitary Plant shall be reported for each calendar month in accordance with section IV.B of this Order.

^[3] If the Discharger uses firefighting foam that could be discharged to the Industrial Plant, or if any incidental sanitary wastewater contacts industrial wastewater influent (i.e., if a sanitary sewer overflow enters the stormwater collection system and the entire volume is not recovered), the Discharger shall monitor BOD₅ and TSS on days when the effluent could be affected.

^[4] If pH is monitored continuously, the minimum and maximum for each day shall be reported in self-monitoring reports.

^[5] Total residual chlorine concentrations shall be monitored continuously and recorded at a frequency of not less than every 5 minutes. The minimum level for total residual chlorine analysis shall be no greater than 0.05 mg/L. To document compliance with the minimum level, the Discharger shall calibrate continuous total residual chlorine analyzers against grab samples as frequently as necessary to maintain accurate control and reliable operation.

If a continuous chlorine residual monitor malfunctions or is offline for essential maintenance lasting more than an hour, the Discharger shall substitute grab samples at a frequency of no less than one sample every hour until the continuous chlorine residual monitor is back online. The Discharger shall report any substitution of grab sampling for continuous sampling in its monthly self-monitoring report.

To evaluate compliance with the one-hour average effluent limit, the Discharger shall consider all readings recorded within each hour. The monitoring period shall begin every hour on the hour. All readings below the minimum level shall be treated as zeros for compliance evaluation. The Discharger shall calculate arithmetic means for each hour using all the readings for that hour. The Discharger shall report through data upload to CIWQS the maximum one-hour arithmetic mean for each calendar day and any other arithmetic mean values that exceed the effluent limit. The Discharger shall retain documentation of chlorine results for at least three years.

The Discharger may elect to use a continuous on-line monitoring system for measuring or determining that a residual dechlorinating agent (e.g., sodium bisulfite) is present. Such a monitoring system may be used to prove that anomalous residual chlorine exceedances measured by online chlorine analyzers are false positives and are not valid total residual chlorine detections because it is chemically improbable to have chlorine present in the presence of a dechlorinating agent. If the data from continuous total residual chlorine analyzers provide convincing evidence that chlorine residual exceedances are false positives, the exceedances shall not be violations of this Order’s total residual chlorine effluent limit.

- [6] The Discharger may, at its option, analyze for cyanide as weak acid dissociable cyanide using protocols specified in Standard Method Part 4500-CN-I, U.S. EPA Method OI 1677, or an equivalent method in the latest Standard Method edition.
- [7] As an alternative, the Discharger may collect cyanide samples at Monitoring Location EFF-002. If so, the Discharger shall indicate that in its self-monitoring reports.
- [8] Results may be reported as Colony Forming Units (CFU)/100 mL if the laboratory method used provides results in CFU/100 mL.
- [10] For toxicity tests, samples may be collected prior to disinfection. Toxicity tests may use a combination of prechlorinated effluent flows from Monitoring Locations EFF-001-San and EFF-001-Ind, mixed in proportion to the flows from the two plants.
- [11] Chronic toxicity tests shall be performed in accordance with MRP section 5.2.
- [12] The Discharger shall monitor for the pollutants listed in Attachment G, Table B. Priority pollutant monitoring conducted pursuant to Provision 6.3.5.3.2 shall satisfy this requirement.
- [13] The Discharger shall collect C-24 samples for metals, except mercury.
- [14] Refer to MRP Section 5.4.
- [15] Chronic toxicity monitoring results shall be reported in “pass” or “fail” and percent effect, as defined in Toxicity Provisions sections III.B.3 and III.B.4.

4.2. Stormwater. The Discharger shall monitor stormwater discharges at Monitoring Locations EFF-003 through EFF-010, and EFF-013, as follows:

Table E-4. Stormwater Monitoring

Parameter	Unit	Sample Type	Minimum Sampling Frequency
Flow [1]	MG/MGD	Estimate [2]	2/Year [3]
BOD ₅	mg/L	Grab	2/Year [3]
TSS	mg/L	Grab	2/Year [3]
Oil and Grease	mg/L	Grab	2/Year [3]
pH	s.u.	Grab	2/Year [3]
Specific Conductance	µmhos/cm	Grab	2/Year [3]
Copper, Total Recoverable	µg/L	Grab	2/Year [3]
Zinc, Total Recoverable	µg/L	Grab	2/Year [3]
Visual Observations [4]	-	Visual	2/Year [3]

Footnotes:

- [1] The following flow information shall be reported in monthly self-monitoring reports:
 - Daily average flow (MGD)
 - Total monthly flow volume (MG)
- [2] The flow shall be the total volume of stormwater discharge from each monitoring location for the storm sampled. The Discharger may report a reasonable estimate of the flow, rather than an exact measurement. Estimates shall be determined from the amount of rainfall and the area of drainage multiplied by a drainage factor. The areas and drainage factors shall be identified in the stormwater pollution prevention plan.
- [3] The Discharger shall collect samples during the first major storm in the rainy season and once again during another storm during the rainy season.
- [4] Visual observations are specified in Attachment S section 2.1.

4.3. Recycled Water. The Discharger shall monitor treatment plant effluent flow at Monitoring Location REC-001 and report the following information in its self-monitoring reports:

- Daily average flow (MGD)
- Total monthly flow volume (MG)

5. TOXICITY MONITORING

5.1. Instream Waste Concentration Monitoring

5.1.1. **Sampling.** The Discharger shall collect 24-hour composite effluent samples at Monitoring Location EFF-001 for critical life stage toxicity testing as indicated below. Effluent samples may be collected before disinfection for toxicity tests. For toxicity tests requiring renewals, the Discharger shall collect 24-hour composite samples on consecutive or alternating days.

5.1.2. **Test Species.** The test species shall be the purple urchin (*Strongylocentrotus purpuratus*) and sand dollar (*Dendraster excentricus*) unless a more sensitive species is identified in accordance with MRP, Appendix E-1. The Discharger shall conduct chronic toxicity species sensitivity screening as described in Appendix E-1. Upon completion of the chronic toxicity screening, the most sensitive species shall be the species that exhibits the highest percent effect at the IWC as determined by the screening.

If testing a particular species proves unworkable (e.g., the Discharger encounters unresolvable test interference or cannot secure a reliable supply of test organisms), the Executive Officer may authorize the temporary use of the next appropriate species as the most sensitive species. If there is no species in the same taxon, the next appropriate species is the species exhibiting the next highest percent effect at the IWC in the species sensitivity screening. The Executive Officer will confirm the temporary use of the next appropriate species in writing.

5.1.3. **Frequency.** The Discharger shall monitor chronic toxicity as specified below:

5.1.3.1. **Routine Monitoring.** The Discharger shall conduct routine monitoring twice per year at the instream waste concentration (IWC) of 1.3 percent effluent and continue routine monitoring during any Toxicity Reduction Evaluation (TRE).

5.1.3.2. **Effluent Targets.** The discharge at Discharge Point 001 shall not exceed the following maximum daily effluent target (MDET) and median monthly effluent target (MMET) at the IWC using the most sensitive species for effluent from Monitoring Location EFF-001:

- **MDET:** No chronic aquatic toxicity test result of “fail” for any sub-lethal endpoint and no percent effect greater than or equal to 50 percent for the

survival endpoint (if the most sensitive species has a survival endpoint) or greater than or equal to 50 percent for any sub-lethal endpoint (if the most sensitive species has no survival endpoint).

- **MMET:** No more than one chronic aquatic toxicity test result of “fail” in a calendar month for any endpoint.

If the discharge does not meet the MDET or MMET during a calendar month, the Discharger shall perform additional routine monitoring in accordance with MRP sections 5.1.3.3 and 5.1.3.4 to determine whether a TRE is required. The MDET and MMET are not effluent limitations.

- 5.1.3.3. **Additional Routine Monitoring Tests for TRE Determination.** If the discharger does not meet the MDET or MMET during a calendar month and is not already conducting a TRE, the Discharger shall conduct an additional routine monitoring test during the following calendar month. This additional routine monitoring test shall be used to determine whether a TRE is necessary according to the process shown in Appendix E-3. If there is not enough effluent available to test in the following calendar month, the Discharger shall return to twice per year routine monitoring as soon as enough effluent is available. The Executive Officer may also require the Discharger to conduct a TRE.
- 5.1.3.4. **MMET Tests and TRE Determination.** If any routine monitoring test result is “fail,” the Discharger shall conduct at least one and at most two MMET tests. The results of these tests shall be used to determine whether a TRE is necessary according to the process shown in Appendix E-3. The Discharger shall initiate these tests within the same calendar month as the failed routine monitoring test. (For the purposes of MMET tests, the “calendar month” shall begin on the calendar day that the failed routine monitoring test was initiated. The “calendar month” shall end on the day before the corresponding day of the following month, or on the last day of the following month if it has no corresponding day [e.g., January 31 through February 28]).
- 5.1.3.4.1. If the first MMET test result is “pass,” then the Discharger shall conduct a second MMET test. If the first MMET test result is “fail,” that result does not meet the MMET and a second MMET test is not required. If any of the failed tests also did not meet the MDET, the Discharger shall conduct a TRE (see MRP section 5.3).

5.1.3.4.2. If the second MMET test result is “pass,” then the Discharger shall return to routine monitoring as described in MRP section 5.1.3.1.¹ If the second MMET test result is “fail,” that result does not meet the MMET. If any of the failed tests were also an MDET exceedance, the Discharger shall conduct a TRE (see MRP section 5.3).

5.1.3.4.3. If the Discharger cannot conduct an MMET test because not enough effluent is available to test, the Discharger shall return to routine monitoring as soon as enough effluent is available.

5.1.4. Methodology. Sample collection, handling, and preservation shall be in accordance with U.S. EPA protocols. Bioassays shall be conducted in compliance with the most recently promulgated test methods, as shown in Appendix E-2. These are *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms*, currently 1st edition (EPA/600/R-95-136); *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*, currently 3rd edition (EPA-821-R-02-014); and *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, currently 4th edition (EPA-821-R2-02-013). If these protocols prove unworkable, the Executive Officer and the Environmental Laboratory Accreditation Program may grant exceptions in writing upon the Discharger’s request with justification.

Chronic toxicity shall be evaluated using the Test of Significant Toxicity (TST) as described in the State Water Board’s State Policy for Water Quality Control: Toxicity Provisions (Toxicity Provisions), section III.B.3. The selected test concentrations shall include the IWC. The TST shall be conducted using the IWC sample and a control as described in Toxicity Provisions section III.B.3. Test sample pH may be controlled to the level of the effluent sample as received by the laboratory prior to being salted up. A result of “fail” indicates toxicity at the IWC.

If the Discharger demonstrates that specific identifiable substances in the discharge are rapidly rendered harmless upon discharge to the receiving water, the evaluation for meeting the chronic toxicity target may be performed after test samples are adjusted to remove the influence of those substances. The adjustment shall not remove the influence of other substances. Written acknowledgement that the Executive Officer concurs with the Discharger’s demonstration must be obtained prior to any such adjustment.

¹ See Appendix E-3, Toxicity Reduction Evaluation Process Flowchart.

5.2. Reporting

The Discharger shall provide toxicity test results with self-monitoring reports and shall include the following, at a minimum, for each test:

- 5.2.1. Sample date.
- 5.2.2. Test initiation date.
- 5.2.3. Test species.
- 5.2.4. End point values for the control and IWC sample (e.g., number of young, growth rate, percent survival). For routine monitoring and MMEL compliance tests, the Discharger shall report the results as either “pass” or “fail,” and the percent effect at the IWC for each endpoint. For surveillance monitoring (see MRP § 5.4), the Discharger shall report the results as either “pass” or “fail” and the percent effect at 10 percent effluent for each endpoint.
- 5.2.5. End point values for each replicate of the control and IWC sample (e.g., number of young, growth rate, percent survival).
- 5.2.6. Available water quality measurements for each test (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, ammonia).

5.3. Toxicity Reduction Evaluation (TRE)

- 5.3.1. The Discharger shall prepare a generic TRE work plan within 90 days of the effective date of this Order to be ready to respond to toxicity events. The Discharger shall review and update the generic work plan as necessary so it remains current and applicable to the discharge and discharge facilities.
- 5.3.2. Within 30 days of the following circumstances, the Discharger shall submit a TRE work plan that shall be the generic work plan revised as appropriate for the particular toxicity observed. The circumstances triggering a TRE are as follows:
 - 5.3.2.1. The Discharger does not meet any combination of two or more MDETs or MMETs within a single calendar month or two successive calendar months;
 - 5.3.2.2. The Discharger does not meet the MDET or MMET during a calendar month, there is no effluent available to test in the following calendar month, and the Executive Officer requires a TRE; or
 - 5.3.2.3. Surveillance monitoring (as described in MRP § 5.4, below) results are “fail” for two consecutive surveillance tests.
- 5.3.3. Within 30 days of submitting the TRE work plan, the Discharger shall initiate a TRE in accordance with the TRE work plan. The TRE shall be specific to the discharge and be in accordance with current technical guidance and

reference materials, including U.S. EPA guidance materials. The Discharger shall conduct the TRE as a tiered evaluation as summarized below:

- 5.3.3.1. Tier 1 shall consist of basic data collection (routine monitoring, additional routine monitoring, and MMET tests);
 - 5.3.3.2. Tier 2 shall consist of evaluating treatment processes, including operational practices and process chemicals;
 - 5.3.3.3. Tier 3 shall consist of a toxicity identification evaluation (TIE) to identify the substance or combination of substances causing the observed toxicity. The Discharger shall employ all reasonable efforts using currently available TIE methodologies;
 - 5.3.3.4. Tier 4 shall consist of a toxicity source evaluation;
 - 5.3.3.5. Tier 5 shall consist of a toxicity control evaluation that considers alternative strategies, including treatment process modifications, to reduce or eliminate the toxic substances from the discharge; and
 - 5.3.3.6. Tier 6 shall consist of implementing all reasonable toxicity control measures, and follow-up monitoring and confirmation of implementation success.
- 5.3.4. The Discharger may end the TRE at any stage if monitoring finds there is no longer consistent toxicity (i.e., two consecutive test results of “pass”).
 - 5.3.5. The Executive Officer may authorize the Discharger to end a TRE if the Discharger documents that it has exhausted all reasonable efforts to identify the cause of the toxicity.
 - 5.3.6. Many recommended TRE elements parallel required or recommended efforts related to source control, pollution prevention, and stormwater control programs. TRE efforts should be coordinated with such efforts. To prevent duplication of efforts, evidence of complying with requirements or recommended efforts of such programs may be acceptable to demonstrate compliance with TRE requirements.
 - 5.3.7. The routine monitoring frequency shall be a minimum of two tests per calendar year at the IWC when the Discharger is conducting toxicity testing as part of a TRE during that calendar year. The Discharger must return to the routine monitoring frequency specified in MRP section 5.1.3.1 at the conclusion of the TRE or one year after the initiation of the TRE, whichever occurs sooner. TRE triggers are set forth below.

Table E-5. Toxicity Reduction Evaluation (TRE) Triggers

Monitoring Type and Frequency	Triggers	TRE Required?
Routine and MMET compliance monitoring, less than monthly frequency	1. Exceedance of MDET or MMET in a calendar month, and 2. No discharge during the following calendar month	EO may require TRE
Routine and MMET compliance monitoring	Any combination of two or more MDET or MMET exceedances in a single calendar month or successive calendar months	TRE is required
Surveillance monitoring	“Fail” result in two consecutive surveillance samples	TRE is required

5.4. Surveillance Monitoring

The Discharger shall conduct surveillance monitoring and reporting as described below:

- 5.4.1. **Sampling.** The Discharger shall collect 24-hour composite effluent samples for surveillance monitoring at Monitoring Location SUR-001 as otherwise described in MRP section 5.1.1.
- 5.4.2. **Test Species.** The test species shall be the most sensitive species determined as required by MRP section 5.1.2.
- 5.4.3. **Surveillance Monitoring Frequency.** Surveillance monitoring shall be conducted twice per year. Surveillance monitoring tests may be conducted concurrently with routine monitoring. If a surveillance monitoring result is “fail,” the Discharger shall conduct an additional surveillance monitoring test no later than the next calendar month in which there is sufficient effluent flow. If the result of the second test is “fail,” the Discharger shall conduct a TRE.

Surveillance monitoring is not required during a TRE. The Discharger must return to surveillance monitoring at the conclusion of the TRE.
- 5.4.4. **Methodology.** Sample collection, handling, and preservation shall be as required by MRP section 5.1.4. Chronic toxicity shall be evaluated using the TST, also as required by MRP section 5.1.4. The selected test concentrations shall include 10 percent effluent and a control. The TST shall be conducted using the 10 percent effluent sample and the control.
- 5.4.5. **Reporting.** The Discharger shall provide toxicity test results as required by MRP section 5.2.

6. RECEIVING WATER MONITORING

The Discharger shall continue to participate in the Regional Monitoring Program (RMP), which collects data on pollutants and toxicity in San Francisco Bay water, sediment, and biota. The Discharger shall also provide supplemental funding to the RMP to support additional studies for constituents of emerging concern. The Discharger shall, either individually or in collaboration with other dischargers, submit or cause to submit a report each year that indicates the status of its RMP payment. The report shall be due on the same day as the letters certifying the Discharger's annual payment in support of RMP receiving water monitoring (currently February 1 each year).

7. RECYCLED WATER ANNUAL REPORTS

In accordance with Section 3 of the Water Quality Control Policy for Recycled Water (Recycled Water Policy), the Discharger shall electronically submit an annual report of monthly data to the State Water Board by April 30 annually covering the previous calendar year using the State Water Board's [GeoTracker website](https://geotracker.waterboards.ca.gov/) (<https://geotracker.waterboards.ca.gov/>). Information for setting up and using the GeoTracker system can be found in the ESI Guide for Responsible Parties document on the State Water Board's website for [Electronic Submittal of Information](https://waterboards.ca.gov/ust/electronic_submittal/index.html) (https://waterboards.ca.gov/ust/electronic_submittal/index.html).

The annual report of GeoTracker must include the volumetric reporting of the items listed in [Section 3.2 of the Recycled Water Policy](https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2018/121118_7_final_amendment_oal.pdf) (https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2018/121118_7_final_amendment_oal.pdf).

8. REPORTING REQUIREMENTS

8.1. General Monitoring and Reporting Requirements. The Discharger shall comply with all Standard Provisions (Attachments D, G, and S) related to monitoring, reporting, and recordkeeping.

8.2. Self-Monitoring Reports (SMRs)

8.2.1. **SMR Format.** The Discharger shall electronically submit SMRs using the State Water Board's [California Integrated Water Quality System \(CIWQS\) Program website](https://waterboards.ca.gov/water_issues/programs/ciwqs) (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.

8.2.2. **SMR Due Dates and Contents.** The Discharger shall submit SMRs by the due dates, and with the contents, specified below:

8.2.2.1. **Monthly SMRs.** Monthly SMRs shall be due the first day of the second month after the monthly monitoring period. Each SMR shall contain the applicable items described in Provision 6.3.2 (Effluent Characterization Study

and Report) of the Order, Attachment D section 5.2, and Attachment G section 5.3. Each SMR shall include all new monitoring results obtained since the last SMR was submitted. If the Discharger monitors any pollutant more frequently than required by this Order, the Discharger shall include the results of such monitoring in the calculations and reporting for the SMR.

8.2.2.2. **Annual SMR.** Annual SMRs shall be due February 1 each year, covering the previous calendar year. The annual SMR shall contain the applicable items described in Provisions 6.3.2 (Effluent Characterization Study and Report) and 6.3.5.6 (Deicing Operations) of the Order, and Attachment G section 5.3.1.6.

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

Table E-6. CIWQS Reporting

Parameter	Method of Reporting: EDF/CDF data upload	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")	-

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.

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

Table E-7. Monitoring Periods

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period
Continuous	Order effective date	All times
1/Hour	Order effective date	Every hour on the hour
1/Day	Order effective date	Any 24-hour period that reasonably represents a calendar day for sampling purposes (e.g., beginning at midnight and continuing through 11:59 p.m.)
1/Week 2/Week 3/Week	First Sunday following or on Order effective date	Sunday through Saturday
1/Month 2/Month	First day of calendar month following or on Order effective date ^[2]	First day of calendar month through last day of calendar month
1/Quarter	Closest January 1, April 1, July 1, or October 1 before or after Order effective date ^[1]	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31
1/Year	Closest January 1 before or after Order effective date ^[1]	January 1 through December 31
2/Year	Closest January 1 or July 1 before or after Order effective date ^[1]	January 1 through June 30 July 1 through December 31
Once	Order effective date	Once during the term of the Order within 12 months prior to applying for permit reissuance

Footnotes:

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

^[2] See Attachment A for the definition of a calendar month for chronic toxicity testing.

8.2.5. **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:

8.2.5.1. 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).

8.2.5.2. 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 Discharger shall require the laboratory to 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 (\pm a percentage of the reported value), numerical ranges (low to high), or any other means the laboratory considers appropriate.

- 8.2.5.3. Sample results less than the laboratory's MDL shall be reported as "Not Detected", or ND.
- 8.2.5.4. 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.
- 8.2.6. **Compliance Determination.** Compliance with effluent limitations shall be determined using sample reporting protocols defined above, in the Fact Sheet, and in 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.
- 8.3. **Discharge Monitoring Reports (DMRs).** DMRs are U.S. EPA reporting requirements. The Discharger shall electronically certify and submit DMRs together with SMRs using 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](https://waterboards.ca.gov/water_issues/programs/discharge_monitoring) (waterboards.ca.gov/water_issues/programs/discharge_monitoring).

APPENDIX E-1

CHRONIC TOXICITY DEFINITION OF TERMS AND SCREENING PHASE REQUIREMENTS

1. Definition of Terms

- 1.1. **Continuous Discharger.** Discharger that discharges without interruption throughout its operating hours, except for infrequent shutdowns for maintenance, process changes, or other similar activities, and that discharges throughout the calendar year.
- 1.2. **Non-Continuous Discharger.** Discharger that does not discharge in a continuous manner or does not discharge throughout the calendar year (e.g., intermittent and seasonal dischargers).

