CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION
1515 Clay Street, Suite 1400, Oakland, California 94612
waterboards.ca.gov/sanfranciscobay

ORDER R2-2026-0022
NPDES PERMIT CA0037621

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

Discharger	**City of Sunnyvale**
Name of Facility	**Sunnyvale Donald M. Somers Clean Water Facility and sanitary sewer system**
Facility Address	**1444 Borregas Avenue** **Sunnyvale, CA 95088** **Santa Clara County**

Table 1. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North-South)	Discharge Point Longitude (East-West)	Receiving Water
001	Advanced Secondary-Treated Municipal Wastewater	37.4202º	-122.0166º	Moffett Channel (tributary to South San Francisco Bay via Guadalupe Slough)

This Order was adopted on:	**October 14, 2026**
This Order shall become effective on:	**December 1, 2026**
This Order shall expire on:	**November 30, 2031**
CIWQS regulatory measure number:	**467092**

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 **March 1, 2031.** 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 M. White

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Water Boards

Eileen M. White, P.E., Executive Officer

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1. FACILITY INFORMATION

Information describing the Sunnyvale Donald M. Somers Clean Water Facility (formerly called the Sunnyvale Water Pollution Control Plant) and sanitary sewer systems (collectively, 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, H, and I are also incorporated into this Order.

2.3. Provisions and Requirements Implementing State Law. Provision 5.3.4.2.1 below and Attachment G Provision 1.9.1 are included to implement state law only. These provisions are not required or authorized under the federal CWA; consequently, violations of these provisions are not subject to the enforcement remedies that are available for NPDES violations.

2.4. 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 7.1 provides details regarding the notification.

2.5. Consideration of Public Comment. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Fact Sheet section 7.3 provides details regarding the public hearing.

THEREFORE, IT IS HEREBY ORDERED that Order R2-2020-0002 (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 contained in 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 from that described in this Order is prohibited.

3.2. Bypass of untreated or partially-treated wastewater to waters of the United States is prohibited, except as provided for below and in Attachment D, section 1.7.

3.3. Average dry weather influent flow in excess of 29.5 million gallons per day (MGD) is prohibited. Average dry weather influent flow shall be determined from three consecutive dry weather months (between May 1 to September 30) each year, with compliance measured at Monitoring Location INF-001 as described in the Monitoring and Reporting Program (MRP, Attachment E).

3.4. Any sanitary sewer spill that results in a discharge of untreated or partially treated wastewater to waters of the United States is prohibited.

4. EFFLUENT LIMITATIONS

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

Table 2. Effluent Limitations

Parameter	Units	Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	One-hour Average
Carbonaceous Biochemical Oxygen Demand (5-day @ 20°C) [1]	mg/L	10	20	-	-	-
Total Suspended Solids	mg/L	20	30	-	-	-
pH [2]	standard units	-	-	6.5	8.5	-
Chlorine, Total Residual	mg/L	-	-	-	-	0.013
Turbidity [3]	NTU	-	-	-	10	-
Ammonia, Total (October-May)	mg/L	18	26	-	-	-
Ammonia, Total (June-September)	mg/L	2.0	5.0	-	-	-
Copper, Total	µg/L	9.1	19	-	-	-
Nickel, Total	µg/L	20	33	-	-	-
Cyanide, Total	µg/L	7.0	17	-	-	-

Parameter	Units	Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	One-hour Average
Dioxin-TEQ	µg/L	1.4×10^{-8}	2.8×10^{-8}	-	-	-

Footnotes:

[1] The Discharger may elect to measure carbonaceous biochemical oxygen demand (CBOD) as biochemical oxygen demand (BOD), as defined in the latest edition of Standard Methods for the Examination of Water and Wastewater.

[2] 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.

[3] From October 1 through May 31, the turbidity effluent limit shall only apply when TSS exceeds 20 mg/L.

4.2. Percent Removal. The average monthly percent removal of biochemical oxygen demand (measured as CBOD or BOD per Table 2 footnote 1) and total suspended solids (TSS) at Discharge Point 001 shall not be less than 85 percent (i.e., in each calendar month, the arithmetic mean of BOD and TSS, by concentration, of effluent samples collected at Monitoring Location EFF-001 as described in the MRP, shall not exceed 15 percent of the arithmetic mean of the BOD or TSS, by concentration, for influent samples collected at Monitoring Location INF-001 as described in the MRP at approximately the same times during the same period).

4.3. *Enterococcus* Bacteria. The discharge at Discharge Point 001 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 30 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 110 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.

4.4. Chronic Toxicity. The discharge at Discharge Point 001 shall meet the following maximum daily effluent limit (MDEL) and median monthly effluent limit (MMEL) at the instream waste concentration (IWC) of 50 percent effluent, with compliance measured using the most sensitive species as described in the MRP and the Test of Significant Toxicity.

- MDEL: No chronic aquatic toxicity test result of “fail” for the 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).

- MMEL: No more than one chronic aquatic toxicity test result of "fail" in a calendar month for any endpoint.

5. PROVISIONS

5.1. Standard Provisions

5.1.1. The Discharger shall comply with all "Standard Provisions" in Attachment D.

5.1.2. 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.

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

5.2. Monitoring and Reporting Provisions

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

5.3. Special Provisions

5.3.1. **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.

5.3.1.1. 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;

5.3.1.2. If new or revised water quality objectives or total maximum daily loads (TMDLs) come into effect for the 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;

5.3.1.3. If translator, dilution, or other water quality studies provide a basis for determining that a permit condition should be modified;

5.3.1.4. If a State Water Board precedential decision, new policy, new law, or new regulation is adopted;

5.3.1.5. If an administrative or judicial decision on a separate NPDES permit or WDRs addresses requirements similar to this discharge;

5.3.1.6. If the Discharger requests adjustments in effluent limitations due to the implementation of stormwater diversion pursuant to the Municipal Regional Stormwater Permit (NPDES Permit CAS612008) for redirecting dry weather and first flush discharges from a storm drain system to the sanitary sewer system as a stormwater pollutant control strategy; or

5.3.1.7. To revise the aquatic toxicity provisions, if the California Supreme Court determines that the Test of Significant Toxicity cannot be used in NPDES permits and the State Water Board suspends or revises the aquatic toxicity water quality standards.

5.3.2. **Effluent Characterization Study and Report**

5.3.2.1. **Study Elements.** The Discharger shall characterize and evaluate the discharge from Discharge Point 001 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 5.3.3 below.

5.3.2.2. **Reporting Requirements**

5.3.2.2.1. **Routine Reporting.** The Discharger shall report the pollutants detected at or above applicable water quality objectives (see Fact Sheet Table F-7 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).

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

5.3.3. **Pollutant Minimization Program**

5.3.3.1. 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.

5.3.3.2. 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:

5.3.3.2.1. **Brief description of treatment plant.** The description shall include the service area and treatment plant processes.

5.3.3.2.2. **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.

5.3.3.2.3. **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.

5.3.3.2.4. **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.

5.3.3.2.5. **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.

5.3.3.2.6. **Continuation of Public Outreach Program.** The Discharger shall prepare a pollution prevention public outreach program for its service area. Outreach may include participation in existing community events, such as county fairs; initiating new community events, such as displays and contests during Pollution Prevention Week; conducting school

outreach programs; conducting plant tours; and providing public information in newspaper articles or advertisements, radio or television stories or spots, newsletters, utility bill inserts, or web sites. Information shall be specific to target audiences. The Discharger shall coordinate with other agencies as appropriate.

5.3.3.2.7. **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 5.3.3.2.3, 5.3.3.2.4, 5.3.3.2.5, and 5.3.3.2.6 above.

5.3.3.2.8. **Documentation of efforts and progress.** This discussion shall detail all of the Discharger's Pollutant Minimization Program activities during the reporting year.

5.3.3.2.9. **Evaluation of Pollutant Minimization Program and task effectiveness.** The Discharger shall use the criteria established in Provision 5.3.3.2.7 above to evaluate the program and task effectiveness.

5.3.3.2.10. **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.

5.3.3.3. The Discharger shall develop and conduct a Pollutant Minimization Program as described below when there is an effluent limitation exceedance of a priority pollutant or when there is other 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:

5.3.3.3.1. A sample result is reported as DNQ and the effluent limitation is less than the Reporting Level (RL); or

5.3.3.3.2. 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.

5.3.3.4. If triggered for a reason set forth in Provision 5.3.3.3 above, the Discharger's Pollutant Minimization Program shall include, but not be limited to, the following actions and submittals:

5.3.3.4.1. 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;

5.3.3.4.2. 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;

5.3.3.4.3. 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;

5.3.3.4.4. Implementation of appropriate cost-effective control measures for the reportable priority pollutants, consistent with the control strategy; and

5.3.3.4.5. Inclusion of the following specific items within the annual report required by Provision 5.3.3.2 above:

5.3.3.4.5.1. All Pollutant Minimization Program monitoring results for the previous year;

5.3.3.4.5.2. List of potential sources of the reportable priority pollutants;

5.3.3.4.5.3. Summary of all actions undertaken pursuant to the control strategy; and

5.3.3.4.5.4. Description of actions to be taken in the following year.

5.3.4. Special Provisions for Publicly Owned Treatment Works

5.3.4.1. **Pretreatment Program.** The Discharger shall implement and enforce its approved pretreatment program in accordance with federal pretreatment regulations (40 C.F.R. part 403); pretreatment standards promulgated under CWA sections 307(b), 307(c), and 307(d); pretreatment requirements specified under 40 C.F.R. section 122.44(j); and the requirements in Attachment H, “Pretreatment Requirements. The Discharger’s responsibilities include, but are not limited to, the following:

5.3.4.1.1. Enforcement of the National Pretreatment Standards of 40 C.F.R. sections 403.5 and 403.6;

5.3.4.1.2. Implementation of its pretreatment program in accordance with legal authorities, policies, procedures, and financial provisions described in the National Pretreatment Program (40 C.F.R. part 403);

5.3.4.1.3. Submission of reports to the State Water Board and the Regional Water Board as described in Attachment H; and

5.3.4.1.4. Evaluation of the need to revise local limits under 40 C.F.R. section 403.5(c)(1) and, by the end of the permit term, submission of a report describing the changes, with a plan and schedule for implementation. To ensure no significant increase in copper discharges, and thus compliance with antidegradation requirements, the Discharger shall not consider eliminating local limits for copper.

5.3.4.2. **Sludge and Biosolids Management**

5.3.4.2.1. Sludge and biosolids treatment and storage shall not create a nuisance, such as objectionable odors or flies, or result in groundwater contamination.

5.3.4.2.2. The sludge and biosolids treatment and storage site shall have facilities adequate to divert surface runoff from adjacent areas, to protect site boundaries from erosion, and to prevent conditions that would cause drainage from the stored materials. Adequate protection is defined as protection from at least a 100-year storm and the highest possible tidal stage that may occur.

5.3.4.2.3. This Order does not authorize permanent onsite sludge or biosolids storage or disposal. The Discharger shall file a Report of Waste Discharge and bring the site into compliance with applicable regulations prior to commencement of any such activity.

5.3.4.3. **Sanitary Sewer System Management.** The Discharger shall properly operate and maintain its sanitary sewer systems (see Attachments D and G, section 1.4), report any noncompliance with respect to its sanitary sewer systems (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 sanitary sewer systems (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) contain requirements for operation and maintenance of sanitary sewer systems and for reporting and mitigating spills of sewage from the sanitary sewer. The statewide WDRs clearly and specifically stipulate requirements for operation and maintenance and for reporting and mitigating spills of sewage from the sanitary sewer. Implementing the requirements for operation and maintenance and mitigation of sanitary spills of sewage from the sewer 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 sanitary sewer 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 spills of sewage from the sanitary sewer specified in Attachments D and G.

5.3.5. Other Special Provisions

5.3.5.1. **Avian Botulism Control Program.** The Discharger shall continue to monitor the Facility's oxidation ponds, Moffett Channel, Guadalupe Slough, and South San Francisco Bay for the presence of avian botulism and promptly collect sick and dead vertebrates. By February 28 each year, the Discharger shall submit annual reports regarding its Avian Botulism Control Program to the Regional Water Board, the California Department of Fish and Wildlife, and the U.S. Fish and Wildlife Service as required by Order No. WQ 90-5.

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

Table 3. Copper Action Plan

Task Number	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 South San Francisco Bay exceeds 4.2 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 that is 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

5.3.5.3. **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 4. Cyanide Action Plan

Task Number	Task	Deadline
1	**Review Potential Cyanide Sources.** Submit an up-to-date inventory of potential cyanide sources. If a potential cyanide source is identified, implement Tasks 2 and 3. 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, 2027

Task Number	Task	Deadline
2	**Implement Cyanide Control Program.** Implement a control program to minimize cyanide discharges consisting, at a minimum, of the following elements: 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 *Industrial User Inspection and Sampling Manual for POTWs* (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 identification of a potential cyanide source or notification to the Executive Officer under Task 1
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

5.3.5.4. **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 Discharger's Operation and Maintenance Manual shall include the information necessary to implement the Chlorine Process Control Plan.

5.3.5.5. **Plant Upgrades.** Prior to placing each secondary treatment units described in Fact Sheet section 2.5 into service, the Discharger shall submit the following documentation:

5.3.5.5.1. Documentation that the reliability, capability, and performance of the plant upgrades will maintain compliance with waste discharge requirements (i.e., the Discharger shall evaluate the hydraulic and organic loading capacities of the treatment facilities by appropriate combinations of desk-top analyses and treatment process stress testing to simulate design peak

loading conditions under both dry weather and wet weather design flow conditions);

5.3.5.5.2. Certification that plant upgrades have been constructed as designed, have been tested, and are ready for use;

5.3.5.5.3. Demonstration of compliance with all applicable provisions of the California Environmental Quality Act (CEQA; California Public Resources Code Division 13, Chapter 3, Section 21100 et seq.);

5.3.5.5.4. Updates to the Operations and Maintenance Manual and Contingency Plan or equivalent documentation to include the plant upgrades; and

5.3.5.5.5. Specific date the Discharger proposes to commence use of the upgraded treatment unit.

To meet the first condition of the penalty exemption for new wastewater treatment 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.

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

ATTACHMENT A – DEFINITIONS 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:

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.

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).

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-Karber. EC25 is the concentration of toxicant (in percent effluent) that causes a response in 25 percent of the test organisms.

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.

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 or MMET tests. If a violation of the MDEL or MMEL occurs, or if the discharge does not meet the MDET or MMET, 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:

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

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.

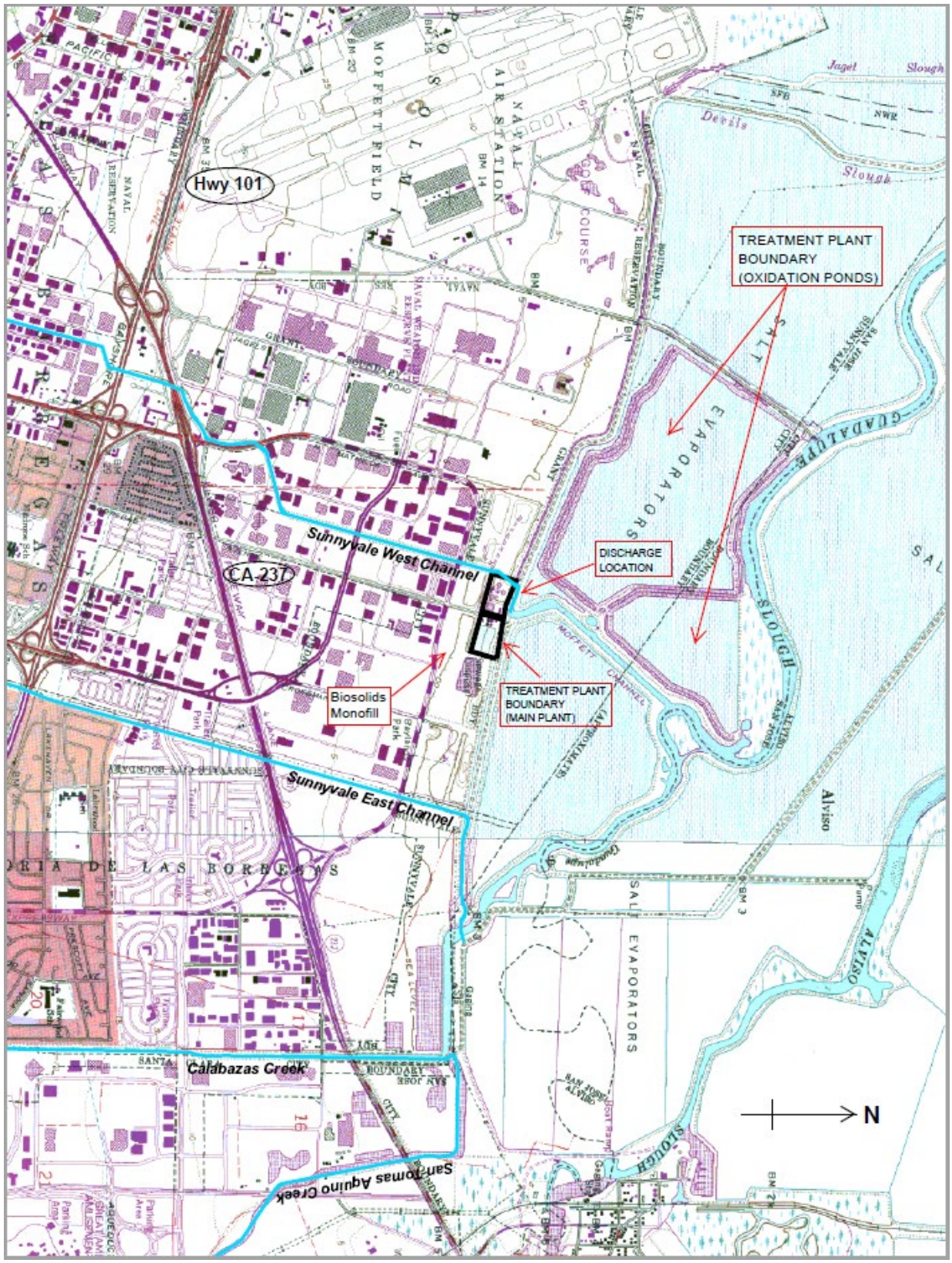
ABBREVIATIONS

°F	degrees Fahrenheit
°C	degrees Celsius
%	Percent
µg/L	Micrograms per liter
µS/cm	Microsiemens per centimeter
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
AMEL	Average monthly effluent limitation
AWEL	Average weekly effluent limitation
B	Background concentration
BOD_5	Biochemical oxygen demand (5 day @ 20°C)
C	Water quality criterion or objective
C-24	24-hour composite
$CBOD_5$	Carbonaceous biochemical oxygen demand (5 day @ 20°C)
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
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
pg/L	Picograms per liter
ppt	Parts per thousand
RL	Reporting level
RPA	Reasonable potential analysis
SIP	*Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy)
SMR	Self-Monitoring Report
s.u.	Standard pH units
TIE	Toxicity identification evaluation
TRE	Toxicity reduction evaluation
TSS	Total suspended solids
TST	Test of Significant Toxicity
TUa	Acute toxicity units
TUc	Chronic toxicity units
WDRs	Waste discharge requirements
WQBEL	Water quality-based effluent limitation

