CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CA0085359
ORDER R5-2027-XXXX

TENTATIVE WASTE DISCHARGE REQUIREMENTS FOR THE CITY OF LATHROP CONSOLIDATED TREATMENT FACILITY SAN JOAQUIN COUNTY

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

Table 1. Discharger Information

Discharger:	City of Lathrop
Name of Facility:	Consolidated Treatment Facility
Facility Street Address:	18800 Christopher Way
Facility City, State, Zip:	Lathrop, CA 95330
Facility County:	San Joaquin

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Treated Municipal and Industrial Wastewater	37°47'42.0" N	121°18'25.0" W	San Joaquin River

Table 3. Administrative Information

This Order was Adopted on:	**11/12 February 2027**
This Order shall become effective on:	**1 April 2027**
This Order shall expire on:	**31 March 2032**
The Discharger shall file a Report of Waste Discharge (ROWD) as an application for reissuance of WDRs in accordance with title 23, California Code of Regulations (CCR), and an application for reissuance of a NPDES permit no later than:	**31 March 2031**
The United States Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, Central Valley Region have classified this discharge as follows:	**Major Discharge**

I, Patrick Pulupa, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on **12 February 2027**.

_____
PATRICK PULUPA, Executive Officer

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I. FACILITY INFORMATION

Information describing the Consolidated Treatment Facility (Facility) is summarized in Table 1 and in sections I and II of the Fact Sheet (Attachment F). Section I of the Fact Sheet also includes information regarding the Facility's permit application.

II. FINDINGS

The California Regional Water Quality Control Board, Central Valley Region (hereinafter Central Valley Water Board), finds:

A. Legal Authorities. This Order serves as waste discharge requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as a National Pollutant Discharge Elimination System (NPDES) permit authorizing the Discharger to discharge into waters of the United States at the discharge location described in Table 2 subject to the WDRs in this Order. This Order regulates discharges to the San Joaquin River and includes reclamation specifications and monitoring for the production of recycled water.

B. California Environmental Quality Act (CEQA). Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA, (commencing with section 21100) of Division 13 of Public Resources Code. Additionally, the adoption of Title 22 water reclamation requirements for the Facility constitutes permitting of an existing facility that is categorically exempt from the provisions of CEQA pursuant to CCR, title 14, section 15301.

C. Background and Rationale for Requirements. The Central Valley Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for the requirements in this Order, is hereby incorporated into and constitutes Findings for this Order. Attachments A through H are also incorporated into this Order.

D. Provisions and Requirements Implementing State Law. The provisions/requirements in subsections **IV.B, IV.C, VI.C.5.b-c and VI.C.6** are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

E. Monitoring and Reporting. 40 C.F.R. section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Central Valley Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. This Order and the Monitoring and Reporting Program, provided in Attachment E,

establish monitoring and reporting requirements to implement federal and State requirements. The burden, including costs, of these monitoring and reporting requirements bears a reasonable relationship to the need for these reports and the benefits to be obtained therefrom. The Discharger, as owner and operator of the Facility, is responsible for these requirements, which are necessary to determine compliance with this Order. The need for these requirements is further discussed in the Fact Sheet, Attachment F.

F. Notification of Interested Persons. The Central Valley Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Fact Sheet.

G. Consideration of Public Comment. The Central Valley Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet.

THEREFORE, IT IS HEREBY ORDERED that Order R5-2022-0004-01 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 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 Central Valley Water Board from taking enforcement action for violations of the previous Order.

III. DISCHARGE PROHIBITIONS

A. Discharge of wastewater from the Facility, as the Facility is specifically described in the Fact Sheet in section II.B, in a manner different from that described in this Order is prohibited.

B. The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Federal Standard Provisions I.G. and I.H. (Attachment D).

C. Neither the discharge nor its treatment shall create a nuisance as defined in section 13050 of the Water Code.

D. Discharge of waste classified as ‘hazardous’, as defined in the CCR, title 22, section 66261.1 et seq., is prohibited.

E. **Average Dry Weather Flow.** Discharges exceeding an average dry weather flow of 4.0 million gallons per day (MGD) are prohibited.