2. Chronic Toxicity Species Sensitivity Screening

- 2.1. The Discharger shall perform species sensitivity screening as specified in Toxicity Provisions section III.C.2:
 - 2.1.1. The Discharger shall conduct species sensitivity screening and submit a technical report that identifies the most sensitive test species within 18 months of the effective date of this Order if the Discharger has not previously conducted a species sensitivity screening as specified in Toxicity Provisions section III.C.2.
 - 2.1.2. The Discharger shall conduct a species sensitivity screening and submit a technical report that identifies the most sensitive test species with the application for permit reissuance. Alternatively, the Discharger may provide species sensitivity screening results from a previous sensitive species screening conducted within the 15 years before the expiration date of this Order if that sensitive species screening was conducted as specified in Toxicity Provisions section III.C.2.
 - 2.1.3. The Discharger shall conduct species sensitivity screening and submit a technical report that identifies the most sensitive test species no later than 18 months after any significant change in the nature of the effluent discharged due to changes in sources or treatment, except those changes resulting from reductions in pollutant concentrations attributable to source control efforts.
- 2.2. Species sensitivity screening shall, at a minimum, reflect the following elements:
 - 2.2.1 Test species specified in Appendix E-2, attached, and protocols referenced in those tables. Test species shall be Tier I unless those species are unavailable. In such cases, the Executive Officer may approve a Tier II test species.

- 2.2.2. Continuous Dischargers: four sets of tests, one in each calendar quarter of a calendar year.

Non-continuous Dischargers: at least two sets of tests, one in each calendar quarter with at least 15 days of discharge, unless the Discharger discharges in only one quarter of a calendar year; in that case, both sets of testing shall occur during the same calendar quarter. Testing in a specific species sensitivity screening can be conducted using effluent that is not discharged into surface waters (e.g., effluent discharged onto land because of a summer prohibition on discharges into surface waters) as long as the effluent tested is representative of the effluent that will be discharged to surface waters.

- 2.2.3. Appropriate controls as required by the applicable U.S. EPA test method for the selected test species.
- 2.2.4. Tests conducted at a waste concentration of 10 percent or the IWC, whichever represents a higher concentration of effluent. Alternatively, the Executive Officer may specify a higher waste concentration if needed to increase the likelihood that potential effects might be observed.
- 2.3. The Discharger shall submit a species sensitivity screening proposal at least 30 days prior to initiating any species sensitivity screening. The proposal shall address each of the elements listed above.
- 2.4. Unless the Executive Officer specifies otherwise, The most sensitive species shall be the species exhibiting the highest percent effect.

APPENDIX E-2: SUMMARY OF TOXICITY TEST SPECIES REQUIREMENTS

Table AE-1. West Coast Marine Chronic Toxicity Test Species and Methods

Species	Scientific Name	Tier	Effect	Test Duration	Reference
Giant kelp	<i>Macrocystis pyrifera</i>	I	Percent germination; germ tube length	48 hours	1
Red Abalone	<i>Haliotis rufescens</i>	I	Larval development	48 hours	1
Oyster Mussel	<i>Crassostrea gigas</i> <i>Mytilus sp.</i>	I	Larval development	48 hours	1
Purple Urchin Sand dollar	<i>Strongylocentrotus purpuratus</i> <i>Dendraster excentricus</i>	I	Percent fertilization or larval development	1 hour or 72 hours	1
Shrimp	<i>Americamysis bahia</i>	II	Percent survival; growth	7 days	2
Topsmelt	<i>Atherinops affinis</i>	I	Percent survival; growth	7 days	1
Silverside	<i>Menidia beryllina</i>	II	Larval growth rate; percent survival	7 days	2

Toxicity Test References:

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

Table AE-2. Freshwater Chronic Toxicity Test Species and Method

Species	Scientific Name	Tier	Effect	Test Duration	Reference
Fathead minnow	<i>Pimephales promelas</i>	I	Survival; growth rate	7 days	1
Water flea	<i>Ceriodaphnia dubia</i>	I	Survival; number of young	7 days	1
Green Alga	<i>Selenastrum capricornutum</i>	I	Final cell density	4 days	1

Toxicity Test Reference:

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

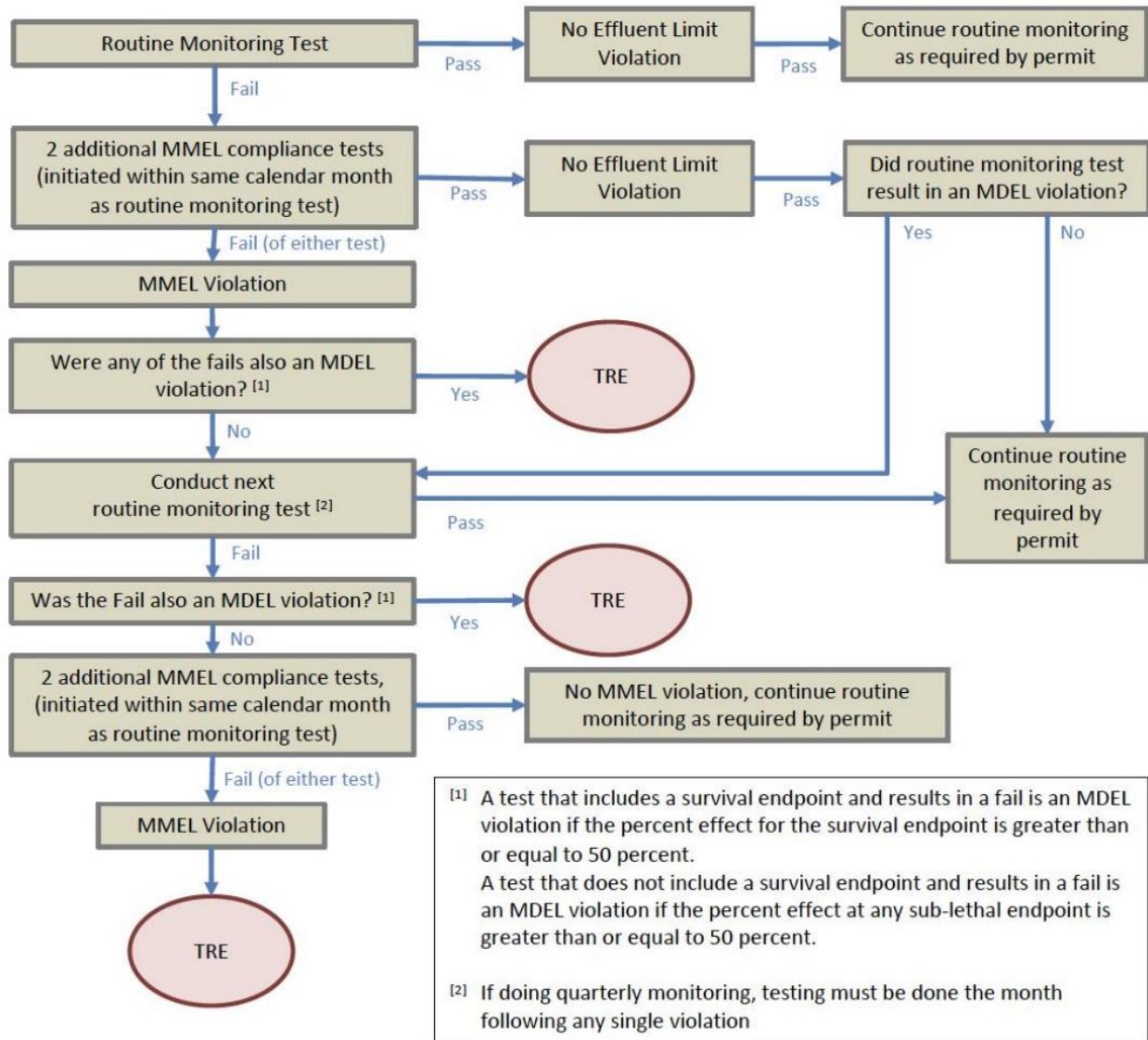
Table AE-3. Toxicity Test Requirements for Species Sensitivity Screening

Requirements	Discharges to Marine or Estuarine Water (San Francisco Bay) ^[1]	Discharges to Freshwater ^[1]
Taxonomic diversity	1 plant 1 invertebrate 1 fish	1 plant 1 invertebrate 1 fish
Screening Requirement	A total of 3 Marine and/or Freshwater species from Table AE-1 and Table AE-2	3 Freshwater species from Table AE-2 ^[2]

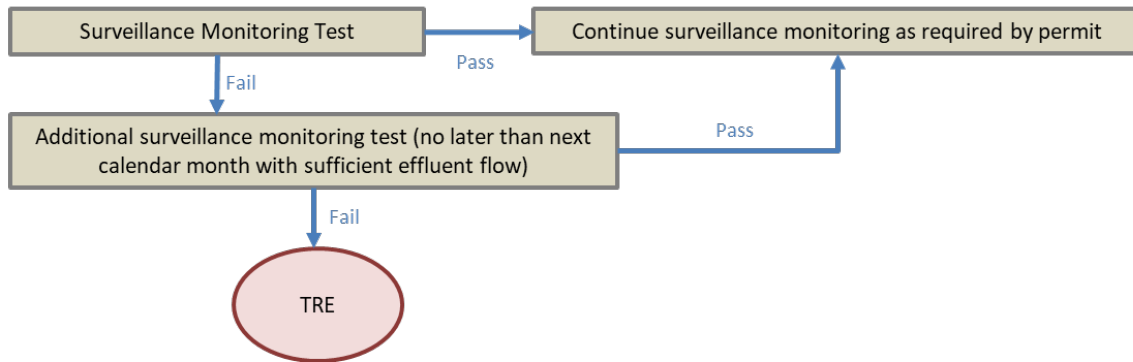
Footnotes:

- ^[1] (a) "Marine" refers to receiving water salinities greater than 1.0 parts per thousand (ppt) at least 95 percent of the time during a normal water year.
 (b) "Freshwater" refers to receiving water with salinities less than 1.0 ppt at least 95 percent of the time during a normal water year.
 (c) "Estuarine" refers to all other cases (i.e., when receiving water salinity is above 1.0 less than 95 percent of the time and below 1.0 less than 95% of the time).
- ^[2] The freshwater species may be substituted with a marine species if:
 (a) The salinity of the effluent is above 1 ppt greater than 95 percent of the time, or
 (b) The ionic strength (TDS or conductivity) of the effluent at the IWC is documented to be toxic to the test species.

APPENDIX E-3: TOXICITY REDUCTION EVALUATION PROCESS FLOWCHART ROUTINE MONITORING



APPENDIX E-4: TOXICITY REDUCTION EVALUATION PROCESS FLOWCHART SURVEILLANCE 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 2.2 of the Order, the Regional Water Board incorporates this Fact Sheet as findings supporting the issuance of the Order.

1. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	2 417033001
CIWQS Place ID	256506 (Industrial Plant) 256507 (Sanitary Plant)
Discharger	City and County of San Francisco, by and through the Airport Commission, and North Bayside System Unit (NBSU)
Name of Facility	San Francisco International Airport, Mel Leong Treatment Plant (Sanitary and Industrial Plants) and wastewater collection systems
Facility Address	Bldg. 924 Clearwater Drive, San Francisco, CA 94128 San Mateo County
Facility Contact, Title, and Phone	Leroy Sisneros, Director of Facilities, (650) 821-5400
Authorized Person to Sign and Submit Reports	Same as above
Mailing Address	P.O. Box 8097, San Francisco, CA 94128
Billing Address	Same as Mailing Address
Type of Facility	Sanitary and Industrial Wastewater Treatment Plants
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	No
Reclamation Requirements	Order WQ 2016-0068-DDW
Mercury and PCBs Requirements	NPDES Permit CA0038849
Nutrients Requirements	NPDES Permit CA0038873
Facility Permitted Flow	Sanitary Plant: 1.2 million gallons per day (MGD) (average dry weather flow) Industrial Plant: 1.2 MGD (average dry weather flow)
Facility Design Flow	Sanitary Plant: 1.2 MGD (average dry weather flow) Sanitary Plant: 2.2 MGD (hydraulic capacity) Industrial Plant 1.6 MGD (hydraulic capacity)
Watershed	San Francisco Bay
Receiving Water	Lower San Francisco Bay
Receiving Water Type	Marine
Date of Last Inspection	June 12, 2024

- 1.1.** The City and County of San Francisco, by and through the Airport Commission, and the North Bayside System Unit (NBSU) (together, the Discharger) discharge treated wastewater into the deepwater channel of Lower San Francisco Bay. The City and County of San Francisco owns and operates the Mel Leong Treatment Plant at the San Francisco International Airport and the associated wastewater collection systems. The Mel Leong Treatment Plant consists of a sanitary wastewater treatment plant (Sanitary Plant) and an industrial wastewater treatment plant (Industrial Plant) and discharges effluent to the NBSU forcemain.

The NBSU is a joint powers authority that includes the cities of Burlingame, Millbrae, South San Francisco, and San Bruno, and the City and County of San Francisco acting by and through its Airport Commission. The NBSU owns and operates the effluent forcemain, the combined effluent pumping station, effluent dechlorination facilities, and the deepwater outfall. For the purposes of this Order, the Sanitary Plant, the Industrial Plant, and their associated collection systems, and the NBSU forcemain, combined effluent pumping station, dechlorination facilities, and deepwater outfall, are collectively referred to as the “Facility.”

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

- 1.2.** The Discharger is regulated pursuant to National Pollutant Discharge Elimination System (NPDES) Permit CA0038318. The Discharger is authorized to discharge subject to the WDRs in this Order at the discharge location described in Table 1 of this Order.
- 1.3.** The Discharger was previously subject to Order R2-2018-0045 (previous order) as amended by R2-2021-0028 and R2-2023-0023.
- Order R2-2021-0028 amended Order R2-2016-0008 and the previous order to provide updated monitoring requirements and require supplemental funding for the Regional Monitoring Program (RPM).
 - Order R2-2023-0023 amended the previous order to update effluent limits and monitoring requirements for total residual chlorine and remove effluent limits and monitoring requirements at the Sanitary Plant for oil and grease.

Provisions of these orders have been incorporated into this Order.

- 1.4.** The Discharger filed a Report of Waste Discharge and submitted an application for reissuance of its Waste Discharge Requirements (WDRs) and NPDES permit on March 1, 2023.
- 1.5.** Regulations in the Code of Federal Regulations, title 40 (40 C.F.R.), section 122.46, limit the duration of NPDES permits to a fixed term not to exceed five years. Accordingly, this Order limits the effective period for the discharge

authorization. Pursuant to 40 C.F.R. section 122.6(d) and 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.

- 1.6. The Discharger is also regulated pursuant to NPDES Permits CA0038849 and CA0038873, which establish requirements on mercury and polychlorinated biphenyls (PCBs) and nutrients from wastewater discharges to San Francisco Bay. This Order does not affect those permits.
- 1.7. 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.

2. FACILITY DESCRIPTION

2.1. Wastewater and Biosolids Treatment

- 2.1.1. **Location and Service Area.** The treatment plants are located at the San Francisco International Airport. The Sanitary Plant includes a collection system and treats sanitary wastewater from airplanes and airport facilities, including terminal restrooms, hangars, restaurants, and shops. The Industrial Plant includes a separate collection system and treats industrial wastewater from maintenance shops and vehicle washing, as well as first-flush stormwater runoff from industrial areas. Process drains in the wastewater treatment plant area route to the Sanitary Plant, which may collect stormwater, overflow industrial wastewater from the equalization tank, and other incidental process wastewater. Additionally, secondary-treated industrial effluent may be routed to the Sanitary Plant's chlorine contact channel to allow maintenance of the Industrial Plant's chlorine disinfection system. In emergency situations, the Discharger may use either plant to store or treat flows, spills, or overflows that would normally flow to the other plant to ensure that all wastewater is adequately treated; however, this Order does not authorize untreated or partially-treated sanitary wastewater to be routed to the Industrial Plant. The service population for these treatment plants is estimated to be about 7,000. During the previous order term, the Sanitary Plant treated an average daily flow of 0.58 MGD, with the highest reported average daily flow being 1.4 MGD, while the Industrial Plant treated an average daily flow of 0.42 MGD, with the highest reported average daily flow being 1.3 MGD.

Attachment B provides a map of the area around the treatment plants.

2.1.2. **Collection System.** Sanitary wastewaters from airport facilities are collected and conveyed to the Sanitary Plant through a sanitary collection system consisting of approximately 31 miles of sewer piping, 8 lift stations, and 20 pump stations. Industrial wastewaters from airport facilities are collected in a separate industrial collection system consisting of approximately 12 miles of piping and 20 pump stations directing wastewater to a force main leading to the Industrial Plant, possibly using the four detention basins described below for equalization.

The first flush of stormwater runoff from terminals, taxiways, tarmacs, and aircraft and vehicle parking is collected in the stormwater collection system, which consists of approximately 91 miles of piping and 19 pump stations, and then routed to one of four detention basins: the North Field Detention Basin (0.25 MG), the South Field Detention Basin (1.5 MG), the West Field Detention Basin (6.1 MG), and the East Field Detention Basin (0.5 MG). All water entering these basins is pumped to the Industrial Plant for treatment. When the basins are full, the excess runoff is discharged directly to San Francisco Bay through one of nine stormwater outfalls.

Runoff from a few active airport areas is not collected in basins but is either pumped to the Industrial Plant or discharged directly to San Francisco Bay through the stormwater collection system. In general, runoff from runways and some portions of taxi ways is discharged directly to San Francisco Bay after flowing through grassy runway medians. The Discharger routinely removes rubber and possible contaminants on runways that may be left after plane landings. Deicing fluids, used to defrost planes, could be used at any gate depending on the destination of the departing aircraft but, in practice, are infrequently used. To prevent deicing fluid from entering the storm drain system, the Discharger requires that adjacent storm drains be covered prior to the start of deicing operations and that a vacuum scrubber be used to remove any residual fluid left on the pavement for treatment at the Industrial Plant.

2.1.3. **Wastewater Treatment.** The Sanitary Plant treatment operations consist of punched plate screens, grit removal, flow equalization, biological treatment using sequencing batch reactors, effluent flow equalization, and chlorination. Solids from the sanitary wastewater treatment process are thickened by gravity belt thickeners, treated with anaerobic digestion, and primarily dewatered with centrifuges before being hauled offsite for reuse. The facility also has a belt filter press and drying beds that can be used for additional dewatering when centrifuges are unavailable. Over the previous permit term, the sanitary treatment plants headworks was replaced. The Discharger upgraded odor/hydrogen sulfide removal, screening, grit removal, the digester gas system, dewatering equipment, and electrical distribution.

During the previous order, the Discharger completed upgrades to its industrial treatment operations and decommissioned old units on February 12, 2020. The Industrial Plant treatment operations consist of flow equalization, flocculation,

dissolved air flotation, pH adjustment (as needed), ozone, BAF (Biologically Active Filtration), and chlorination. In addition to the flow equalization tank at the start of the industrial wastewater treatment process, the Discharger may use the four detention basins described in Fact Sheet section 2.1.2, above, to store industrial wastewater and stormwater, thereby providing a steady flow to the Industrial Plant for recycled water production. The Discharger primarily uses the West Field Basin for this purpose because it has the largest capacity. After equalization, the Discharger adds coagulants and polymers to flocculate the combined industrial wastewater and any incoming first flush of stormwater. Solids from the industrial wastewater treatment process are collected from the dissolved air flotation unit and dewatered with a centrifuge or drying beds before being hauled offsite for disposal. The chlorinated effluent from both plants is combined at a pumping station and discharged to the NBSU pipeline, which transports treated wastewater to the South San Francisco and San Bruno Water Quality Control Plant for dechlorination using sodium bisulfite prior to discharge to Lower San Francisco Bay from Discharge Point 002. All treatment steps are shown in the process flow diagrams in Attachment C.

- 2.1.4. **Sludge and Biosolids Management.** The dewatering and disposal of biosolids from the Sanitary Plant and Industrial Plant are separate. Biosolids from the Sanitary Plant are treated by gravity belt thickening and anaerobic digestion, then dewatered with centrifuges or air-dried using sludge drying beds. Final sludge cake and air-dried sludge is transported to a composting facility. Sludge and scum from the Industrial Plant are pumped to separate sludge beds or centrifuges for dewatering. The dried industrial waste sludge is trucked offsite and used as daily cover at a landfill.
- 2.1.5. **Stormwater Management.** This Order covers stormwater discharges from certain areas of the airport. Stormwater from tarmac areas in excess of the available storage capacity in the detention basins is discharged directly to San Francisco Bay. Several airport areas are occupied by tenants, and all tenants are prohibited by the airport's rules and regulations from generating any unauthorized discharges to the stormwater runoff collection system. Stormwater from most of these tenant-occupied areas is covered under this Order; however, stormwater from a portion of the area occupied by the United Maintenance Operation Center flows directly to San Francisco Bay. United Airlines enrolls its stormwater discharges under the statewide industrial stormwater NPDES permit (NPDES General Permit CAS000001) and thus is not covered by this Order.

In addition to providing flow equalization for industrial wastewater influent, the airport's four detention basins store the first flush of rainfall runoff generated at sections of the airport where industrial activities take place. Once these basins are filled, the inflow gates are closed, and each basin is isolated from the stormwater conveyance pipelines. Any additional runoff is discharged directly from the storm drain system to San Francisco Bay. The runoff stored in the detention basins is pumped to the Industrial Plant for treatment.

The statewide construction stormwater NPDES permit (NPDES General Permit CAS000002) covers stormwater discharges associated with construction activities taking place west of Highway 101.

- 2.1.6. **Recycled Water Activities.** The Discharger diverts a portion of the chlorinated effluent from the treatment plants from the combined pumping station or a portion of the chlorinated effluent from the Industrial Plant's chlorine contact channel through anthracite filters for use as recycled water. The Discharger has recycled an average of 0.14 million gallons each year for uses such as landscape irrigation, street sweeping, and soil compaction. Recycled water is stored in an approximately 7,000-gallon storage tank, and unused recycled water is discharged to the NBSU pipeline.