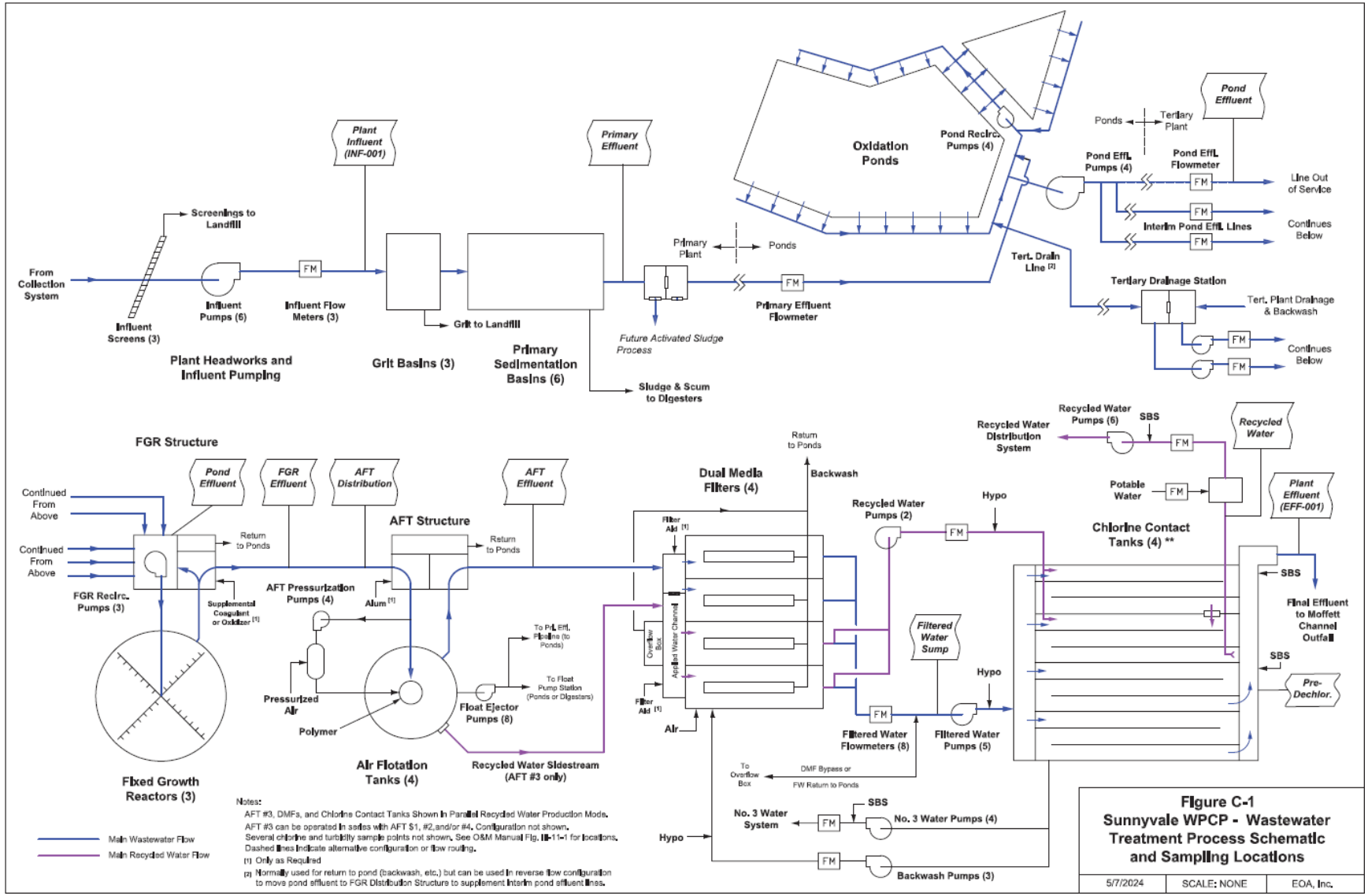
ATTACHMENT B – FACILITY LOCATION

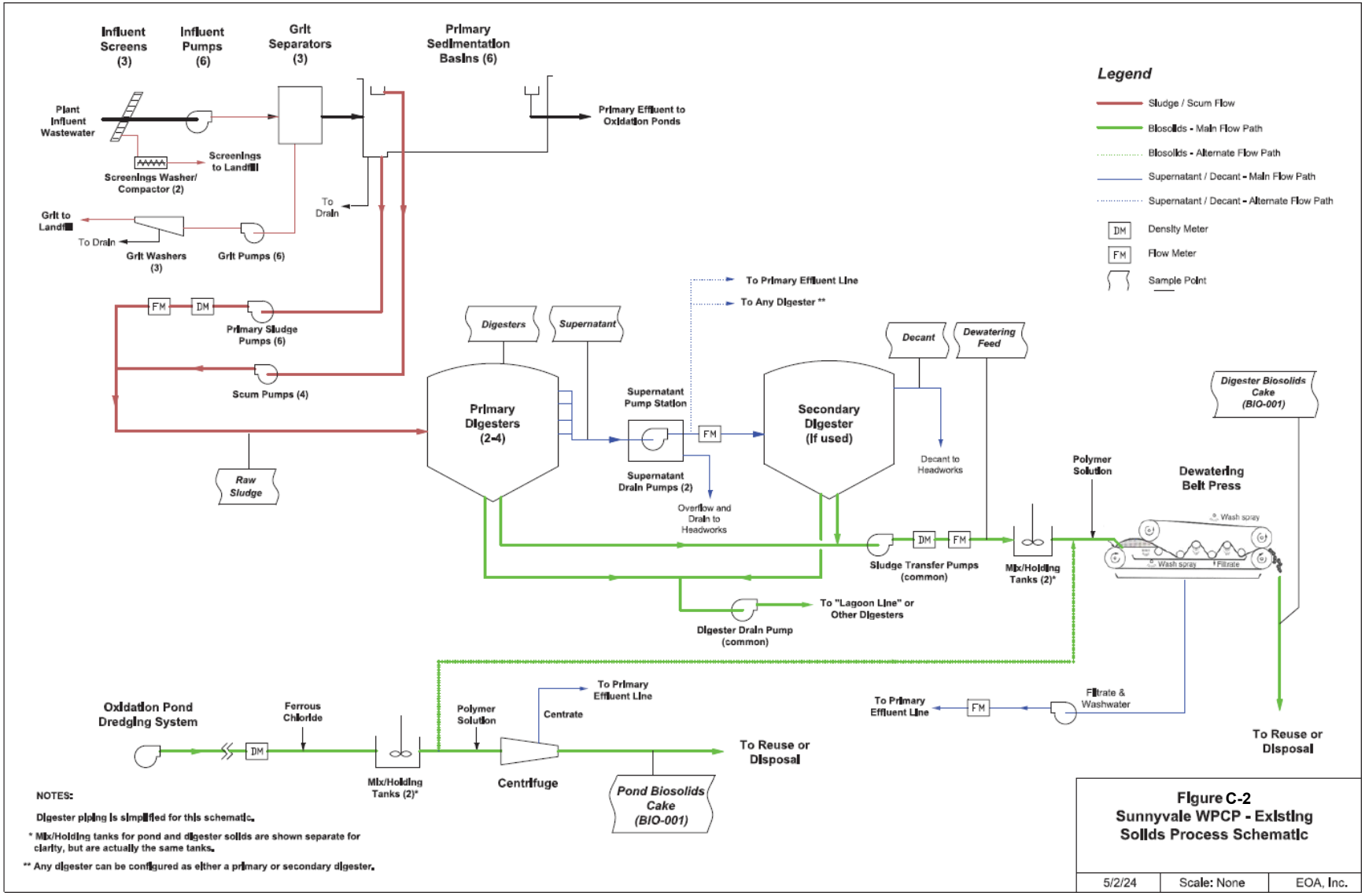



Pipeline to Oxidation Ponds
SCVWD Pond A4
Moffett Channel
Outfall
West Channel
Biosolids Dewatering
Power Generation Facility
Switchgear Bldg.
Emergency Generator
Fixed Growth Reactors
Dissolved Air Flotation Tanks
Anaerobic Digesters
Upcoming CAS-1
Maintenance Bldg.
Chlorine Contact Channels
Dual Media Filters
Lab
Future DEMON
Odor Control System
Future Thickening and Dewatering
Headworks
Preaeration Tanks and Primary Sedimentation Basins
Recycled Water Distribution System
Admin Bldg
Screening and Grit
Preliminary Treatment Processes
Primary Treatment Processes
Secondary Treatment Processes
(Oxidation Ponds not shown on map - See Figure 1)
Tertiary Treatment Processes
Biosolids Handling
Recycled Water Production
Borregas Ave
Carl Rd
N


Pond A3W (US Fish & Wildlife)
Pond A8 (US Fish & Wildlife)
Guadalupe Slough
Oxidation Pond 1
Oxidation Pond 2
Cargill Channel (US Fish & Wildlife)
Moffett Channel
Primary Effluent Pipeline to Oxidation Ponds
Pond A4 (Valley Water)
N

ATTACHMENT C – PROCESS FLOW DIAGRAM




Influent Screens (3)
Influent Pumps (6)
Grit Separators (3)
Primary Sedimentation Basins (6)
Plant Influent Wastewater
Screenings Washer/ Compactor (2)
Screenings to Landfill
Primary Effluent to Oxidation Ponds
To Drain
Grit to Landfill
To Drain
Grit Washers (3)
Grit Pumps (6)
FM
DM
Primary Sludge Pumps (6)
Scum Pumps (4)
Raw Sludge
Digesters
Supernatant
To Primary Effluent Line
To Any Digester **
Primary Digesters (2-4)
Supernatant Pump Station
Supernatant Drain Pumps (2)
Overflow and Drain to Headworks
Secondary Digester (If used)
Decant
Dewatering Feed
Decant to Headworks
Digester Biosolids Cake (BIO-001)
Polymer Solution
Dewatering Belt Press
Wash spray
Filtrate
Sludge Transfer Pumps (common)
Mix/Holding Tanks (2)*
To "Lagoon Line" or Other Digesters
Digester Drain Pump (common)
Legend
Sludge / Scum Flow
Biosolids - Main Flow Path
Biosolids - Alternate Flow Path
Supernatant / Decant - Main Flow Path
Supernatant / Decant - Alternate Flow Path
Density Meter
Flow Meter
Sample Point
Oxidation Pond Dredging System
Ferrous Chloride
Polymer Solution
Centrate
To Primary Effluent Line
Mix/Holding Tanks (2)*
Centrifuge
Pond Biosolids Cake (BIO-001)
To Reuse or Disposal
To Primary Effluent Line
Filtrate & Washwater
To Reuse or Disposal
NOTES:
Digester piping is simplified for this schematic.
* Mix/Holding tanks for pond and digester solids are shown separate for clarity, but are actually the same tanks.
** Any digester can be configured as either a primary or secondary digester.
Figure C-2
Sunnyvale WPCP - Existing Solids Process Schematic
5/2/24
Scale: None
EOA, Inc.

ATTACHMENT D – STANDARD PROVISIONS

CONTENTS

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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, §§ 13267, 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, §§ 13267, 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, §§ 13267, 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, §§ 13267, 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, §§ 13267, 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, 2028, 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, 2028, 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.)

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, §§ 13267, 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, 2028, 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. § 7.2(b). U.S. EPA will identify and publish the list of initial recipients on its website and in the Federal Register, by state and by NPDES data group [see 40 C.F.R. § 127.2(c)]. U.S. EPA will update and maintain this list. (40 C.F.R. § 122.41(l)(9).)

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 (µg/L) (40 C.F.R. § 122.42(a)(1)(i));

7.1.1.2. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4 dinitrophenol and 2-methyl 4,6 dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(1)(ii));

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 (µg/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 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 Order.

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 Water Board at the following address:

State Water Resources Control Board;
Quality Assurance Program Officer;
Office of Information Management and Analysis;
1001 I Street
Sacramento, CA 95814

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

Discharge Point	Monitoring Location	Monitoring Location Description
Influent	INF-001	A point in the treatment plant headworks where all waste tributary to the treatment system is present and preceding any phase of treatment.
Effluent	EFF-001	A point following all treatment where all waste tributary to Discharge Point 001 is present, but prior to discharge. This point may be before disinfection for toxicity tests.
Receiving Water	RSW-001	A point at or between RMP monitoring station C-1-3 and Sunnyvale monitoring station C-2-0 in the vicinity of the confluence of Guadalupe Slough and Moffett Channel.
Biosolids	BIO-001	Biosolids (treated sludge).

3. INFLUENT MONITORING

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

Table E-2. Influent Monitoring

Parameter	Unit	Sample Type	Minimum Sampling Frequency
Flow [1]	MG/MGD	Continuous	Continuous/D
Carbonaceous Biochemical Oxygen Demand, 5-day @ 20°C ($CBOD_5$) [2] [3]	mg/L	C-24	1/Week
Total Suspended Solids (TSS) [2]	mg/L	C-24	1/Week
Cyanide [4]	µg/L	Grab	1/Month

Footnotes:

[1] The following flow information shall be reported in monthly self-monitoring reports:
- Daily average flow rate (MGD)
- Total monthly flow volume (MG)

[2] $CBOD_5$ and TSS samples shall be collected concurrently with effluent samples.

[3] The Discharger may elect to measure $CBOD_5$ as BOD_5, as defined in the latest edition of Standard Methods for the Examination of Water and Wastewater

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

4. EFFLUENT MONITORING

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

Table E-3. Effluent Monitoring

Parameter	Unit	Sample Type	Minimum Sampling Frequency
Flow [1]	MG/MGD	Continuous	Continuous/D
Temperature	°C	Grab	1/Month
$CBOD_5$ [2] [3]	mg/L	C-24	1/Week
TSS [2]	mg/L	C-24	1/Week
Dissolved Oxygen	mg/L	Grab	1/Week
pH [4]	standard units	Continuous or Grab	Continuous/D or 1/Day
Salinity	ppt	C-24	1/Quarter
Turbidity [2]	NTU	Grab	1/Week
Chlorine, Total Residual	mg/L	Continuous	Continuous/D [5]
Ammonia, Total	mg/L	C-24	1/Week (Oct – April) 1/Month (May – Sept)
Copper, Total Recoverable	µg/L	C-24	1/Month
Nickel, Total Recoverable	µg/L	C-24	1/Month
Cyanide, Total [6]	µg/L	Grab	1/Month
Dioxin-TEQ	µg/L	Grab	Once
Enterococcus Bacteria [7]	CFU/100mL [8]	Grab	5/Week
Chronic Toxicity [9]	"pass" or "fail" and % effect [10]	C-24	1/Quarter [11]
Priority Pollutants [12]	µg/L	Grab or C-24 [13]	Once

Footnotes:

[1] The following flow information shall be reported in monthly self-monitoring reports:
- Daily average flow rate (MGD)
- Total monthly flow volume (MG)

[2] $CBOD_5$ and TSS effluent samples shall be collected concurrently with $CBOD_5$ and TSS influent samples. Effluent turbidity samples shall be collected concurrently with effluent TSS samples. $CBOD_5$ and TSS percent removal shall be reported for each calendar month (using the most recent sample results) in accordance with section 4.2 of this Order.

[3] The Discharger may elect to measure $CBOD_5$ as BOD_5, as defined in the latest edition of *Standard Methods for the Examination of Water and Wastewater*.

[4] If pH is monitored continuously, the minimum and maximum for each day shall be reported in monthly 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 40 C.F.R. part 136, or an equivalent method in the latest edition of *Standard Methods for the Examination of Water and Wastewater.*

[7] U.S. EPA Method 1600 or an equivalent method is suggested to measure culturable enterococci.

[8] Results may be reported as either Most Probable Number (MPN)/100 mL if the laboratory method used provides results in MPN/100 mL or Colony Forming Units (CFU)/100 mL if the laboratory method used provides results in CFU/100 mL.

[9] Chronic toxicity tests shall be performed in accordance with MRP Section 5.1.

[10] 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.

[11] The monitoring frequency shall become 1/Month after any exceedance of the MDEL or MMEL at the instream waste concentration.

[12] The Discharger shall monitor for the pollutants listed in Attachment G, Table B.

[13] The Discharger shall collect C-24 samples for metals.

5. TOXICITY MONITORING

5.1. Compliance 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 unless collecting samples on consecutive or alternating days would be impracticable.

5.1.2. **Test Species.** The test species shall be *Mytilus galloprovincialis* unless a more sensitive species is identified in accordance with MRP, Appendix E-1. The Discharger shall conduct chronic toxicity species sensitivity screening as required in Appendix E-1. Upon completion of the chronic toxicity species sensitivity screening, the most sensitive species shall be the species exhibiting the highest percent effect.

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 in writing the temporary use of the next appropriate species, which was shown to be fathead minnow (Pimephales promelas).

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 at a reduced frequency of once per quarter at the instream waste concentration (IWC) set forth in section 4.4 of this Order, and continue routine monitoring during any Toxicity Reduction Evaluation (TRE) consistent with MRP section

5.3.7. The routine monitoring frequency shall immediately revert to once per month after any exceedance of the MDEL or MMEL at the IWC.

5.1.3.2. **Additional Routine Monitoring Tests for Compliance and TRE Determination.** If the Discharger violates the maximum daily effluent limit (MDEL) or median monthly effluent limit (MMEL) 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 if 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 monthly routine monitoring as soon as enough effluent is available. The Executive Officer may also require the Discharger to conduct a TRE.

5.1.3.3. **MMEL Compliance Tests and TRE Determination.** If any routine monitoring test result is "fail," the Discharger shall conduct at least one and at most two MMEL compliance tests. The results of these tests shall be used to determine if 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 MMEL compliance 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]).

5.1.3.3.1. If the first MMEL compliance test result is "pass," then the Discharger shall conduct a second MMEL compliance test. If the first MMEL compliance test result is "fail," that result constitutes an MMEL violation and a second MMEL compliance test is not required. If any of the failed tests were also an MDEL violation, the Discharger shall conduct a TRE (see MRP § 5.3).

5.1.3.3.2. If the second MMEL compliance test result is "pass," then the Discharger shall return to routine monitoring described in MRP section 5.1.3.1. (See Appendix E-3, Toxicity Reduction Evaluation Process Flowchart.) If the second MMEL compliance test result is "fail," that result constitutes an MMEL violation. If any of the failed tests were also an MDEL violation, the Discharger shall conduct a TRE (see MRP § 5.3).

5.1.3.3.3. If the Discharger cannot conduct an MMEL 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),
- *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, compliance with the chronic toxicity limit may be determined 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 Dischargers' demonstration must be obtained prior to any such adjustment.

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 MMET tests, the Discharger

shall report the results as either “pass” or “fail,” and the percent effect at the IWC 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 has any combination of two or more MDEL or MMEL violations within a single calendar month or two successive calendar months; or

5.3.2.2. The Discharger violates the MDEL or MMEL during a calendar month, there is no effluent available to test in the following calendar month, and the Executive Officer requires a TRE.

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 MMEL compliance 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-4. Toxicity Reduction Evaluation (TRE) Triggers

Monitoring Type and Frequency	Triggers	TRE Required?
Routine and MMEL compliance monitoring, less than monthly frequency	1. Violation of MDEL or MMEL in a calendar month, AND 2. No discharge during the following calendar month	Executive Officer may require TRE
Routine and MMEL compliance monitoring	Any combination of two or more MDEL or MMEL violations in a single calendar month or successive calendar months	TRE is required

6. RECEIVING WATER MONITORING

The Discharger shall monitor receiving waters at Monitoring Location RSW-001 as follows when discharges to the receiving water is occurring:

Table E-5. Receiving Water Monitoring

Parameter	Units	Sample Type	Minimum Sample Frequency

Dissolved Oxygen	mg/L	Grab	1/Quarter
Hardness	mg/L as $CaCO_3$	Grab	1/Quarter
Ammonia	mg/L	Grab	1/Month for 1 year [3]
pH	standard units	Grab	1/Month for 1 year [3]
Salinity	ppt	Grab	1/Month for 1 year [3]
Temperature	°C	Grab	1/Month for 1 year [3]
Standard Observations	-	[2]	1/Week [1]

Footnotes:

[1] This monitoring shall occur in months when the City violates the Total Suspended Solids effluent limit.
[2] Standard Observations are specified in Attachment G section 3.3 of this Order. If an algal bloom is detected in the receiving water, the City must post warning signs and notify the Water Board within 24-hours.
[3] After the completion of the CAS-1 System.

Moreover, 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 POLICY 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 each year covering the previous calendar year using the State Water Board's GeoTracker website (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).

The annual report to GeoTracker shall 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_amd.pdf).

8. PRETREATMENT AND BIOSOLIDS MONITORING

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

Table E-6. Pretreatment and Biosolids Monitoring

Parameters	Influent (INF-001) Sampling Frequency	Effluent (EFF-001) Sampling Frequency	Biosolids (BIO-001) Sampling Frequency	Influent and Effluent Sample Type	Biosolids Sample Type [1]
Volatile Organic Compounds	1/Year	Once	1/Year	Grab	Grab
Base/Neutrals and Acid Extractable Organic Compounds	1/Year	Once	1/Year	Grab	Grab
Metals and other Elements [2]	1/Month	1/Month	2/Year	C-24 [6]	Grab
Hexavalent Chromium [3]	1/Month	1/Month	2/Year	C-24 or Grab [6]	Grab
Cyanide, Total [4]	1/Month	1/Month	2/Year	Grab	Grab
Mercury	1/Quarter	1/Quarter [5]	2/Year	C-24 or Grab [6]	Grab

Footnotes:

[1] The biosolids sample shall be a composite of the biosolids to be disposed. Biosolids collection and monitoring shall comply with the requirements specified in Attachment H, Appendix H-4. If the Discharger operates its solar drying operations during the dry season before off-site disposal, it may opt to sample once per year prior to off-site disposal.

[2] Metals and other elements are arsenic, cadmium, copper, lead, nickel, selenium, silver, and zinc.

[3] The Discharger may choose to monitor and report total chromium instead of hexavalent chromium. Samples collected for total chromium measurements may be 24-hour composites.

[4] The Discharger may, at its option, analyze for cyanide as weak acid dissociable cyanide using protocols specified in 40 C.F.R. part 136 or an equivalent method in the latest edition of the *Standard Methods for the Examination of Water and Wastewater*.

[5] The Discharger shall use ultra-clean sampling (U.S. EPA Method 1669) and ultra-clean analytical methods (U.S. EPA Method 1631) for mercury monitoring at EFF-001.

[6] If an automatic compositor is used, the Discharger shall obtain 24-hour composite samples through flow-proportioned composite sampling. Alternatively, 24-hour composite samples may consist of discrete grab samples combined (volumetrically flow-weighted) prior to analysis or mathematically flow-weighted.

9. REPORTING REQUIREMENTS

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

9.2. Self-Monitoring Reports (SMRs)

9.2.1. **SMR Format.** The Discharger shall electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) Program website (www.waterboards.ca.gov/water_issues/programs/ciwqs). The CIWQS website will provide additional information for SMR submittal in the event of a planned service interruption for electronic submittal.

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

9.2.2.1. **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 5.3.2 (Effluent Characterization Study and Report) of the Order, Attachment D, section 5.3, 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.

9.2.2.2. **Annual SMR** — Annual SMRs shall be due March 1 each year, covering the previous calendar year. The annual SMR shall contain the applicable items described in Provisions 5.3.2 (Effluent Characterization Study and Report) of the Order and Attachment G, section 5.3.1.6.

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

Table E-7. CIWQS Reporting

Parameter	Method of Reporting: EDF/CDF data upload	Record Keeping
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	-

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.

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

Table E-8. Monitoring Periods

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period
Continuous/D	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 noon and continuing through 11:59 a.m.)
1/Week 2/Week 5/Week	First Sunday following or on Order effective date	Sunday through Saturday
1/Month	First day of calendar month following or on Order effective date [2]	First day of calendar month through last day of calendar month [2]
1/Quarter	Closest January 1, April 1, July 1, or October 1 before or after Order effective date [1]	January 1 through March 31 July 1 through September 30 April 1 through June 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 permit term 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.

9.2.5. **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:

9.2.5.1. 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).

9.2.5.2. 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 (± a percentage of the reported value), numerical ranges (low to high), or any other means the laboratory considers appropriate.