G. **Cooling Pond Operations.** Discharge to the San Joaquin River of treated wastewater temporarily stored in the Cooling Ponds that has not been sampled for the parameters listed in Table E-3 of this Order at Monitoring Location EFF-001 is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point 001

1. Final Effluent Limitations – Discharge Point 001

The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 001. Unless otherwise specified compliance shall be measured at Monitoring Location EFF-001 and/or EFF-002, as described in the Monitoring and Reporting Program, Attachment E:

a. The Discharger shall maintain compliance with the effluent limitations specified in Table 4:

Table 4. Effluent Limitations

Parameters	Units	Average Monthly	Average Weekly	Maximum Daily
Biochemical Oxygen Demand, 5-day @ 20°Celsius (BOD_5)	milligrams per liter (mg/L)	10	15	--
Total Suspended Solids (TSS)	mg/L	10	15	--
Ammonia (Total as Nitrogen)	mg/L	0.77	1.2	--
Nitrate plus Nitrite (Total as Nitrogen)	mg/L	10	22	--
Dibromochloromethane (DBCM)	micrograms per liter (µg/L)	16	--	36
Dichlorobromomethane (DCBM)	µg/L	53	--	110
Chloroform	µg/L	120	--	170
Barium	µg/L	280	490	--
Copper, Total	µg/L	15	-	29

b. **pH:**

i. 6.5 Standard Units (SU) as an instantaneous minimum.

ii. 8.5 SU as an instantaneous maximum.

c. **Percent Removal.** The average monthly percent removal of BOD_5 and TSS shall not be less than 85 percent.

d. **Chronic Whole Effluent Toxicity Maximum Daily Effluent Limitation (MDEL).** No *Ceriodaphnia dubia* chronic aquatic toxicity test shall result in a "Fail" at the Instream Waste Concentration (IWC) for the sub-lethal endpoint measured in the test AND a percent effect for the survival endpoint greater than or equal to 50 percent.

e. **Chronic Whole Effluent Toxicity Median Monthly Effluent Limitation (MMEL).** No more than one *Ceriodaphnia dubia* chronic aquatic toxicity test initiated in a toxicity calendar month shall result in a "Fail" at the IWC for any endpoint.

f. **Temperature.** The maximum temperature of the discharge shall not exceed the natural receiving water temperature by more than 20° Fahrenheit (°F).

g. **Total Residual Chlorine.** Effluent total residual chlorine shall not exceed:

i. 0.011 mg/L, as a 4-day average; and

ii. 0.019 mg/L, as a 1-hour average.

h. **Total Coliform Organisms.** Effluent total coliform organisms shall not exceed the following with compliance measured immediately after disinfection:

i. 2.2 most probable number per 100 milliliters (MPN/100 mL), as a 7-day median;

ii. 23 MPN/100 mL, more than once in any 30-day period; and

iii. 240 MPN/100 mL, at any time.

i. **Methylmercury.** Effective 31 December 2030. The effluent calendar year annual methylmercury load shall not exceed 0.18 grams, in accordance with the Delta Mercury Control Program.

j. **Diazinon and Chlorpyrifos.** Effluent diazinon and chlorpyrifos concentrations shall not exceed the sum of one (1.0) as identified below:

i. Average Monthly Effluent Limitation (AMEL)

SAMEL = CD M-avg/0.079 + CC M-avg/0.012 ≤ 1.0

CD M-AVG = average monthly diazinon effluent concentration in µg/L.

CC M-AVG = average monthly chlorpyrifos effluent concentration in µg/L

ii. Average Weekly Effluent Limitation (AWEL)

SAWEL = CD W-avg/0.14 + CC W-avg/0.021 ≤ 1.0

CD W-AVG = average weekly diazinon effluent concentration in µg/L.

CC W-AVG = average weekly chlorpyrifos effluent concentration in µg/L.

2. Interim Effluent Limitations

a. **Mercury, total. Effective immediately and until 30 December 2030.** The calendar year annual total mercury load shall not exceed 12 grams/year. This interim effluent limitation shall apply in lieu of the final effluent limitation for methylmercury (Section IV.A.1.i).

B. Land Discharge Specifications – NOT APPLICABLE

C. Recycling Specifications

1. Recycled water specifications for the Facility are separately regulated under Water Quality Order WQ 2016-0068-DDW, Water Reclamation Requirements for Recycled Water Use.

2. **Production of Disinfected Tertiary Recycled Water for Distribution.** Enrollment under the State Water Board Water Quality Order WQ 2016-0068-DDW, Water Reclamation Requirements for Recycled Water Use, provides coverage for the distribution and use of Title 22 disinfected tertiary recycled water. The Discharger submitted a Title 22 Engineering Report prepared pursuant to Title 22, section 60323, which was accepted by the State Water Board Division of Drinking Water (DDW) on 1 April 2020. Hereinafter the term "Title 22 Engineering Report" refers to the 1 April 2020 Title 22 Engineering Report or any subsequently revised Title 22 Engineering Report that has been accepted by DDW. The Discharger was enrolled under Order WQ 2016-0068-DDW on 9 June 2020.