2.2. Discharge Points and Receiving Waters

- 2.2.1. **Discharge Point 002.** Discharge Point 002 discharges treated effluent through a 60-inch NBSU forcemain into Lower San Francisco Bay via a 620-foot diffuser composed of 66 ports (3-inch diameter) spaced 7 feet apart and 28 ports (2.8-inch diameter) spaced 6 feet apart. The location of the outfall is northeast of Point San Bruno, approximately 5,300 feet offshore at depth 20 feet below mean lower low water. NBSU operates and maintains the outfall, and regular inspections occur on a 10-year schedule. The most recent inspection took place on July 17, 2020. Divers found the diffuser to be in good condition with marine growth affecting a few ports.
- 2.2.2. **Discharge Point 003.** Discharge Point 003 discharges stormwater runoff and any infiltrated San Francisco Bay water from areas that drain into the 1.5-million-gallon South Field Detention Basin. When the South Field Detention Basin has reached capacity, excess stormwater is discharged directly to San Francisco Bay through Discharge Point 003. The South Field Detention Basin receives runoff from areas located in the southern and eastern sections of the airport. Over these areas, various industrial activities take place that include aircraft, vehicle, and equipment fueling, maintenance, and, when rarely required, deicing.
- 2.2.3. **Discharge Point 004.** Discharge Point 004 discharges stormwater runoff and any infiltrated San Francisco Bay water from areas that drain into the 6.1-million-gallon West Field Detention Basin, the 0.5-million-gallon East Field Detention Basin, and the 0.77-million-gallon United Airlines Detention Basin. When these detention basins have reached capacity, excess stormwater is discharged through Discharge Point 004 to the Seaplane Harbor, which opens to San Francisco Bay. Runoff from the United States Coast Guard Facility is also directly discharged through Discharge Point 004.
- 2.2.4. **Discharge Point 005.** Discharge Point 005 discharges stormwater runoff and any infiltrated San Francisco Bay water from the runway and taxiway areas

near Runway 28L directly to San Francisco Bay. There is no aircraft, vehicle, or equipment fueling, maintenance, or washing in this area.

- 2.2.5. **Discharge Point 006.** Discharge Point 006 discharges stormwater runoff and any infiltrated San Francisco Bay water from the runway and taxiway areas near Runway 28R directly to San Francisco Bay. There is no aircraft, vehicle, or equipment fueling, maintenance, or washing in this area.
- 2.2.6. **Discharge Point 007.** Discharge Point 007 discharges stormwater runoff and any infiltrated San Francisco Bay water from the runway and taxiway areas near Runways 19R and 19L directly to San Francisco Bay. There is no aircraft, vehicle, or equipment fueling, maintenance, or washing in this area. The Discharger replaced the stormwater pump station's supporting trestles during the previous order term.
- 2.2.7. **Discharge Point 008.** Discharge Point 008 discharges stormwater runoff and any infiltrated San Francisco Bay water from the taxiway, ramp, and roof areas of the eastern section of the Superbay Hangar area directly to San Francisco Bay. If a spill enters a storm drain in this drainage area, downstream pump station SDPS-17 can be taken offline to provide containment and prevent discharge to San Francisco Bay. There is no aircraft, vehicle, or equipment fueling, maintenance, or washing in this area because such activities are confined to inside the Superbay Hangar, which connects to the industrial wastewater collection system.
- 2.2.8. **Discharge Point 009.** Discharge Point 009 discharges stormwater runoff and any infiltrated San Francisco Bay water from the taxiway, ramp, and roof areas of the western section of the Superbay Hangar area directly to San Francisco Bay. If a spill enters a storm drain in this drainage area, downstream pump station SDPS-18 can be taken offline to provide containment and prevent discharge to San Francisco Bay. There is no aircraft, vehicle, or equipment fueling, maintenance, or washing in this area because such activities are confined to inside the Superbay Hangar, which connects to the industrial wastewater collection system. The Discharger replaced the stormwater pump station's supporting trestles during the previous order term.
- 2.2.9. **Discharge Point 010.** Discharge Point 010 discharges stormwater runoff and any infiltrated San Francisco Bay water from a small section of the North Access Road (adjacent to Building 900) and Plot 700, which has a fueling station, car wash, and inspection facilities for the ground transportation unit, directly to San Francisco Bay.
- 2.2.10 **Discharge Point 013.** Discharge Point 013 discharges stormwater runoff and any infiltrated San Francisco Bay water from the taxiways, ramps, and parking lot around the North Cargo Facility that drain into the 0.25-million-gallon North Field Detention Basin. When the detention basin has reached capacity,

stormwater is discharged directly to San Francisco Bay through Discharge Point 013.

2.3. Previous Requirements and Monitoring Data

2.3.1. **Treated Effluent Requirements and Monitoring Data.** The table below presents the previous order's effluent limitations and representative monitoring data from December 2018 – December 2023:

Table F-2. Previous Effluent Limitations and Monitoring Data

Parameter	Units	Average Monthly Limit	Average Weekly Limitation	Maximum Daily Limitation	Other Limits	Long-Term Average	Highest Daily Discharge
Carbonaceous Biochemical Oxygen Demand (5-day @ 20°C) (CBOD ₅)	mg/L	25	40	-	-	13 (Sanitary)	99 (Sanitary) ^[1]
Biochemical Oxygen Demand (5-day @ 20°C) (BOD ₅)	mg/L	30	45	-	-	2.3 (Industrial)	13 (Industrial)
Total Suspended Solids (TSS)	mg/L	30	45	-	-	18 (Sanitary) 4.6 (Industrial)	205 (Sanitary) ^[2] 27 (Industrial)
CBOD ₅ percent removal	%	85 (minimum)	-	-	-	99 (Sanitary)	97 (Sanitary) ^[3]
TSS percent removal	%	85 (minimum)	-	-	-	97 (Sanitary)	94 (Sanitary) ^[3]
Oil and Grease	mg/L	10	-	20	-	-	2.7 (Sanitary) 2.1 (Industrial)
pH	s.u.	-	-	-	6.0-9.0 ^[4]	-	6.4 – 7.8 (Sanitary) ^[4] 5.8 – 8.7 (Industrial) ^[4]
Chlorine, Total Residual	mg/L	-	-	-	0.0	-	7.7 ^[5]
Ammonia, Total	mg/L as N	120	-	310	-	-	67
Copper, Total	µg/L	42	-	84	-	-	9.3
Cyanide, Total	µg/L	18	-	44	-	-	15
Dioxin-TEQ	µg/L	1.4 x 10 ⁻⁸	-	2.8 x 10 ⁻⁸	-	-	0 ^[6]
Fecal Coliform Bacteria	MPN/100	200 ^[7]	-	400 ^[8]	-	-	170
Enterococcus Bacteria	MPN/100	35 ^[9]	-	-	-	-	10
Acute Toxicity	% survival	-	-	-	Not less than 90% (11-sample median)	-	90% (11-sample median)

Parameter	Units	Average Monthly Limit	Average Weekly Limitation	Maximum Daily Limitation	Other Limits	Long-Term Average	Highest Daily Discharge
Acute Toxicity	% survival	-	-	-	Not less than 70% (11-sample 90 th percentile)	-	85% (11-sample 90 th percentile)

Footnotes:

- [1] The Discharger violated the previous order’s CBOD₅ effluent limitation at Monitoring Location EFF-001-San once with an average weekly concentration of 51 mg/L. The Discharger did not violate the previous order’s CBOD₅ average monthly effluent limitations at Monitoring Location EFF-001-San because the highest average monthly concentration was 24 mg/L.
- [2] The Discharger violated the previous order’s TSS effluent limitations at Monitoring Location EFF-001-San three times. The highest average monthly concentration was 39 mg/L and the highest average weekly concentration was 83 mg/L.
- [3] Lowest monthly average.
- [4] Range of the lowest and highest pH values.
- [5] The Discharger violated the previous order’s total chlorine residual effluent limitation one time with a result of 7.7 mg/L. All other total chlorine residual effluent results were non-detect.
- [6] Dioxin-TEQ was calculated in accordance with the previous order’s attachment G section 5.3.1.4.4.
- [7] This fecal coliform bacteria limitation was expressed as the geometric mean in a calendar month.
- [8] This fecal coliform bacteria limitation was expressed as the 90th percentile of the last eleven values.
- [9] This enterococcus bacteria limitation was expressed as the geometric mean of all samples in a calendar month.

2.3.2. Stormwater Discharge Numeric Action Levels and Monitoring Data. The following table presents stormwater quality during the previous order term (December 2018 – December 2023):

Table F-3. Monitoring Data for Stormwater Discharge Points

Discharge Point	Max. Oil and Grease (mg/l)	Avg. Oil and Grease (mg/l)	Max. TSS (mg/l)	Avg. TSS (mg/l)	Min. pH (s.u.)	Max. pH (s.u.)
003	7.1	3.5	100	29	7.2	7.6
004	7.1	3.2	41	19	7.3	7.6
005	8.2	3.8	64	24	7.3	7.7
006	6.8	4.5	220	39	7.4	8.1
007	7	3.0	95	37	7.3	8.2
008	7.2	4.3	95	31	7.3	8.0
009	6	3.2	92	33	6.9	7.8
010	3.2	2.0	110	34	7.7	9.5 ^[2]
013	3.7	2.7	98	38	7.3	7.8
NALs^[1]	25	15	400	100	6.0	9.0

Footnotes:

- [1] Numeric Action Levels: instantaneous maximums or maximum annual averages
- [2] The Discharger exceeded the maximum pH numeric action level once during the previous order term.

All stormwater outfalls contained oil and grease at concentrations below the instantaneous maximum numeric action level of 25 mg/L and annual average numeric action level of 15 mg/L. Over the previous order term, the maximum

and average oil and grease concentrations were 8.2 mg/L and 3.3 mg/L respectively. All stormwater outfalls contained total suspended solids at concentrations below the instantaneous maximum numeric action level of 400 mg/L. Over the previous order term, the maximum and average TSS concentrations were 220 mg/L and 32 mg/L respectively.

In January 2021, the Discharger recorded a pH value of 9.5 at Monitoring Location EFF-010, which exceeded the instantaneous maximum numeric action level for pH of 9.0. The Discharger investigated the drainage area and catch basins upstream of the stormwater pump station that drain to Monitoring Location EFF-010 and found a fine particulate substance similar to grout. The Discharger asserted that the high pH could have been caused by the alkaline grout leaching into the stormwater. As a corrective action, the Discharger cleaned the catch basins. All other stormwater outfalls met the numeric action level range for pH between 6.0 and 9.0.

The Discharger has not exceeded any other numeric action levels.

Table F-4. Monitoring Data for Metals at Stormwater Discharge Points

Discharge Point	Avg. Cadmium (ug/L)	Avg. Copper (ug/L)	Avg. Lead (ug/l)	Avg. Mercury (ug/l)	Avg. Nickel (ug/L)	Avg. Zinc (ug/L)
003	0.47	62	3.3	0.0072	6.7	160
004	0.41	20.	5.2	0.0046	5.0	77
005	0.30	22	0.90	0.0072	5.0	66
006	1.2	20.	2.7	0.011	9.2	56
007	0.37	37	2.5	0.0062	4.3	36
008	0.43	27	4.7	0.0061	5.3	250
009	0.77	30	11	0.0054	11	420
010	0.29	21	3.5	0.0078	4.6	220
013	0.60	29	11	0.0063	4.6	230

Copper and zinc concentrations were, at times, above the average annual numeric action levels established in the General Permit for Storm Water Dischargers Associated with Industrial Activities (NPDES Permit CAS000001) of 33.2 ug/L for copper and 260 ug/L for zinc. The maximum copper concentration was 290 ug/L at Monitoring Location EFF-003 in 2020. The average copper concentration across all stormwater discharge points during the previous order term was 30 ug/L. The maximum zinc concentration was 1,600 ug/L at Monitoring Location EFF-009 in 2019. The average zinc concentration across all stormwater discharge points during the previous order term was 170 ug/L.

2.4. Compliance Summary

2.4.1. **Treatment Plant.** During the previous order term, the Discharger violated the BOD₅ and TSS effluent limitations, as listed below:

Table F-5. Effluent Limit Violations

Violation Date	Parameter	Monitoring Location	Units	Effluent Limitation	Reported value
12/31/2019	TSS, Average Monthly	EFF-001-San	mg/L	30	37
2/27/2020	pH, Instantaneous Minimum	EFF-001-Ind	s.u.	6.0	5.8
6/30/2022	CBOD ₅ , Average Weekly	EFF-001-San	mg/L	40	51
6/30/2022	TSS, Average Weekly	EFF-001-San	mg/L	45	83
6/30/2022	TSS, Average Monthly	EFF-001-San	mg/L	30	39

The TSS monthly average violation in December 2019 occurred due to a mechanical failure of decanter valves in all three sequencing batch reactors (SBRs). The highest TSS concentration measured at Monitoring location EFF-001San during the month was 49 mg/L. In response, the Discharger drained and cleaned all three SBRs’ effluent basins, removed all sediment, and fixed the decanter valves. The Discharger also drained and cleaned the final effluent equalization basin and chlorine contact channel.

The pH instantaneous minimum violation on December 27, 2020, occurred because the pH meter at the dissolved air flotation weir malfunctioned. This resulted in the Discharger’s SCADA system receiving incorrect pH data and its caustic pump failing to deliver adequate chemicals to increase the industrial effluent pH to keep it within the effluent limitation. As corrective actions, the Discharger manually operated the caustic pump to increase the effluent pH and replaced the pH meter.

The CBOD₅ average weekly, TSS average weekly, and TSS average monthly violations in June 2022 occurred because a broken actuator failed to close an SBR valve after decanting and resulted in mixed liquor flowing into the effluent basin on June 17, 2022. The Discharger immediately switched to manual operation of the valve and the SBR was drained for cleaning. The Discharger continued manual operation until it upgraded the actuator in late 2022.

2.4.2. **Collection Systems.** The table below shows the Discharger’s sanitary and industrial collection systems’ sanitary sewer spill rates (total spills per 100 miles of collection system) for Category 1 spills over the last five years, the lengths and ages of the collection systems, and comparisons to Category 1 spill rates for the San Francisco Bay Region and the State. Category 1 spills are those that reach waters of the United States.

Table F-6. Sanitary Sewer System and Category 1 Sanitary Sewer Spill Rates
 (Values based on CIWQS data analysis completed in June 2024) ^[1]

	Length (miles)	Average Age of Pipe (years)	2019	2020	2021	2022	2023
Discharger – Sanitary Collection System	31 ^[2]	28	0	0	0	0	0
Discharger – Industrial Collection System	12 ^[2]	40	8.3	0	0	0	0
San Francisco Bay Region	17,700 ^[2]	49	1.4	0.7	1.2	1.0	0.9

State Rate	106,000 ^[2]	48	0.59	0.35	0.50	0.45	0.36
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Footnotes:

- [1] A sanitary sewer spill rate is the total number of sanitary sewer spills per 100 miles of sewer system. The State Water Board’s Enrollee’s Guide to the SSO Database defines “Total number of [sanitary sewer spills] per 100 miles of sewer” as “...the number of [sanitary sewer spills], for which the reporting enrollee is responsible, for every 100 miles of pipe or sewer lines in an enrollee’s sanitary sewer system. Due to the large variation in facility specific characteristics, this metric should only be viewed as a rough comparison of the operation and maintenance performance of enrollees and their sanitary sewer systems.”
- [2] Length shown is based on 2024 data.
- [3] The average pipe age for the State of California is estimated based on the percentage of piping constructed during each decade as reported by enrollees under the statewide WDRs for sanitary sewer systems.

Both the sanitary and industrial collection systems are relatively small (31 miles and 12 miles, respectively), and the 2019 spill rate for the industrial collection system appears larger when normalized to a distance of 100 miles. From 2019 through 2024, the Discharger only reported one Category 1 Spill from the industrial collection system and did not report any Category 1 spills from the sanitary collection system. The average age of the Discharger’s sanitary collection system is approximately 28 years, and the average age of the Discharger’s industrial collection system is 40 years. These systems are newer than most other collection systems in the San Francisco Bay Region.

Pump station operating errors caused the Category 1 industrial collection system spill in 2019. The Discharger updated its operations and maintenance manuals and standard operation procedures for pump stations following the industrial system spill. During the previous order term, the Discharger replaced a large section of ductile iron force main in the industrial collection system that had a history of failures. The Discharger also has an outreach program that inspects restaurants and food preparation facilities on the airport property and ensures proper fats, oils, and grease handling and disposal.

2.5. Planned Changes

The Discharger plans to complete several projects during this permit term. These changes are authorized by Provision 6.3.5.3.

Over the next permit term, the Discharger will add an aerobic granular sludge process to its sequencing batch reactors at the Sanitary Plant. The Discharger completed a pilot study from October 2020 through April 2021 evaluating the effectiveness of the aerobic granular sludge technology and found that the process will enhance nitrification, denitrification, and biological phosphorus uptake.

The Discharger also plans to begin construction in 2024 on an Advanced Water Treatment Plant that will include membrane filtration, reverse osmosis, and UV disinfection to treat combined effluent from the Industrial and Sanitary Plants and provide an average of 1.0 MGD of recycled water for use within the San Francisco Airport for toilet flushing, irrigation, cooling water, industrial water, vehicle washing, and dust control. Additionally, the Discharger plans to test PFAS removal by treating combined effluent from the Industrial and Sanitary Plants with granular

activated carbon and, if necessary, ion exchange resins. Finally, the Discharger plans to begin construction on a new pipeline to the NBSU outfall during the permit term.

2.6. Sea Level Rise

The Discharger's Shoreline Protection Program is expected to protect the facility against a 100-year storm as defined by the Federal Emergency Management Agency (FEMA). The Discharger plans to install concrete-capped steel sheet pile walls and steel king pile walls along the shoreline and concrete walls adjacent to the San Bruno and Millbrae Canals. The plan accounts for 42 inches of sea level rise and includes 2 feet of freeboard above the 100-year still water level as FEMA requires, for a combined total of 5.5 feet of protection. The Shoreline Protection Program would manage flood risk until 2085. The Discharger has received funding for the program, initiated detailed designs, and projects that construction will begin in 2025.

3. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

3.1. 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 the U.S. EPA, and Water Code chapter 5.5, division 7 (commencing with § 13370). It serves as an NPDES permit authorizing the Discharger to discharge into waters of the United States at the discharge locations described in Table 1 subject to the WDRs in this Order.

3.2. California Environmental Quality Act (CEQA). 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).

3.3. State and Federal Laws, Regulations, Policies, and Plans

3.3.1. 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 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Because of the marine influence on Lower San Francisco Bay, total dissolved solids exceed 3,000 mg/L; therefore, Lower San Francisco Bay meets an

exception to State Water Board Resolution 88-63. The table below lists beneficial uses applicable to Lower San Francisco Bay:

Table F-7. Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
002, 003 through 010, 013	Lower San Francisco Bay	Industrial Service Supply (IND) Ocean, Commercial and Sport Fishing (COMM) Shellfish Harvesting (SHELL) Estuarine Habitat (EST) Fish Migration (MIGR) Preservation of Rare and Endangered Species (RARE) Fish Spawning (SPWN) Wildlife Habitat (WILD) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2) Navigation (NAV)

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

3.3.3. **State Implementation Policy.** 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) on March 2, 2000. The SIP establishes implementation provisions for priority pollutant criteria and objectives, and provisions for chronic toxicity control. 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 through 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. Requirements of this Order implement the SIP.

3.3.4. **Bacteria Objectives.** 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 *Enterococcus* bacteria water quality objectives and related implementation provisions for discharges to marine and estuarine waters that support the water contact recreation (REC1) beneficial use

- 3.3.5. **Sediment Quality.** The State Water Board adopted the *Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1, Sediment Quality* on September 16, 2008, and it became effective on August 25, 2009. The State Water Board adopted amendments to the plan on June 5, 2018, that became effective on March 11, 2019. This plan establishes sediment quality objectives and related implementation provisions for specifically defined sediments in most bays and estuaries.
- 3.3.6. **Toxicity Provisions.** The State Water Board adopted the *State Policy for Water Quality Control: Toxicity Provisions* (Toxicity Provisions) on October 5, 2021. U.S. EPA approved the Toxicity Provisions on May 1, 2023. Toxicity Provisions sections II.C.1 and II.C.2 establish numeric chronic and acute toxicity objectives that apply to all inland surface waters, enclosed bays, and estuaries in the State with aquatic life beneficial uses. The Toxicity Provisions include related implementation provisions and require that compliance with the chronic toxicity water quality objectives be assessed using U.S. EPA’s Test of Significant Toxicity (TST) (U.S. EPA, *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* [EPA/833-R-10-003], June 2010).
- 3.3.7. **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 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California*, which incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. Permitted discharges must be consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16.
- 3.3.8. **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.
- 3.3.9. **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 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.

3.3.10. **Sludge and Biosolids.** U.S. EPA administers 40 C.F.R. part 503, Standards for the Use or Disposal of Sewage Sludge, which regulates the final use or disposal of sewage sludge generated during the treatment of domestic sewage in a municipal wastewater treatment facility. This Order does not authorize any act that violates those requirements. The Discharger is responsible for meeting all applicable requirements of 40 C.F.R. part 503.

3.4. **Impaired Water Bodies on CWA section 303(d) List.** On May 11, 2022, 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.

Lower San Francisco Bay is listed as impaired by mercury, PCBs, dioxin-like PCBs, chlordane, DDT, dieldrin, invasive species, trash, dioxin compounds (including 2,3,7,8-TCDD), and furan compounds. On February 12, 2008, U.S. EPA approved a TMDL for mercury in San Francisco Bay. On March 29, 2010, U.S. EPA approved a TMDL for PCBs in San Francisco Bay. The TMDLs for mercury and PCBs apply to this discharge and for wastewater discharges are implemented through NPDES Permit CA0038849. For stormwater, this Order imposes the mercury and PCBs TMDLs by requiring the Discharger to implement best management practices.

As shown in Fact Sheet section 4.3.3, the discharge is not a significant source of chlordane, DDT, or dieldrin because these pollutants have not been detected in the discharge. The discharge is not a source of invasive species because it is disinfected. It is not a source of trash because it is screened and treated to secondary treatment standards. This Order contains dioxin-TEQ effluent limitations to ensure that dioxins and furans in effluent are kept below water quality objectives.

For stormwater discharges, this Order requires that Discharger to implement best management practices through a stormwater pollution prevention plan to prevent trash from discharging to receiving waters.