9.2.5.3. Sample results less than the laboratory's MDL shall be reported as "Not Detected", or ND.

9.2.5.4. 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.

9.2.6. **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.

9.3. 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 (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 section III.C.2 of the Toxicity Provisions.

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. <u>Continuous Dischargers:</u> 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 temporarily designates another species, 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	*Macrocystis pyrifera*	I	Percent germination; germ tube length	48 hours	1
Red Abalone	*Haliotis rufescens*	I	Larval development	48 hours	1
Oyster Mussel	*Crassostrea gigas* *Mytilus sp.*	I	Larval development	48 hours	1
Purple Urchin Sand dollar	*Strongylocentrotus purpuratus* *Dendraster excentricus*	I	Percent fertilization or larval development	1 hour or 72 hours	1
Shrimp	*Americamysis bahia*	II	Percent survival; growth	7 days	2
Topsmelt	*Atherinops affinis*	I	Percent survival; growth	7 days	1
Silverside	*Menidia beryllina*	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	*Pimephales promelas*	I	Survival; growth rate	7 days	1
Water flea	*Ceriodaphnia dubia*	I	Survival; number of young	7 days	1
Green Alga	*Selenastrum capricornutum*	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.

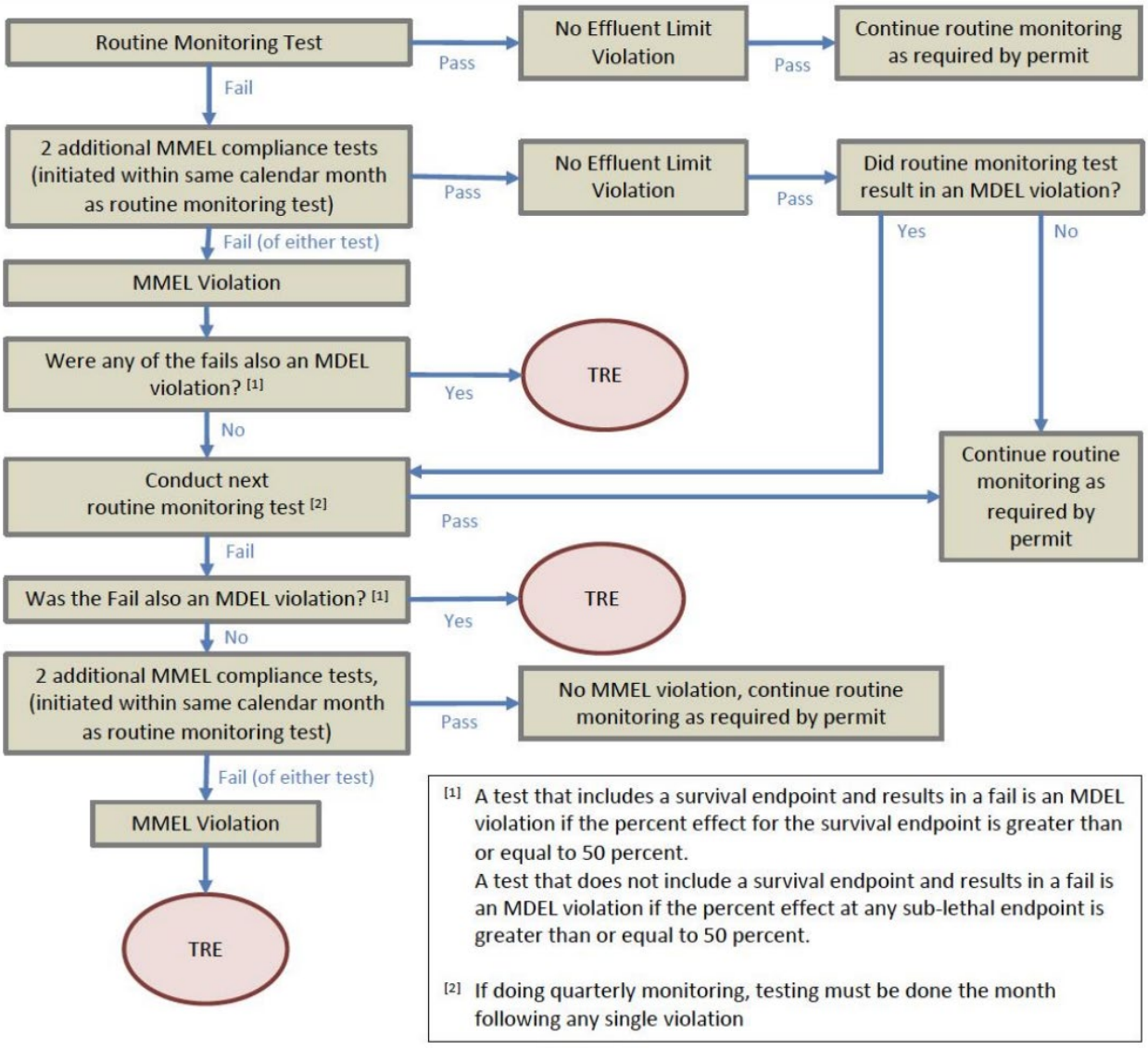
(c) "Estuarine" refers to all other cases (i.e., when receiving water salinity is above 1.0 less than 95 percent of the time and below 1.0 less than 95% of the time).

[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



[1] A test that includes a survival endpoint and results in a fail is an MDEL violation if the percent effect for the survival endpoint is greater than or equal to 50 percent.
A test that does not include a survival endpoint and results in a fail is an MDEL violation if the percent effect at any sub-lethal endpoint is greater than or equal to 50 percent.

[2] If doing quarterly monitoring, testing must be done the month following any single violation

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 438018001
CIWQS Place ID	259507
Discharger	City of Sunnyvale
Facility Name	Sunnyvale Donald M. Somers Clean Water Facility and sanitary sewer system
Facility Address	1444 Borregas Avenue Sunnyvale, CA 94088 Santa Clara County
Facility Contact, Title, Phone, and Email	Rohan Wikramanayake, Deputy Director of Environmental Services, (408) 730-7788, RWikramanayake@sunnyvale.ca.gov
Authorized Person to Sign and Submit Reports	Ramana Chinnakotla, Environmental Services Department Director, (408) 730-7900, esd@sunnyvale.ca.gov
Mailing Address	456 West Olive Ave, P.O. Box 3707, Sunnyvale, CA, 94088
Billing Address	Same as Mailing Address
Facility Type	Publicly Owned Treatment Works (POTW)
Major or Minor Facility	Major
Water Quality Threat	1
Complexity	A
Pretreatment Program	Yes
Reclamation Requirements	Regional Water Board Order 94-069
Mercury and PCBs Requirements	NPDES Permit CA0038849
Nutrients Requirements	NPDES Permit CA0038873
Facility Permitted Flow	29.5 million gallons per day (MGD) – average dry weather design flow
Facility Design Flow	29.5 MGD – average daily dry weather treatment capacity 40 MGD – peak wet weather treatment capacity
Watershed	Santa Clara Hydrological Unit
Receiving Water	Moffett Channel (flows to South San Francisco Bay via Guadalupe Slough)
Receiving Water Type	Estuarine
Date of Last Inspection	September 21, 2026

1.1. The City of Sunnyvale (Discharger) owns and operates the Sunnyvale Clean Water Facility and the City of Sunnyvale sanitary sewer collection system (collectively the Facility). The plant provides advanced secondary treatment of the wastewater collected from its service areas and discharges to Moffett Channel, a

tributary to South San Francisco Bay via Guadalupe Slough. Prior to September 2026, the Facility was named the Sunnyvale Water Pollution Control Plant.

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 NPDES Permit CA0037621. The Discharger is authorized to discharge subject to the Waste Discharge Requirements (WDRs) in this Order at the discharge location identified in Table 1 of this Order.

1.3. The Discharger was previously subject to Order R2-2020-0002 (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 (RMP).

- Order R2-2023-0023 amended the previous order to update effluent limits and monitoring requirements for total residual chlorine and remove effluent limitations and monitoring requirements 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 June 28, 2024.

1.5. Clean Water Act section 402(b)(1)(B) limits 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 California Code of Regulations, title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Discharger complies with all requirements for continuation of expired permits (40 C.F.R. § 122.6(d)).

1.6. The Discharger is also regulated under 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. Sanitary Sewer System and Treatment

2.1.1. **Location and Service Area**. The Facility is located at 1444 Borregas Avenue, Sunnyvale. The plant provides advanced secondary treatment of wastewater from domestic, commercial, and industrial sources from the City of Sunnyvale, Rancho Rinconada, and Moffett Field. The Facility serves a population of more than 150,000 in a 23 square-mile service area.

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

2.1.2. **Sanitary Sewer Systems**. The City of Sunnyvale's collection system consists of approximately 312 miles of gravity sewer pipes ranging from 4 inches to 48 inches in diameter, 140 miles of lower laterals, 2 miles of force mains, 4 lift stations, and 1 pump station.

2.1.3. **Wastewater Treatment**. The plant provides preliminary treatment, primary treatment, biological treatment, filtration, and disinfection. Disinfected advanced-secondary-treated effluent is discharged to Moffett Channel, a tributary of Guadalupe Slough and Lower South San Francisco Bay. The plant's average dry weather influent flow design capacity is 29.5 million gallons per day (MGD), with a peak wet weather flow capacity is 40 MGD. Over the past 6 years (April 1, 2020 to present), the plant's highest daily dry weather discharge was 19.9 MGD (September 19, 2020), and the highest wet weather discharge was 24.6 MGD (January 8, 2023). Annual average effluent flows in 2024 and 2025 were approximately 12.6 MGD and 12.2 MGD, respectively.

Attachment C provides flow schematics for the treatment plant.

2.1.3.1. **Preliminary Treatment.** New preliminary treatment facilities were commissioned in 2023. Preliminary treatment consists of influent screening, influent pumping, and grit removal in vortex flow grit concentrators.

2.1.3.2. **Primary Treatment.** Following grit removal, wastewater flows by gravity in the primary sedimentation basin influent channel and from there into the primary sedimentation basins. The basins remove floatable and settleable material. Primary effluent can be routed to the existing secondary treatment system (oxidation ponds) or to the new activated sludge system (CAS-1), once completed. The proportion of flow to each of those systems can be varied.

2.1.3.3. **Biological Treatment.** Currently, all wastewater receives biological treatment through a three-step process. Primary effluent is gravity-fed to the 440-acre mechanically-aerated oxidation ponds, where organic matter and

ammonia are degraded by aerobic and anaerobic bacteria. Nitrification and denitrification in the ponds are linked to ambient weather conditions and exhibit seasonal variations. Treated pond effluent is pumped to fixed growth reactors (i.e., trickling filters) that provide additional nitrification of ammonia. fixed growth reactor effluent is conveyed to the dissolved air flotation tanks, where compressed air and polymer are injected to coagulate, flocculate, and remove biological solids (algae and bacteria) generated during treatment in the oxidation ponds and fixed growth reactors. Additional locations available for injection of chemical coagulants/flocculants are indicated on Attachment C, Figure C-1 – Wastewater Treatment Process Schematic.

2.1.3.4. **Filtration Process.** Following biological treatment, the wastewater undergoes filtration through four parallel dual media filters, two of which may be used to produce recycled water. Upon completion of the CAS-1 system, the recycled water system will be fed exclusively from that system. The settled solids from the filter backwash water are pumped back to the oxidation ponds.

2.1.3.5. **Disinfection.** Sodium hypochlorite is metered into the filtered effluent entering the four serpentine chlorine contact tanks to generate a chlorine residual for disinfection. Two of these channels may be used for NPDES discharge or to produce recycled water, with the other two channels dedicated to NPDES discharge only. In the contact tanks effluent channel sodium bisulfite is added as needed at two locations to neutralize the hypochlorite prior to discharge. Sodium bisulfite is also added separately to the portion of the effluent diverted for recycled water use before it is pumped into the recycled water distribution system.

As described in Fact Sheet section 2.5, treatment facility upgrades may be installed pursuant to Provision 5.3.5.5. of the Order.

2.1.4. **Sludge and Biosolids Management**. Sludge produced in the primary sedimentation basins is pumped to anaerobic digesters to stabilize the sludge prior to dewatering, and to generate biogas used to fuel the plant's Power Generation Facility. The digesters are normally operated in a series configuration, with one of the digesters serving as a secondary digester to facilitate thickening prior to dewatering. The digested sludge (biosolids) is pumped to an equalization tank, conditioned with a polymer, and mechanically dewatered using a belt filter press to approximately 20 to 25 percent solids prior to land application, use in producing compost, or disposal at a landfill. The Discharger may also dispose of biosolids at an onsite biosolids monofill regulated as a surface disposal site under Order No. R2-2004-0030. Secondary treatment solids removed by dredging the oxidation ponds are chemically conditioned in an equalization tank and dewatered using a centrifuge or belt filter press to approximately 20 to 25 percent solids prior to land application, use in producing compost, or disposal at a landfill. The Discharger may divert a portion of the oxidation pond solids (algae "float") removed in the dissolved air

flotation tanks to the anaerobic digesters. The solids handling process described above is depicted in Attachment C, Figure C-2 – Existing Solids Process Schematic.

2.1.5. **Stormwater Management**. All stormwater within the treatment plant's boundary, including the biosolids monofill, is collected and directed to the headworks for treatment; therefore, permit coverage for stormwater discharges is not required.

2.1.6. **Recycled Water.** On average, the Discharger treats about 5 to 10 percent of the wastewater the plant processes to meet Order No. 94-069 requirements for disinfected tertiary recycled water. Recycled water production is a demand-based system with heavy seasonal fluctuations driven primarily by the irrigation needs of the City's customers. The number of "dual plumbed" sites (use of recycled water for toilet flushing in buildings) has increased significantly in recent years, a trend that is expected to continue. The City is in the process of preparing a Recycled Water Master Plan Update to identify potential future opportunities and associated costs for expansion of the recycled water system.

2.2. Discharge Point and Receiving Waters

The Facility discharges to Moffett Channel, tributary to South San Francisco Bay via Guadalupe Slough, all of which are waters of the United States.

2.3. Previous Requirements and Monitoring Data

The table below presents the previous order's effluent limitations and representative monitoring data from April 2020 through May 2026:

Table F-2. Previous Effluent Limitations and Monitoring Data

Parameter	Unit	Average Monthly Limitation	Maximum Daily Limitation	Other Limitation	Long-Term Average	Highest Daily Value
Carbonaceous Biochemical Oxygen Demand (5 day @ 20°C)	mg/L	10	20	-	4.5	14.1
$CBOD_5$ percent removal	%	85 (minimum)	-	-	97.9	94.9 [1]
Total Suspended Solids	mg/L	20	30	-	12.0	32.9
TSS percent removal	%	85 (minimum)	-	-	95.1	92 [1]
Oil and Grease	mg/L	5	10	-	ND	<1.5
pH	s.u.	-	-	6.5 – 8.5 [2]	-	6.5 – 7.8 [3]
Turbidity	NTU	-	-	10 [4]	9.5	17.9
Chlorine, Total Residual	mg/L	-	-	0.0 [4] [5]	0	0

Parameter	Unit	Average Monthly Limitation	Maximum Daily Limitation	Other Limitation	Long-Term Average	Highest Daily Value
Enterococcus Bacteria	MPN/ 100 mL	110 [6]	-	30 [6]	2.6 [7]	602
Ammonia, Total (Oct – May)	mg/L	18	26	-	5.1	17.1
Ammonia, Total (June – Sept)	mg/L	2	5	-	1.4	7.7
Copper, Total Recoverable	µg/L	10	19	-	2.4	12.2
Nickel, Total Recoverable	µg/L	24	33	-	3.3	26
Cyanide, Total	µg/L	7.0	17	-	1.6	6.8
Dioxin TEQ	µg/L	1.4×10^{-8}	2.8×10^{-8}	-	$<8.0 \times 10^{-7}$	$<8.0 \times 10^{-7}$
Acute Toxicity	% Survival	-	-	Not less than 90% (3-sample median)	100	100 [8]
Acute Toxicity	% Survival	-	-	Not less than 70%	100	100 [8]

Footnotes:

[1] This value is the lowest percent removal value on a monthly basis.

[2] The limitation was expressed as an instantaneous minimum and instantaneous maximum.

[3] The range is the lowest and highest pH values.

[4] The limitation was expressed as an instantaneous maximum.

[5] Order R2-2023-0023 amended the previous order and replaced the instantaneous maximum effluent limit with a one-hour average effluent limit. This change was effective January 1, 2024.

[6] The enterococci limits are expressed as a monthly 10 percentile (110 CFU/100 mL) and six-week geometric mean (30 CFU/100 mL), calculated weekly.

[7] This value is the geometric mean of all samples from April 2020 through May 2026.

[8] This value is the lowest percent survival.

2.4. Compliance Summary

2.4.1. **Treatment Plant.** During the previous order term, the Discharger exceeded the effluent limitations for turbidity, ammonia, and total suspended solids (TSS) as listed below:

Table F-3. Numeric Effluent Limit Violations

Violation Date	Limitation Violated	Units	Effluent Limitation	Reported Value
3/30/2022	Turbidity, Instantaneous Maximum	NTU	10	15
5/12/2022	TSS, Daily Maximum	mg/L	30	33
5/12/2022	Turbidity, Instantaneous Maximum	NTU	10	18
9/14/2024	Turbidity, Instantaneous Maximum	NTU	10	15
9/17/2024	Turbidity, Instantaneous Maximum	NTU	10	16
9/18/2024	Turbidity, Instantaneous Maximum	NTU	10	17

Violation Date	Limitation Violated	Units	Effluent Limitation	Reported Value
9/30/2024	Ammonia, Monthly Average	mg/L	2.0	2.7
9/12/2025	Ammonia, Daily Maximum	mg/L	5.0	5.4
9/13/2025	Ammonia, Daily Maximum	mg/L	5.0	5.1
9/14/2025	Ammonia, Daily Maximum	mg/L	5.0	5.6
9/15/2025	Ammonia, Daily Maximum	mg/L	5.0	5.8
9/19/2025	Ammonia, Daily Maximum	mg/L	5.0	6.2
9/20/2025	Ammonia, Daily Maximum	mg/L	5.0	7.4
9/21/2025	Ammonia, Daily Maximum	mg/L	5.0	6.8
9/22/2025	Ammonia, Daily Maximum	mg/L	5.0	6.1
9/23/2025	Ammonia, Daily Maximum	mg/L	5.0	6.6
9/24/2025	Ammonia, Daily Maximum	mg/L	5.0	5.3
9/25/2025	Ammonia, Daily Maximum	mg/L	5.0	6.3
9/26/2025	Ammonia, Daily Maximum	mg/L	5.0	7.1
9/30/2025	Ammonia, Daily Maximum	mg/L	5.0	7.7
9/30/2025	Ammonia, Monthly Average	mg/L	2.0	5.6
1/23/2026	Turbidity, Instantaneous Maximum	NTU	10	12
1/31/2026	Copper, Total Monthly Average	µg/L	10	12

The one TSS and six Turbidity violations are due to the prevalence of a novel class of single cell algae (picoplankton, <2 um) within the oxidation ponds that is out-competing other species that are easier to remove in the dissolved air flotation tanks. The Discharger has made several process control adjustments, such as adding additional coagulants, enhanced pH controls, and the addition of a nanobubble system to the fixed-growth reactors. These adjustments have proven effective at managing algae removal in the treatment process until the CAS-1 system is completed, which will reduce reliance on the oxidation ponds.

The 15 Ammonia violations are due to the seasonal variability within the fixed growth reactors system where most of the ammonia removal happens. The occasional “early rise” in oxidation pond effluent ammonia has been observed for many years. The Discharger’s operational strategy for maintaining compliance has been to reduce flows (and ammonia loads) to the fixed growth reactors by utilizing the storage capacity of the ponds as needed during September. However, due to ongoing construction for the CAS-1 system, drawing down the ponds during the summer was not feasible in 2025. Additionally, more frequent filter backwashes necessitated by algae matting has raised flow to the oxidation ponds compared to previous years. The discharge came back into compliance on October 1, 2025, when wet-season ammonia effluent limits applied. Additionally, the Discharger performed a pH + ammonium

sulfate treatment at the fixed growth reactors in March 2026. The twofold goal of this treatment was snail abatement and removal of existing biofilm to allow nitrifying bacteria to re-establish on the media. Regional Water Board responded by issuing mandatory minimum penalties through Order R2-2026-1013 totaling $36,000.

The Copper violation in January 2026 is still under investigation. The City has been conducting ongoing investigations into elevated copper in their trunklines. The issue is likely related to discharges from commercial businesses. Though other possibilities, such as changes in source water concentration, significant new construction, and water conservation are also being evaluated. Results of the investigation will be reported in annual Pollution Prevention Reports.

On July 29, 2020, the City reported an unauthorized discharge of approximately 292,600 gallons of partially-treated and undisinfected wastewater to a California Department of Fish and Wildlife channel tidally connected to Guadalupe Slough and South San Francisco Bay. The discharge occurred when a secondary effluent pipeline to the oxidation pond ruptured at the Facility. This violation was addressed by Administrative Civil Liability R2-2021-1002.

On June 1, 2025, The City reported an unauthorized discharge of approximately 70,000 gallons of concentrated algae “float” from the dissolved air flotation tanks to a U.S. Fish and Wildlife channel, formerly referred to as the Cargill Channel, due to a manhole overflow cause by a. temporary rerouting of primary effluent to the ponds. The absence of the primary effluent as “carrier water” for the float led to the overflow. Cleanup efforts, including containment booms and vacuuming operations, began immediately and continued through June 3. Daily visual inspections were conducted throughout the response period, and no impacts to wildlife or evidence of fish kill were observed.

2.4.2. **Sanitary Sewer System.** The table below summarizes the Discharger’s Category 1 sanitary sewer spill rates for the last five years. Category 1 spill rates are those that reach waters of the United States.

Table F-4. Sanitary Sewer System and Category 1 Sanitary Sewer Spill Rates

(Values based on CIWQS data analysis completed in February 2025) [1]

	Length (miles) [2]	Average Pipe Age (years) [3]	2021	2022	2023	2024	2025
City of Sunnyvale	312	30	0.0	0.0	0.0	0.0	0.0
San Francisco Bay Region	17,400	49	1.2	1.0	1.2	0.72	0.70
State of California	122,000	45	0.43	0.39	0.44	0.33	0.31

Footnotes:

[1] The State Water Board’s Enrollee’s Guide to the SSO Database defines “Total number of SSOs per 100 miles of Sewer” as “…the number of 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] Lengths shown are based on 2025 data.

[3] The average pipe ages are estimated based on the percentage of piping constructed during each decade as reported by enrollees under the statewide WDRs for sanitary sewer systems. Ages shown are based on 2025 data.

The Discharger's Category 1 sanitary sewer spill rates are lower than the San Francisco Bay Region's rates.

During the previous order term, the Discharger rehabilitated sewer pipes and manholes, increased root control efforts, and conducted inspections and spot cleaning. The Discharger also engaged Sewer AI as part of its solution to significantly increase its CCTV footage inspection rate per year. The Discharger also conducted outreach activities to reduce wipes and fats, oils, and grease from entering the sanitary sewer system.

2.5. Planned Changes

The City Council approved a Master Plan in August 2016 authorizing a 30-year reconstruction project known as the Sunnyvale Cleanwater Program. A Master Plan Update is scheduled for completion in the first quarter of 2027. The Cleanwater Program provides a long-term guide for replacing the plant's aging infrastructure. The first major project (Primary Treatment Facilities) was completed under the previous permit term and become operational in 2024. The following are descriptions of two additional key projects in the Cleanwater Program that will be completed under the current permit. Implementation of these projects is not a requirement of this Order, except to the extent that they pertain to increasing or ensuring treatment system or wastewater collection system reliability. However, the proposed upgrades described below would need to be documented and authorized in accordance with Provision 5.3.5.5. of the Order.

2.5.1. **Secondary Treatment Facilities**. The Discharger is replacing the biological treatment facilities with an activated sludge system consisting of bioreactors and secondary clarifiers configured as a Modified Ludzak-Ettinger (MLE) process to enhance nitrogen removal. Construction of the new system is occurring in two stages. Under the first stage, currently in progress, the Discharger is constructing two multi-zone aeration basins, four secondary clarifiers, and appurtenant systems for aeration, flow recycle, return and waste activated sludge pumping and other solids handling. This first stage is referred to "CAS-1". Commissioning of CAS-1 is expected to start during the fourth quarter of 2027 The CAS-1 system will operate in parallel with the existing biological treatment system (oxidation ponds, fixed growth reactors, dissolved air flotation tanks) under a split-flow regime. Primary effluent from existing facilities will be apportioned using a weir structure, with approximately two-thirds going (or more) to the CAS-1 system and the remaining one-third going to the existing biological treatment system. Secondary effluent from the CAS-1 system will be directed to the dual media filters. When producing recycled water, CAS-1 effluent will be the source of water for that system. The Discharger will blend effluent from the existing biological treatment system with effluent from the CAS-1 system at a point upstream of the disinfection and

dechlorination system. The CAS-1 project also includes construction of a new sludge thickening and dewatering facility to handle sludges generated from both the new Primary Treatment and CAS-1 processes. The Discharger expects to commission the new sludge thickening and dewatering facility by the second quarter of 2028. The CAS-1 system is designed to provide a high level of CBOD and TSS removal along with nearly full nitrification and partial denitrification.

The project includes facilities for thickening blended (primary plus CAS-1 secondary) sludges in rotary drum thickeners, and for polymer conditioning and dewatering of digested sludge using screw presses, along with appurtenant holding tanks, pumps, and other equipment. Filtrate from the screw presses will be processed through a DEMON Anammox Treatment process for nitrification-denitrification of that stream.

The current Master Plan Update includes an evaluation of the Secondary Treatment System to identify alternative treatment technologies that could replace the planned CAS-2 system. Potential alternatives include an intensified CAS-1 configuration and a membrane bioreactor (MBR) system downstream of the Modified Ludzack-Ettinger (MLE) process, among other treatment technologies. This second stage of upgrades will not be completed within the term of this Order.

2.5.2. **Existing Plant Rehabilitation Project.** The Discharger has initiated a major rehabilitation project to ensure that existing treatment facilities remain functional and reliable until the CAS-2 facilities are complete or through 2036. Improvements are directed primarily at the plant's tertiary treatment facilities, including replacement of equipment (e.g., pumps, valves, motors and associated electrical facilities), refurbishing two of the fixed growth reactors, restoring deteriorated concrete, and modernizing the Tertiary Plant's automatic control system. The project is scheduled for completion in the second quarter of 2027.

2.6. Sea Level Rise

In 2024, the City of Sunnyvale completed a Climate Change and Resiliency Technical Memorandum that identified measures to address vulnerabilities associated with sea level rise and rising groundwater. These measures included physical infrastructure, such as the perimeter wall along the eastern half of the plant and the Caribbean Drive Parking and Trail Access Enhancements, which included bioretention planters with native species to treat stormwater as part of broader flood-resilience improvements.

The City has also advanced climate resilience through policy and planning initiatives, including the 2019 Climate Action Playbook, which establishes strategies to reduce greenhouse gas emissions and adapt to climate change. Similarly, the City's 2022 Moffett Park Specific Plan establishes strategies for adapting to climate change, including realignment, protection, and accommodation

measures such as a future levee, tidal marsh restoration, and infrastructure designed to accommodate higher groundwater levels.

The City is also coordinating with Valley Water and the U.S. Army Corps of Engineers (USACE) on the South San Francisco Bay Shoreline Project. If implemented in conjunction with the WPCP's perimeter walls and channel flood-protection measures, the project could provide protection from a 100-year storm event under projected sea level rise conditions through approximately 2060 to 2075.

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 location 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). Provision 5.3.4.2.1 and Attachment G Provision 1.9.1 are state law requirements that are retained from the previous order. To the extent Water Code section 13389 does not apply to these state law requirements, retaining them is not a project subject to CEQA because they will not cause a direct or indirect physical change in the environment (Public Resources Code §§ 21065, 21080).

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 established State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Because of the marine influence on South San Francisco Bay, total dissolved solids levels exceed 3,000 mg/L; therefore, Moffett Channel meets an exception to State Water Board Resolution 88-63. The beneficial uses applicable to Moffett Channel are as follows:

Table F-5. Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001	Moffett Channel	Estuarine Habitat (EST) Wildlife Habitat (WILD) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2)

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, and again on January 16, 2025.

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 new *enterococcus* bacteria water quality objectives and related implementation provisions for discharges to marine and estuarine receiving waters that support the water contact recreation beneficial use.

3.3.5. **Toxicity Provisions.** On December 1, 2020, the State Water Board adopted *State Policy for Water Quality Control: Toxicity Provisions* (Toxicity Provisions), which established statewide numeric water quality objectives for both acute and chronic toxicity using the Test of Significant Toxicity (TST) and a program of implementation to control toxicity. On October 5, 2021, the State Water Board adopted a resolution confirming that the Toxicity Provisions were adopted as a state policy for water quality control for all inland surface waters, enclosed bays, estuaries, and coastal lagoons of the state, regardless of their status as waters of the United States. The Toxicity Provisions establish a uniform regulatory approach to provide consistent protection of aquatic life beneficial uses and

protect aquatic habitats and life from the effects of known and unknown toxicants. The Toxicity Provisions were approved by the Office of Administrative Law on April 25, 2022, and by U.S.EPA on May 1, 2023.

On December 14, 2023, the State Water Board applied for U.S. EPA Region IX review and approval of a limited-use alternative test procedure (ATP) for the use of one effluent concentration when conducting whole effluent toxicity (WET) tests, pursuant to 40 C.F.R. section 136.5 (Aug. 28, 2017). The application is specific to acute or chronic WET tests in Table 1 of the application when using the TST statistical approach (U.S. EPA, 2010) for analyzing the data. The application is being sought for all dischargers or facilities in the State of California and their associated laboratories. The ATP application is still pending with U.S. EPA.

The use of the TST has been the subject of litigation. In December 2024, the Second District Court of Appeal upheld the use of the TST in an NPDES permit in the case *Camarillo Sanitary District* v. *California Regional Water Quality Control Board - Los Angeles Region*.

A separate legal challenge to the State Water Board's adoption of the Toxicity Provisions originated in Fresno County Superior Court on July 18, 2022, through a petition for writ of mandate filed by Camarillo Sanitary District, City of Simi Valley, City of Thousand Oaks, Central Valley Clean Water Association, and Clean Water SoCal (formerly known as Southern California Alliance of Publicly Owned Treatment Works) (Petitioners). One of the claims was that the Toxicity Provisions was inconsistent with the Clean Water Act. On October 9, 2023, the superior court denied the petition in its entirety.

On December 19, 2023, three of the Petitioners filed a notice of appeal of the Fresno Superior Court's decision upholding the Toxicity Provisions. On August 5, 2025, the Fifth District Court of Appeal issued a published opinion holding that the TST statistical approach, which is an integral component of the Toxicity Provisions, cannot be utilized in NPDES permitting to evaluate WET data because the TST is not an approved method under 40 C.F.R. part 136. The Court of Appeal did not, however, disturb the Toxicity Provisions' use of the TST as a part of its water quality objectives. The State Water Board prevailed on all other claims in the litigation. The Court of Appeal's decision became final on September 4, 2025.

On September 15, 2025, the State Water Board filed a petition for review of the Fifth Circuit Court of Appeal's decision with the California Supreme Court. On November 12, 2025, the California Supreme Court granted review. The issues to be briefed and argued are limited to the issues raised in the State Water Board's petition for review.

Pending the California Supreme Court's review, the opinion of the Fifth Circuit Court of Appeal is not binding on the Water Boards. However, the opinion may

be cited, not only for its persuasive value, but also for the limited purpose of establishing the existence of a conflict in authority.

In accordance with Water Code sections 13146 and 13247, the Regional Water Board must fully implement the water quality objectives and their implementation procedures in the Toxicity Provisions. The numeric water quality objectives for chronic and acute toxicity established by the Toxicity Provisions, which are based on the TST, were approved by U.S. EPA and remain in effect. As such, the numeric water quality objectives continue to serve as the applicable federal water quality standards in California.

The Regional Water Board must also continue to comply with federal Clean Water Act NPDES regulations for determining reasonable potential and establishing applicable water quality-based effluent limitations (WQBELs). NPDES regulations (40 C.F.R. section122.44(d)(1)(vii)(A)) require that all WQBELs be derived from and comply with all applicable water quality standards. Moreover, although the Toxicity Provisions left in place narrative water quality objectives for aquatic toxicity in the Basin Plan, the Toxicity Provisions did supersede Basin Plan provisions and portions of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP) for implementing narrative water quality objectives. As such, there are currently no Basin Plan or SIP procedures in effect for implementing narrative water quality objectives to determine reasonable potential as required by 40 C.F.R. section 122.44(d)(1)(ii). As a result, the Regional Water Board must fully implement all of the Toxicity Provisions.

3.3.6. **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 supersedes other narrative sediment quality objectives, and establishes new sediment quality objectives and related implementation provisions for specifically defined sediments in most bays and estuaries.

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. §§ 1531 to 1544). This Order requires compliance with effluent limitations 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. **Sewage 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. The Discharger is responsible for meeting applicable requirements of 40 C.F.R. part 503. This Order does not authorize any act that violates those requirements.

3.4. Impaired Water Bodies on CWA section 303(d) List. On December 13, 2024, 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.

Moffett Channel is not listed as impaired, but South 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 are implemented through NPDES Permit CA0038849.

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 also not a source of invasive species because it is

disinfected, nor is it a source of trash because it is screened and treated to secondary treatment standards. The discharge is an insignificant source of dioxins and furans compounds; nonetheless, this Order contains dioxin-TEQ effluent limitations to ensure that dioxins and furans in effluent are kept below water quality objectives.

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. Prohibitions in this Order

4.1.1.1. **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.

4.1.1.2. **Discharge Prohibition 3.2 (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).

4.1.1.3. **Discharge Prohibition 3.3 (No average dry weather influent flow above 29.5 MGD):** This prohibition ensures that the average dry weather influent flow does not exceed the plant's designed average dry weather treatment capacity (i.e., the historic and tested reliability of the treatment plant) of 29.5 MGD. Exceeding this flow could result in lower treatment reliability and greater potential to violate effluent limitations

4.1.1.4. **Discharge Prohibition 3.4 (No sanitary sewer spills to waters of the United States):** This prohibition is based on Discharge Prohibition 15 of Basin Plan Table 4-1 and the CWA, which 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. A sanitary sewer spills that results in the discharge to waters of

> the United States of raw sewage or wastewater not meeting this Order's effluent limitations is therefore prohibited under the Basin Plan and CWA.

4.1.2. **Basin Plan Discharge Prohibitions 1 and 2.** Basin Plan Table 4-1, Discharge Prohibitions 1 and 2, prohibits discharges to dead-end sloughs and discharges not receiving a minimum of 10:1 initial dilution, and discharge south of Dumbarton Bridge. Basin Plan section 4.2 provides for exceptions to Basin Plan Discharge Prohibitions 1 and 2 under certain circumstances:

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

The Basin Plan further states:

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

South San Francisco Bay is surrounded by extensive mudflats, sloughs, marshes, and salt ponds, and is generally confined and shallow, except for a deep central channel. The discharge to Moffett Channel does not receive 10:1 initial dilution. In 1988, the Regional Water Board found that the Discharger met the exception to the Basin Plan prohibition based on the discharge providing a net environmental benefit. In 1990, the State Water Board disagreed, concluding that the Discharger had failed to demonstrate a net environmental benefit. Nonetheless, it acknowledged that relocating the discharge north of the Dumbarton Bridge was not economically or environmentally sound. It also concluded that discharges could meet an exception to the prohibition because the Discharger could ensure an "equivalent level of protection" if the discharge received advanced secondary treatment and nitrification. Attachment I provides more details regarding this history.

The Regional Board continues to grant an exception to the discharge prohibition based on the following findings:

- Moving the Discharger's outfalls to deep water (i.e., north of the Dumbarton Bridge) would be an inordinate burden because such relocation would require pipeline construction through protected wetlands, which would be costly and disturb wetland habitats.

- The Discharger continues to provide an equivalent level of environmental protection by providing advanced secondary treatment with tertiary filtration, achieving greater than 95 percent removal of including a higher level of BOD and TSS removal, and significant nitrification of wastewater.

- The Discharger also continues to pursue wastewater reclamation projects to reduce its discharge volumes.

4.2. Technology-Based Effluent Limitations

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

Table F-6. 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) [1] [2]	25 mg/L	40 mg/L
Total Suspended Solids (TSS) [2]	30 mg/L	45 mg/L
pH	6.0 – 9.0 standard units	

Footnotes:

[1] CBOD effluent limitations may be substituted for BOD limitations.

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

4.2.2. Technology-Based Effluent Limitations

4.2.2.1. **$CBOD_5$, and BOD_5.** The $CBOD_5$ effluent limitations are a monthly average of 10 mg/L and a daily maximum of 20 mg/L. These limitations, including the 85 percent removal requirements, are technologically feasible standards for the advanced wastewater treatment technologies used at the plant and are unchanged from the previous order. These limits are more stringent than the secondary treatment standards.

San Francisco Bay south of the Dumbarton Bridge is a unique water body, with limited capacity to assimilate wastewater. Due to limited circulation, wastewater discharges to this area may take several months to reach the ocean. In addition, the unique wetlands and ambient conditions of South San Francisco Bay sometimes result in natural dissolved oxygen levels lower than the Basin Plan's water quality objective of 5.0 mg/L. The limited assimilative capacity of South San Francisco Bay necessitates effluent BOD_5 limitations more stringent than those required for secondary treatment. The

Discharger constructed advanced waste treatment facilities in the late 1970s and has consistently met these limits.

This treatment is necessary to qualify for an exception to Basin Plan Discharge Prohibition 1, as described above in Fact Sheet section 4.1.2.

During previous order terms, the Discharger elected to measure $CBOD_5$, as defined in the latest edition of *Standard Methods for the Examination of Water and Wastewater*.

4.2.2.2. **TSS.** The total suspended solids (TSS) effluent limitations are a monthly average of 20 mg/L and a daily maximum of 30 mg/L. These limitations, including the 85 percent removal requirements, are technologically feasible standards for the advanced wastewater treatment technologies used at the plant and are unchanged from the previous order.

These limits are more stringent than the secondary treatment standards. The limited assimilative capacity of South San Francisco Bay necessitates TSS limitations more restrictive than those required for secondary treatment. The Discharger constructed advanced waste treatment facilities in the late 1970s and has consistently met TSS limits more stringent than the secondary treatment standards

Although these limits are more stringent than the secondary treatment standards, they are less stringent than those imposed on the other two significant discharges to South San Francisco Bay (i.e., discharges from the San Jose/Santa Clara Water Pollution Control Plant and Palo Alto Regional Water Quality Control Plant), which have monthly average limits of 10 mg/L and maximum daily limits of 20 mg/L. The difference relates to the different treatment technologies these dischargers employ (*Total Suspended Solids Removal Study,* April 3, 2014). Nevertheless, these limits represent the best performance the Facility can reliably achieve with its current treatment process, so as to justify the exception to Basin Plan Discharge Prohibition 1 described in Fact Sheet section 4.1.2

4.2.2.3. **pH.** The pH effluent limitations are based on the secondary treatment standards and Basin Plan Table 4-2, which requires limitations for shallow water discharges to be a minimum of 6.5 and a maximum of 8.5 standard units.

4.2.2.4. **Chlorine.** Basin Plan Table 4-2 contains an instantaneous limitation for total residual chlorine of 0.0 mg/L. This Order continues to replace the instantaneous limitation in the Basin Plan with the higher water quality-based effluent limitation (see Fact Sheet section 4.3.4.6) imposed in the previous order, as amended by Order R2-2023-0023, 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 requirements of this Order (specifically Provision 5.3.5.5 and footnote 5 to Table E-3) include a comprehensive program that will ensure that these limitations will not result in unacceptable adverse impacts to the beneficial uses of receiving waters. This Order requires the Discharger to continue to implement a Chlorine Process Control Plan to target a chlorine residual of 0.0 mg/L at Discharge Point 001. This will ensure that chlorine will typically not be present in the discharge and, if chlorine is detected, the duration of such discharges will be relatively short.

4.2.2.5. **Turbidity.** The turbidity effluent limitation, an instantaneous maximum of 10 nephelometric turbidity units (NTU), is unchanged from the previous order to ensure the performance of the plant's advanced secondary treatment. Although this limit is more stringent than the requirements of Basin Plan Table 4-2, the Discharger identified environmental benefits that warrant reconsideration of the limit during the wet weather months from October through May. During these months, this Order applies the turbidity limit only when TSS exceeds 20 mg/L. This is to ensure that the Discharger maintains its current TSS removal performance.

Due to the emergence of a novel picoalgae in the oxidation ponds, the Discharger indicates that previously it used excessive amounts of polymer during the winter months to meet its turbidity effluent limitation. This was necessary to remove single cell algae that increase turbidity, but not necessarily TSS. To ensure that the Discharger maintains its current TSS performance, but also to allow it to reduce excessive polymer use during the wet weather months, this Order only applies the turbidity limit during these months if TSS exceeds 20 mg/L. Maintaining TSS below this level will ensure no degradation of receiving water quality. This threshold is also consistent with the daily maximum TSS limit included in the NPDES permits for the San Jose/Santa Clara Water Pollution Control Plant and the Palo Alto Regional Water Quality Control Plant. This advanced level of treatment justifies the exception to Basin Plan Discharge Prohibition 1 described in Fact Sheet section 4.1.2.

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.** Discharge Point 001 discharges to Moffett Channel. Fact Sheet section 3.3.1 identifies the beneficial uses of the receiving water. 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 ten priority pollutants and un-ionized ammonia, and narrative objectives.

4.3.2.1.1. **Un-Ionized 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 South San Francisco Bay and upstream waters. 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 determine the un-ionized ammonia fraction pH, salinity, and temperature were collected at Monitoring Locations EFF-001 and RSW-001 on the same days that the Discharger collected ammonia samples at the same locations. The un-ionized fraction of the total ammonia was calculated using the following equations (*Ambient Water Quality Criteria for Ammonia (Saltwater)*–1989, EPA Publication 440/5-88-004, 1989):

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

Where, for salinity less than 1 parts per thousand (ppt):

pK = 0.09018 + 2729.92/T
T = temperature in Kelvin

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 also 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 (*The Metals Translator: Guidance for Calculating a Total Recoverable Limit form a Dissolved Criterion*, EPA Publication 823-B96-007, 1996). The equivalent acute and chronic total ammonia criteria are 10.2 mg/L and 1.2 mg/L (as nitrogen).

4.3.2.1.2. **Bioaccumulation and Dioxin-TEQ.** The narrative bioaccumulation objective (Basin Plan § 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” (Federal Register 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 water and 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 produce 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-7. 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
Freshwater	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 Moffett Channel because it is not a source of drinking water.

In December 2024, U.S. EPA promulgated a revised CTR selenium criterion for California freshwater receiving waters in *Final Aquatic Life and Aquatic-Dependent Wildlife Selenium Water Quality Criterion for Freshwaters of California*, EPA-822-R-24-014 (Final Freshwater Selenium WQC). The revised criteria took effect on January 16, 2025, after publication in the Federal Register (U.S. EPA, 2024, Environmental Protection Agency, Fed. Reg. Vol. 89, No. 242, pages 101914 – 101938, December 17, 2024, codified at 40 C.F.R. part 131). The criterion applicable to lotic (i.e., flowing) freshwaters, 3.1 µg/L, applies to Moffett Channel.