4. 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.

4.1. Discharge Prohibitions

- 4.1.1. **Discharge Prohibition 3.1 (No discharge other than as described):** This prohibition is based on 40 C.F.R. section 122.21(a) and Water Code section 13260, which require filing an application and Report of Waste Discharge before a discharge can occur. Discharges not described in the application and Report of Waste Discharge, and subsequently in this Order, are prohibited.
- 4.1.2. **Discharge Prohibition 3.2 (No discharge without minimum initial dilution described in Fact Sheet 4.3.4.2):** This prohibition is based on the Discharger's dilution study, *Near-field Mixing Zone and Dilution Analysis for the North Bayside System Unit Outfall Diffuser to Lower San Francisco Bay* (May 2018), which modeled mixing conditions under different scenarios to determine minimum initial dilutions received by the discharge under certain conditions. This study was updated by the *North Bayside System Unit (NBSU) Outfall - Near Field Mixing Zone Modeling, 2023 Update for Chronic Toxicity Discharge Condition* (March 2023), in which the chronic toxicity discharge conditions were reevaluated. As such, this Order evaluated minimum initial dilutions in determining the final effluent limitations for ammonia (see Fact Sheet section 4.3.4.2.3) and total residual chlorine (see Fact Sheet section 4.3.4.4). This Order also evaluated minimum initial dilutions to determine the instream waste concentration (IWC) to evaluate chronic toxicity (see Fact Sheet section 4.3.4.2.4). Therefore, this prohibition is necessary to ensure that this Order's effluent limitations and toxicity requirements remain protective of water quality.
- 4.1.3. **Discharge Prohibition 3.3 (No bypass to waters of the United States):** This prohibition is based on 40 C.F.R. section 122.41(m) (see Attachment D section 1.7).
- 4.1.4. **Discharge Prohibition 3.4 (No average dry weather flow above 1.2 MGD at Sanitary or Industrial Plants):** This prohibition ensures that the average dry weather influent flow does not exceed the treatment plants' designed average dry weather treatment capacity (i.e., the historic and tested reliability of the treatment plants) of 1.2 MGD at the Sanitary Plant and 1.2 MGD at the Industrial Plant. Exceeding this flow could result in lower treatment reliability and greater potential to violate effluent limitations.
- 4.1.5. **Discharge Prohibition 3.5 (No sanitary sewer spills to waters of the United States):** Basin Plan Table 4-1, Discharge Prohibition 15, and the CWA prohibit the discharge of wastewater to surface waters, except as authorized under an

NPDES permit. Publicly-owned treatment works must achieve secondary treatment at a minimum and any more stringent limitations necessary to meet water quality standards (33 U.S.C. § 1311(b)(1)(B) and (C)). A sanitary sewer spill that results in the discharge of raw sewage or wastewater not meeting this Order's effluent limitations to waters of the United States is therefore prohibited under the Basin Plan and the CWA.

- 4.1.6. **Discharge Prohibition 3.6 (No discharge of deicing fluid that contains urea):** U.S. EPA has established technology-based limitations and standards for deicing operations at airports at 40 C.F.R. part 449, *Effluent Limitations Guidelines for the Airport Deicing Point Source Category* (ELGs). The airport deicing ELGs were published in the Federal Register on May 16, 2012, and became effective on June 15, 2012. Effluent limitations established at 40 C.F.R. section 449.10 representing Best Available Technology require that there be no discharge of airfield pavement deicers containing urea and that the Discharger certify annually that it does not use airfield deicing products that contain urea. While there are no runway deicing operations at the airport, on rare occasions, deicing fluid is used to defrost planes. Any surplus fluids that fall on taxi areas are collected and routed to the Industrial Plant for treatment.

4.2. Technology-Based Effluent Limitations

- 4.2.1. **Scope and Authority.** CWA section 301(b) and 40 C.F.R. section 122.44(a) require that permits include conditions meeting technology-based requirements, at a minimum, and any more stringent effluent limitations necessary to meet water quality standards. Technology-based limitations are based on several levels of control, including:

- Best practicable treatment control technology (BPT) represents the average of the best existing performance by well-operated facilities within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.
- Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD₅, TSS, total coliform, pH, and oil and grease. The BCT standard is established after considering the relationship between the cost of attaining a reduction in effluent discharge and the benefits that would result and also the cost effectiveness of additional industrial treatment beyond BPT.
- New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires U.S. EPA to develop effluent limitations, guidelines, and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. CWA

section 402(a)(1) and 40 C.F.R. section 125.3 authorize the use of Best Professional Judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELGs are unavailable for certain industrial categories or pollutants of concern. Where BPJ is used, specific factors outlined in 40 C.F.R. section 125.3 must be considered.

- 4.2.1.1. **Sanitary Wastewater.** The discharge of sanitary wastewater must meet the minimum federal technology-based requirements based on the secondary treatment standards of 40 C.F.R. section 133 summarized below:

Table F-8. Secondary Treatment Standards

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

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.

- 4.1.1.2. **Industrial Wastewater.** Although 40 C.F.R. part 438 addresses process wastewater from machining operations associated with aircraft, there are no technology-based standards for industrial wastewaters from airport activities. Where U.S. EPA has not yet developed technology-based standards for a particular industry or a particular pollutant, CWA section 402(a)(1) and 40 C.F.R. section 125.3 authorize the use of BPJ to derive technology-based effluent limitations on a case-by-case basis. When BPJ is used, the permit must reflect specific factors outlined at 40 C.F.R. section 125.3.

Basin Plan Table 4.2 requires oil and grease concentrations to be less than 10 mg/L (monthly average) and 20 mg/L (daily maximum), and states that the BOD₅ and TSS secondary treatment standards may be applied as effluent limitations selectively to certain other non-sewage discharges.

4.2.2. Technology-Based Effluent Limitation Development

4.2.2.1. Sanitary Wastewater

- 4.2.2.1.1. **CBOD₅ and TSS.** The CBOD₅ and TSS effluent limitations, including the 85 percent removal requirements, are based on the secondary treatment standards and Basin Plan Table 4-2, with compliance measured at Monitoring Location EFF-001-San.

- 4.2.2.1.2. **pH.** The pH effluent limitations are based on the secondary treatment standard and Basin Plan Table 4-2, with compliance measured at Monitoring Location EFF-001-San.
- 4.2.2.2. **Industrial Wastewater.** Based on BPJ, this Order retains the technology-based limitations from the previous order for BOD₅, TSS, and pH, with compliance measured at Monitoring Location EFF-001-Ind. These limits are based on the secondary treatment standards and Basin Plan Table 4.2. They represent the minimum treatment expected from the current treatment system when operated and maintained adequately. The Discharger’s past performance demonstrates the ability to consistently meet these effluent limitations, with some exceptions.

This Order does not place TSS and BOD₅ percent removal requirements on the Industrial Plant because it does not receive sanitary wastewater (with the possible exception of incidental discharges from sanitary sewer spills). Because much of the Industrial Plant influent is pretreated wastewater (e.g., United Airlines has installed a pretreatment facility for its industrial wastewater) and stormwater, influent TSS and BOD₅ concentrations are typically much lower than those found in sanitary wastewater. The average monthly influent TSS and BOD₅ concentrations for the Industrial Plant from January 2023 through December 2023 were 88 mg/L and 16 mg/L, respectively. For comparison, the average monthly influent TSS and CBOD₅ concentrations for the Sanitary Plant were 650 mg/L and 720 mg/L. These data demonstrate that the Industrial Plant influent is significantly more dilute than the Sanitary Plant influent. As such, the 85 percent removal requirement is not a good metric for evaluating Industrial Plant performance.

If a sanitary sewer spill were to enter the stormwater collection system, the Discharger would take measures to contain the sewage and remove it using a vacuum truck. The Discharger would route residual sewage in the collection system to the Industrial Plant for treatment. These small amounts of sewage would not significantly affect organics and solids loadings because they would be diluted with industrial wastewater by at least a hundred-fold. Because the Industrial Plant chlorinates all treated wastewater, any incidental sanitary sewage will be adequately treated.

In accordance with 40 C.F.R. section 125.3(d), the following factors were considered when developing these technology-based effluent limitations:

Table F-9. Factors Considered Pursuant to 40 C.F.R. section 125.3(d)

Factors	Considerations
Reasonableness of costs relative to benefits derived	The cost of imposing these limitations is reasonable given that the Discharger can comply without modifying its existing processes.

Factors	Considerations
Comparison of cost and level of reduction of such pollutants from discharge from publicly owned treatment works to cost and level of reduction of such pollutants from airport industrial wastewater	The limitations can be met with treatment similar to that used to achieve secondary treatment standards; therefore, the cost of continuing such operations is comparable to the cost of operating a comparable publicly-owned treatment works that treats sanitary wastewater.
Age of equipment and facilities	The limitations can be met with existing equipment and facilities.
Process employed	The limitations can be met with the existing processes.
Engineering aspects of various controls	The existing controls are capable of meeting the limitations.
Process changes	No process changes are necessary to meet the limitations.
Non-water quality environmental impacts	Because no process changes are necessary, no non- water quality impacts are foreseeable.

Although the limitations for process wastewaters from aircraft maintenance do not apply, the limitations in this permit are, in any case, more stringent than those cited in 40 C.F.R. part 438.

- 4.2.2.3. **Combined Effluent (Chlorine).** Basin Plan Table 4-2 contains an instantaneous limitation for total residual chlorine of 0.0 mg/L. This Order replaces the instantaneous limitation with a higher water quality based effluent limitation (see Fact Sheet section 4.3.4.5) because Basin Plan section 4.5.3 allows less stringent effluent limitations when certain conditions are met. It states, “The Water Board will consider establishing less stringent limitations, consistent with state and federal laws, for any discharge where it can be conclusively demonstrated through a comprehensive program approved by the Water Board that such limitations will not result in unacceptable adverse impacts on the beneficial uses of the receiving water.” These conditions are met. The less stringent water quality-based effluent limitations are consistent with state (Resolution 68-16) and federal (40 C.F.R. section 131.12) antidegradation laws in that any decrease in water quality resulting from these limitations are consistent with the maximum benefit of the people of the state, do not unreasonably affect any current or anticipated beneficial uses, and do not result in lower water quality than that prescribed in applicable policies. Additionally, this Order requires the Discharger to implement a control plan to demonstrate that these limitations will not result in unacceptable adverse impacts on beneficial uses.

The removal of the 0.0 mg/L chlorine limitation addresses the over-application of sodium bisulfite that results in extra operational cost and can decrease dissolved oxygen concentrations and depress pH in the effluent and receiving water. Municipal wastewater treatment plants that use chlorine to disinfect must apply a dechlorinating chemical, typically liquid sodium bisulfite, to remove residual chlorine and comply with the residual chlorine

effluent limitation. Because wastewater is a complex mixture and the 0.0 mg/L effluent limitation is an instantaneous maximum (i.e., no amount may be discharged, ever), wastewater treatment plant operators routinely add sodium bisulfite in amounts well beyond what would theoretically neutralize residual chlorine. The excess use of dechlorination chemicals costs dischargers up to \$2 million per year (Bay Area Clean Water Agencies, September 29, 2023). These funds could be better invested in other important water quality projects. Therefore, the less stringent water quality-based effluent limitations are consistent with the maximum benefit of people of the state.

Compliance with the less-stringent effluent limitations will not unreasonably affect current or anticipated beneficial uses because the chlorine water quality criteria implemented in this Order are protective of most aquatic life.¹ To ensure that any migration corridors for threatened and endangered species will not be compromised, the mixing zone established for the less stringent limitations in this Order (see Fact Sheet section 4.3.4.4) is small relative to the sizes of the receiving water body. This revised approach for establishing chlorine effluent limitations thus reflects the updated understanding that overdosing with dechlorination chemicals is no longer the best practicable treatment or control of chlorine because of its adverse impacts to water quality.

Since the imposition of the 0.0 mg/L instantaneous chlorine limitation, there have been significant improvements in chlorine process control. For example, instead of collecting periodic grab samples to evaluate compliance, continuous monitoring devices that evaluate chlorine residual levels at least every five minutes are now commonplace. Additionally, this Order requires the Discharger to implement a Chlorine Process Control Plan to target a chlorine residual of 0.0 mg/L at Discharge Point 002. This will ensure that chlorine will typically not be present in discharge and, if chlorine is detected, the duration of such discharges will be relatively short.

- 4.2.2.4 **Stormwater.** Discharge Points 003 through 013 are subject to the provisions of Attachment S, which constitute narrative technology-based effluent limits. These requirements reflect BAT and BCT as CWA section 301(b) requires.

¹ U.S. EPA's guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses (EPA 822-85-100) indicates that aquatic organisms and their uses should not be affected unacceptably by the 304(a) numeric criteria except possibly where a locally important species is very sensitive.

4.3. Water Quality-Based Effluent Limitations

4.3.1. Scope and Authority. CWA section 301(b) and 40 C.F.R. section 122.44(d) require permits to include limitations more stringent than federal technology-based requirements where necessary to achieve 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, water quality-based effluent limitations (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. The process for determining reasonable potential and calculating WQBELs when necessary is intended to achieve applicable water quality objectives and criteria, and thereby protect designated beneficial uses of receiving waters.

4.3.2. Beneficial Uses and Water Quality Criteria and Objectives. Fact Sheet section 3.3.1 identifies the beneficial uses of Lower San Francisco Bay. Water quality criteria and objectives to protect these beneficial uses are described below.

4.3.2.1. Basin Plan Objectives.

The Basin Plan specifies numerous water quality objectives, including numeric objectives for 10 priority pollutants, un-ionized ammonia, and pH, and narrative objectives.

4.3.2.1.1. Ammonia. Basin Plan section 3.3.20 contains water quality objectives for un-ionized ammonia of 0.025 mg/L (as nitrogen) as an annual median and 0.4 mg/L (as nitrogen) as a maximum for Lower San Francisco Bay. 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 of the receiving water.

To translate the un-ionized ammonia objectives into total ammonia criteria, pH, salinity, and temperature data were obtained from the Regional Monitoring Program (RMP) station nearest the outfall (Oyster Point monitoring station, BB30). The un-ionized fraction of the total ammonia was calculated using the following equation, which applies to waters with salinities greater than 10 parts per thousand (*Ambient Water Quality*

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

$$\text{Fraction of un-ionized ammonia} = (1 + 10^{[pK - pH]})^{-1}$$

Where, for salinity greater than 10 ppt:

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

I = 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)

The 90th percentile and median un-ionized ammonia fractions were then used to express the maximum and annual average un-ionized objectives as acute and chronic total ammonia criteria. This approach is consistent with U.S. EPA guidance on translating dissolved metal water quality objectives to total recoverable metal water quality criteria (*U.S. EPA, 1996, The Metals Translator: Guidance for Calculating a Total Recoverable Limit from a Dissolved Criterion*, EPA Publication 823-B96-007). The equivalent chronic and acute total ammonia criteria are 1.5 mg/L and 14 mg/L (as nitrogen).

4.3.2.1.2. **Bioaccumulation and Dioxin-TEQ.** The narrative bioaccumulation objective (Basin Plan section 3.3.2) states, “Many pollutants can accumulate on particulates, in sediments, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.” Because it is the consensus of the scientific community that dioxins and furans associate with particulates, accumulate in sediments, and bioaccumulate in the fatty tissue of fish and other organisms, the Basin Plan’s narrative bioaccumulation water quality objective applies to these pollutants. Elevated levels of dioxins and furans in San Francisco Bay fish tissue demonstrate that the narrative bioaccumulation water quality objective is not being met. U.S. EPA has therefore placed Lower San Francisco Bay on its 303(d) list of receiving waters where water quality objectives are not being met after imposition of applicable technology-based requirements.

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

scheme” (Fed. Reg. Vol. 65, No. 97, pages 31695-31696, May 18, 2000). This Order uses a TEQ scheme based on a set of toxicity equivalency factors (TEFs) the World Health Organization developed in 2005, and a set of bioaccumulation equivalency factors (BEFs) U.S. EPA developed for the Great Lakes region (40 C.F.R. § 132, Appendix F) to convert the concentration of any congener of dioxin or furan into an equivalent concentration of 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (2,3,7,8-TCDD). Although the 2005 World Health Organization scheme includes TEFs for dioxin-like PCBs, they are not included in this Order’s TEQ scheme. The CTR has established a specific water quality criterion for PCBs, and dioxin-like PCBs are included in the analysis of total PCBs.

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

- 4.3.2.1.3 **Toxicity and Total Residual Chlorine.** The narrative toxicity objective in Basin Plan section 3.3.18 states, “All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produces other detrimental responses in aquatic organisms. ... There shall be no acute toxicity in ambient waters.” For this Order, U.S. EPA criteria guidance under CWA section 304(a), specifically U.S. EPA’s Ambient Water Quality Criteria for Chlorine – 1984 (EPA 440/5-84-030), is used to translate this narrative objective. These criteria are shown below:

Table F-10. Ambient Water Quality Criteria for Chlorine

Receiving Water Type	4-Day Average (mg/L)	1-Hour Average (mg/L)
Marine or Estuarine	0.0075	0.013
Fresh Water	0.011	0.019

- 4.3.2.2. **CTR Criteria.** The CTR specifies numeric aquatic life and human health criteria for numerous priority pollutants. These criteria apply to inland surface waters and enclosed bays and estuaries. Some human health criteria are for consumption of “water and organisms” and others are for consumption of “organisms only.” The criteria applicable to “organisms only” apply to Lower San Francisco Bay because it is not a source of drinking water.
- 4.3.2.3. **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 Lower San Francisco Bay.

4.3.2.4. **Bacteria 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 *Enterococcus* bacteria water quality objectives to limit cases of gastrointestinal illness from water contact recreation. The *Enterococcus* bacteria objectives apply to marine and estuarine waters.

4.3.2.5. **Toxicity Provisions.** The Toxicity Provisions establish numeric chronic and acute toxicity objectives that apply to all inland surface waters, enclosed bays, and estuaries in the State with aquatic life beneficial uses. The chronic toxicity water quality objective is as follows:

H₀:

mean response (ambient water) \leq 0.75 x mean response (control water)

H_a:

mean response (ambient water) $>$ 0.75 x mean response (control water)

Where:

H₀ = null hypothesis

H_a = alternative hypothesis,

0.75 = regulatory management decision criterion (i.e., 75 percent)

H₀ means the ambient water is toxic when the test organism response in a bioassay is less than or equal to 75 percent of the control response; H_a means the ambient water is not toxic when the test organism response is greater than 75 percent of the control response. For example, if an average of 75 percent of bioassay test organisms or fewer survive when exposed to ambient water relative to the average number that survive when exposed to control water, the ambient water is toxic (i.e., the test result is “fail”). Conversely, if an average of more than 75 percent of bioassay test organisms survive relative to those exposed to control water, the ambient water is not toxic (i.e., the test result is “pass”).

4.3.2.6. **Sediment Quality Objectives.** The *Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1, Sediment Quality* contains the following narrative water quality objectives:

4.3.2.6.1. “Pollutants in sediments shall not be present in quantities that, alone or in combination, are toxic to benthic communities in bays and estuaries of California.” This objective is to be implemented by integrating three lines of evidence: sediment toxicity, benthic community condition, and sediment chemistry. The policy requires that if the Regional Water Board determines that a discharge has reasonable potential to cause or contribute to an exceedance of this objective, it is to impose the objective as a receiving water limit.

- 4.3.2.6.2. “Pollutants shall not be present in sediments at levels that will bioaccumulate in aquatic life to levels that are harmful to human health in bays and estuaries of California.” This objective is to be implemented by a three-tiered procedure based on pollutant concentrations in sediment and fish tissue.
- 4.3.2.6.3. “Pollutants shall not be present in sediment at levels that alone or in combination are toxic to wildlife and resident finfish by direct exposure or bioaccumulate in aquatic life at levels that are harmful to wildlife or resident finfish by indirect exposure in bays and estuaries of California.” This objective is to be implemented on a case-by-case basis, based upon an ecological risk assessment.
- 4.3.2.7. **Receiving Water Salinity.** Basin Plan section 4.6.2 (like the CTR and NTR) states that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water are to be considered in determining the applicable water quality objectives. Freshwater criteria apply to discharges to waters with salinities equal to or less than one part per thousand (ppt) at least 95 percent of the time. Saltwater criteria apply to discharges to waters with salinities equal to or greater than 10 ppt at least 95 percent of the time in a normal water year. For discharges to waters with salinities between these two categories, or tidally- influenced freshwaters that support estuarine beneficial uses, the water quality objectives are the lower of the salt or freshwater objectives (the latter calculated based on ambient hardness) for each substance.

The receiving water for the Facility’s discharge to Lower San Francisco Bay is a saltwater environment based on salinity data collected through the RMP at the Oyster Point monitoring station (BB30) between 1993 and 2001. During that period, the receiving water’s salinity was greater than 10 ppt in over 95 percent of the samples. Therefore, the reasonable potential analysis and effluent limitations in this Order are based on saltwater water quality objectives.

- 4.3.2.8. **Metals Translators.** Regulations at 40 C.F.R. section 122.45(c) require effluent limitations for metals to be expressed as total recoverable metal. Since the water quality objectives for metals are typically expressed as dissolved metal, translators must be used to convert metals concentrations from dissolved to total recoverable and vice versa. The CTR contains default translators; however, site-specific conditions, such as water temperature, pH, total suspended solids, and organic carbon may affect the form of metal (dissolved, non-filterable, or otherwise) present and therefore available to cause toxicity. In general, dissolved metals are more available and more toxic to aquatic life than other forms. Site-specific translators can account for site-specific conditions, thereby preventing overly stringent or under-protective water quality objectives.