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. These NTR criteria apply to South 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 enterococci bacteria water quality objectives to limit cases of gastrointestinal illness from water contact recreation. The enterococci 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:

H_o: Mean Response (ambient water) ≤0.75 x Mean Response (control water)
H_a: Mean Response (ambient water) >0.75 x Mean Response (control water)

Where:

H_o = null hypothesis
H_a = alternative hypothesis,
0.75 = Regulatory Management Decision criterion (i.e., 75 percent)

H_o 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.

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 ppt at least 95 percent of the time. Saltwater criteria apply to discharges to waters with salinities equal to or greater than 10 ppt at least 95 percent of the time in a normal water year. For discharges to water with salinities in between these two categories, or tidally-influenced freshwaters that support estuarine beneficial uses, the water quality objectives are the lower of the salt or freshwater criteria (the latter calculated based on ambient hardness) for each substance.

The Discharger collected 12 salinity samples at RSW-001 from January 2023 through December 2023, and 1 sample (8 percent) had less than 1 ppt salinity, 5 samples (42 percent) had between 1 ppt and 10 ppt, and 6 samples (50 percent) had greater than 10 parts per thousand salinity. Therefore, Moffett Channel is an estuarine receiving water.

Based on the above, the reasonable potential analysis and WQBELs in this Order are based on the more stringent of the freshwater and saltwater water quality objectives.

4.3.2.8. **Receiving Water Hardness.** Ambient hardness data were used to derive freshwater water quality objectives that are hardness dependent. The data were collected from 1995 through 2002 at RMP monitoring station C-3-0. Hardness ranged from 510 to 2,560 mg/L as CaCO3. A hardness of 400 mg/L as CaCO3 was used to determine the water quality objectives because, as explained in the support documents for the CTR, most of the hardness data used to determine the CTR hardness equations were in the range of 25 to 400 mg/L as CaCO3. The CTR objectives are most accurate in this range, and using a hardness of 400 mg/L as CaCO3, as U.S. EPA recommends, errs on the side of water quality protection.

4.3.2.9. **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 South San Francisco Bay, Basin Plan Table 7.2.1-1 sets forth site-specific copper and nickel translators. The previous order used site-specific translators for zinc, lead, and chromium (VI) based on data from the Dumbarton Bridge monitoring station (BA30). This Order relies on the same translators. CTR default translators were used for all other metals. The site-specific translators are listed in the table below:

Table F-8. Site-Specific Translators

Parameter	Chronic Translator	Acute Translator
Copper	0.53	0.53
Nickel	0.44	0.44
Zinc	0.24	0.56
Chromium (VI)	0.037	0.089
Lead	0.060	0.15

4.3.3. Reasonable Potential Analysis

4.3.3.1. **Available Information.** The reasonable potential analysis for this Order is based on effluent data the Discharger collected from April 2020 through May 2026 and ambient background data summarized in the RMP's *San Francisco Bay California Toxics Rule Priority Pollutant Ambient Water Monitoring Report* (2017), which includes data collected through the RMP at the Dumbarton Bridge RMP station (BA30) 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 Dumbarton Bridge RMP monitoring station (BA30), relative to other RMP stations best fits SIP guidance for establishing background conditions at Discharge Point 001. For ammonia, receiving water data collected monthly from January 2023 to December 2023 at RSW-001 were used.

This Order does not contain WQBELs for constituents that do not demonstrate reasonable potential; however, the Monitoring and Reporting Program (MRP) still requires monitoring for those pollutants. If concentrations are found to have increased significantly, Provision 5.3.2 of the Order requires the Discharger to investigate the sources of the increases and

implement remedial measures if the increases pose a threat to receiving water quality.

4.3.3.2. **Priority Pollutants 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 as guidance for dioxin-TEQ. 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 ≥ 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, cyanide was observed to exhibit reasonable potential by Trigger 1. In addition, Basin Plan section 4.7.2.1 requires copper and nickel WQBELs for all individual NPDES permits for municipal wastewater treatment facilities that discharge to South San Francisco Bay. Dioxin-TEQ also has reasonable potential by Trigger 3 because the receiving water is impaired for dioxin-TEQ, fish tissue shows elevated levels of dioxin-TEQ, and the discharge could be a source of dioxin-TEQ.

Table F-9. Reasonable Potential Analysis

CTR No.	Priority Pollutants	C or Governing criterion or objective (µg/L)	MEC or minimum MDL (µg/L) [1][2]	B or MDL (µg/L) [1][2]	RPA Results [3]
1	Antimony	4,300	1.0	1.3	No
2	Arsenic	36	0.85	5.1	No

CTR No.	Priority Pollutants	C or Governing criterion or objective (µg/L)	MEC or minimum MDL (µg/L) [1][2]	B or MDL (µg/L) [1][2]	RPA Results [3]
3	Beryllium	No Criteria	0.1	0.11	U
4	Cadmium	3.37	0.1	0.17	No
5a	Chromium (III) [4]	No Criteria	-	15	No
5b	Chromium (VI) [4]	180	5.5	15	No
6	**Copper**	**13**	12	**8.6**	**Yes** [5]
7	Lead	135	0.28	4.2	No
8	Mercury	-	0.003	0.068	[6]
9	**Nickel**	**27**	**26**	**16**	**Yes** [5]
10	Selenium	5	3.3	0.63	No
11	Silver	2.2	<0.08	0.12	No
12	Thallium	6.3	<0.3	0.16	No
13	Zinc	161	17.7	21	No
14	**Cyanide**	**2.9**	6.8	**0.6**	**Yes**
15	Asbestos	No Criteria	0	-	U
16	2,3,7,8-TCDD	1.4×10^{-8}	$<6.3 \times 10^{-7}$	4.1×10^{-8}	U
	Dioxin-TEQ	**1.4×10^{-8}**	**8.0×10^{-7}**		**Yes** [8]
17	Acrolein	780	<0.8	<0.5	No
18	Acrylonitrile	0.66	<1.8	<0.02	U
19	Benzene	71	<0.18	<0.05	No
20	Bromoform	360	<0.17	<0.15	No
21	Carbon Tetrachloride	4.4	<0.21	0.07	No
22	Chlorobenzene	21,000	<0.18	<0.18	No
23	Chlorodibromomethane	34	<0.17	0.057	No
24	Chloroethane	No Criteria	<0.46	<0.38	U
25	2-Chloroethylvinyl ether	No Criteria	<0.28	<0.28	U
26	Chloroform	No Criteria	15	<0.19	U
27	Dichlorobromomethane	46	31	<0.05	No
28	1,1-Dichloroethane	No Criteria	<0.19	<0.05	U
29	1,2-Dichloroethane	99	<0.18	0.04	No
30	1,1-Dichloroethylene	3.2	<0.21	<0.21	No
31	1,2-Dichloropropane	39	<0.18	<0.05	No
32	1,3-Dichloropropylene	1,700	<0.2	<0.16	No
33	Ethylbenzene	29,000	<0.26	<0.26	No
34	Methyl Bromide	4,000	<0.3	<0.3	No
35	Methyl Chloride	No Criteria	<0.3	<0.3	U
36	Methylene Chloride	1,600	<0.4	<0.4	No
37	1,1,2,2-Tetrachloroethane	11	<0.15	<0.05	No
38	Tetrachloroethylene	8.9	<0.19	<0.05	No
39	Toluene	200,000	<0.19	<0.19	No
40	1,2-Trans-Dichloroethylene	140,000	<0.22	<0.22	No
41	1,1,1-Trichloroethane	No Criteria	<0.19	<0.19	U

CTR No.	Priority Pollutants	C or Governing criterion or objective (µg/L)	MEC or minimum MDL (µg/L) [1][2]	B or MDL (µg/L) [1][2]	RPA Results [3]
42	1,1,2-Trichloroethane	42	<0.16	<0.05	No
43	Trichloroethylene	81	<0.2	<0.2	No
44	Vinyl Chloride	525	<0.25	<0.25	No
45	2-Chlorophenol	400	<0.8	<0.7	No
46	2,4-Dichlorophenol	790	<0.1	<0.9	No
47	2,4-Dimethylphenol	2,300	<0.91	<0.8	No
48	2-Methyl- 4,6-Dinitrophenol	765	<0.96	<0.6	No
49	2,4-Dinitrophenol	14,000	<1.0	<0.7	No
50	2-Nitrophenol	No Criteria	<0.91	<0.8	U
51	4-Nitrophenol	No Criteria	<0.57	<0.5	U
52	3-Methyl 4-Chlorophenol	No Criteria	<0.91	<0.8	U
53	Pentachlorophenol	7.9	<0.57	<0.6	No
54	Phenol	4,600,000	<0.91	<0.5	No
55	2,4,6-Trichlorophenol	6.5	<0.63	<0.97	No
56	Acenaphthene	2,700	<0.57	0.003	No
57	Acenaphthylene	No Criteria	<0.64	0.001	U
58	Anthracene	110,000	<0.71	0.002	No
59	Benzidine	0.00054	<0.47	<0.0003	No
60	Benzo(a)Anthracene	0.049	<1.3	0.011	No
61	Benzo(a)Pyrene	0.049	<1.4	0.045	No
62	Benzo(b)Fluoranthene	0.049	<1.4	0.057	No
63	Benzo(ghi)Perylene	No Criteria	<1.5	0.015	U
64	Benzo(k)Fluoranthene	0.049	<1.1	0.21	No
65	Bis(2-Chloroethoxy)Methane	No Criteria	<0.71	<0.3	U
66	Bis(2-Chloroethyl)Ether	1.4	<0.6	<0.3	No
67	Bis(2-Chloroisopropyl)Ether	170,000	<0.87	<0.6	No
68	Bis(2-Ethylhexyl)Phthalate	5.9	<1.6	0	No
69	4-Bromophenyl Phenyl Ether	No Criteria	<0.71	<0.23	U
70	Butylbenzyl Phthalate	5,200	<1.4	<0.52	No
71	2-Chloronaphthalene	4,300	<0.59	<0.3	No
72	4-Chlorophenyl Phenyl Ether	No Criteria	<0.5	<0.3	U
73	Chrysene	0.049	<1.2	0.022	No
74	Dibenzo(a,h)Anthracene	0.049	<1.5	0.009	No
75	1,2-Dichlorobenzene	17,000	<0.32	<0.27	No
76	1,3-Dichlorobenzene	2,600	<0.29	<0.18	No
77	1,4-Dichlorobenzene	2,600	<0.3	<0.18	No
78	3,3-Dichlorobenzidine	0.077	<0.5	<0.0002	No
79	Diethyl Phthalate	120,000	<0.75	0.3	No
80	Dimethyl Phthalate	2,900,000	<0.61	<0.24	No

CTR No.	Priority Pollutants	C or Governing criterion or objective (µg/L)	MEC or minimum MDL (µg/L) [1][2]	B or MDL (µg/L) [1][2]	RPA Results [3]
81	Di-n-Butyl Phthalate	12000	<1	2.2	No
82	2,4-Dinitrotoluene	9.1	<0.84	<0.27	No
83	2,6-Dinitrotoluene	No Criteria	<0.8	<0.29	U
84	Di-n-Octyl Phthalate	No Criteria	<1.7	<0.38	U
85	1,2-Diphenyhydrazine	0.54	<0.74	0.005	U
86	Fluoranthene	370	<0.81	0.039	No
87	Fluorene	14,000	<0.65	0.005	No
88	Hexachlorobenzene	0.00077	<0.79	0.0005	No
89	Hexachlorobutadiene	50	<0.75	<0.3	No
90	Hexachlorocyclopentadiene	17,000	<0.72	<0.31	No
91	Hexachloroethane	8.9	<0.75	<0.2	No
92	Indeno(1,2,3-cd)Pyrene	0.049	<1.5	0.078	No
93	Isophorone	600	<0.88	<0.3	No
94	Naphthalene	No Criteria	<0.61	0.007	U
95	Nitrobenzene	1,900	<0.54	<0.25	No
96	N-Nitrosodimethylamine	8.1	<0.39	<0.3	No
97	N-Nitrosodi-n-Propylamine	1.4	<0.97	<0.0002	No
98	N-Nitrosodiphenylamine	16	<0.83	<0.001	No
99	Phenanthrene	No Criteria	<0.64	0.014	U
100	Pyrene	11,000	<0.95	0.056	No
101	1,2,4-Trichlorobenzene	No Criteria	<0.66	<0.6	U
102	Aldrin	0.00014	<0.003	0	No
103	Alpha-BHC	0.013	<0.005	0.001	No
104	Beta-BHC	0.046	<0.01	0.001	No
105	Gamma-BHC	0.063	<0.01	0.002	No
106	Delta-BHC	No Criteria	<0.006	0.0001	U
107	Chlordane	0.00059	<0.096	0.0002	No
108	4,4'-DDT	0.00059	<0.008	0.0002	No
109	4,4'-DDE (linked to DDT)	0.00059	<0.008	0.001	No
110	4,4'-DDD	0.00084	<0.004	0.001	No
111	Dieldrin	0.00014	<0.007	0.0003	No
112	Alpha-Endosulfan	0.0087	<0.004	0.00003	No
113	Beta-Endosulfan	0.0087	<0.006	0.00005	No
114	Endosulfan Sulfate	240	<0.007	0.0001	No
115	Endrin	0.0023	<0.006	0.0001	U
116	Endrin Aldehyde	0.81	<0.005	<0.005	No
117	Heptachlor	0.00021	<0.006	0.00002	No
118	Heptachlor Epoxide	0.00011	<0.003	0.0002	No
119-125	PCBs sum	---			[6]
126	Toxaphene	0.0002	<0.094	<0.000000487	No

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 method detection limit (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 MEC and maximum ambient background concentrations are the total chromium concentration. The chromium (III) and chromium (VI) concentrations are unknown but less than these values.

[5] Reasonable potential is based in whole or part on Basin Plan sections 7.2.1.2 and 4.7.2.1.

[6] 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. The receiving waters do not have the MUN beneficial use.

[8] Reasonable potential is based on Trigger 3 because San Francisco Bay is impaired for dioxin-TEQ, fish tissue shows elevated levels of dioxin-TEQ, and the discharge could be a source of dioxin-TEQ.

4.3.3.3. Ammonia

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

The following steps summarize the process for determining reasonable potential for a pollutant using the Technical Support Document method:

- **Step 1.** Determine the total number of samples (n) and the MEC.
- **Step 2.** Determine the coefficient of variation (CV). For a data set where $n < 10$, the CV is estimated to equal 0.6. For a dataset where $n \geq 10$, the CV is calculated as the standard deviation divided by the mean.
- **Step 3.** Determine a ratio (R) for projecting the upper bound concentration based on a selected confidence interval (e.g., 95th or 99th percentile) and assuming a lognormal distribution as follows:

  Calculate the percentile (P_n) represented by the MEC in the data set of n samples based on the selected confidence level.

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

  Calculate the concentration multiplying factors (C) for the MEC percentile and the chosen upper bound percentile (typically the 99th) using the following equation:

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

Where:

$\sigma^2 = \ln(CV^2 + 1)$
P is the percentile (either Pn or the selected Pupper bound)
Zp is the standard normal distribution value for the percentile P (available from statistical references)

Finally, calculate R as:

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

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

  RWC = (MEC x R) / dilution ratio

  The dilution ratio can be defined as:

  Dilution ratio = (D + [1 part effluent]) / (1 part effluent)

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

  Therefore:

  RWC = (MEC x R) / (D + 1)

- **Step 5.** Compare the RWC to the most stringent water quality objective for the pollutant. There is reasonable potential if the RWC is greater than or equal to the lowest applicable water quality objective.

For purpose of this analysis, no dilution was assumed (D=0) and the receiving water concentration projected from effluent data was assumed to be the same as the projected upper bound concentration:

RWC = MEC x R (see Step 4 above).

4.3.3.3.2. **Analysis Based on Effluent Data.** Translated un-ionized ammonia effluent data from April 1, 2020, through May 31, 2026, were used to evaluate reasonable potential for ammonia. From the 333-sample data set collected at Monitoring Location EFF-001, the maximum effluent concentration for un-ionized ammonia was 0.12 mg/L, and the coefficient of variation was 1.2. Therefore, the 95th percentile of the data was determined to be 0.059, and the corresponding z-score was 2.4. Using the 99th percentile as the upper bound, the corresponding z-score was set to 2.32. R was calculated to be 1.1, and the RWC was determined to be 0.13. This value is less than the acute water quality objective for

un-ionized ammonia of 0.40 mg/L; therefore, there is not reasonable potential for ammonia in the discharge to cause or contribute to exceedances of the acute water quality objective in the receiving water.

To determine if there is reasonable potential for un-ionized ammonia to cause or contribute to exceedances of the annual median water quality objective, the annual median water quality objective was compared against the highest actual running annual median (using only samples collected at Monitoring Location EFF-001 between April 2020 and May 2026). No projection is needed to establish the central tendency of the data. The highest annual median of the data set was 0.016 mg/L, which is less than the annual median water quality objective of 0.025 mg/L; therefore, there is no reasonable potential for ammonia to cause or contribute to exceedances of the annual median water quality objective in the receiving water.

4.3.3.3.3. **Analysis Based on Receiving Water Data.** The Discharger conducted receiving water monitoring at the confluence of Moffett Channel and Guadalupe Slough from January 2023 to December 2023 for total ammonia, pH, salinity, and temperature. Based on temperature and pH, the City of Sunnyvale WPCP *Receiving Water Ammonia Investigations 2001 Final Report* found this location has the highest concentrations of un-ionized ammonia. These data were converted to un-ionized ammonia as described above. The maximum daily un-ionized ammonia RWC was 0.03 mg/L, which is less than the acute water quality objective of 0.40 mg/L. The highest un-ionized ammonia receiving water annual median concentration of 0.014 mg/L is less than the chronic objective of 0.025 mg/L. Therefore, there is no reasonable potential for ammonia based on the receiving water data.

4.3.3.3.4. **Conclusion.** While effluent and receiving water data for ammonia support finding no reasonable potential, there would be reasonable potential if the Discharger were to discontinue nitrifying its effluent. During the previous order term, the Discharger successfully operated the plant to treat ammonia to below the Basin Plan objectives. However, without regulatory assurance that nitrification will continue, the un-ionized ammonia in the effluent could increase. Therefore, the total ammonia effluent limitations from the previous order are retained to avoid backsliding and to ensure that the Discharger maintains its nitrification performance.

4.3.3.4. **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.

4.3.3.5. **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.

4.3.3.6. **Acute Toxicity.** During the previous order term, the Discharger monitored effluent monthly for acute toxicity at 100 percent effluent and did not violate 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.

4.3.3.7. **Chronic Toxicity**. Toxicity Provisions section III.C.5 requires a chronic toxicity effluent limit for publicly owned treatment works permitted to discharge 5.0 MGD or greater and required to have a pretreatment program under 40 C.F.R. section 403.8(a) as of January 1, 2020. The Discharger is a publicly owned treatment works permitted to discharge 5.0 MGD or more and is required to have a pretreatment program under 40 C.F.R. section 403.8(a); therefore, a chronic toxicity effluent limit is required.

4.3.3.8. **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 limitations to protect sediment quality are to be developed when:

- a direct relationship between the discharge and degraded sediment has been established;
- the pollutants causing degradation have been identified; and
- 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 the 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.

4.3.3.9. **Narrative Water Quality Objectives.** Basin Plan chapter 3 includes narrative water quality objectives for all surface waters within the region, except the Pacific Ocean. Where reasonable potential is found, the Basin Plan requires these objectives to be translated into effluent limitations.

4.3.3.9.1. Basin Plan section 3.3.2 requires that controllable water quality factors not cause a detrimental increase in the concentration of bioaccumulative, toxic

substances in bottom sediments or aquatic life. This Order finds reasonable potential for certain bioaccumulative pollutants (e.g., dioxin-TEQ). As explained in Fact Sheet section 4.3.2.1.2, elevated levels of dioxins and furans in San Francisco Bay fish tissue demonstrate that the narrative bioaccumulation water quality objective is not being met. Therefore, the Order contains an effluent limit and monitoring requirements for dioxin-TEQ as well as chronic toxicity. The Regional Water Board is implementing this narrative objective by using an indicator parameter (i.e., dioxin-TEQ) for these bioaccumulative pollutants of concern.

4.3.3.9.2. Basin Plan section 3.3.3 requires that the receiving water not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses. The discharge is subject to the requirements of NPDES Permit CA0038873 (*Nutrient Watershed Permit*), which establishes effluent limitations for nitrogen due to finding reasonable potential for biostimulatory substances. These limits should prevent aquatic growths to the extent that such growths could create a nuisance or adversely affect beneficial uses.

4.3.3.9.3. Basin Plan section 3.3.4 requires that discharges be free of coloration that causes nuisance or adversely affects beneficial uses. As stated in section 4.3.4.2.7, the effluent discharged receives advanced secondary treatment and does not contain objectionable color, odor, taste, or turbidity. Therefore, there is no reasonable potential to exceed this narrative objective. Further, the technology based effluent limitations in this Order, including those for TSS and turbidity, are sufficient to prevent an excursion above this narrative water quality objective in the receiving water. See Fact Sheet section 4.2.2.

4.3.3.9.4. Basin Plan section 3.3.5 requires that dissolved oxygen downstream of Carquinez Bridge remain above a minimum of 5.0 mg/L and that the median dissolved oxygen concentration for any three consecutive months 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. To evaluate reasonable potential, this Order uses the water quality objective of 5.0 mg/L. It does not consider dissolved oxygen content at saturation because that is based on salinity, temperature, and a three-month duration, which makes it impractical to evaluate with effluent data. The technology based effluent limitations in this Order for CBOD are sufficient to prevent an excursion below the dissolved oxygen water quality objective of 5.0 mg/L; therefore, there is no reasonable potential for the discharge to decrease dissolved oxygen below the water quality objective in the receiving water. See Fact Sheet section 4.2.2.1.

4.3.3.9.5. Basin Plan section 3.3.6 requires that discharges not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. The effluent discharged receives advanced secondary treatment and does not contain floating debris, oil, or scum; therefore, there is no reasonable potential for the discharge to contribute to floating material in the receiving water.

4.3.3.9.6. Basin Plan section 3.3.7 requires that discharges not contain visible, floating, suspended, or deposited oil or other products of petroleum origin. The effluent discharged receives advanced secondary treatment and does not contain petroleum products; therefore, there is no reasonable potential for the discharge to contribute to visible, suspended, or deposited oil or other petroleum products in the receiving water.

4.3.3.9.7. Basin Plan section 3.3.8 requires that the receiving water remain free of toxic substances in concentrations that are lethal to or that produce significant alterations in population or community ecology or receiving water biota. This Order establishes effluent limitations for chronic toxicity based on the *State Policy for Water Quality Control: Toxicity Provisions*. These limitations are sufficient to prevent an excursion above the water quality objective. See Fact Sheet section 4.3.4.6.

4.3.3.9.8. Basin Plan section 3.3.9 requires that pH not be depressed below 6.5 nor raised above 8.5 in the receiving water, and that discharges not cause changes greater than 0.5 pH units in normal ambient pH levels. Based on effluent monitoring data in Table F-2, there is no reasonable potential to exceed this narrative objective. Furthermore, the technology based effluent limitations in this Order for pH are sufficient to prevent an excursion above this water quality objective. See Fact Sheet section 4.2.2.2.

4.3.3.9.9. Basin Plan section 3.3.10 requires that radioactive material not be present in concentrations that result in the accumulation of radionuclides in the food web that would present hazards to human, plant, animal, or aquatic life. Sunnyvale municipal code section 12.12.020 prohibits the discharge of radioactive material into its sewer collection system; therefore, there is no reasonable potential for radioactive material to be present in the discharge.

4.3.3.9.10. Basin Plan section 3.3.11 requires that discharges not increase the total dissolved solids or salinity of receiving waters so as to adversely affect beneficial uses. As stated in section 4.3.2.7, receiving water monitoring from the previous order term showed an average salinity of 12 parts per thousand (ppt), while the typical salinity for sewage treatment plant effluent ranges from 0.5 to 1.5 ppt, depending on influent conditions; therefore, there is no reasonable potential for the discharge to significantly increase total dissolved solids or salinity in the receiving water.

4.3.3.9.11. Basin Plan section 3.3.12 requires that discharges not alter 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. The technology based effluent limitations in this Order, including those for TSS and turbidity, are sufficient to prevent an excursion above the water quality objective; therefore, there is no reasonable potential for the discharge to detrimentally alter suspended sediment in the receiving water. See Fact Sheet section 4.2.2.

4.3.3.9.12. Basin Plan section 3.3.13 requires that discharges not cause bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses. The technology based effluent limitations in this Order, including those for TSS and turbidity, are sufficient to prevent an excursion above the water quality objective. See Fact Sheet section 4.2.2. Additionally, the discharge is subject to the requirements of NPDES Permit CA0038873 (Nutrient Watershed Permit), which establishes effluent limitations for total inorganic nitrogen to prevent aquatic growths to the extent that such growths could cause a nuisance or affect uses; therefore, there is no reasonable potential for the discharge to cause bottom deposits or aquatic growths.

4.3.3.9.13. Basin Plan section 3.3.14 requires that discharges not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses. The technology based effluent limitations in this Order, including those for TSS and turbidity, are sufficiently protective to protect water quality, and more stringent WQBELs are not needed to prevent excursions of this narrative objective. See Fact Sheet section 4.2.2.

4.3.3.9.14. Basin Plan section 3.3.15 requires that discharges be free of dissolved sulfides above natural background levels. Sulfides cannot exist to a significant degree in an oxygenated environment, and this Order contains technology based effluent limitations for CBOD that have resulted in protective dissolved oxygen levels near the discharge point; therefore, there is no reasonable potential for the discharge to contain sulfide concentrations above the background levels of the receiving water.

4.3.3.9.15. Basin Plan section 3.3.16 requires that discharges not contain taste- or odor-producing substances that impart undesirable tastes or odors to edible products of aquatic origin, that cause nuisance, or that adversely affect beneficial uses. As stated in section 4.3.4.2.7, the effluent discharged receives advanced secondary treatment and does not contain objectionable color, odor, taste, or turbidity; therefore, there is no reasonable potential to exceed this narrative objective. Further, the technology based effluent limitations in this Order, including those for TSS and turbidity, are sufficient to prevent an excursion above this narrative objective in the receiving water. See Fact Sheet section 4.2.2.

4.3.3.9.16. Basin Plan section 3.3.17 requires that discharges not alter temperature beyond present natural background levels unless it can be demonstrated that such alteration in temperature does not adversely affect beneficial uses, and prohibits temperature increases of more than 2.8°C above the natural receiving water temperature. Based on an analysis of 12 ambient receiving water temperature data and corresponding effluent temperature data, the greatest temperature difference detected was +0.4°C and the average difference was -1.3°C. In 10 of the 12 comparative samples, the effluent discharge had a lower temperature than the ambient receiving water. In addition, to demonstrate that beneficial uses are not adversely affected, the Discharger has documented no annual increase in fish or aquatic vertebrate deaths in the surrounding marshes over the past 40 years in its Annual Avian Botulism Monitoring Reports. Therefore, there is no reasonable potential for the discharge to significantly alter the temperature of the receiving water beyond natural background levels.

4.3.3.9.17. Basin Plan section 3.3.19 requires that discharges be free of 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. The technology based effluent limitations in this Order, including those for TSS and turbidity, are sufficient to prevent an excursion above this narrative objective in the receiving water. See Fact Sheet section 4.2.2.

4.3.4. **Water Quality-Based Effluent Limitations.** WQBELs were developed for the pollutants determined to have reasonable potential to cause or contribute to exceedances of water quality objectives. The WQBEL calculations are based on the procedures in SIP section 1.4, with the exception of those for enterococcus, fecal coliform, and chronic toxicity (discussed below).

4.3.4.1. **WQBEL Expression.** NPDES regulations at 40 C.F.R. section 122.45(d)(2) require that permit limits for publicly-owned treatment works be expressed as average weekly and average monthly limits, unless impracticable. This Order contains daily limits instead of weekly limits because daily limits better protect against acute water quality effects and are necessary to prevent fish kills or mortality to aquatic organisms. Weekly limits could allow acute and chronic toxicity to occur over shorter periods (acute and chronic aquatic life criteria are typically expressed as one-hour and four-day averages).

4.3.4.2. **Mixing Zones and Dilution Credits.** Basin Plan sections 4.5.1 and 4.6.1.2, SIP section 1.4.2, and Toxicity Provisions section III.C.1 allow mixing zones and dilution credits under certain circumstances. This Order establishes mixing zones for cyanide and chronic toxicity at Discharge Point 001.

In January 2019, the Discharger submitted an update to their 1989 dilution study, incorporating results from a 2012 analysis of salinity and nitrate data, and results from a 2014 hydrodynamic model.

For discharges to Moffett Channel, Basin Plan Table 4-6 allows a cyanide dilution credit of 4:1 (D=3.0). The Basin Plan established mixing zones for cyanide based on the studies described in the San Francisco Bay Regional Water Quality Control Board's *Final Staff Report on Proposed Site-Specific Water Quality Objectives for Cyanide for San Francisco Bay* (December 4, 2006). Consistent with the previous order and the Basin Plan, this Order grants a mixing zone and dilution credit of 4:1 (D=3.0) for cyanide.

For chronic toxicity, this Order establishes a mixing zone and dilution credit of 2:1 (D=1). In accordance with SIP section 1.4.2.2 and Toxicity Provisions section III.C.1, the chronic toxicity mixing zone at Discharge Point 001 is as small as practicable and does not do any of the following:

4.3.4.2.1. **Compromise the integrity of the entire water body.** Moffett Channel runs approximately 4,3000 feet before flowing into Guadalupe Slough at a point about 24,000 feet from the mouth of the Slough into Lower South San Francisco Bay. Based on results from the most conservative dilution model, a 2:1 dilution is achieved at a point roughly 19,000 feet from the Facility's discharge location. That corresponds to roughly two-thirds of the total distance from the point of discharge to the confluence of Guadalupe Slough and Lower South San Francisco Bay. During a low tide cycle the mixing zone could extend to the mouth of Guadalupe Slough, where it would quickly disperse. Therefore, the mixing zone will not compromise the integrity of Lower South San Francisco Bay.

4.3.4.2.2. **Cause acutely toxic conditions to aquatic life passing through the mixing zones.** Acutely toxic conditions are unlikely within a chronic toxicity mixing zone because, during the previous order term, the Discharger did not violate its acute toxicity effluent limits. The high survival rate indicates that organisms that pass through the mixing zone would be unlikely to experience acute toxicity.

4.3.4.2.3. **Restrict passage of aquatic life**. The mixing zone will not interfere with the movement of aquatic species or restrict the passage of aquatic life because Moffett Channel's only unrestricted outlet is to Guadalupe Slough, so aquatic life do not pass through it on their way to any other location. Furthermore, as explained in Fact Sheet 4.3.4.2.2, acutely toxic conditions will not exist inside the mixing zones. Moreover, chronic toxicity does not affect water clarity, so there is no potential to create a physical or visual barrier that could restrict the passage of aquatic life.

4.3.4.2.4. **Adversely impact biologically sensitive or critical habitats, including, but not limited to, habitat of species listed under federal or State**

endangered species laws. The mixing zone will not adversely impact biologically sensitive or critical habitats. Two protected birds live near the outfall: California Ridgway's Rail (listed as State and federally endangered) and California Black Rail (listed as State threatened). Other sensitive bird species in the vicinity include saltmarsh common yellowthroat and the burrowing owl (not listed as State or federally endangered or threatened, but declining throughout California). Chronic toxicity is of greatest potential risk to aquatic organisms; it is unlikely to harm bird species living in the vicinity of the mixing zones. In addition, Provision 5.3.5.1. of the Order requires the Discharger monitor for and collect any sick or dead vertebrates in Moffett Channel, Guadalupe Slough, and Lower South San Francisco Bay.

4.3.4.2.5. **Produce undesirable impacts or nuisance to aquatic life**. The mixing zone will not produce undesirable impacts or nuisance to aquatic life because chronic toxicity is not a biostimulatory substance.

4.3.4.2.6. **Result in floating debris, oil, or scum**. The effluent discharged receives advanced secondary treatment and does not contain floating debris, oil, or scum.

4.3.4.2.7. **Produce objectionable color, odor, taste, or turbidity.** The effluent discharged receives advanced secondary treatment and does not contain objectionable color, odor, taste, or turbidity.

4.3.4.2.8. **Cause objectionable bottom deposits.** The effluent discharged receives advanced secondary treatment and does not cause objectionable bottom deposits.

4.3.4.2.9. **Cause nuisance**. The mixing zone will not cause nuisance as defined by California Water Code section 13050, where "nuisance" means anything that (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons; and (3) occurs during, or as a result of, the treatment or disposal of wastes. The effluent discharged receives advanced secondary treatment and is thus unlikely to cause a nuisance.

4.3.4.2.10. **Dominate the receiving water or overlap a mixing zone from a different outfall.** The mixing zone is tidally influenced and will not dominate the receiving water over a tidal cycle (about 6 hours). The mixing zone does not overlap mixing zones authorized for any other discharger.

4.3.4.2.11. **Exist near any drinking water intake.** There are no drinking water intakes near the mixing zone. Receiving waters downstream of the mixing zone is marine and too salty to be used for drinking water.

4.3.4.3. **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 South San Francisco Bay because, based on available data on the concentrations of these pollutants in aquatic organisms, sediment, and the water column, they impair South San Francisco Bay 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.

4.3.4.4. **WQBEL Calculations.** The following table shows the WQBEL calculations for copper, nickel, cyanide, and dioxin-TEQ in accordance with SIP section 1.4.

Table F-10. WQBEL Calculations

Pollutant	Copper	Nickel	Cyanide	Dioxin-TEQ
Units	µg/L	µg/L	µg/L	µg/L
Basis and Criteria type	Basin Plan Site-Specific Objective	Basin Plan Site-Specific Objective	Basin Plan Site-Specific Objective	Basin Plan Narrative Objective
Criteria - Acute	-----	-----	-----	-----
Criteria - Chronic	-----	-----	-----	-----
Site-Specific Objective Criteria - Acute	10.8	62	9.4	-----

Pollutant	Copper	Nickel	Cyanide	Dioxin-TEQ
Site-Specific Objective Criteria - Chronic	6.9	11.9	2.9	-----
Water Effects Ratio (WER)	1	1	1	1
Lowest WQO	6.9	11.9	2.9	1.4E-08
Site Specific Translator - MDEL	0.53	0.44	-----	------
Site Specific Translator - AMEL	0.53	0.44	------	------
Dilution Factor (D)	0	0	3	0
Number of samples per month	4	4	4	4
Aquatic life criteria analysis required? (Y/N)	Y	Y	Y	N
Human Health criteria analysis required? (Y/N)	N	Y	Y	Y
Applicable Acute WQO	20.4	141.8	9.4	-----
Applicable Chronic WQO	13.0	27.0	2.9	-----
Human Health Criteria	-----	4,600	220,000	1.40E-08
Background (Maximum Concentration for Aquatic Life Calculation)	8.59	15.8	0.60	-----
Background (Average Concentration for Human Health Calculation)	-----	15.8	0.60	4.10E-08
Is the pollutant on the 303d list and/or bioaccumulative (Y/N)?	N	N	N	Y
Effluent Concentration Allowance Acute	20.4	141.8	35.8	-----
Effluent Concentration Allowance Chronic	13.0	27.0	9.8	-----
Effluent Concentration Allowance Human Health	-----	4,600	220,000	1.40E-08
Number of data points <10 or at least 80% of data reported non-detect? (Y/N)	N	N	N	Y
Average of effluent data points	2.23	3.29	1.60	0.00
Standard Deviation of effluent data points	1.86	3.11	1.35	0.00
Coefficient of Variation Calculated	0.77	0.94	0.84	N/A
Coefficient of Variation (Selected) - Final	0.77	0.94	0.84	0.60
Effluent Concentration Allowance Acute Mult99	0.26	0.21	0.24	-----
Effluent Concentration Allowance Chronic Mult99	0.45	0.39	0.42	-----
Long-Term Average Acute	5.3	30.5	8.5	-----
Long-Term Average Chronic	5.9	10.5	4.1	-----

Pollutant	Copper	Nickel	Cyanide	Dioxin-TEQ
Minimum of Long-Term Average	5.3	10.5	4.1	-----
AMEL Mult95	1.7	1.9	1.8	1.6
MDEL Mult99	3.9	4.7	4.2	3.1
AMEL (Aquatic Life)	9.1	19.9	7.4	-----
MDEL (Aquatic Life)	20.4	49.1	17.5	-----
MDEL/AMEL Multiplier	2.2	2.46	2.35	2.0
AMEL (Human Health)	-----	4,600	220,000	1.4.E-08
MDEL (Human Health)	-----	-----	410,000	2.8.E-08
Minimum of AMEL for Aquatic Life vs Human Health	9.1	19.9	7.4	1.4E-08
Minimum of MDEL for Aquatic Life vs Human Health	20	49.1	17.5	2.8E-08
Previous Order Limitation - AMEL	10	24	7.0	1.40E-08
Previous Order Limitation - MDEL	19	33	17	2.80E-08
Final Limitation - AMEL	9.1	20	7.0	1.4E-08
Final Limitation - MDEL	19	33	17	2.8E-08

4.3.4.5. **Enterococcus Bacteria.** The enterococcus effluent limitations are 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*. This Order does not establish enterococcus mixing zones or dilution credits.

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/100mL)
D = dilution factor (D = 0)
B = background concentration (1 CFU/100 mL)

This calculation results in a six-week rolling geometric mean enterococcus effluent limitation of 30 MPN/100 mL and a limitation of no more than 10 percent of enterococcus samples in a calendar month exceeding 110 CFU/100mL.

4.3.4.6. **Chronic Toxicity.** This Order includes chronic toxicity limitations based on Toxicity Provisions section III.C.5. This Order grants a mixing zone for chronic toxicity corresponding to a dilution ratio of at least 2:1, equivalent to an IWC of 50 percent effluent. This Order imposes a maximum daily effluent limit (MDEL) and median monthly effluent limit (MMEL) based on testing at the IWC

4.3.4.7. **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 limits for total residual chlorine in this Order are derived from 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 numeric criterion is 0.013 mg/L as a one-hour average. This Order does not establish residual chlorine mixing zones or dilution credits.

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=0)

This calculation results in a one-hour average effluent limitation of 0.013 mg/L.

4.3.5. Receiving Water Limitations. This Order removes the receiving water limitations contained in Section V of the previous order that served as backstops for unanticipated circumstances or changes to effluent quality that could affect water quality. The receiving water limitations made the Discharger responsible for the quality of the receiving water without specifying specific requirements (e.g., effluent limitations) or other actions the Discharger must take that apply at or before the discharge point. The Regional Water Board removed the receiving water limitations from the NPDES permit requirements to be consistent with the U.S. Supreme Court's ruling in *City and County of San Francisco, California v. Environmental Protection Agency* (2025) 145 S.Ct. 704, which held that NPDES permits issued by the U.S. EPA may not include end-result requirements, under the Clean Water Act. End-result requirements are

provisions that do not spell out what a Discharger must do or refrain from doing; rather, they make a Discharger responsible for the quality of the water in the body of water into which it discharges pollutants.[1]

The requirements in this Order will ensure that the discharge satisfies Clean Water Act section 301(b)(1)(C) (33 U.S.C. § 1311(b)(1)(C)), which requires that the permit include any more stringent limitation, including those necessary to meet water quality standards. See Fact Sheet section 4.3.3.9. If unanticipated circumstances or changes to effluent quality occur during the permit term, the Board may reopen the permit to include any limitations necessary to protect water quality.

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 eliminates the acute toxicity effluent limits because, under the Toxicity Provisions, the discharge does not exhibit reasonable potential for acute toxicity. CWA section 303(d)(4)(B) applies to removal of these effluent limits because the receiving waters is not impaired for toxicity, making them attainment waters. The removal of acute toxicity limits is consistent with section 303(d)(4)(B). As explained in Fact Sheet section 4.4.2, removing these effluent limits will not result in degradation of water quality, and the relaxation will not result in a violation of water quality standards.

As discussed in sections 4.3.5 and 5.4, this Order removes the receiving water limitations included in the previous order and retains the nuisance provisions contained in the previous order as state only requirements. The removal of these requirements, as a matter of federal law, is consistent with the U.S. Supreme Court's holding in *City and County of San Francisco, California v. Environmental Protection Agency* (2025) 145 S.Ct. 704. However, as discussed in section 4.3.5, the Regional Water Board has determined that the requirements in this Order are sufficient to ensure the discharge complies with Clean Water Act section 301(b)(1)(C) (33 U.S.C. § 1311(b)(1)(C)). As a result, the discharge does not authorize violations of water quality standards, and the removal of the receiving water limitations does not authorize the additional

[1] While the Regional Water Board removed generalized receiving water limitations in accordance with the U.S. Supreme Court's decision interpreting the Clean Water Act's NPDES requirements, the Regional Water Board may decide in the future to include similar requirements as a matter of state authority.

discharge of pollutants or authorize the violation of water quality standards. The Order does not, therefore, authorize either backsliding or further degradation of water quality.

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. This Order does not allow for an increased flow or a reduced level of treatment relative to the previous order.

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 imposes numeric chronic toxicity limits and TRE triggers at the IWC to ensure that a comparable level of treatment will be maintained. As for the acute toxicity limits, the new chronic toxicity requirements are protective against acute toxicity, which is caused by higher levels of toxicants. For these reasons, water quality will not be degraded by the removal of the acute toxicity effluent limits.

This Order removes the generalized receiving water limitations contained in the previous order. As discussed in Fact Sheet section 4.3.3.9., the effluent limits established in this Order are sufficient to protect Moffett Channel. The removal of the generalized receiving water limitations will not result in an increased volume or concentration of pollutants in the discharge. As explained in Fact Sheet section 4.3.3.9, the technology and water quality-based effluent limits established in the Order are sufficient to drive treatment plant performance in a manner comparable to the previous order and to ensure that water quality and beneficial uses are protected. This Order does not, therefore, authorize further degradation of water quality.

4.4.3. **Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based requirements implement minimum, applicable federal technology-based requirements. In addition, this Order contains more stringent effluent limitations as necessary to meet water quality standards. Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement CWA requirements.

This Order's WQBELs have been derived to implement water quality objectives that protect beneficial uses. The beneficial uses and water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 C.F.R. section 131.38. The procedures for calculating these WQBELs are based on the CTR, as

implemented in accordance with the SIP, which U.S. EPA approved on May 18, 2000. U.S. EPA approved most Basin Plan beneficial uses and water quality objectives prior to May 30, 2000. Beneficial uses and water quality objectives submitted to U.S. EPA prior to May 30, 2000, but not approved by U.S. EPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 C.F.R. section 131.21(c)(1). U.S. EPA approved the remaining beneficial uses and water quality objectives, so they are also applicable water quality standards pursuant to 40 C.F.R. section 131.21(c)(2).