For the discharge to Lower San Francisco Bay, CTR default translators were used for all metals other than copper, and nickel. Basin Plan Table 7.2.1-2 sets forth site-specific copper translators. The Clean Estuary Partnership’s *North of the Dumbarton Bridge Copper and Nickel Development and Selection of Final Translators* (March 2005) contains site-specific nickel translators. These site-specific translators are listed in the table below:

Table F-11. Site-Specific Translators

Parameter	Chronic Translator	Acute Translator
Copper	0.73	0.87
Nickel	0.65	0.85

4.3.3. Reasonable Potential Analysis – Discharge Point 002

4.3.3.1. **Available Information.** The reasonable potential analysis for Discharge Point 002 is based on effluent monitoring data the Discharger collected from December 2018 through December 2023 and ambient background data summarized in *San Francisco Bay California Toxics Rule Priority Pollutant Ambient Water Monitoring Report* (2017), which includes data collected through the RMP at the Yerba Buena monitoring station (BC10) from 1993 through 2017, supplemented by additional Bay Area Clean Water Agencies data from *San Francisco Bay Ambient Water Monitoring Interim Report* (2003) and *Ambient Water Monitoring: Final CTR Sampling Update* (2004).

SIP section 1.4.3 requires that background water quality data be representative of the ambient receiving water that will mix with the discharge. For priority pollutants, the Yerba Buena RMP monitoring station (BC10), relative to other RMP stations, best fits SIP guidance for establishing background conditions at Discharge Point 002. For ammonia, the nearby Oyster Point RMP monitoring station (BB30), relative to other RMP locations, best fits SIP guidance for establishing background conditions because the ammonia WQBELs are based on actual dilution at the edge of the initial mixing zone and data from monitoring station BB30 best represents water quality at the edge of the initial mixing zone.

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 6.3.2 of this Order requires the Discharger to investigate the causes of the increases and implement remedial measures if the increases pose a threat to receiving water quality.

4.3.3.2. **Priority Pollutants, Ammonia, and Dioxin-TEQ.** SIP section 1.3 sets forth the methodology used to assess whether a priority pollutant has reasonable potential to exceed a water quality objective. SIP section 1.3 applies to priority pollutants and is used here for ammonia and dioxin-TEQ as guidance. The analysis begins with identifying the maximum effluent

concentration (MEC) observed for each pollutant based on available effluent concentration data and the ambient background concentrations (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:

- **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).
- **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.
- **Trigger 3** is activated if a review of other information indicates that a WQBEL is needed to protect beneficial uses.

The maximum effluent concentrations, most stringent applicable water quality criteria and objectives, and ambient background concentrations used in the analysis are presented below, along with the reasonable potential analysis results (yes, no, or unknown) for each pollutant. Based on this analysis, the priority pollutants that demonstrate reasonable potential are copper, cyanide, ammonia, and dioxin-TEQ.

Table F-12. Reasonable Potential Analysis

CTR No.	Pollutant	C or Governing Criterion or Objective (µg/L)	MEC or Minimum DL (µg/L) ^{[1] [2]}	B or Minimum DL (µg/L) ^{[1] [2]}	RPA Result ^[3]
1	Antimony	4,300	0.75	1.8	No
2	Arsenic	36	0.83 DNQ	2.5	No
3	Beryllium	No Criteria	<0.0054	0.22	U
4	Cadmium	9.4	0.41 DNQ	0.13	No
5a	Chromium (III) ^[4]	No Criteria	0.74	4.4	U
5b	Chromium (VI) ^[4]	50	0.74 DNQ	4.4	No
6	Copper	8.2	9.3	2.5	Yes ^[5]
7	Lead	8.5	0.90 DNQ	0.80	No
8	Mercury ^[6]	-	-	-	-
9	Nickel	13	3.8	3.7	No
10	Selenium	5.0	0.24 DNQ	0.39	No
11	Silver	2.2	0.023 DNQ	0.052	No
12	Thallium	6.3	<0.040	0.023	No
13	Zinc	86	21	5.1	No

CTR No.	Pollutant	C or Governing Criterion or Objective (µg/L)	MEC or Minimum DL (µg/L) ^{[1] [2]}	B or Minimum DL (µg/L) ^{[1] [2]}	RPA Result ^[3]
14	Cyanide	2.9	15	0.52	Yes ^[5]
15	Asbestos (fibers/L) ^[7]	-	-	-	-
16	2,3,7,8-TCDD	1.4E-08	<9.3E-07	2.7E-08	No
	Dioxin-TEQ	1.4E-08	2.7E-06 DNQ	4.1E-08	Yes ^[8]
17	Acrolein	780	<0.17	<0.50	No
18	Acrylonitrile	0.66	<0.21	0.030	No
19	Benzene	71	<0.068	<0.050	No
20	Bromoform	360	38	<0.15	No
21	Carbon Tetrachloride	4.4	<0.057	0.060	No
22	Chlorobenzene	21,000	<0.053	<0.18	No
23	Chlorodibromomethane	34	15.9	<0.050	No
24	Chloroethane	No Criteria	<0.087	<0.38	U
25	2-Chloroethylvinyl ether	No Criteria	<0.083	<0.28	U
26	Chloroform	No Criteria	2.9	<0.19	U
27	Dichlorobromomethane	46	5.4	<0.050	No
28	1,1-Dichloroethane	No Criteria	<0.065	<0.050	U
29	1,2-Dichloroethane	99	<0.01	0.040	No
30	1,1-Dichloroethylene	3.2	<0.068	<0.21	No
31	1,2-Dichloropropane	39	<0.062	<0.050	No
32	1,3-Dichloropropylene	1,700	<0.062	<0.16	No
33	Ethylbenzene	29,000	<0.028	<0.26	No
34	Methyl Bromide	4,000	<0.111	<0.30	No
35	Methyl Chloride	No Criteria	<0.065	<0.30	U
36	Methylene Chloride	1,600	0.054	22	No
37	1,1,2,2-Tetrachloroethane	11	<0.099	<0.050	No
38	Tetrachloroethylene	8.9	<0.071	<0.050	No
39	Toluene	200,000	<0.058	<0.19	No
40	1,2-Trans-Dichloroethylene	140,000	<0.056	<0.22	No
41	1,1,1-Trichloroethane	No Criteria	<0.064	<0.19	U
42	1,1,2-Trichloroethane	42	<0.051	<0.050	No
43	Trichloroethylene	81	<0.065	<0.20	No
44	Vinyl Chloride	530	<0.16	<0.25	No
45	2-Chlorophenol	400	<0.47	<0.70	No
46	2,4-Dichlorophenol	790	<0.54	<0.90	No
47	2,4-Dimethylphenol	2,300	<0.81	<0.80	No
48	2-Methyl- 4,6-Dinitrophenol	770	<1.0	<0.60	No
49	2,4-Dinitrophenol	14,000	<1.1	<0.70	No
50	2-Nitrophenol	No Criteria	<0.23	<0.80	U
51	4-Nitrophenol	No Criteria	<0.019	<0.50	U
52	3-Methyl 4-Chlorophenol	No Criteria	<0.56	<0.80	U

CTR No.	Pollutant	C or Governing Criterion or Objective (µg/L)	MEC or Minimum DL (µg/L) ^{[1] [2]}	B or Minimum DL (µg/L) ^{[1] [2]}	RPA Result ^[3]
53	Pentachlorophenol	7.9	<0.23	<0.60	No
54	Phenol	4,600,000	<0.32	<0.50	No
55	2,4,6-Trichlorophenol	6.5	<0.6	<0.97	No
56	Acenaphthene	2,700	<0.37	0.0020	No
57	Acenaphthylene	No Criteria	<0.0047	0.0010	U
58	Anthracene	110,000	<0.13	0.0010	No
59	Benzidine	0.00054	<1.5	<0.00030	U
60	Benzo(a)Anthracene	0.049	<0.26	0.0050	No
61	Benzo(a)Pyrene	0.049	<0.087	0.0020	No
62	Benzo(b)Fluoranthene	0.049	<0.11	0.0050	No
63	Benzo(ghi)Perylene	No Criteria	<0.0054	0.0030	U
64	Benzo(k)Fluoranthene	0.049	<0.039	0.0020	No
65	Bis(2-Chloroethoxy)Methane	No Criteria	<0.35	<0.30	U
66	Bis(2-Chloroethyl)Ether	1.4	<0.42	<0.30	No
67	Bis(2-Chloroisopropyl)Ether	170,000	<0.47	<0.60	No
68	Bis(2-Ethylhexyl)Phthalate	5.9	0.63 DNQ	<0.50	No
69	4-Bromophenyl Phenyl Ether	No Criteria	<0.40	<0.23	U
70	Butylbenzyl Phthalate	5,200	<0.26	<0.50	No
71	2-Chloronaphthalene	4,300	<0.32	<0.30	No
72	4-Chlorophenyl Phenyl Ether	No Criteria	<0.28	<0.30	U
73	Chrysene	0.049	<0.067	0.0020	No
74	Dibenzo(a,h)Anthracene	0.049	<0.0057	0.0010	No
75	1,2-Dichlorobenzene	17,000	0.134 DNQ	<0.27	No
76	1,3-Dichlorobenzene	2,600	0.11 DNQ	<0.18	No
77	1,4-Dichlorobenzene	2,600	0.23 DNQ	<0.18	No
78	3,3 Dichlorobenzidine	0.077	<0.0192	<0.00020	No
79	Diethyl Phthalate	120,000	<0.21	<0.20	No
80	Dimethyl Phthalate	2,900,000	<0.067	<0.20	No
81	Di-n-Butyl Phthalate	12,000	0.16 DNQ	<0.50	No
82	2,4-Dinitrotoluene	9.1	<0.15	<0.27	No
83	2,6-Dinitrotoluene	No Criteria	<0.067	<0.29	U
84	Di-n-Octyl Phthalate	No Criteria	<0.13	<0.38	U
85	1,2-Diphenylhydrazine	0.54	<0.32	0.0040	No
86	Fluoranthene	370	<0.0094	0.011	No
87	Fluorene	14,000	<0.0057	0.0020	No
88	Hexachlorobenzene	0.00077	<0.23	0.000020	No
89	Hexachlorobutadiene	50	<0.21	<0.30	No
90	Hexachlorocyclopentadiene	17,000	<0.087	<0.30	No
91	Hexachloroethane	8.9	<0.32	<0.20	No
92	Indeno(1,2,3-cd)Pyrene	0.049	<0.0099	0.0040	No
93	Isophorone	600	<0.30	<0.30	No

CTR No.	Pollutant	C or Governing Criterion or Objective (µg/L)	MEC or Minimum DL (µg/L) ^{[1] [2]}	B or Minimum DL (µg/L) ^{[1] [2]}	RPA Result ^[3]
94	Naphthalene	No Criteria	<0.018	0.0090	U
95	Nitrobenzene	1,900	<0.49	<0.25	No
96	N-Nitrosodimethylamine	8.1	<0.28	<0.30	No
97	N-Nitrosodi-n-Propylamine	1.4	<0.35	<0.00020	No
98	N-Nitrosodiphenylamine	16	<0.30	<0.0010	No
99	Phenanthrene	No Criteria	<0.0040	0.0060	U
100	Pyrene	11,000	<0.019	0.019	No
101	1,2,4-Trichlorobenzene	No Criteria	<0.404	<0.30	U
102	Aldrin	0.00014	<0.00047	<0.000085	No
103	Alpha-BHC	0.013	<0.00036	0.00050	No
104	Beta-BHC	0.046	<0.00076	0.00040	No
105	Gamma-BHC	0.063	<0.00071	0.0010	No
106	Delta-BHC	No Criteria	<0.0014	0.00010	U
107	Chlordane	0.00059	<0.0062	0.00014	No
108	4,4'-DDT	0.00059	<0.0024	0.00020	No
109	4,4'-DDE	0.00059	<0.00062	0.0010	No
110	4,4'-DDD	0.00084	<0.0059	0.00030	No
111	Dieldrin	0.00014	<0.0015	0.00030	No
112	Alpha-Endosulfan	0.0087	<0.0018	0.00010	No
113	beta-Endosulfan	0.0087	<0.0018	0.00010	No
114	Endosulfan Sulfate	240	<0.0017	0.00010	No
115	Endrin	0.0023	<0.0010	0.000040	No
116	Endrin Aldehyde	0.81	<0.0024	<0.0050	U
117	Heptachlor	0.00021	<0.00055	0.000020	No
118	Heptachlor Epoxide	0.00011	<0.00048	0.00010	No
119-125	PCBs sum ^[6]	-	-	-	-
126	Toxaphene	0.0002	<0.15	<8.2E-07	U
	Total Ammonia (mg/L)	0.94 mg/L	67 mg/L	0.22 mg/L	Yes

Footnotes:

- [1] The MEC and ambient background concentration are the actual detected concentrations unless preceded by a "<" sign, in which case the value shown is the minimum detection level (MDL).
- [2] The MEC 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 and ambient background concentrations are the total chromium concentration. The chromium (III) and chromium (IV) concentrations are less than these values but unknown.
- [5] Reasonable potential is based in part on Basin Plan sections 7.2.1.2 and 4.7.2.2.
- [6] SIP section 1.3 excludes from its reasonable potential analysis procedure priority pollutants for which a TMDL has been developed. TMDLs have been developed for mercury and PCBs in San Francisco Bay. Mercury and PCBs from wastewater discharges are regulated by NPDES Permit CA0038849, which implements the San Francisco Bay Mercury and PCBs TMDLs.

^[7] Asbestos sampling is only required for discharges to waters with the municipal or domestic supply (MUN) beneficial use.

^[8] Reasonable potential is also based on Trigger 3 because San Francisco Bay is 303(d)-listed for dioxin-TEQ and elevated levels of dioxin-TEQ are found in San Francisco Bay fish tissue.

4.3.3.3. **Acute Toxicity.** The Toxicity Provisions do not require acute toxicity monitoring and limitations. During the previous order term, the Discharger monitored its effluent monthly for acute toxicity at 100 percent effluent and did not detect toxicity violating its acute toxicity permit limits. Therefore, there is no reasonable potential for the discharge to cause or contribute to acute toxicity in the receiving water

4.3.3.4. **Chronic Toxicity.** Toxicity Provisions section III.C.3.a requires a chronic toxicity reasonable potential analysis for publicly owned treatment works permitted to discharge less than 5.0 MGD. The Discharger's facility is a publicly owned treatment works and is permitted to discharge less than 5.0 MGD. Therefore, the Toxicity Provisions require a reasonable potential analysis.

Toxicity Provisions section III.C.3.c states that reasonable potential exists if any of at least four chronic toxicity tests at the IWC within five years prior to permit reissuance (1) results in a "fail" or (2) has at least a 10 percent effect. If data from these tests were not analyzed using the TST, the data must be re-analyzed using the TST. If previous tests were not conducted at the IWC, then a concentration of effluent higher than the IWC may be used. Data from older tests may also be considered. If a minimum of four chronic toxicity tests is unavailable, the Regional Water Board must require the Discharger to conduct a minimum of four chronic toxicity tests at the IWC and analyze the data using the TST.

The Discharger's latest species sensitivity screening dated March 20, 2012, identified the purple urchin (*Strongylocentrotus purpuratus*) and sand dollar (*Dendraster excentricus*) as the most sensitive. The Discharger conducted ten chronic toxicity tests during the previous order term using the purple urchin and sand dollar, and analyzed the data using the TST. Each of the ten tests resulted in a "pass" and a percent effect of less than 10 percent at the IWC. Therefore, there is no reasonable potential, and this Order does not include WQBELs for chronic toxicity. MRP section 5.1.3.2 includes effluent targets consistent with Toxicity Provisions section III.C.4.c.

4.3.3.5. **Enterococcus 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 *Enterococcus* bacteria effluent limitations for discharges to marine and estuarine receiving waters that support the water contact recreation (REC1) beneficial use.

4.3.3.6 **Sediment Quality.** Pollutants in some receiving water sediments may be present in quantities that alone or in combination are toxic to benthic communities. The Sediment Quality Plan states that effluent limits to protect sediment quality are to be developed when: (1) a direct relationship between the discharge and degraded sediment has been established; (2) the pollutants causing degradation have been identified; and (3) the reductions in pollutant loading needed to restore sediment quality have been estimated.

However, to date there is no evidence directly linking compromised sediment conditions to the discharges subject to this Order; therefore, the Regional Water Board does not find reasonable potential for this discharge to cause or contribute to exceedances of the sediment quality objectives. Nevertheless, the Discharger continues to participate in the Regional Monitoring Program, which routinely monitors San Francisco Bay sediment and seeks to identify stressors responsible for degraded sediment quality.

4.3.3.7. **Total Residual Chlorine.** There is reasonable potential to cause or contribute to an exceedance of the Basin Plan's narrative toxicity objective because the Facility disinfects its effluent with chlorine and, without sufficient dechlorination, the discharge could contain chlorine in concentrations that are acutely toxic to aquatic organisms.

4.3.4 **Reasonable Potential Analysis – Discharge Points 003 through 010 and 013.** Discharge Points 003 through 013 discharge stormwater from areas throughout the airport and are subject to the technology-based requirements discussed in Fact Sheet section 4.2.2.4. These requirements, including development and implementation of a Stormwater Pollution Prevention Plan, ensure that stormwater discharges will not contain pollutants that cause or contribute to exceedances of narrative or numeric water quality objectives.

4.3.5. **Water Quality-Based Effluent Limitation (WQBEL) Development.** 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 those for *Enterococcus* bacteria, chronic toxicity, and chlorine (discussed below), the WQBEL calculations are based on the procedures in SIP section 1.4.

4.3.5.1. **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.

4.3.5.2. **Mixing Zones and Dilution Credits.** SIP section 1.4.2, Basin Plan section 4.5.1, and Toxicity Provisions section III.C.1 allow mixing zones and dilution credits under certain circumstances. The Discharger submitted a study titled

Near-field Mixing Zone and Dilution Analysis for the North Bayside System Unit Outfall Diffuser to Lower San Francisco Bay (May 18, 2018) that estimates the minimum initial dilution at Discharge Point 002 under several scenarios using the U.S. EPA-supported CORMIX model. For the chronic condition, modelling was based on the average dry-weather effluent flow with the median ambient velocity during low Delta outflows (applicable to the ammonia chronic criteria). For the acute condition, modelling was based on the maximum design effluent flow with the average ambient velocity 30 minutes before and after slack tide during low Delta outflows (acute conditions). The study found that the plume is positively buoyant and rapidly mixes through the water column. This vertical mixing occurs before the momentum of the discharge is fully dissipated. As the plume continues to spread and the remaining momentum of the discharge dissipates, dilution continues to occur but at a much slower rate.

The Discharger also submitted an updated dilution study for chronic toxicity in March 2023, *Near-field Mixing Modeling 2023 Update for Chronic Toxicity Discharge Condition*. The study evaluated a scenario based on the maximum 4-day average effluent flow rate of 42.3 MGD from the NBSU outfall between January 1, 2018, and December 31, 2022. To confirm that the mixing zone would not be lethal to aquatic organisms, the study estimated a travel time of about 13 minutes for an organism adrift within the zone of initial dilution. U.S. EPA’s *Technical Support Document for Water Quality-based Toxics Control* (March 1991, EPA/505/2-90-001) recommends a maximum travel time of 15 minutes for an organism passing through the acute mixing zone.

The following table summarizes the modelling results from both studies for dilution at the edge of the plume at the point where the dilution rate slows significantly.

Table F-13. Minimum Initial Dilution

Flow Condition ^[1]	Updated Dilution
Maximum Capacity (64.9 MGD)	37:1
Peak Four-Day Average Flow (42.3 MGD)	79:1
Permitted Average Dry-Weather Flow (24.9 MGD)	125:1

Footnote:

^[1] The Discharger’s flows are combined with those of the City of Burlingame Wastewater Treatment Facility, City of Millbrae Water Pollution Control Plant, and South San Francisco and San Bruno Water Quality Control Plant because the deepwater outfall is shared.

4.3.5.2.1. **Bioaccumulative Pollutants.** For certain bioaccumulative pollutants, no mixing zone is established, and dilution credit is denied. Specifically, these pollutants include dioxin and furan compounds, which appear on the CWA section 303(d) list for Lower San Francisco Bay because, based on available data on the concentrations of these pollutants in aquatic organisms, sediment, and the water column, they impair beneficial uses.

The following factors suggest insufficient assimilative capacity in San Francisco Bay for these pollutants.

Tissue samples taken from San Francisco Bay fish show the presence of these pollutants at concentrations greater than screening levels (*Contaminant Concentrations in Fish from San Francisco Bay*, May 1997). The results of a 1994 San Francisco Bay pilot study, presented in *Contaminated Levels in Fish Tissue from San Francisco Bay* (Regional Water Board, 1994) also show elevated levels of chemical contaminants in fish tissues. The Office of Environmental Health and Hazard Assessment completed a preliminary review of the data in the 1994 report and in December 1994 issued an interim consumption advisory covering certain fish species in San Francisco Bay due to the levels of some of these pollutants. The Office of Environmental Health and Hazard Assessment updated this advisory in a May 2011 report, *Health Advisory and Safe Eating Guidelines for San Francisco Bay Fish and Shellfish*, which still suggests insufficient assimilative capacity in San Francisco Bay for 303(d)-listed pollutants. Therefore, dilution credits are denied for bioaccumulative pollutants on the 303(d) list for which data are lacking on sources and significant uncertainty exists about how different sources contribute to bioaccumulation.

4.3.5.2.2. **Non-Bioaccumulative Pollutants (except ammonia, chlorine, and chronic toxicity).** For copper, cyanide, and *Enterococcus*, this Order establishes mixing zones corresponding to a conservative dilution credit of 10:1 ($D = 9$). The 10:1 dilution credit is based, in part, on Basin Plan Prohibition 1 (Table 4-1), which prohibits discharges with less than 10:1 dilution. SIP section 1.4.2 allows for limiting the dilution credit. The dilution credit is limited for the following reasons:

4.3.5.2.2.1. San Francisco Bay is a complex estuarine system with highly variable and seasonal upstream freshwater inflows and diurnal tidal saltwater inputs. SIP section 1.4.3 allows background conditions to be determined on a discharge-by-discharge or water-body-by-water-body basis. A water-body-by-water-body approach is taken here due to inherent uncertainties in characterizing ambient background conditions in a complex estuarine system on a discharge-by-discharge basis.

4.3.5.2.2.2. Because of the complex hydrology of San Francisco Bay, there are uncertainties in accurately determining an appropriate mixing zone. The models used to predict dilution do not consider the three-dimensional nature of San Francisco Bay currents resulting from the interaction of tidal flushes and seasonal freshwater outflows. Being heavier and colder than freshwater, ocean saltwater enters San Francisco Bay on a twice-daily tidal cycle, generally beneath the warmer fresh water that flows seaward. When these waters mix and interact, complex circulation patterns occur due to the varying densities of the fresh and

ocean waters. The locations of this mixing and interaction change depending on the strength of each tide. Additionally, sediment loads from the Central Valley change on a long-term basis, affecting the depth of different parts of San Francisco Bay, resulting in alteration of flow patterns, mixing, and dilution at the outfall.