5. RATIONALE FOR PROVISIONS

5.1. 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.

5.2. 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 section 13383 also authorizes 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 6.

5.3. Special Provisions

5.3.1. **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.

5.3.2. **Effluent Characterization Study and Report**. This Order does not include WQBELs for 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.

5.3.3. **Pollutant Minimization Program.** This provision is based on Basin Plan section 4.13.2 and SIP section 2.4.5.

5.3.4. **Special Provisions for Publicly Owned Treatment Works**

5.3.4.1. **Pretreatment Program.** This provision is based on 40 C.F.R. part 403. The Discharger implements a pretreatment program due to the nature and volume of industrial influent to the Facility. This provision lists the Discharger's responsibilities regarding its pretreatment program and requires compliance with the provisions in Attachment H, "Pretreatment Requirements."

5.3.4.2. **Sludge and Biosolids Management.** Provision 5.3.4.2.1 is based on Water Code section 13263, which requires the Regional Water Board to consider the need to prevent nuisance when issuing waste discharge requirements. (See Fact Sheet section 5.4.) The remaining provisions are 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.

5.3.4.3. **Sanitary Sewer System Management.** The Discharger's sanitary sewer system 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 sanitary sewer 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.

5.3.5. Other Special Provisions

5.3.5.1. **Avian Botulism Control Program.** The requirement to monitor nearby sloughs for the presence of avian botulism and to control any outbreaks is originally based on State Water Board Order No. WQ 90-5, in which the State Water Board found that the Facility's wastewater discharges may promote freshwater conditions in the receiving waters conducive to fostering avian botulism. This provision is retained from the previous order to ensure that any avian botulism is controlled

5.3.5.2. **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. This 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 South San Francisco Bay. Data the San Francisco Estuary Institute compiled for 2015-2019 indicate no degradation of San Francisco Bay water quality with respect to copper (https://www.sfei.org/pages/copper-site-specific-objective-3-year-rolling-averages-0).

5.3.5.3. **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 above the maximum cyanide concentration (7.5 µg/L) found in the treatment plant influent during the previous order term. Influent concentrations greater than 10 µg/L could indicate a significant cyanide source.

5.3.5.4. **Chlorine Process Control Plan.** This provision is consistent with Order R2-2023-0023 and 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 chlorine will typically not be present in discharge and, if chlorine is detected, the duration of such discharges will be relatively short.

5.3.5.5. **Plant Upgrades.** This provision is based on 40 C.F.R. section 122.41(l). It specifies conditions that must be met before the Discharger brings its upgraded treatment plant online. It is necessary for the Regional Water Board to know when the upgraded plant begins treating wastewater and to

ensure that the plant upgrades can effectively and reliably comply with the requirements of this Order.

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

Pursuant to Water Code section 13385(j)(1)(D), the Discharger will be exempt from mandatory minimum penalties for violations within the defined startup adjustment and testing period if the Discharger submits an operations plan 30 days in advance of operation, the Water Board does not object in writing to the operations plan, and the Discharger can demonstrate the following:

5.3.5.5.1. Compliance with its operations plan,

5.3.5.5.2. Violations resulted from the operation of the new or upgraded wastewater treatment units, and

5.3.5.5.3. Violations could not have reasonably been avoided.

5.3.5.6. **Resource Recovery from Anaerobically Digestible Material.** Standard Operating Procedures are required for publicly-owned treatment works that accept hauled waste food, fats, oil, and grease for injection into anaerobic digesters. The development and implementation of Standard Operating Procedures for management of these materials is intended to allow the California Department of Resources Recycling and Recovery to exempt this activity from separate and redundant permitting programs. Some POTWs choose to accept organic material, such as waste food, fats, oils, and grease, into their anaerobic digesters to increase production of methane and other biogases for energy production and to prevent such materials from being discharged into the sanitary sewer system and potentially causing sanitary sewer spills. The California Department of Resources Recycling and Recovery has proposed to exempt publicly-owned treatment works from Process Facility/Transfer Station permit requirements when the same activity is regulated under WDRs or NPDES permits. The proposed exemption is restricted to anaerobically digestible materials that have been prescreened, slurried, processed, and conveyed in a closed system for codigestion with regular sewage sludge. The exemption requires that the publicly-owned treatment works develop Standard Operating Procedures for proper handling, processing, tracking, and management of anaerobically digestible material.

5.4. Provisions from Previous Order Retained to Implement State Law Only

Attachment G Provision I.I.1. of the previous order stated, “Neither the treatment nor the discharge of pollutants shall create pollution, contamination, or nuisance as defined by California Water Code section 13050.” Consistent with the holding in *City and County of San Francisco, California v. Environmental Protection Agency* (2025) 145 S.Ct. 704 (discussed in Fact Sheet section 4.3.5), this Order does not retain this provision as a federal requirement. However, this Order does retain a modified version of the provision in Attachment G Provision 1.9.1 as a matter of state law: “the treatment of pollutants shall not create nuisance as defined by California Water Code section 13050.” This requirement does not address the discharge of pollutants or pollution or contamination because this Order includes technology-based and water quality-based effluent limitations sufficient to prevent nuisance or contamination in receiving water associated with the discharge.

Consistent with *City and County of San Francisco v. Environmental Protection Agency*, this Order also does not retain Provision VI.C.4.b.i from the previous order as a federal requirement. Provision 5.3.4.2.1 of this Order retains the requirements of Provision VI.C.4.b.i from the previous order to implement state law only. The provision states “Sludge and biosolids treatment and storage shall not create a nuisance, such as objectionable odors or flies, or result in groundwater contamination.”

The Regional Water Board has maintained these provisions as state law requirements to implement Water Code section 13263, which identifies the need to prevent nuisance as a factor to consider when issuing waste discharge requirements. The U.S. Supreme Court’s decision in *City and County of San Francisco v. U.S. EPA* did not interpret the Water Code. Furthermore, there is no provision of the Water Code analogous to the NPDES permit shield that was a part of the basis of the U.S. Supreme Court’s decision. Likewise, the Porter-Cologne Water Quality Control Act has consistently recognized the ability of the Water Boards to regulate to prevent nuisance, and the Porter-Cologne Water Quality Control Act does not share the legislative history of the federal Clean Water Act. This Order, therefore, maintains the requirements identified above to continue protections as a matter of state law.

As required by Water Code section 13263, the Regional Water Board has considered the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the factors listed in Water Code section 13241 in establishing these state law requirements. The Water Code section 13241 factors are considered below.

5.4.1. **Past, present, and probable future beneficial uses of water.** Basin Plan Chapter 2 identifies designated beneficial uses for water bodies in the San Francisco Bay Region. Beneficial uses of water relevant to this Order are also identified above in Fact Sheet Table F-4. The Regional Water Board has taken

beneficial uses into account in establishing the requirements of this Order. The prohibition against nuisance and groundwater contamination will not adversely affect present and future beneficial uses of water.

5.4.2. **Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto.** The environmental characteristics of the South San Francisco Bay watershed are described in Basin Plan Table 2-1 and the Discharger's Report of Waste Discharge. The prohibition against nuisance and groundwater contamination will not adversely affect the environmental characteristics of the hydrographic unit.

5.4.3. **Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area.** By complying with the CWA-mandated requirements established in this Order, the Discharger will ensure control over factors that could affect water quality. The requirement to prevent nuisance will ensure that the treatment process, including the treatment and storage of biosolids, does not result in odors that could adversely affect the surrounding community. The requirement to prevent groundwater contamination from the treatment and storage of biosolids is necessary to ensure that the Facility is properly operated and maintained and groundwater is protected.

5.4.4. **Economic considerations.** The Discharger has reliably operated its treatment plant over several permit terms without creating nuisance conditions or causing groundwater contamination. Therefore, these provisions are unlikely to impose additional economic costs on the Discharger. In the unlikely event that the Discharger incurs additional costs to prevent nuisance or groundwater contamination associated with its treatment and storage of biosolids, those costs would be justified and necessary to properly operate and maintain its treatment plant and protect public health and the environment. If a nuisance were to occur, it would have a negative economic impact on tourism, recreation, and affected residents in the area.

5.4.5. **The need for developing housing within the region.** The requirement to prevent nuisance and groundwater contamination will not adversely affect the development of housing within the region.

5.4.6. **The need to develop and use recycled water.** The requirement to prevent nuisance and groundwater contamination will have no impact on the development and use of recycled water.

6. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

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

6.1. Monitoring Requirements Rationale

6.1.1. **Influent Monitoring.** Influent flow monitoring at Monitoring Location INF-001 is necessary to understand Facility operations and to evaluate compliance with Discharge Prohibition 3.3, which prohibits vulnerabilities associated with sea level rise and rising groundwater than 29.5 MGD. Influent $CBOD_5$ and TSS monitoring is necessary to evaluate compliance with this Order's 85 percent removal requirements. Basin Plan section 4.7.2.2 requires cyanide monitoring because this Order is based on site-specific cyanide water quality objectives

6.1.2. **Effluent Monitoring.** Effluent flow monitoring at Monitoring Location EFF-001 is necessary to understand Facility operations. Monitoring for the other parameters specified in the MRP at Monitoring Location EFF-001 is necessary to evaluate compliance with this Order's effluent limitations and to conduct future reasonable potential analyses. This Order contains new effluent monitoring requirements for dissolved oxygen and salinity.

6.1.3. **Toxicity Testing.** Toxicity tests are necessary to evaluate compliance with this Order's effluent limitations. Chronic toxicity tests are also necessary to conduct future reasonable potential analyses and to evaluate whether Toxicity Reduction Evaluations are needed.

The Toxicity Provisions require MDEL and MMEL compliance tests for chronic toxicity at the IWC to ensure compliance with toxicity effluent limitations. This Order grants a mixing zone for chronic toxicity corresponding to a dilution ratio of at least 2:1 (D=1), equivalent to an IWC of 50 percent. The Discharger must evaluate the MDEL and MMEL based on the IWC.

Toxicity Provisions section III.C.4.b.i(A) also requires a routine chronic toxicity monitoring frequency of monthly for non-stormwater NPDES dischargers authorized to discharge at a rate equal to or greater than 5.0 MGD unless the Regional Water Board approves a reduced monitoring frequency under Toxicity Provisions section III.C.4.b.i(B). This Order approves a reduced routine chronic toxicity monitoring frequency of once per quarter for the following reasons, consistent with Toxicity Provisions section III.C.4.b.i(B):

- The Discharger complied with the previous order's toxicity requirements. The Discharger did not detect chronic toxicity under the previous order when monitoring monthly using marine diatom (*Thalassiosira pseudonana*).

- The Discharger conducted a minimum of at least ten chronic aquatic toxicity tests during the last five years at an effluent concentration at or above the IWC. The Discharger submitted the results of 60 chronic toxicity monitoring tests at the IWC collected from April 2020 through March 2025.

- The Discharger analyzed or reanalyzed all test data for the last five years using the TST.

- The Discharger found no test resulting in a “fail” at the IWC. All results were “pass.”

As required by Toxicity Provisions section III.C.4.b.i(B), this Order requires that the routine chronic toxicity monitoring frequency revert to monthly if the Discharger fails to comply with this Order’s chronic toxicity requirements.

This Order includes the requirement to use *Mytilus galloprovincialis* for chronic toxicity tests, unless the Discharger encounters unresolvable test interference or cannot secure a reliable supply, in which case the Order allows for the temporary use of fathead minnow (*Pimephales promelas),* the second most sensitive species identified in the Discharger’s 2024 chronic toxicity species sensitive screening, which satisfied the minimum screening requirements stated in Toxicity Provisions III.C.2.a, and MRP Appendix E-1, section 2.1.2.

6.1.4. **Receiving Water Monitoring.** Receiving water monitoring is necessary to support future reasonable potential analyses. This Order requires monitoring of ammonia, hardness, pH, salinity, and temperature so that un-ionized ammonia concentrations can be calculated. This Order also requires the Discharger to make Standard Observations of the receiving water in months when the TSS effluent limit is violated, to ensure that if an algal bloom occurs it is detected early. The Discharger is also 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.

6.1.5. **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, pursuant to Water Code section 13267 and 13383.

6.1.6. **Pretreatment and Biosolids Monitoring.** The pretreatment and biosolids monitoring requirements for influent, effluent, and biosolids are necessary to evaluate compliance with pretreatment requirements.

6.1.7. **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.

6.2. 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.

Table F-11. Monitoring Requirements Summary

Parameter [1]	Influent INF-001 [2]	Effluent EFF-001 [2]	Receiving Water RWS-001 [2]	Biosolids BIO-001 [2]
Flow	Continuous/D	Continuous/D	-	-
Temperature	-	1/Month	[4]	-
$CBOD_5$	1/Week	1/Week	-	-
TSS	1/Week	1/Week	-	-
Dissolved Oxygen	-	1/Week	1/Quarter	-
pH	-	Continuous/D or 1/Day	[4]	-
Turbidity	-	1/Week	-	-
Total Residual Chlorine	-	Continuous/D	-	-
Enterococcus Bacteria	-	5/Week	-	-
Chronic Toxicity	-	1/Quarter	-	-
Ammonia, Total (October – April)	-	1/Week	[4]	-
Ammonia, Total (May – September)	-	1/Month	[4]	-
Copper, Total Recoverable	-	1/Month	-	-
Nickel, Total	-	1/Month	-	-
Cyanide, Total	1/Month	1/Month	-	2/Year
Dioxin-TEQ	-	Once	-	-
Priority Pollutants	-	Once	-	-
VOC	1/Year	Once	-	1/Year
BNA	1/Year	Once	-	1/Year
Metals and other Elements	1/Month	1/Month	-	2/Year
Hexavalent Chromium	1/Month-	1/Month	-	2/Year
Mercury	1/Quarter	1/Quarter	-	2/Year
Salinity	-	1/Quarter	[4]	-
Hardness	-	-	1/Quarter	-
Standard Observations	-	-	1/Week [3]	-

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.
[1] This monitoring shall occur in months when the City violates the Total Suspended Solids effluent limit.
[4] Once per calendar month for one year, after the completion of the CAS-1 system.

7. 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.

7.1. 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 (waterboards.ca.gov/sanfranciscobay).

7.2. 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, by email, 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 William Burrell.

Written comments were due at the Regional Water Board office by 5:00 p.m. on September 24, 2026.

7.3. Public Hearing. The Regional Water Board held a public hearing on the revised tentative Order during its regular meeting at the following date and time:

Date: October 14, 2026
Time: 9:00 a.m.

Contact: William Burrell, (510) 622-2317
Mail to: william.burrell@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 is (waterboards.ca.gov/sanfranciscobay), where one can access the current agenda for changes.

7.4. 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 (waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml).

7.5. 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.

7.6. 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.

7.7. Additional Information. Requests for additional information or questions regarding this Order should be directed to William Burrell, (510) 622-2317, william.burrell@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. Expeditious 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. The treatment of pollutants shall not create 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:

$$\text{Dioxin-TEQ} = \Sigma (C_x \times TEF_x \times BEF_x)$$

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:

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

or

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

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:

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

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

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):

Removal Efficiency (%) =
100 x [1 - (Effluent Concentration / 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]	100.2[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	SPGFAA	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	a-BHC	608	0.01	-	-	-	-	-	-	-	-	-	-	-
104	b-BHC	608	0.005	-	-	-	-	-	-	-	-	-	-	-
105	g-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 H– PRETREATMENT REQUIREMENTS

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ATTACHMENT H: PRETREATMENT REQUIREMENTS

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

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

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

2. The Discharger shall enforce the requirements promulgated under Sections 307(b), 307(c), 307(d) and 402(b) of the Act with timely, appropriate and effective enforcement actions. The Discharger shall cause nondomestic users subject to Federal Categorical Standards to achieve compliance no later than the date specified in those requirements or, in the case of a new nondomestic user, upon commencement of the discharge.

3. The Discharger shall perform the pretreatment functions as required in 40 C.F.R. 403 and amendments or modifications thereto including, but not limited to:

3.1. Implement the necessary legal authorities to fully implement the pretreatment regulations as provided in 40 C.F.R. 403.8(f)(1);

3.2. Implement the programmatic functions as provided in 40 C.F.R. 403.8(f)(2);

3.3. Publish an annual list of nondomestic users in significant noncompliance as provided per 40 C.F.R. 403.8(f)(2)(viii);

3.4. Provide for the requisite funding and personnel to implement the pretreatment program as provided in 40 C.F.R. 403.8(f)(3); and

3.5. Enforce the national pretreatment standards for prohibited discharges and categorical standards as provided in 40 C.F.R. 403.5 and 403.6, respectively.

4. The Discharger shall submit annually a report to U.S. EPA Region 9, the State Water Board and the Regional Water Board describing its pretreatment program activities over the previous calendar year. In the event that the Discharger is not in compliance with any conditions or requirements of the Pretreatment Program, the Discharger shall also include the reasons for noncompliance and a plan and schedule for achieving compliance. The report shall contain, but is not limited to, the information specified in Appendix H-1 entitled, “Requirements for Pretreatment Annual Reports.” The annual report is due each year on February 28.

5. The Discharger shall submit a pretreatment semiannual report to U.S. EPA Region 9, the State Water Board and the Regional Water Board describing the status of its significant industrial users (SIUs). The report shall contain, but is not limited to, information specified in Appendix H-2 entitled, “Requirements for Pretreatment Semiannual Reports.” The semiannual report is due July 31 for the period January through June. The information for the period July through December of each year shall be included in the Annual Report identified in Appendix H-1. The Executive Officer may exempt the Discharger from the semiannual reporting requirements on a case by case basis subject to State Water Board and U.S. EPA’s comment and approval.

6. The Discharger shall conduct the monitoring of its treatment plant’s influent, effluent, and sludge (biosolids) as described in Appendix H-4 entitled, “Requirements for Influent, Effluent and Sludge (Biosolids) Monitoring.” (The term “biosolids,” as used in this Attachment, shall have the same meaning as wastewater treatment plant “sludge” and will be used from this point forward.) The Discharger shall evaluate the results of the sampling and analysis during the preparation of the semiannual and annual reports to identify any trends. Signing the certification statement used to transmit the reports shall be deemed to certify the Discharger has completed this data evaluation. A tabulation of the data shall be included in the pretreatment annual report as specified in Appendix H 4. The Executive Officer may require more or less frequent monitoring on a case by case basis.

APPENDIX H-1:
REQUIREMENTS FOR PRETREATMENT ANNUAL REPORTS

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

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

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

1. Cover Sheet

The cover sheet shall include:

1.1. The name(s) and National Pollutant Discharge Elimination Discharge System (NPDES) permit number(s) of the Discharger(s) that is part of the Pretreatment Program;

1.2. The name, address and telephone number of a pretreatment contact person;

1.3. The period covered in the report;

1.4. A statement of truthfulness; and

1.5. The dated signature of a principal executive officer, ranking elected official, or other duly authorized employee who is responsible for overall operation of the publicly owned treatment works (POTW) (40 C.F.R. 403.12(m)).

2. Introduction

This section shall include:

2.1. Any pertinent background information related to the Discharger and/or the nondomestic user base of the area;

2.2. List of applicable interagency agreements used to implement the Discharger's pretreatment program (e.g., Memoranda of Understanding (MOU) with satellite sanitary sewer systems); and

2.3. A status summary of the tasks required by a Pretreatment Compliance Inspection (PCI), Pretreatment Compliance Audit (PCA), Cleanup and Abatement Order (CAO), or other pretreatment-related enforcement actions required by the Regional Water Board or the U.S. EPA. A more detailed discussion can be referenced and included in the section entitled, "Program Changes," if needed.

3. Definitions

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

4. Discussion of Upset, Interference and Pass Through

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

4.1. A description of what occurred;

4.2. A description of what was done to identify the source;

4.3. The name and address of the nondomestic user responsible;

4.4. The reason(s) why the incident occurred;

4.5. A description of the corrective actions taken; and

4.6. An examination of the local and federal discharge limits and requirements for the purposes of determining whether any additional limits or changes to existing requirements may be necessary to prevent other Upset, Interference or Pass Through incidents.

5. Influent, Effluent and Biosolids Monitoring Results

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

This section shall include:

5.1. Description of the sampling procedures and an analysis of the results (see Appendix H-4 for specific requirements);

5.2. Tabular summary of the compounds detected (compounds measured above the detection limit for the analytical method used) for the monitoring data generated during the reporting year as specified in Appendix H-4;

5.3. Discussion of the investigation findings into any contributing sources of the compounds that exceed NPDES limits; and

5.4. Graphical representation of the influent and effluent metal monitoring data for the past five years with a discussion of any trends.

6. Inspection, Sampling and Enforcement Programs

This section shall include at a minimum the following information:

6.1. Inspections: Summary of the inspection program (e.g., criteria for determining the frequency of inspections and inspection procedures);

6.2. Sampling Events: Summary of the sampling program (e.g., criteria for determining the frequency of sampling and chain of custody procedures); and

6.3. Enforcement: Summary of Enforcement Response Plan (ERP) implementation including dates for adoption, last revision and submission to the Regional Water Board.

7. Updated List of Regulated SIUs

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

7.1. CIUs - Include a table that alphabetically lists the CIUs regulated by the Discharger as of the end of the reporting period. This list shall include:

7.1.1. Name;

7.1.2. Address;

7.1.3. Applicable federal category(ies);

7.1.4. Reference to the location where the applicable Federal Categorical Standards are presented in the report;

7.1.5. Identify all deletions and additions keyed to the list submitted in the previous annual report. All deletions shall be briefly explained (e.g., closure, name change, ownership change, reclassification, declassification); and

7.1.6. Information, calculations and data used to determine the limits for those CIUs for which a combined waste stream formula is applied.

7.2. Non-categorical SIUs - Include a table that alphabetically lists the SIUs not subject to any federal categorical standards that were regulated by the Discharger as of the end of the reporting period. This list shall include:

7.2.1. Name;

7.2.2. Address;

7.2.3. A brief description of the type of business;

7.2.4. Identify all deletions and additions keyed to the list submitted in the previous annual report. All deletions shall be briefly explained (e.g., closure, name change, ownership change, reclassification, declassification); and

7.2.5. Indicate the applicable discharge limits (e.g., different from local limits) to which the SIUs are subject and reference to the location where the applicable limits (e.g., local discharge limits) are presented in the report.

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

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

8.1. Inspection and Sampling Summary: This section shall contain a summary of all the SIU inspections and sampling activities conducted by the Discharger and sampling activities conducted by the SIU over the reporting year to gather information and data regarding SIU compliance. The summary shall include:

8.1.1. The number of inspections and sampling events conducted for each SIU by the Discharger;

8.1.2. The number of sampling events conducted by the SIU. Identify SIUs that are operating under an approved Total Toxic Organic Management Plan;

8.1.3. The quarters in which the above activities were conducted; and

8.1.4. The compliance status of each SIU, delineated by quarter, and characterized using all applicable descriptions as given below:

8.1.4.1. Consistent compliance;

8.1.4.2. Inconsistent compliance;

8.1.4.3. Significant noncompliance;

8.1.4.4. On a compliance schedule to achieve compliance (include the date final compliance is required);

8.1.4.5. Not in compliance and not on a compliance schedule; and

8.1.4.6. Compliance status unknown, and why not.

8.2. Enforcement Summary: This section shall contain a summary of SIU compliance and enforcement activities during the reporting year. The summary may be included in the summary table developed in section 8A and shall include the names and addresses of all SIUs affected by the actions identified below. For each notice specified in enforcement action 8.2.1 through 8.2.4, indicate whether it was for an infraction of a federal or local standard/limit or requirement.

8.2.1. Warning letters or notices of violations regarding SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements;

8.2.2. Administrative Orders regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements;

8.2.3. Civil actions regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements;

8.2.4. Criminal actions regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements;

8.2.5. Assessment of monetary penalties. Identify the amount of penalty in each case and reason for assessing the penalty;

8.2.6. Order to restrict/suspend discharge to the Discharger; and

8.2.7. Order to disconnect the discharge from entering the Discharger.

8.3. July-December Semiannual Data: For SIU violations/noncompliance during the semiannual reporting period from July 1 through December 31, provide the following information:

8.3.1. Name and facility address of the SIU;

8.3.2. Indicate if the SIU is subject to Federal Categorical Standards; if so, specify the category including the subpart that applies;

8.3.3. For SIUs subject to Federal Categorical Standards, indicate if the violation is of a categorical or local standard;

8.3.4. Indicate the compliance status of the SIU for the two quarters of the reporting period; and

8.3.5. For violations/noncompliance identified in the reporting period, provide:

8.3.5.1. The date(s) of violation(s);

8.3.5.2. The parameters and corresponding concentrations exceeding the limits and the discharge limits for these parameters; and

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

9. Baseline Monitoring Report Update

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

10. Pretreatment Program Changes

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

10.1. Legal authority;

10.2. Local limits;

10.3. Monitoring/ inspection program and frequency;

10.4. Enforcement protocol;

10.5. Program’s administrative structure;

10.6. Staffing level;

10.7. Resource requirements;

10.8. Funding mechanism;

10.9. If the manager of the Discharger’s pretreatment program changed, a revised organizational chart shall be included; and

10.10. If any element(s) of the program is in the process of being modified, this intention shall also be indicated.

11. Pretreatment Program Budget

This section shall present the budget spent on the Pretreatment Program. The budget, either by the calendar or fiscal year, shall show the total expenses required to implement the pretreatment program. A brief discussion of the source(s) of

funding shall be provided. In addition, the Discharger shall make available upon request specific details on its pretreatment program expense amounts such as for personnel, equipment, and chemical analyses.

12. Public Participation Summary

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

13. Biosolids Storage and Disposal Practice

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

14. Other Pollutant Reduction Activities

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

15. Other Subjects

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

16. Permit Compliance System (PCS) Data Entry Form

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

16.1. Discharger’s name,

16.2. NPDES Permit number,

16.3. Period covered by the report,

16.4. Number of SIUs in significant noncompliance (SNC) that are on a pretreatment compliance schedule,

16.5. Number of notices of violation and administrative Orders issued against SIUs,

16.6. Number of civil and criminal judicial actions against SIUs,

16.7. Number of SIUs that have been published as a result of being in SNC, and

16.8. Number of SIUs from which penalties have been collected.

APPENDIX H-2:
REQUIREMENTS FOR JANUARY-JUNE PRETREATMENT SEMIANNUAL REPORT

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

1. Influent, Effluent and Biosolids Monitoring

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

2. Significant Industrial User (SIU) Compliance Status

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

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

2.1. Name and facility address of the SIU;

2.2. Indicate if the SIU is subject to Federal Categorical Standards; if so, specify the category including the subpart that applies;

2.3. For SIUs subject to Federal Categorical Standards, indicate if the violation is of a categorical or local standard;

2.4. Indicate the compliance status of the SIU for the two quarters of the reporting period; and

2.5. For violations/noncompliance identified in the reporting period, provide:

2.5.1. The date(s) of violation(s);

2.5.2. The parameters and corresponding concentrations exceeding the limits and the discharge limits for these parameters; and

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

3. Discharger's Compliance with Pretreatment Program Requirements

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

3.1. Date of latest PCA or PCI report;

3.2. Date of the Discharger's response;

3.3. List of unresolved issues; and

3.4. Plan(s) and schedule for resolving the remaining issues.

APPENDIX H-3:
SIGNATURE REQUIREMENTS
FOR PRETREATMENT ANNUAL AND SEMIANNUAL REPORTS

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

APPENDIX H-4:
REQUIREMENTS FOR INFLUENT, EFFLUENT, AND BIOSOLIDS MONITORING

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

1. Reduction of Monitoring Frequency

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

Table H-1. Minimum Frequency of Pretreatment Program Monitoring

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

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

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

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

2. Influent and Effluent Monitoring

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

The influent and effluent samples should be taken at staggered times to account for treatment plant detention time. Appropriately staggered sampling is considered consistent with the requirement for collection of effluent samples coincident with influent samples in Section 3.1.3.1.2 of Attachment G. All samples must be representative of daily operations. Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 C.F.R. 136 and amendments thereto. For effluent monitoring, the reporting limits for the individual parameters shall be at or below the minimum levels (MLs) as stated in the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (2000) [also known as the State Implementation Policy (SIP)]; any revisions to the MLs shall be adhered to. If a parameter does not have a stated ML, then the Discharger shall conduct the analysis using the lowest commercially available and reasonably achievable detection levels.

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

2.1. Sampling Procedures, Sample Dechlorination, Sample Compositing, and Data Validation (applicable quality assurance/quality control) shall be performed in accordance with the techniques prescribed in 40 C.F.R. 136 and amendments thereto. The Discharger shall make available upon request its sampling procedures including methods of dechlorination, compositing, and data validation.

2.2. A tabulation of the test results for the detected parameters shall be provided.

2.3. Discussion of Results – The report shall include a complete discussion of the test results for the detected parameters. If any pollutants are detected in sufficient concentration to upset, interfere or pass through plant operations, the type of pollutant(s) and potential source(s) shall be noted, along with a plan of action to control, eliminate, and/or monitor the pollutant(s). Any apparent generation and/or destruction of pollutants attributable to chlorination/dechlorination sampling and analysis practices shall be noted.

3. Biosolids Monitoring

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

3.1. Biosolids lagoons – 20 grab samples collected at representative equidistant intervals (grid pattern) and composited as a single grab, or

3.2. Dried stockpile – 20 grab samples collected at various representative locations and depths and composited as a single grab, or

3.3. Dewatered biosolids - daily composite of 4 representative grab samples each day for 5 days taken at equal intervals during the daily operating shift taken from a) the dewatering units or b) each truckload, and shall be combined into a single 5-day composite.

The U.S. EPA manual, POTW Sludge Sampling and Analysis Guidance Document, August 1989, containing detailed sampling protocols specific to biosolids is recommended as a guidance for sampling procedures. The U.S. EPA manual Analytical Methods of the National Sewage Sludge Survey, September 1990, containing detailed analytical protocols specific to biosolids, is recommended as a guidance for analytical methods.

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

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

- Sampling Procedures and Data Validation (applicable quality assurance/quality control) shall be performed in accordance with the techniques prescribed in 40 C.F.R. 136 and amendments thereto. The Discharger shall make available upon request its biosolids sampling procedures and data validation methods.

- Test Results – Tabulate the test results for the detected parameters and include the percent solids.

- Discussion of Results – Include a complete discussion of test results for the detected parameters. If the detected pollutant(s) is reasonably deemed to have an adverse effect on biosolids disposal, a plan of action to control, eliminate, and/or monitor the pollutant(s) and the known or potential source(s) shall be included. Any apparent generation and/or destruction of pollutants attributable to chlorination/dechlorination sampling and analysis practices shall be noted.

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

ATTACHMENT I – ACTIONS TO COMPLY WITH STATE WATER BOARD ORDER WQ 90-5

In response to the State Water Board's Water Quality Control Policy for the Enclosed Bays and Estuaries of California (the Bays and Estuaries Policy, adopted in May 1974), which included a general prohibition against the discharge of municipal and industrial wastewaters to enclosed bays and estuaries, the Regional Water Board included the following discharge prohibitions in Basin Plan Table 4-1:

> Any wastewater which has particular characteristics of concern to beneficial uses at any point at which the wastewater does not receive a minimal initial dilution of at least 10:1, or into any non-tidal water, dead-end slough, similar confined waters, or any immediate tributaries thereof.
>
> Any wastewater which has particular characteristics of concern to San Francisco Bay south of the Dumbarton Bridge.

These prohibitions essentially preclude discharges of treated wastewater from the wastewater treatment plants of Palo Alto, San Jose/Santa Clara, and Sunnyvale. In 1973, these dischargers formed the South Bay Dischargers Authority to address the possibility of relocating their outfalls to a location north of the Dumbarton Bridge. They also investigated whether they could justify exceptions to the discharge prohibitions based on providing net environmental benefits. The Basin Plan states that an exception may be considered where net environmental benefits will be derived from a discharge. Based on results of studies conducted between 1981 through 1986 showing net environmental benefits, the three South Bay dischargers petitioned the Regional Water Board for exceptions to the discharge prohibitions in 1987.

At the same time, the Regional Water Board was establishing water quality objectives for many toxic pollutants. It amended the Basin Plan in 1986 to establish several such water quality objectives. Due to the unique hydrodynamic environment of South San Francisco Bay and presence of substantial non-point pollution sources, the 1986 Basin Plan amendment exempted South San Francisco Bay from the new objectives and required development of site-specific water quality objectives.

In 1988, the Regional Water Board found that the Sunnyvale (Order No. 88-176) and Palo Alto (Order No. 88-175) discharges would provide net environmental benefits and enhance water quality. It therefore granted exceptions to the Basin Plan discharge prohibitions, provided that they conduct several studies addressing salt marsh conversion, site-specific water quality objectives, and effluent limitations for metals, ammonia removal, and avian botulism control. The Regional Water Board found that the San Jose/Santa Clara (Order No. 89-012) discharges did not provide a net environmental benefit and did not enhance water quality. It cited, in particular, the conversion of extensive salt marsh habitat to brackish and freshwater marsh. The Regional Water Board concluded, however, that there could be net environmental benefits if the Discharger provided mitigation for the loss of salt marsh habitat. On January 18, 1989, the Regional Water Board issued Cease and Desist Order No. 89-

013, establishing a time schedule for either compliance with the Basin Plan prohibitions or mitigation for the loss of salt marsh habitat.

In addition to providing the exceptions to the Basin Plan's discharge prohibitions, the three reissued permits established a process to develop site-specific water quality objectives and effluent limitations for metals. Interim limitations, based on objectives in the 1982 Basin Plan, were established and were to be replaced by performance-based interim limitations after one year. Ultimately, final effluent limitations were to be established based on the 1986 Basin Plan objectives or site-specific objectives based on studies mandated by the permits.

Responding to objections from environmental groups, the State Water Board adopted Order No. WQ 90-5 on October 4, 1990. It addressed three issues: (a) the conditional exceptions to the Basin Plan discharge prohibitions granted to Sunnyvale and Palo Alto and denied to San Jose/Santa Clara, (b) regulation of toxic pollutants, and (c) mitigation for the loss of salt marsh habitat. The State Water Board concluded that all three South Bay dischargers had failed to demonstrate that exceptions to the Basin Plan discharge prohibitions were warranted on the basis of net environmental benefits. The State Water Board explained that the impact of nutrients in South San Francisco Bay remained unresolved, that avian botulism was negatively affecting wildlife and estuarine habitat, and that metals discharges were contributing or threatening to contribute to impairment of San Francisco Bay. In addition, discharges from the San Jose/Santa Clara plant, specifically, had a substantial adverse impact on rare and endangered species resulting from the loss of salt marsh habitat.

The State Water Board did acknowledge that relocation of the discharges to a location north of the Dumbarton Bridge was not economically or environmentally sound. The State Water Board strongly encouraged the Regional Water Board and the South Bay Dischargers Authority to pursue wastewater reclamation as a means to reduce discharges to San Francisco Bay, and concluded that exceptions to the Basin Plan discharge prohibitions could be granted because the Basin Plan states that an exception may be considered where an inordinate burden would be placed on the discharger relative to the beneficial uses protected and an equivalent level of environmental protection can be achieved by alternate means. It set forth specific conditions: (a) the permits were to include numeric, water quality-based effluent limitations for toxic pollutants; (b) the dischargers were to continue their efforts to control avian botulism; and (c) the dischargers were to properly protect rare and endangered species by limiting flows discharged to San Francisco Bay to not more than 120 million gallons per day (average dry weather flow)—or to flows that would not further adversely affect rare or endangered species—and provide for the creation or restoration of 380 acres of wetlands.

Actions the State and Regional Water Boards and South Bay dischargers took before and after the State Water Board adopted Order No. WQ 90-05 are described chronologically below to clarify the origin of some provisions in this Order.

Regional Water Board Order No. 90-035 (February 21, 1990) amended Order No. 88-176.

- Established interim performance based limits for arsenic, cadmium, chromium (VI), copper, lead, mercury, nickel, silver, zinc, cyanide, phenolic compounds, PAHs, and selenium. Interim limits were to remain effective while site-specific objectives were being developed, and site-specific limits were to be in place by December 31, 1991. (The Basin Plan had not established water quality objectives for metals in South San Francisco Bay, and the Discharger was obligated to assist in gathering data for development of site-specific objectives and effluent limitations.)

- Established interim limits for the same pollutants to maintain ambient conditions in South San Francisco Bay until site-specific objectives and site-specific limits could be put in place by December 31, 1991. (Interim limits were needed for metals because of the lack of assimilative capacity in San Francisco Bay, although metals loadings to San Francisco Bay had diminished since 1975.)

Regional Water Board Order No. 90-070 (May 16, 1990) amended Order No. 89-013.

- By August 1, 1991, required implementation of additional source control measures, including pretreatment program improvements, to reduce toxic pollutants in influent wastewater.

- By December 1, 1990, required submittal of an interim report regarding additional source control measures.

State Water Board Order No. WQ 90-05 was adopted on October 4, 1990.

Regional Water Board Order No. 91-067 (April 17, 1991) amended Order No. 88-176 to comply with State Water Board Order No. 90-5.

- Granted exceptions to the Basin Plan prohibitions based on “equivalent protection” if certain conditions were satisfied: (1) WQBELs for toxic pollutants were to be included in the facility’s discharge permit, (2) the discharge permit was to include mass limits for toxic pollutants, and (3) a chronic toxicity limitation is included in the permit.

- Amended permit to state that water quality objectives for South San Francisco Bay exist and are appropriate to use when developing water quality-based effluent limitations. Stated that the Discharger was conducting studies to develop site-specific objectives for copper, lead, mercury, and nickel. Stated that the Regional Water Board was developing bay-wide objectives for copper and nickel. Also contained a requirement to conduct a TRE/TIE for chronic toxicity prior to permit expiration, and that a chronic toxicity limitation would be adopted with the next permit issuance.

- Established new interim concentration-based limits for arsenic, cadmium, chromium (VI), copper, lead, mercury, nickel, silver, zinc, and selenium, and new interim mass-based limitations for arsenic, cadmium, chromium (VI), copper, lead, mercury, nickel, silver, zinc, selenium, cyanide, phenols, and PAHs.

Regional Water Board Order No. 93-086 (July 21, 1993) reissued the Sunnyvale permit.

- Consistent with the requirements of State Water Board Order No. 90-5, contained water quality-based effluent limits for toxics, mass limits for metals, and a requirement to continue avian botulism control efforts, and therefore granted exceptions to the Basin Plan discharge prohibitions.

- Addressed chronic toxicity by incorporating all permit amendments contained in the Blanket Chronic Toxicity Order (Regional Water Board Order No. 92-104).

Regional Water Board Cease and Desist Order No. 93-084 (July 21, 1993) was adopted.

- Addressed anticipated violations of copper and nickel effluent limitations established by Order No. 93-086, included source control programs for copper, nickel, silver, and mercury, and included compliance schedules to enforce compliance with the new copper and nickel requirements.

Regional Water Board Order No. 98-053 (June 17, 1998) reissued the Sunnyvale permit.

- Effluent limitations for copper and cyanide were based on (then) current performance of the treatment plant to ensure that ambient conditions in South San Francisco Bay would be maintained. These limitations reflected the 99.7th percentile of plant performance from 1995 through 1997. For all other toxic pollutants with limitations established by the Order, limitations were based on the 1995 Basin Plan or U.S. EPA criteria (nickel, tributyltin, and mercury).

- Continued exceptions to the Basin Plan discharge prohibitions were granted, as “effluent limitations which are substantially equivalent to the effluent limitations contained in the Discharger’s July 21, 1993 NPDES permit,” and requirements to continue efforts to control avian botulism are retained, and “the Discharger has implemented a reclamation program.”

- The Regional Water Board expected SSOs for copper and nickel to be developed during the anticipated term of Order No. 98-053; and it established requirements in the Order for the Discharger to participate in special studies which were needed by the Regional Water Board to develop SSOs.

Regional Water Board Order No. 00-109 (October 18, 2000) amended provisions of Order No. 98-053.

- In 1999 and 2000, the Santa Clara Watershed Management Initiative, which included participation by the cities of Sunnyvale, San Jose, and Santa Clara, produced several reports, including an Impairment Assessment Report and Copper and Nickel Action Plans. The Impairment Assessment Report concluded that impairment of South San Francisco Bay by copper and nickel was unlikely, and it recommended the establishment of SSOs for those metals in specific concentration ranges. Based on this report, the Regional Water Board stated its intention to remove the South Bay as impaired by copper and nickel from the CWA 303 (d) list of impaired waters.

- The Copper and Nickel Action Plans proposed monitoring to determine if copper and nickel concentrations were increasing in South San Francisco Bay (and thereby investigate antidegradation concerns), and they proposed triggers for pollution prevention steps if monitoring revealed increases in copper or nickel levels.

Order No. 00-109 amended Order No. 98-052 to include the requirements of the Copper and Nickel Action Plans and to require the participation of the Cities of Sunnyvale and Santa Clara with the Santa Clara Watershed Management Initiative to assist the Regional Water Board in selecting and adopting SSOs for copper and nickel. Regional Water Board Resolution No. R2-2003-0077 (August 20, 2003).

Regional Water Board Order No. R2-2002-0061 (May 22, 2002) adopted a Basin Plan amendment establishing copper and nickel site-specific objectives for San Francisco Bay south of Dumbarton Bridge.

State Water Board Resolution No. 2002-0151 (October 17, 2002) granted State Water Board approval of the copper and nickel site-specific objectives for South San Francisco Bay, which U.S. EPA subsequently approved on January 21, 2003.

Regional Water Board Order No. R2-2003-0079 (August 20, 2003) reissued the City of Sunnyvale permit.

- Retained requirements for the Discharger to comply with the Copper and Nickel Action Plans.

- Did not automatically carryover mass-based limitations for metals from the previous permit, as WQBELs of the Order were established based on guidance of the California Toxics Rule and the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (the CTR and the SIP, which both became effective on May 18, 2000).

- Retained requirements for the Discharger to implement an avian botulism control program.

- Based on its findings regarding the establishment of WQBELs, including mass-based limitations, and the retention of requirements for an avian botulism control

program, the Regional Water Board continued to grant exceptions to the Basin Plan discharge prohibitions for the City of Sunnyvale.

State Water Board Resolution No. 2006-0052 (August 9, 2006) granted State Water Board approval to establish new mercury water quality objectives and to amend the Total Maximum Daily Load and implementation plan for mercury in San Francisco Bay.

State Water Board Resolution No. 2006-0086 (December 13, 2006) granted State Water Board approval of cyanide site-specific objectives for San Francisco Bay North of the Dumbarton Bridge.

State Water Board Resolution No. 2007-0042 (June 13, 2007) granted State Water Board approval of copper site-specific objectives for San Francisco Bay North of the Dumbarton Bridge.

Regional Water Board Order No. R2-2009-0061 (August 12, 2009) reissued the Sunnyvale permit.

- Required implementation of copper and cyanide action plans.
- Found that all the historical requirements of both the State and Regional Water Boards had been met.

Regional Water Board Order No. R2-2014-0035 (September 10, 2014) reissued the Sunnyvale permit.

- Updated permit requirements to reflect current conditions.

Regional Water Board Order No. R2-2020-0002 (February 12, 2020) reissued the Sunnyvale permit.

- Updated permit requirements to reflect current conditions.