- 4.3.5.2.3. **Ammonia.** For ammonia, conservative estimate of actual initial dilution was used to calculate the effluent limitations. This is justified because ammonia, a non-persistent pollutant, quickly disperses and degrades to a non-toxic state, and cumulative toxicity is unlikely. This Order uses the 125:1 dilution ratio ($D = 124$) to calculate WQBELs based on the chronic water quality objective because that objective is an annual median; the dilution ratio associated with the permitted average dry weather flow best represents long-term (chronic) conditions. This Order uses the 37:1 dilution ratio ($D = 36$) to calculate WQBELs based on the acute water quality objective because that objective is a maximum; the dilution associated with the peak wet weather flow, or effluent forcemain capacity, conservatively represents short-term (acute) condition.
- 4.3.5.2.4. **Chronic Toxicity.** For chronic toxicity, a mixing zone corresponding to a conservative estimate of actual initial dilution of 79:1 ($D = 78$) was used. This represents a maximum 4-day average flow (42.3 MGD) from the previous order term to represent chronic discharge conditions. This corresponds to an instream waste concentration (IWC) of 1.3 percent.
- 4.3.5.2.5. **Chlorine.** For chlorine, a mixing zone corresponding to a conservative estimate of actual initial dilution of 37:1 ($D=36$) was used to represent acute conditions. This is justified because chlorine is a non-persistent pollutant that quickly disperses and degrades to a non-toxic state. As such, cumulative toxicity associated with chlorine from other unrelated discharges is unlikely.
- 4.3.5.3. **WQBEL Calculations.** The following table shows the WQBEL calculations for copper, cyanide, ammonia, and dioxin-TEQ in accordance with SIP section 1.4.

Table F-14. WQBEL Calculations

Pollutant	Copper	Cyanide	Dioxin-TEQ	Total Ammonia (Chronic)	Total Ammonia (Acute)
Units	µg/L	µg/L	µg/L	mg/L as N	mg/L as N
Basis and Criteria type	Basin Plan Site Specific Objective	Basin Plan Site Specific Objective	Basin Plan Narrative Objective	Basin Plan Aquatic Life Objective	Basin Plan Aquatic Life Objective
Criteria - Acute	3.9	-	-	14	-
Criteria - Chronic	2.5	-	-	-	1.5

Pollutant	Copper	Cyanide	Dioxin-TEQ	Total Ammonia (Chronic)	Total Ammonia (Acute)
Units	µg/L	µg/L	µg/L	mg/L as N	mg/L as N
Site-Specific Objective Criteria - Acute	9.4	9.4	-	-	-
Site-Specific Objective Criteria - Chronic	6.0	2.9	-	-	-
Water Effects Ratio (WER)	2.4	1	1	1	1
Lowest Water Quality Objective (WQO)	6.0	2.9	1.4E-08	14	1.5
Site-Specific Translator - MDEL	0.87	-	-	-	-
Site-Specific Translator - AMEL	0.73	-	-	-	-
Dilution Factor (D)	9	9	0	36	124
No. of samples per month	4	4	4	4	30
Aquatic life criteria analysis required? (Y/N)	Y	Y	N	Y	Y
HH criteria analysis required? (Y/N)	N	Y	Y	N	N
Applicable Acute WQO	11	9.4	-	14	-
Applicable Chronic WQO	8.2	2.9	-	-	1.5
HH Criteria	-	220,000	1.4E-08	-	-
Background (Maximum Conc. for Aquatic Life Calc.)	2.5	0.52	4.1E-08	0.21	0.10
Background (Average Conc. for Human Health Calc.)	-	0.43	1.6E-08	-	-
Is the pollutant on the 303d list and/or bioaccumulative? (Y/N)	N	N	Y	N	N
ECA Acute	85	89	-	510	-
ECA Chronic	59	24	-	-	180
ECA HH	-	2,200,000	1.4E-08	-	-
No. of data points <10 or at least 80% of data reported non-detect? (Y/N)	N	N	Y	N	N
Avg. of Effluent Data Points	3.5	2.4	-	16	16
Std. Dev. of Effluent Data Points	1.8	2.3	-	16.4	16.4
CV Calculated	0.53	0.96	N/A	1.03	1.03
CV (Selected) - Final	0.53	0.96	0.60	1.03	1.03
ECA Acute Mult99	0.36	0.21	-	0.20	-
ECA Chronic Mult99	0.56	0.38	-	-	0.88
LTA Acute	30	19	-	101	-

Pollutant	Copper	Cyanide	Dioxin-TEQ	Total Ammonia (Chronic)	Total Ammonia (Acute)
Units	µg/L	µg/L	µg/L	mg/L as N	mg/L as N
LTA Chronic	33	9.4	-	-	158
Minimum of LTAs	30	9.4	-	101	158
AMEL Mult95	1.5	1.9	1.6	2.0	1.3
MDEL Mult99	2.8	4.7	3.1	5.0	5.0
AMEL (Aquatic Life)	45	18	-	200	211
MDEL (Aquatic Life)	85	44	-	510	797
MDEL/AMEL Multiplier	1.9	2.5	2.0	2.6	3.8
AMEL (Human Health)	-	2,200,000	1.4E-08	-	-
MDEL (Human Health)	-	5,500,000	2.8E-08	-	-
Minimum of AMEL for Aq. Life vs. HH	45	18	1.4E-08	200	211
Minimum of MDEL for Aq. Life vs. HH	85	44	2.8E-08	510	797
Previous Order Limit - AMEL	42	18	1.4E-08	120	120
Previous Order Limit - MDEL	84	44	2.8E-08	310	310
Final Limit - AMEL	42	18	1.4E-08	120	120
Final Limit - MDEL	84	44	2.8E-08	310	310

4.3.5.4. **Total Residual Chlorine.** Where reasonable potential has been established for a pollutant, but there is no numeric objective, water quality-based effluent limitations must be established using (1) U.S. EPA criteria guidance under Clean Water Act (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. The limitations for total residual chlorine in this Order are based on a translation of the narrative toxicity objective using the one-hour average criterion from U.S. EPA's *Ambient Water Quality Criteria for Chlorine – 1984* (EPA 440/5-84-030). For marine and estuarine waters, the criterion is 0.013 mg/L. Chlorine dissipates quickly upon entering receiving waters; thus, it is unlikely that discharges that meet one-hour effluent limitations will have chlorine concentrations that persist in receiving waters long enough to cause the four-day water quality criterion to be exceeded.

This order establishes a mixing zone corresponding to an initial dilution of 37:1, consistent with the Discharger's modeled dilution for acute conditions described in Fact Sheet section 4.3.4.2, above. This is because chlorine is a

non-persistent pollutant that quickly disperses and degrades to a non-toxic state.

This order uses a simplified equation from SIP section 1.4 because background concentrations for total residual chlorine are assumed to be zero:

$$ECA = (D + 1) * C$$

Where:

ECA = Effluent Concentration Allowance (effluent limitation)

C = Water quality criteria (0.013 mg/L)

D = Dilution factor (D = 36)

This calculation results in a one-hour average effluent limitation of 0.48 mg/L

- 4.3.5.5. **Enterococcus Bacteria.** This Order includes *Enterococcus* effluent limitations 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 Standard Variance Policy*. This Order establishes a mixing zone associated with an initial dilution of 10:1 (D=9) to calculate the *Enterococcus* effluent limitation. To establish background conditions, the Discharger collected two *Enterococcus* receiving water samples near the outfall. The maximum sample result was 1 CFU/100 mL. The *Enterococcus* effluent limitation was calculated as specified in SIP section 1.4 using the following equation.

$$ECA = C + D (C - B)$$

Where:

ECA = Effluent Concentration Allowance (effluent limitation)

C = water quality objective (30 CFU/100 mL, 110 CFU/100 mL)

D = dilution factor (D = 9)

B = background concentration (1 CFU/100 mL)

This calculation results in a six-week rolling geometric mean *Enterococcus* effluent limitation of 290 MPN/100 mL and a limitation of no more than 10 percent of *Enterococcus* samples in a calendar month exceeding 1,100 CFU/100 mL.

4.4. Discharge Requirement Considerations

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

this Order are at least as stringent as those in the previous order as amended by Order R2-2023-0023 or otherwise fall under an anti-backsliding exception.

This Order contains new *Enterococcus* bacteria effluent limits 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*. The new effluent limitations, based on a six-week rolling geometric mean concentration and monthly statistical threshold value, are not comparable to those in the previous permit, which were based on a monthly geometric mean. The anti-backsliding rule does not apply to a limitation that is not comparable to the prior limits (State Water Board Order WQ 2001-06). Assuming the limits are comparable and the new limits are less stringent, CWA section 402(o)(1) allows for WQBELs to be relaxed if it is consistent with the provisions of CWA section 303(d)(4) and does not result in a violation of water quality standards. CWA section 303(d)(4)(B) applies to this discharge because Lower San Francisco Bay attains the water quality level needed for water contact recreation, making it an attainment water. Under CWA section 303(d)(4)(B), a limitation based on a water quality standard or any other permitting standard may only be relaxed where the action is consistent with an antidegradation policy. As explained in Fact Sheet section 4.4.2, there will be no degradation to water quality with respect to *Enterococcus* bacteria, and the change in limits will not result in a violation of water quality standards.

This Order does not retain the previous order's fecal coliform limits because Basin Plan Table 4-2A no longer requires total or fecal coliform limits for deepwater discharges to protect shellfish harvesting. The previous order's fecal coliform effluent limits were water-quality based. CWA section 402(o)(1) allows for relaxation of WQBELs if it is consistent with the provisions of CWA section 303(d)(4). CWA section 303(d)(4)(B) applies to this discharge because Lower San Francisco Bay attains the water quality level needed for shellfish harvesting, making it an attainment water. Under CWA section 303(d)(4)(B), a limitation based on a water quality standard or any other permitting standard may only be relaxed where the action is consistent with antidegradation policy. As explained in Fact Sheet section 4.4.2, there will be no degradation to water quality with respect to fecal coliform, and the relaxation will not result in a violation of water quality standards.

This Order eliminates the acute toxicity effluent limits from the previous order because, under the Toxicity Provisions, the discharge does not exhibit reasonable potential for acute toxicity. The previous order's acute toxicity effluent limits were water-quality based. In State Water Board Order WQ 2001-0016, the State Water Board held that anti-backsliding does not necessarily dictate that a pollutant that was limited in a prior permit must have a limitation in a later permit when there is no reasonable potential that the pollutant discharge will cause or contribute to a water quality standard exceedance. The State Water Board stated that where the anti-backsliding exception in CWA section 303(d)(4)(B) is met, the limitation may be removed. The removal of the acute

toxicity effluent limitations here satisfies CWA section 303(d)(4)(B). As discussed in Fact Sheet section 4.4.2, removing these effluent limits will not result in degradation to water quality, and the relaxation will not result in a violation of water quality standards.

- 4.4.2. **Antidegradation.** This Order complies with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16. As explained below, this Order does not authorize lowering water quality as compared to the level of discharge authorized in the previous order as amended by Order R2-2023-0023, which is the baseline by which to measure whether degradation will occur.

The removal of total coliform limitations will not degrade water quality because the Discharge must still disinfect bacteria to meet the *Enterococcus* bacteria limits intended to protect water contact recreation. Although this Order modifies the *Enterococcus* bacteria limitations, the new limitations serve a comparable purpose, reflect the most up-to-date water quality objectives, and will not lower water quality-related to bacteria in the receiving waters. Because *Enterococcus* and total coliform are both indicators for fecal waste, they are removed from wastewater in similar ways. Basin Plan 4-2A no longer requires total coliform limitations for this deepwater discharge because it is positively buoyant in the receiving waters and thus cannot harm benthic organisms like shellfish. The new limitations will ensure that water quality will not be degraded as it relates to bacteria.

This Order imposes new aquatic toxicity requirements. The previous order required acute and chronic toxicity monitoring, imposed acute toxicity effluent limits, and imposed TRE triggers for chronic toxicity. This Order instead requires chronic toxicity monitoring at the IWC and at a waste concentration of 10 percent effluent (surveillance monitoring), which is more than twice the IWC. It also imposes TRE triggers for chronic toxicity based on tests at the IWC and tests using 10 percent effluent. The surveillance monitoring and TRE triggers will ensure that a comparable level of treatment will be maintained; thus, these requirements will ensure that receiving water quality will not be degraded. As for the acute toxicity limits, the chronic toxicity requirements will protect against acute toxicity, which is typically caused by higher levels of toxicants. For these reasons, water quality will not be degraded.

- 4.4.3. **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).

5. RATIONALE FOR RECEIVING WATER LIMITATIONS

The receiving water limitations in sections 5.1 and 5.2 of the Order are based on Basin Plan narrative and numeric water quality objectives. The receiving water limitation in section 5.3 of the Order requires compliance with federal and State water quality standards in accordance with the CWA and regulations adopted thereunder.

6. RATIONALE FOR PROVISIONS

6.1. 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 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.

Attachment S contains stormwater provisions consistent with the State Water Board's General Permit for Stormwater Discharges Associated with Industrial Activities (NPDES Permit CAS000001) (Industrial General Permit), including requirements for the Discharger to prepare a Stormwater Pollution Prevention Plan, to evaluate BMP performance using stormwater action levels (stormwater

action levels are not effluent limitations), and to submit an annual stormwater report. This Order supplements Attachment S, section 1.7 to include numeric action levels for copper and zinc consistent with the statewide Industrial Storm Water General Permit (NPDES Permit CAS000001). This is necessary to ensure the Discharger implements best management practices to control copper and zinc because these pollutants were detected at high levels during the previous order term, as described in Table F-4.

6.2. Monitoring and Reporting Provisions

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 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 7.

6.3. Special Provisions

6.3.1. 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.

6.3.2. 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 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 13383 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.

6.3.3. Pollutant Minimization Program

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

6.3.4. Special Provisions

- 6.3.4.1. **Sludge and Biosolids Management.** This provision is based on 40 C.F.R. section 122.41(d), which requires the Discharger to take all reasonable steps to minimize or prevent any discharge that has a reasonable likelihood of

adversely affecting human health or the environment. Sludge” refers to the solid, semisolid, and liquid residue removed during primary, secondary, and advanced wastewater treatment processes. “Biosolids” refers to sludge that has been treated and may be beneficially reused.

6.3.4.2. **Sanitary Sewer System Management.** This Discharger’s collection system (see Fact Sheet section II.A.2) is part of the Facility regulated through this Order. This provision requires compliance with Attachments D and G and states that these requirements may be satisfied by separately complying with State Water Board Order WQ. 2022-0103-DWQ, *Statewide Waste Discharge Requirements General Order for Sanitary Sewer Systems*, and any subsequent order updating these requirements. These statewide WDRs require public agencies that own or operate sanitary sewer systems with one or more miles of sewer lines to enroll for coverage and comply with requirements to develop sanitary sewer management plans and report sanitary sewer spills, among other provisions and prohibitions. The statewide WDRs contain requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer spills that are more extensive and, therefore, more stringent than the standard provisions in Attachments D and G. Compliance with the statewide WDRs will satisfy the corresponding requirements in Attachments D and G.

6.3.4.3. **Chlorine Process Control Plan.** This provision is necessary to ensure that using a water quality-based effluent limit for chlorine is consistent with antidegradation policies. The provision requires the Discharger to implement a Chlorine Process Control Plan to target a chlorine residual of 0.0 mg/L at the discharge point. This will ensure that the discharge will typically not be present in the discharge and, if chlorine is detected, the duration of such discharges will be relatively short. This provision continues the requirements put in place by Order R2-2023-0023.

6.3.5. Other Special Provisions

6.3.5.1. **Copper Action Plan.** This provision is based on Basin Plan section 7.2.1.2 and is necessary to ensure that use of copper site-specific objectives is consistent with antidegradation policies. Order requires the Discharger to implement source control, and pollution prevention for identified sources. Additional actions may be necessary depending on the three-year rolling mean copper concentration in Central or Lower San Francisco Bay (north of Hayward Shoals). Data the San Francisco Estuary Institute compiled for 2015-2019 indicate no degradation of San Francisco Bay water quality with respect to copper (<http://www.sfei.org/pages/copper-site-specific-objective-3-year-rolling-averages-0>).

6.3.5.2. **Cyanide Action Plan.** This provision is based on Basin Plan section 4.7.2.2 and is necessary to ensure that use of cyanide site-specific objectives is consistent with antidegradation policies. The threshold for considering

influent cyanide concentrations to indicate a possible “significant cyanide discharge” in the Discharger’s service area is set at 10 µg/L. This threshold is retained from the previous order, which is about one-and-a-half times the highest cyanide concentration (7 µg/L) of all the plant’s influent samples during the previous order term. Because all of the influent cyanide concentrations were less than 10 µg/L, if influent concentrations above this level were observed, there could be a significant cyanide source.

- 6.3.5.3. **Sanitary Plant Upgrades, Advanced Water Treatment, and Combined Effluent Treatment.** 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. The Regional Water Board needs to know whether the Discharger can effectively and reliably comply with the requirements of this Order when these projects are implemented.

The Discharger plans to add an aerobic granular sludge process to its sequencing batch reactors at the Sanitary Plant to reduce total inorganic nitrogen levels. The Discharger also plans to construct an Advanced Water Treatment Plant that will include membrane filtration, reverse osmosis, and UV disinfection to treat combined effluent from the Industrial Plant and Sanitary Plant, and provide an average of 1.0 MGD of recycled water for use within the San Francisco Airport for toilet flushing, irrigation, cooling water, industrial water, vehicle washing, and dust control. The reverse osmosis concentrate will be mixed with final effluent prior to discharge. Additionally, the Discharger plans to test PFAS removal by treating combined effluent from the Industrial Plant and Sanitary Plant with granular activated carbon and, if necessary, ion exchange resins. To evaluate the effectiveness of PFAS removal, this Order requires the Discharger to summarize the treatment technology used, any operational improvements that it made to enhance PFAS removal, and PFAS data that it collected during the calendar year with its Annual Self-Monitoring Report.

The Discharger completed a desktop study that evaluated its ability to comply with effluent limits for ammonia, copper, cyanide, and mercury after completing the treatment plant upgrades. The study established that the reverse osmosis concentrate would not result in effluent concentrations above effluent limits for the above pollutants (assuming 99 percent rejection by reverse osmosis and 80 percent reverse osmosis recovery). To confirm the desktop study and evaluate whether other pollutants could cause or contribute to an exceedance of water quality standards, this provision requires the Discharger to monitor for priority pollutants, evaluate whether pollutants have reasonable potential, and submit these data within 120 days of completing the treatment plant upgrades.

This Order requires the Discharger to submit an updated species sensitivity screening consistent with MRP section 2.1.3 within 18 months of completing the treatment plant upgrades. MRP section 2.1.2 requires the Discharger to

complete an updated species sensitivity screening within 18 months of the effective date of this Order, however, Provision 6.3.5 delays the study until after completion of treatment plant upgrades to ensure the study is representative of discharge. Fact Sheet Section 7.1.3 contains more information on the rationale for toxicity monitoring requirements.

This Order does not require the Discharger to submit an updated mixing zone study because the estimated 0.2 MGD of reverse osmosis concentrate would mix with about 15 MGD of effluent from other NBSU dischargers before discharge at Discharge Point 002. The reverse osmosis concentrate is not expected to significantly change the salinity of the discharge after mixing with other NBSU discharges. Thus, the dilution study described in Fact Sheet section 4.3.5.2 remains sufficient.

- 6.3.4.4. **Relocation of Stormwater Discharge Points.** This provision is based on 40 C.F.R. section 122.41(l). It specifies conditions that must be met before the Discharger begins discharging stormwater from an existing outfall that is relocated to a new location. The monitoring location for any relocated outfall will remain the same as identified in MRP, Table E-1.
- 6.3.4.5. **Construction and Development Requirements for Stormwater.** This provision clarifies when the Discharger must apply for coverage under *NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities* (NPDES Permit CAS000002, currently State Waterboard Order 2022-0057-DWQ).
- 6.3.4.6. **Deicing Operations.** Consistent with the requirements of 40 C.F.R. section 449.10, this Order prohibits the use of deicing fluid that contains urea and requires the Discharger to certify annually that it does not use airfield deicing products that contain urea.

7. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

The following provides the rationale for the monitoring and reporting requirements in the MRP.

7.1 Monitoring Requirements Rationale

- 7.1.1. **Influent Monitoring.** Influent flow monitoring is necessary to understand Facility operations and to evaluate compliance with Prohibition 3.4, which prohibits average dry weather influent flow greater than 1.2 MGD at the Sanitary Plant and 1.2 MGD at the Industrial Plant. Influent CBOD₅ and TSS monitoring at the Sanitary Plant is necessary to evaluate compliance with this Order's 85 percent removal requirements. Basin Plan section 4.7.2.2 requires influent cyanide monitoring because effluent limits for cyanide are based on site-specific cyanide water quality objectives.

- 7.1.2. **Effluent Monitoring.** Effluent flow monitoring is necessary to understand Facility operations. Monitoring for other parameters is necessary to evaluate compliance with this Order's effluent limitations and to conduct future reasonable potential analyses.

Stormwater monitoring is necessary to confirm that best management practices are effective for controlling pollutant concentrations in stormwater discharges. This Order eliminates stormwater monitoring requirements for cadmium, lead, mercury, and nickel because these pollutants have been detected at low levels, as described in Table F-4.

- 7.1.3. **Toxicity Monitoring.** Toxicity tests are necessary to ensure the discharge does not cause or contribute to toxicity in the receiving waters, to evaluate whether the Toxicity Provisions' chronic toxicity water quality objectives are met, and to conduct future reasonable potential analyses. Chronic toxicity tests are also necessary to evaluate whether Toxicity Reduction Evaluations (TREs) are needed. This monitoring will allow timely identification and response to potential toxicants.

The Toxicity Provisions require routine monitoring and maximum daily effluent target (MDET) and median monthly effluent target (MMET) evaluations for chronic toxicity at the IWC to ensure that the discharge does not cause or contribute to toxicity in the receiving waters. This Order grants a mixing zone for chronic toxicity corresponding to a dilution ratio of at least 79:1 ($D=78$), equivalent to an IWC of 1.3 percent. The Discharger must evaluate the MDET and MMET based on the IWC. The MMET and MDET are not effluent limitations and failing to meet them is not a permit violation; however, failing to meet the MMET or MDET requires accelerated monitoring and potentially a TRE in accordance with MRP section 5.3.3.

Because the discharger's IWC is less than 5 percent effluent, this Order requires surveillance monitoring at an effluent concentration of 10 percent. The Discharger is required to report results for surveillance monitoring at Monitoring Location SUR-001 instead of EFF-001 to distinguish surveillance monitoring results from monitoring at the IWC. The Discharger may conduct surveillance monitoring concurrent with monitoring at the IWC.

Consistent with Toxicity Provisions section III.C.4.b.i(A), the Discharger is required to conduct routine monitoring at least twice per calendar year because this Order does not have chronic toxicity effluent limitations.

Until the Discharger completes a new toxicity screening that satisfies the minimum screening requirements stated in Toxicity Provisions III.C.2.a, this Order retains the requirement to use purple sea urchin (*Strongylocentrotus purpuratus*) or sand dollar (*Dendraster excentricus*) for chronic toxicity tests based on the Discharger's March 20, 2012, chronic toxicity screening phase study and the previous order.

Provision 6.3.5.3 of this order requires a new toxicity screening that complies with MRP (Attachment E), Appendix E-1, section 2.1.3, and that satisfies the minimum screening requirements in Toxicity Provisions III.C.2.a. The Toxicity Provisions require that data be analyzed using the TST, and the test species include one vertebrate, one invertebrate, and one aquatic plant/algae from Table 1 of Toxicity Provisions section III.B.2. The Toxicity Provisions species screening requirements are summarized in MRP Appendix E-2. Instead of conducting a toxicity screening within 18 months of the effective date of this Order, Provision 6.3.5 of this Order requires the Discharger to conduct a new toxicity screening within 18 months of completing plant upgrades, including a water recycling project, described in Fact Sheet section 2.5. This Order allows the Discharger to delay conducting its species sensitivity screening to ensure that it will collect samples representative of the discharge once the treatment plant upgrades are complete.

- 7.1.4. **Receiving Water Monitoring.** The Discharger is required to continue participating in the Regional Monitoring Program, which involves collecting data on pollutants and toxicity in San Francisco Bay water, sediment, and biota. The monitoring is necessary to characterize the receiving water and the effects the discharge has on it.
- 7.1.5. **Recycled Water Monitoring.** The recycled water monitoring and reporting requirements incorporate the existing requirements of State Water Board Order WQ 2019-0037-EXEC (Amending Monitoring and Reporting Programs for Waste Discharge Requirements, National Pollutant Discharge Elimination System Permits, Water Reclamation Requirements, Master Recycling Permits, and General Waste Discharge Requirements), issued on July 24, 2019, as amended on January 14, 2020, pursuant to Water Code sections 13267 and 13383.
- 7.1.6. **Other Monitoring Requirements.** Pursuant to CWA section 308, U.S. EPA requires some dischargers to participate in a Discharge Monitoring Report-Quality Assurance (DMR-QA) Study Program that evaluates the analytical abilities of laboratories that perform or support NPDES permit-required monitoring. The program applies to discharger laboratories and contract laboratories, and evaluates each laboratory's ability to analyze wastewater samples to produce quality data that ensure the integrity of the NPDES program. There are two options to comply: (1) the Discharger may obtain and analyze DMR-QA samples, or (2) pursuant to a waiver U.S. EPA issued to the State Water Board, the Discharger may submit results from the most recent Water Pollution Performance Evaluation Study. MRP section 1.4 requires the Discharger to ensure that the results of the DMR-QA Study or most recent Water Pollution Performance Evaluation Study are submitted to the State Water Board, which forwards the results to U.S. EPA.

7.2. Monitoring Requirements Summary. The table below summarizes routine monitoring requirements. This table is for informational purposes only. The actual

requirements are specified in the MRP and elsewhere in this Order. In addition to undertaking the monitoring below, the Discharger must also conduct receiving water monitoring by continuing to participate in the Regional Monitoring Program.

Table F-15. Monitoring Requirements Summary

Parameter ^[1]	Influent INF-001-San or INF-001-Ind ^[2]	Effluent EFF-001-San, EFF-001-Ind, EFF-001, or EFF-002 ^[2]	Stormwater Effluent EFF-003 – EFF-010 and EFF-013 ^[2]	Recycled Water Effluent REC-001 ^[2]
Flow	Continuous/D ^[3,4]	Continuous/D ^[5,6,7]	2/Year	Continuous/D
CBOD ₅	3/Week ^[3]	3/Week ^[5]	-	-
BOD ₅	-	1/Week ^[6]	2/Year	-
TSS	3/Week ^[3]	3/Week ^[5] 1/Week ^[6]	2/Year	-
pH	-	2/Week ^[5,6]	2/Year	-
Chlorine, Total Residual	-	Continuous ^[8]	-	-
Ammonia, Total	-	1/Month ^[7]	-	-
Copper, Total Recoverable	-	1/Month ^[7]	2/Year	-
Cyanide, Total	2/Year ^[3,4]	1/Month ^[9]	-	-
Zinc, Total Recoverable	-	-	2/Year	-
Dioxin-TEQ	-	Once ^[7]	-	-
Enterococcus Bacteria	-	1/Month ^[7]	-	-
Chronic Toxicity	-	2/Year ^[10]	-	-
Oil and Grease	-	-	2/Year	-
Specific Conductance	-	-	2/Year	-
Visual Observations	-	-	2/Year	-
Priority pollutants	--	Once ^[7]	-	-

Footnotes:

- ^[1] The Discharger must also comply with the monitoring requirements in the Mercury and PCBs Watershed Permit (NPDES Permit CA0038849) and the Nutrient Watershed Permit (NPDES Permit CA0038873).
- ^[2] The MRP defines these monitoring locations and sampling frequencies.
- ^[3] The Discharger is to collect samples at Monitoring Location INF-001-San.
- ^[4] The Discharger is to collect samples at Monitoring Location INF-001-Ind.
- ^[5] The Discharger is to collect samples at Monitoring Location EFF-001-San.
- ^[6] The Discharger is to collect samples at Monitoring Location EFF-001-Ind.
- ^[7] The Discharger is to collect samples at Monitoring Location EFF-001.
- ^[8] The Discharger is to collect samples at Monitoring Location EFF-002.
- ^[9] The Discharger is to collect samples at Monitoring Location EFF-001 or EFF-002.
- ^[10] The Discharger is to collect samples prior to disinfection, using samples from Monitoring Location EFF-001 or a combination of prechlorinated effluent flows from Monitoring Locations EFF-001-San and EFF-001-Ind, mixed in proportion to the flows from the two plants

8. 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.

8.1. 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](https://waterboards.ca.gov/sanfranciscobay) (waterboards.ca.gov/sanfranciscobay).

8.2. 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 Robert Schlipf.

Written comments were due at the Regional Water Board office by 5:00 p.m. on January 8, 2025.

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

Date: February 12, 2025
Time: 9:00 a.m.

Contact: Robert Schlipf, (510) 622-2478, robert.schlipf@waterboards.ca.gov

Interested persons were provided notice of the hearing and information on how to participate. At the public hearing, the Regional Water Board heard testimony pertinent to the discharge and Order.

Dates and venues can change. The [Regional Water Board's website](https://waterboards.ca.gov/sanfranciscobay) is (waterboards.ca.gov/sanfranciscobay), where one can access the current agenda for changes.

8.4. Reconsideration of Waste Discharge Requirements. Any person aggrieved by this Regional Water Board action may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050. The State Water Board must receive the petition at the following address within 30 calendar days of the date of Regional Water Board action:

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

A petition may also be filed by email at waterqualitypetitions@waterboards.ca.gov.

For instructions on how to file a water quality petition for review, see the [Water Board's petition instructions](https://waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml) (waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml).

- 8.5. Information and Copying.** Supporting documents and comments received are on file. To review these documents, please contact Melinda Wong, the Regional Water Board's custodian of records, by calling (510) 622-2300 or emailing Melinda.Wong@waterboards.ca.gov. Document copying may be arranged.
- 8.6. 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.
- 8.7. Additional Information.** Requests for additional information or questions regarding this Order should be directed to Robert Schlipf, (510) 622-2478, robert.schlipf@waterboards.ca.gov.

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

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

APPLICABILITY

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

1. STANDARD PROVISIONS – PERMIT COMPLIANCE

1.1. Duty to Comply – Not Supplemented

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

1.3. Duty to Mitigate – Supplement to Attachment D, Provision 1.3.

1.3.1. 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 1.3.2, 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:

- 1.3.1.1. Sufficient personnel for continued facility operation and maintenance during employee strikes or strikes against contractors providing services;
- 1.3.1.2. Maintenance of adequate chemicals or other supplies, and spare parts necessary for continued facility operations;
- 1.3.1.3. Emergency standby power;
- 1.3.1.4. Protection against vandalism;
- 1.3.1.5. Expedient action to repair failures of, or damage to, equipment, including any sewer lines;

- 1.3.1.6. Reporting of spills and discharges of untreated or inadequately treated wastes, including measures taken to clean up the effects of such discharges; and
- 1.3.1.7. Maintenance, replacement, and surveillance of physical condition of equipment and facilities, including any sewer lines.
- 1.3.2. **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:
 - 1.3.2.1. Identify the possible sources of accidental discharge, untreated or partially-treated waste bypass, and polluted drainage;
 - 1.3.2.2. State when current facilities and procedures became operational and evaluate their effectiveness; and
 - 1.3.2.3. 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.
- 1.4. **Proper Operation and Maintenance** – Supplement to Attachment D, Provision 1.4
 - 1.4.1. **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.
 - 1.4.2. **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.
 - 1.4.3. **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.

1.5. Property Rights – Not Supplemented

1.6. Inspection and Entry – Not Supplemented

1.7. Bypass – Not Supplemented

1.8. Upset – Not Supplemented

1.9. Other – Addition to Attachment D

- 1.9.1. Neither the treatment nor the discharge of pollutants shall create pollution, contamination, or nuisance as defined by California Water Code section 13050.
- 1.9.2. 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.
- 1.9.3. 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.

2. STANDARD PROVISIONS – PERMIT ACTION – NOT SUPPLEMENTED

3. STANDARD PROVISIONS – MONITORING

3.1. Sampling and Analyses – Supplement to Attachment D, Provisions 3.1 and 3.2

- 3.1.1. **Certified Laboratories.** Water and waste analyses shall be performed by a laboratory certified for these analyses in accordance with California Water Code section 13176.
- 3.1.2. **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.
- 3.1.3. **Monitoring Frequency.** The MRP specifies the minimum sampling and analysis schedule.
 - 3.1.3.1. **Sample Collection Timing**
 - 3.1.3.1.1. 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.

- 3.1.3.1.2. 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.
- 3.1.3.1.3. 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).
- 3.1.3.1.4. 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.
 - 3.1.3.1.4.1. 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
 - 3.1.3.1.4.2. The Discharger shall analyze for total ammonia nitrogen and calculate the amount of un-ionized ammonia whenever test results fail to meet effluent limitations.
- 3.1.3.2. **Conditions Triggering Accelerated Monitoring**
 - 3.1.3.2.1. **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.
 - 3.1.3.2.2. **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.

- 3.1.3.2.3. **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.
- 3.1.3.2.4. **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.
- 3.1.3.2.5. **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.
- 3.1.3.2.5.1. **Bypass for Essential Maintenance.** If a Discharger bypasses a treatment unit for essential maintenance pursuant to Attachment D section 1.7.2, 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.
- 3.1.3.2.5.2. **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 1.7.4, 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.

3.2. Standard Observations – Addition to Attachment D

- 3.2.1. **Receiving Water Observations.** The following requirements only apply when the MRP requires standard observations of receiving waters. Standard observations shall include the following:
- 3.2.1.1. **Floating and Suspended Materials (e.g., oil, grease, algae, and other macroscopic particulate matter)** — presence or absence, source, and size of affected area.
 - 3.2.1.2. **Discoloration and Turbidity** — color, source, and size of affected area.
 - 3.2.1.3. **Odor** — presence or absence, characterization, source, and distance of travel.
 - 3.2.1.4. **Beneficial Water Use** — estimated number of water-associated waterfowl or wildlife, fisherpeople, and other recreational activities.
 - 3.2.1.5. **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).
 - 3.2.1.6. **Weather Conditions** — wind direction, air temperature, and total precipitation during five days prior to observation.
- 3.2.2. **Wastewater Effluent Observations.** The following requirements only apply when the MRP requires standard observations of wastewater effluent. Standard observations shall include the following:
- 3.2.2.1. **Floating and Suspended Material of Wastewater Origin** (e.g., oil, grease, algae, and other macroscopic particulate matter) — presence or absence.
 - 3.2.2.2. **Odor** — presence or absence, characterization, source, distance of travel, and wind direction.
- 3.2.3. **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:

- 3.2.3.1. **Material of Wastewater Origin** — presence or absence, description of material, estimated size of affected area, and source.
- 3.2.3.2. **Beneficial Use** — estimate of number of people participating in recreational water contact, non-water contact, and fishing activities.
- 3.2.4. **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:
 - 3.2.4.1. **Odor** — presence or absence, characterization, source, and distance of travel.
 - 3.2.4.2. **Weather Conditions** — wind direction and estimated velocity.

4. STANDARD PROVISIONS – RECORDS

4.1. Records to be Maintained – Supplement to Attachment D, Provision 4.1

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.

4.2. Records of Monitoring – Supplement to Attachment D, Provision 4.2

Monitoring records shall include the following:

- 4.2.1. **Analytical Information.** Records shall include analytical method detection limits, minimum levels, reporting levels, and related quantification parameters.
- 4.2.2. **Disinfection Process.** For the disinfection process, records shall include the following:
 - 4.2.2.1. For bacteriological analyses:
 - 4.2.2.1.1. Wastewater flow rate at the time of sample collection; and
 - 4.2.2.1.2. Required statistical parameters for cumulative bacterial values (e.g., moving median or geometric mean for the number of samples or sampling period identified in the MRP).

- 4.2.2.2. For the chlorination process (when chlorine is used for disinfection), at least daily average values for the following:
 - 4.2.2.2.1. Chlorine residual of treated wastewater as it enters the chlorine contact basin (mg/L);
 - 4.2.2.2.2. Chlorine dosage (kg/day); and
 - 4.2.2.2.3. Dechlorination chemical dosage (kg/day).
- 4.2.3. **Wastewater Treatment Process Solids.** For each treatment unit process that involves solids removal from the wastewater stream, records shall include the following:
 - 4.2.3.1. Total volume or mass of solids removed from each collection unit (e.g., grit, skimmings, undigested biosolids, or combination) for each calendar month or other time period as appropriate, but not to exceed annually; and
 - 4.2.3.2. Final disposition of such solids (e.g., landfill, other subsequent treatment unit).
- 4.2.4. **Treatment Process Bypasses.** For all treatment process bypasses, including wet weather blending, records shall include the following:
 - 4.2.4.1. Chronological log of treatment process bypasses;
 - 4.2.4.2. Identification of treatment processes bypassed;
 - 4.2.4.3. Beginning and ending dates and times of bypasses;
 - 4.2.4.4. Bypass durations;
 - 4.2.4.5. Estimated bypass volumes; and
 - 4.2.4.6. 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.
- 4.2.5. **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 5.5.2, below.

4.3. Claims of Confidentiality – Not Supplemented

5. STANDARD PROVISIONS – REPORTING

5.1. Duty to Provide Information – Not Supplemented

5.2. Signatory and Certification Requirements – Not Supplemented

5.3. Monitoring Reports – Supplement to Attachment D, Provision 5.3

5.3.1. **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:

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

- 5.3.1.1.1. Identification of all violations of effluent limitations or other waste discharge requirements found during the reporting period;
- 5.3.1.1.2. Details regarding the violations, such as parameters, magnitude, test results, frequency, and dates;
- 5.3.1.1.3. Causes of the violations;
- 5.3.1.1.4. 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);
- 5.3.1.1.5. 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;
- 5.3.1.1.6. 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;

- 5.3.1.1.7. 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
- 5.3.1.1.8. Signature. The transmittal letter shall be signed in accordance with Attachment D, Provision 5.2.
- 5.3.1.2. **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.
- 5.3.1.3. **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.
- 5.3.1.4. **Analysis Results**
- 5.3.1.4.1. **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.
- 5.3.1.4.2. **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:
- 5.3.1.4.2.1. 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.
- 5.3.1.4.2.2. 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).

5.3.1.4.3. **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 5.3.1.4.2, above]). For bacteria indicators, the Discharger shall report the geometric mean of the duplicate analyses.

5.3.1.4.4. **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

- 5.3.1.5. **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.
- 5.3.1.6. **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:
- 5.3.1.6.1. 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;
- 5.3.1.6.2. List of approved analyses, including the following:
- 5.3.1.6.2.1. List of analyses for which the Discharger is certified;
- 5.3.1.6.2.2. 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
- 5.3.1.6.2.3. List of “waived” analyses, as approved;
- 5.3.1.6.3. Plan view drawing or map showing the Discharger’s facility, flow routing, and sampling and observation station locations; and
- 5.3.1.6.4. 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.

5.4. Compliance Schedules – Not supplemented

5.5. Twenty-Four Hour Reporting – Supplement to Attachment D, Provision 5.5

5.5.1. Oil or Other Hazardous Material Spills

- 5.5.1.1. 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:
- 5.5.1.1.1. 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).
 - 5.5.1.1.2. 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).
- 5.5.1.2. 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:
- 5.5.1.2.1. Date and time of spill, and duration if known;
 - 5.5.1.2.2. Location of spill (street address or description of location);
 - 5.5.1.2.3. Nature of material spilled;
 - 5.5.1.2.4. Quantity of material spilled;
 - 5.5.1.2.5. Receiving water body affected, if any;
 - 5.5.1.2.6. Cause of spill;
 - 5.5.1.2.7. Estimated size of affected area;
 - 5.5.1.2.8. Observed impacts to receiving waters (e.g., oil sheen, fish kill, water discoloration);
 - 5.5.1.2.9. Corrective actions taken to contain, minimize, or clean up the spill;
 - 5.5.1.2.10. Future corrective actions planned to prevent recurrence, and implementation schedule; and
 - 5.5.1.2.11. Persons or agencies notified.

5.5.2. **Unauthorized Municipal Wastewater Treatment Plant Discharges**¹

5.5.2.1. **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:

- 5.5.2.1.1. Incident description and cause;
- 5.5.2.1.2. Location of threatened or involved waterways or storm drains;
- 5.5.2.1.3. Date and time that the unauthorized discharge started;
- 5.5.2.1.4. Estimated quantity and duration of the unauthorized discharge (to the extent known), and estimated amount recovered;
- 5.5.2.1.5. Level of treatment prior to discharge (e.g., raw wastewater, primary-treated wastewater, or undisinfected secondary-treated wastewater); and
- 5.5.2.1.6. Identity of person reporting the unauthorized discharge.

5.5.2.2. **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 5.5.2.1, above, the following:

- 5.5.2.2.1. Methods used to delineate the geographical extent of the unauthorized discharge within receiving waters;
- 5.5.2.2.2. Efforts implemented to minimize public exposure to the unauthorized discharge;
- 5.5.2.2.3. 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;
- 5.5.2.2.4. Corrective measures taken to minimize the impact of the unauthorized discharge;

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

- 5.5.2.2.5. Measures to be taken to minimize the potential for a similar unauthorized discharge in the future;
- 5.5.2.2.6. 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
- 5.5.2.2.7. Quantity and duration of the unauthorized discharge, and the amount recovered.

5.6. Planned Changes – Not supplemented

5.7. Anticipated Noncompliance – Not supplemented

5.8. Other Noncompliance – Not supplemented

5.9. Other Information – Not supplemented

6. STANDARD PROVISIONS – ENFORCEMENT – NOT SUPPLEMENTED

7. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS – NOT SUPPLEMENTED

8. DEFINITIONS – ADDITION TO ATTACHMENT D

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

8.1. Arithmetic Calculations

- 8.1.1. **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:

$$\text{Geometric Mean} = \text{Anti log} (1/N \sum \text{Log } C_i)$$

or

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

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

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

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

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

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

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

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.

- 8.1.3. **Removal Efficiency.** The ratio of pollutants removed by the treatment facilities to pollutants entering the treatment facilities (expressed as a percentage). The Discharger shall determine removal efficiencies using monthly averages (by calendar month unless otherwise specified) of pollutant concentration of influent and effluent samples collected at about the same time and using the following equation (or its equivalent):

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

- 8.2. **Blending** – the practice of bypassing biological treatment units and recombining the bypass wastewater with biologically-treated wastewater.
- 8.3. **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.

- 8.4. 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).
- 8.5. 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.
- 8.6. 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.
- 8.7. 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.
- 8.8. Untreated waste** – raw wastewater.

Table B
List of Monitoring Parameters, Analytical Methods, and Minimum Levels (µg/L)^[1]

CTR No.	Pollutant / Parameter	Analytical Method ^[2]	GC	GC MS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVAA	DCP
1	Antimony	204.2	-	-	-	-	10	5	50	0.5	5	0.5	-	1000
2	Arsenic	206.3	-	-	-	20	-	2	10	2	2	1	-	1000
3	Beryllium	-	-	-	-	-	20	0.5	2	0.5	1	-	-	1000
4	Cadmium	200 or 213	-	-	-	-	10	0.5	10	0.25	0.5	-	-	1000
5a	Chromium (III)	SM 3500	-	-	-	-	-	-	-	-	-	-	-	-
5b	Chromium (VI)	SM 3500	-	-	-	10	5	-	-	-	-	-	-	1000
	Chromium (total) ^[3]	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 ^[4]	-	-	-	-	-	-	-	-	-	-	-	-
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) ^[5]	0100.2 ^[6]	-	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-

CTR No.	Pollutant / Parameter	Analytical Method ^[2]	GC	GC MS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVAA	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 ^[2]	GC	GC MS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVAA	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	-	-	-	-	-	-	-	-	-	-

CTR No.	Pollutant / Parameter	Analytical Method ^[2]	GC	GC MS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVAA	DCP
66	Bis(2-Chloroethyl)Ether	625	10	1	-	-	-	-	-	-	-	-	-	-
67	Bis(2-Chloroisopropyl) Ether	625	10	2	-	-	-	-	-	-	-	-	-	-
69	4-Bromophenyl Phenyl Ether	625	10	5	-	-	-	-	-	-	-	-	-	-
71	2-Chloronaphthalene	625	-	10	-	-	-	-	-	-	-	-	-	-
72	4-Chlorophenyl Phenyl Ether	625	-	5	-	-	-	-	-	-	-	-	-	-
73	Chrysene	625	-	10	5	-	-	-	-	-	-	-	-	-
78	3,3'-Dichlorobenzidine	625	-	5	-	-	-	-	-	-	-	-	-	-
82	2,4-Dinitrotoluene	625	10	5	-	-	-	-	-	-	-	-	-	-
83	2,6-Dinitrotoluene	625	-	5	-	-	-	-	-	-	-	-	-	-
85	1,2-Diphenylhydrazine ^[7]	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	-	-	-	-	-	-	-	-	-	-	-

CTR No.	Pollutant / Parameter	Analytical Method ^[2]	GC	GC MS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVAA	DCP
111	Dieldrin	608	0.01	-	-	-	-	-	-	-	-	-	-	-
112	Endosulfan (alpha)	608	0.02	-	-	-	-	-	-	-	-	-	-	-
113	Endosulfan (beta)	608	0.01	-	-	-	-	-	-	-	-	-	-	-
114	Endosulfan Sulfate	608	0.05	-	-	-	-	-	-	-	-	-	-	-
115	Endrin	608	0.01	-	-	-	-	-	-	-	-	-	-	-
116	Endrin Aldehyde	608	0.01	-	-	-	-	-	-	-	-	-	-	-
117	Heptachlor	608	0.01	-	-	-	-	-	-	-	-	-	-	-
118	Heptachlor Epoxide	608	0.01	-	-	-	-	-	-	-	-	-	-	-
119-125	PCBs: Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260	608	0.5	-	-	-	-	-	-	-	-	-	-	-
126	Toxaphene	608	0.5	-	-	-	-	-	-	-	-	-	-	-

Footnotes:

- ^[1] 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.
- ^[2] The suggested method is the U.S. EPA Method unless otherwise specified (SM = Standard Methods). The Discharger may use another U.S. EPA-approved or recognized method if that method has a level of quantification below the applicable water quality objective. Where no method is suggested, the Discharger has the discretion to use any standard method.
- ^[3] 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 ug/l).
- ^[4] 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 ug/l).
- ^[5] MUN = Municipal and Domestic Supply. This designation, if applicable, is in the Findings of the permit.
- ^[6] Determination of Asbestos Structures over 10 [micrometers] in Length in Drinking Water Using MCE Filters, U.S. EPA 600/R-94-134, June 1994.
- ^[7] Detected as azobenzene.

ATTACHMENT S– STORMWATER PROVISIONS, MONITORING, AND REPORTING REQUIREMENTS

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ATTACHMENT S – STORMWATER PROVISIONS, MONITORING, AND REPORTING REQUIREMENTS

APPLICABILITY

These stormwater provisions only apply to facilities that do not direct all stormwater flows from process areas to a wastewater treatment plant's headwork or do not enroll in NPDES Permit CAS000001 (General Permit for Stormwater Discharges Associated with Industrial Activities).

1. STORMWATER PROVISIONS – PERMIT COMPLIANCE

1.1. Stormwater Pollution Prevention Plan (SWPPP)

The Discharger shall prepare a SWPPP that includes the following elements:

- 1.1.1. Facility name and contact information;
- 1.1.2. Site map;
- 1.1.3. List of industrial materials;
- 1.1.4. Description of potential sources;
- 1.1.5. Assessment of potential pollutant sources;
- 1.1.6. Minimum Best Management Practices (BMPs);
- 1.1.7. Advanced BMPs, if applicable;
- 1.1.8. Monitoring implementation plan;
- 1.1.9. Annual comprehensive facility compliance evaluation; and
- 1.1.10. Date SWPPP initially prepared and dates of each SWPPP amendment.

The SWPPP shall be designed in accordance with good engineering practices to achieve the following objectives:

- Identify and evaluate all pollutant sources that may affect stormwater discharge quality;
- Identify, assign, and implement control measures and management practices to reduce or prevent pollutants in stormwater discharges; and
- Identify and describe conditions or circumstances that may require revisions to the SWPPP.

The SWPPP shall be retained onsite, revised whenever necessary, and made available upon request of any Regional Water Board representative. The SWPPP may be combined with the Spill Prevention Plan (Attachment G section 1.3.2).

1.2. Site Map

The Discharger shall prepare one or more site maps that include notes, legends, a north arrow, and other data as appropriate to ensure the map is clear, legible and understandable, including the following:

- 1.2.1 The facility boundary, stormwater drainage areas within the facility boundary, and portions of any drainage area impacted by discharges from surrounding areas (the maps shall include the flow direction of each drainage area, on-facility surface water bodies, areas of soil erosion, and locations of nearby water bodies [e.g., rivers, lakes, wetlands] or municipal storm drain inlets that may receive the facility's industrial stormwater discharges and authorized non-stormwater discharges);
- 1.2.2. Locations of stormwater collection and conveyance systems, associated discharge locations, and direction of flow (the maps shall include sample locations if different than the discharge locations);
- 1.2.3. Locations of stormwater collection and conveyance systems, associated discharge locations, and direction of flow (the maps shall include sample locations if different than the discharge locations);
- 1.2.4. Identification of all impervious areas, including paved areas, buildings, covered storage areas, or other roofed structures;
- 1.2.5. Locations where materials are directly exposed to precipitation and the locations where identified significant spills or leaks have occurred; and
- 1.2.6. Areas of industrial activity (the maps shall identify all industrial storage areas and storage tanks, shipping and receiving areas, fueling areas, vehicle and equipment storage and maintenance areas, material handling and processing areas, waste treatment and disposal areas, dust or particulate generating areas, cleaning and material reuse areas, and other areas of industrial activity that may have potential pollutant sources).

1.3. List of Industrial Materials

The SWPPP shall contain a list of industrial materials handled at the facility and the locations where each material is stored, received, shipped, and handled, as well as the typical quantities and handling frequency.

1.4. Potential Pollutant Sources

The Discharger shall describe and assess potential stormwater pollutant sources, including the following:

- 1.4.1. **Industrial Processes.** Industrial processes may include manufacturing, cleaning, maintenance, recycling, and disposal. The SWPPP shall describe the type, characteristics, and approximate quantity of industrial materials used and areas protected by containment structures and the corresponding containment capacity.
- 1.4.2. **Material Handling and Storage Areas.** The SWPPP shall describe the type, characteristics, and quantity of industrial materials handled or stored; shipping, receiving, and loading procedures; spill and leak prevention and response procedures; and areas protected by containment structures and the corresponding containment capacity.
- 1.4.3. **Dust and Particulate Generating Activities.** The SWPPP shall describe the discharge locations, source type, and characteristics of the dust or particulate pollutant.
- 1.4.4. **Significant Spills and Leaks.** The Discharger shall evaluate the facility for areas where spills and leaks can occur. The SWPPP shall list any industrial materials spilled or leaked in significant quantities and discharged from the facility's stormwater conveyance system within the previous five years, including but not limited to any chemicals identified in 40 C.F.R. section 302 as reported on U.S. EPA Form R and any oil and hazardous substances discharged in excess of reportable quantities (40 C.F.R. §§ 110, 117, and 302). The SWPPP shall also list any industrial materials spilled or leaked in significant quantities that had the potential to be discharged from the facility's stormwater conveyance system within the previous five years. For each listed industrial material spill and leak, the SWPPP shall include the location, characteristics, and approximate quantity of the material spilled or leaked; the approximate quantity of the material discharged; the cleanup or remedial actions taken or planned; the approximate quantity of remaining material that could be discharged; and the preventive measures taken to ensure that spills or leaks do not reoccur.
- 1.4.5. **Non-Stormwater Discharges.** The SWPPP shall describe all non-stormwater discharges, including the source, quantity, frequency, characteristics, and associated drainage area, and indicate whether these discharges are authorized or unauthorized.
- 1.4.6. **Erodible Surfaces.** The SWPPP shall describe any facility locations where soil erosion may be caused by industrial activity, contact with stormwater, authorized and unauthorized non-stormwater discharges, or run-on from areas surrounding the facility.

1.5. Assessment of Potential Pollutant Sources

The SWPPP shall include a narrative assessment of all areas of industrial activity with potential industrial pollutant sources, including, at a minimum, the following:

- 1.5.1. Facility areas with likely sources of pollutants;
- 1.5.2. Pollutants likely to be present in industrial stormwater discharges;
- 1.5.3. Approximate quantity, physical characteristics (e.g., liquid, powder, solid), and locations of each industrial material handled, produced, stored, recycled, or disposed;
- 1.5.4. Degree to which the pollutants associated with such materials may be exposed to, and mobilized by, contact with stormwater;
- 1.5.5. Direct and indirect pathways by which pollutants may be exposed to stormwater;
- 1.5.6. Sampling, visual observation, and inspection records;
- 1.5.7. Effectiveness of existing BMPs to reduce or prevent pollutants in industrial stormwater discharges; and
- 1.5.8. Estimated effectiveness of implementing, to the extent feasible, minimum BMPs to reduce or prevent pollutants in industrial stormwater discharges.

Based upon the assessment, the SWPPP shall identify facility areas where the minimum BMPs described in Provision 1.6, below, will not adequately reduce or prevent pollutants in stormwater discharges and any necessary advanced BMPs, as described in Provision 1.7, below, for those areas.

1.6. Minimum Best Management Practices (BMPs)

The Discharger shall, to the extent feasible, implement and maintain the following BMPs:

- 1.6.1. **Good Housekeeping.** The Discharger shall do the following:
 - 1.6.1.1. Observe all outdoor areas associated with industrial activity, including stormwater discharge locations, drainage areas, conveyance systems, waste handling and disposal areas, and perimeter areas affected by off-facility materials or stormwater run-on to determine housekeeping needs. Any identified debris, waste, spills, tracked materials, or leaked materials shall be cleaned and disposed of properly;
 - 1.6.1.2. Minimize or prevent material tracking;
 - 1.6.1.3. Minimize dust generated from industrial materials or activities;
 - 1.6.1.4. Ensure that all facility areas impacted by rinse or wash waters are cleaned as soon as possible;
 - 1.6.1.5. Cover all stored industrial materials that can be readily mobilized by contact with stormwater;

- 1.6.1.6. Contain all stored non-solid industrial materials or wastes (e.g., particulates, powders, shredded paper) that can be transported or dispersed by the wind or contact with stormwater;
- 1.6.1.7. Prevent disposal of any rinse or wash waters or industrial materials into the stormwater conveyance system;
- 1.6.1.8. Minimize stormwater discharges from non-industrial areas (e.g., stormwater flows from employee parking areas) that contact industrial areas of the facility; and,
- 1.6.1.9. Minimize authorized non-stormwater discharges from non-industrial areas (e.g., potable water, fire hydrant testing) that contact areas of the sanitary or industrial facility.
- 1.6.2. **Preventative Maintenance.** The Discharger shall (1) identify all equipment and systems used outdoors that may spill or leak pollutants, (2) observe the identified equipment and systems to detect leaks or identify conditions that may result in the development of leaks, (3) establish an appropriate schedule for maintenance of identified equipment and systems, and (4) establish procedures for prompt maintenance and repair of equipment and maintenance of systems when conditions exist that may result in the development of spills or leaks.
- 1.6.3. **Spill and Leak Prevention and Response.** The Discharger shall (1) establish procedures and controls to minimize spills and leaks; (2) develop and implement spill and leak response procedures to prevent industrial materials from discharging through the stormwater conveyance system (spilled or leaked industrial materials shall be cleaned promptly and disposed of properly); (3) identify and describe all necessary and appropriate spill and leak response equipment, locations of spill and leak response equipment, and spill or leak response equipment maintenance procedures; and (4) identify and train appropriate spill and leak response personnel.
- 1.6.4. **Material Handling and Waste Management.** The Discharger shall do the following:
 - 1.6.4.1. Prevent or minimize handling of industrial materials or wastes that can be readily mobilized by contact with stormwater during a storm;
 - 1.6.4.2. Contain all stored non-solid industrial materials or wastes (e.g., particulates, powers, shredded paper) that can be transported or dispersed by the wind or contact with stormwater;
 - 1.6.4.3. Cover industrial waste disposal containers and industrial material storage containers that contain industrial materials when not in use;
 - 1.6.4.4. Divert run-on and stormwater generated from within the facility away from all stockpiled materials;

- 1.6.4.5. Clean all spills of industrial materials or wastes that occur during handling in accordance with spill response procedures; and,
- 1.6.4.6. Observe and clean, as appropriate, any outdoor material or waste handling equipment or containers that can be contaminated by contact with industrial materials or wastes.
- 1.6.5. **Erosion and Sediment Control.** The Discharger shall (1) implement effective wind erosion controls; (2) provide effective stabilization for inactive areas, finished slopes, and other erodible areas prior to a forecasted storms; (3) maintain effective perimeter controls and stabilize site entrances and exits to sufficiently control discharges of erodible materials; and (4) divert run-on and stormwater generated from within the facility away from erodible materials.
- 1.6.6. **Employee Training.** The Discharger shall ensure that all personnel implementing the SWPPP are properly trained with respect to BMP implementation, BMP effectiveness evaluations, visual observations, and monitoring activities. The Discharger shall identify which personnel need to be trained, their responsibilities, and the type of training they are to receive and maintain documentation of completed training and the personnel that received the training with the SWPPP.
- 1.6.7. **Quality Assurance and Record Keeping.** The Discharger shall (1) develop and implement management procedures to ensure that appropriate personnel implement all SWPPP elements; (2) develop methods of tracking and recording BMP implementation; and (3) maintain BMP implementation records, training records, and records related to any spills and clean-up related response activities for a minimum of five years.

1.7. Action Levels and Advanced BMPs

If the Discharger samples total suspended solids (TSS), oil and grease, or pH in excess of an action level in Table S-1, the Discharger shall review the SWPPP to identify appropriate modifications to existing BMPs or additional BMPs as necessary to reduce pollutant discharge concentrations to levels below the action level. The Discharger shall revise the SWPPP accordingly before the next storm, if possible, or as soon as practical, and in no event later than three months following the exceedance.

Table S-1. Stormwater Action Levels

Parameter	Unit	Instantaneous Action Level	Annual Action Level
Total Suspended Solids	mg/L	400	100
Oil and Grease	mg/L	25	15
pH	s.u.	6.0-9.0 ^[1]	--

Footnotes:

^[1] Values below or above this range require action.

If, upon subsequent monitoring, the pollutants measured in Table S-1 continue to exceed their respective action levels, the Discharger shall further evaluate its BMPs and update its SWPPP accordingly to include advanced BMPs in addition to the minimum BMPs described in Provision 1.6, above. The Discharger shall, to the extent feasible, implement and maintain any advanced BMPs identified pursuant to Provision 1.5.8, above, as necessary to reduce or prevent discharges of pollutants in stormwater discharges in a manner that reflects best industry practice considering technological availability and economic practicability and achievability. Advanced BMPs may include one or more of the following:

- 1.7.1. **Exposure Minimization BMPs.** These include storm resistant shelters (either permanent or temporary) that prevent the contact of stormwater with identified industrial materials.
- 1.7.2. **Stormwater Containment and Discharge Reduction BMPs.** These include BMPs that divert, infiltrate, reuse, contain, retain, or reduce the volume of stormwater runoff.
- 1.7.3. **Treatment Control BMPs.** These include mechanical, chemical, biologic, or any other treatment technology that will meet the treatment design standard.

1.8. BMP Descriptions

The SWPPP shall identify each BMP being implemented at the facility, including the following:

- 1.8.1. The pollutants the BMP is designed to reduce or prevent;
- 1.8.2. The frequency, times of day, or conditions when the BMP is scheduled for implementation;
- 1.8.3. The locations within each area of industrial activity or industrial pollutant source where the BMP shall be implemented;
- 1.8.4. The individual responsible for implementing the BMP;
- 1.8.5. The procedures, including maintenance procedures, and instructions to implement the BMP effectively; and
- 1.8.6. The equipment and tools necessary to implement the BMP effectively.

1.9. Annual Comprehensive Facility Compliance Evaluation

The Discharger shall conduct one annual facility evaluation for each reporting year (July 1 to June 30). If the Discharger conducts an annual evaluation fewer than 8 months, or more than 16 months, after it conducts the previous annual evaluation, it shall document the justification for doing so. The Discharger shall revise the SWPPP, as appropriate, and

implement the revisions within 90 days of the annual evaluation. At a minimum, the annual evaluations shall consist of the following:

- 1.9.1. A review of all sampling, visual observation, and inspection records conducted during the previous reporting year;
- 1.9.2. An inspection of all areas of industrial activity and associated potential pollutant sources for evidence of, or the potential for, pollutants entering the stormwater conveyance system;
- 1.9.3. An inspection of all drainage areas previously identified as having no exposure to industrial activities and materials;
- 1.9.4. An inspection of equipment needed to implement the BMPs; and
- 1.9.5. An assessment of any other factors needed to comply with the requirements of the Annual Stormwater Report (see Provision 3.1, below).

2. STORMWATER PROVISIONS – MONITORING

2.1. Monthly Visual Observations

- 2.1.1. At least once per month, the Discharger shall visually observe each drainage area for the following:
 - 2.1.1.1. The presence or indication of prior, current, or potential unauthorized non-stormwater discharges and their sources;
 - 2.1.1.2. Authorized non-stormwater discharges, sources, and associated BMPs; and
 - 2.1.1.3. Outdoor industrial equipment and storage areas, outdoor industrial activities areas, BMPs, and all other potential sources of industrial pollutants.
- 2.1.2. The monthly visual observations shall be conducted during daylight hours of scheduled facility operating hours and on days without precipitation.
- 2.1.3. The Discharger shall provide an explanation in the Annual Stormwater Report for uncompleted monthly visual observations (see Provision 3.1, below).

2.2. Sampling Event Visual Observations

Sampling event visual observations shall be conducted at the same time sampling occurs at a discharge location. At each discharge location where a sample is obtained, the Discharger shall observe the discharge of stormwater associated with industrial activity.

- 2.2.1. The Discharger shall ensure that visual observations of stormwater discharged from containment sources (e.g., secondary containment or storage ponds) are conducted at the time that the discharge is sampled.
- 2.2.2. If the Discharger employs volume-based or flow-based treatment BMPs, it shall sample any bypass that occurs while the visual observations and sampling of stormwater discharges are conducted.
- 2.2.3. The Discharger shall visually observe and record the presence or absence of floating and suspended materials, oil and grease, discolorations, turbidity, odors, trash/debris, and sources of any discharged pollutants.
- 2.2.4. If a discharge location is not visually observed during the sampling event, the Discharger shall record which discharge locations were not observed during sampling or that there was no discharge from the discharge location.
- 2.2.5. The Discharger shall provide an explanation in the Annual Stormwater Report for uncompleted sampling event visual observations (see Provision 4.1, below).

2.3. Visual Observation Records

The Discharger shall maintain records of all visual observations. Records shall include the date, approximate time, locations observed, presence and probable source of any observed pollutants, name of persons who conducted the observations, and any response actions and/or additional SWPPP revisions necessary in response to the visual observations.

2.4. SWPPP Revisions

The Discharger shall revise its BMPs as necessary when the visual observations indicate pollutant sources have not been adequately addressed.

2.5. Sampling and Analysis

- 2.5.1. The Discharger shall collect and analyze stormwater samples as specified in the MRP.
- 2.5.2. Samples shall be (1) representative of stormwater associated with industrial activities and any commingled authorized non-stormwater dischargers; or (2) associated with the discharge of contained stormwater.
- 2.5.3. On a facility-specific basis, the Discharger shall also analyze additional parameters that serve as indicators of the presence of all industrial pollutants identified in the pollutant source assessment. These additional parameters may be modified (added or removed) in accordance with any updated SWPPP pollutant source assessment.

3. STORMWATER PROVISIONS – REPORTING

3.1. Annual Stormwater Report

The results of the Discharger’s Annual Comprehensive Facility Compliance Evaluation shall be reported in the Annual Stormwater Report to the Regional Water Board no later than July 30. The Discharger shall include in the Annual Stormwater Report the following:

- 3.1.1. A compliance checklist that indicates whether the Discharger has complied with or addressed all applicable requirements of the SWPPP;
- 3.1.2. An explanation for any non-compliance requirements within the reporting year, as indicated in the compliance checklist;
- 3.1.3. An identification, including page numbers and sections, of all revisions made to the SWPPP within the reporting year; and
- 3.1.4. The date(s) of the annual evaluation.

4. STORMWATER PROVISIONS – DEFINITIONS

4.1. Authorized Non-Stormwater Discharges – non-stormwater discharges are authorized if they meet the following conditions:

- 4.1.1. Fire-hydrant and fire prevention or response system flushing;
- 4.1.2. Potable water sources, including potable water related to the operation, maintenance, or testing of potable water systems;
- 4.1.3. Drinking fountain water and atmospheric condensate, including refrigeration, air conditioning, and compressor condensate;
- 4.1.4. Irrigation drainage and landscape watering, provided that all pesticides, herbicides, and fertilizers have been applied in accordance with manufacturer’s labels;
- 4.1.5. Uncontaminated natural springs, groundwater, foundation drainage, footing drainage;
- 4.1.6. Seawater infiltration where the seawater is discharged back into the source; or,
- 4.1.7. Incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but not intentional discharges from cooling towers (e.g., “piped” cooling tower blowdown or drains).

4.2. Stormwater – stormwater runoff, snow melt runoff, and surface runoff and drainage, excluding infiltration and runoff from agricultural land.