   When producing Title 22 disinfected tertiary recycled water for use under Order WQ 2016-0068-DDW, the Discharger shall meet the recycling specifications below:

   a. The Discharger shall operate the Facility consistent with the accepted Title 22 Engineering Report.

   b. Prior to implementing any changes in operations, for the production of recycled water, the Discharger shall revise the Title 22 Engineering Report and receive DDW acceptance.

   c. For discharges of recycled water, the Discharger shall comply with the operating specifications per the accepted Title 22 Engineering Report as follows:

      i. **Turbidity.** When discharging to the San Joaquin River or the reclamation system, to ensure the filtration system is operating properly to provide adequate disinfection of the wastewater, the turbidity of the filter effluent measured at Monitoring Location FIL-001 shall not exceed the following:

         (a) 0.2 NTU more than 5 percent of the time within a 24-hour period;

(b) 0.5 NTU at any time.

ii. **Total Coliform Organisms.** Effluent total coliform organisms shall not exceed the following, with compliance measured at Monitoring Location TCO-001 as described in the MRP, Attachment E:

(a) 2.2 most probable number per 100 milliliters (MPN/100 mL), as a 7-day median;

(b) 23 MPN/100 mL, more than once in any 30-day period; and

(c) 240 MPN/100 mL, at any time.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations – None

B. Groundwater Limitations – Not Applicable

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D.

2. The Discharger shall comply with the following provisions. In the event that there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply:

   a. If the Discharger's wastewater treatment plant is publicly owned or subject to regulation by California Public Utilities Commission, it shall be supervised and operated by persons possessing certificates of appropriate grade according to Title 23, CCR, division 3, chapter 26.

   b. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:

      i. violation of any term or condition contained in this Order;

      ii. obtaining this Order by misrepresentation or by failing to disclose fully all relevant facts;

      iii. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; and

      iv. a material change in the character, location, or volume of discharge.

      The causes for modification include:

i. New regulations. New regulations have been promulgated under section 405(d) of the CWA, or the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued.

ii. Land application plans. When required by a permit condition to incorporate a land application plan for beneficial reuse of sewage sludge, to revise an existing land application plan, or to add a land application plan.

iii. Change in sludge use or disposal practice. Under 40 CFR section 122.62(a)(1), a change in the Discharger's sludge use or disposal practice is a cause for modification of the permit. It is cause for revocation and reissuance if the Discharger requests or agrees.

The Central Valley Water Board may review and revise this Order at any time upon application of any affected person or the Central Valley Water Board's own motion.

c. If a toxic effluent standard or prohibition (including any scheduled compliance specified in such effluent standard or prohibition) is established under section 307(a) of the CWA, or amendments thereto, for a toxic pollutant that is present in the discharge authorized herein, and such standard or prohibition is more stringent than any limitation upon such pollutant in this Order, the Central Valley Water Board will revise or modify this Order in accordance with such toxic effluent standard or prohibition.

The Discharger shall comply with effluent standards and prohibitions within the time provided in the regulations that establish those standards or prohibitions, even if this Order has not yet been modified.

d. This Order shall be modified, or alternately revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the CWA, if the effluent standard or limitation so issued or approved:

i. Contains different conditions or is otherwise more stringent than any effluent limitation in the Order; or

ii. Controls any pollutant limited in the Order.

The Order, as modified or reissued under this paragraph, shall also contain any other requirements of the CWA then applicable.

e. The provisions of this Order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.

f. The Discharger shall take all reasonable steps to minimize any adverse effects to waters of the State or users of those waters resulting from any discharge or sludge use or disposal in violation of this Order. Reasonable steps shall include such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge or sludge use or disposal.

g. The Discharger shall ensure compliance with any existing or future pretreatment standard promulgated by U.S. EPA under section 307 of the CWA, or amendment thereto, for any discharge to the municipal system.

h. A copy of this Order shall be maintained at the discharge facility and be available at all times to operating personnel. Key operating personnel shall be familiar with its content.

i. Safeguard to electric power failure:

   i. The Discharger shall provide safeguards to assure that, should there be reduction, loss, or failure of electric power, the discharge shall comply with the terms and conditions of this Order.

   ii. Upon written request by the Central Valley Water Board, the Discharger shall submit a written description of safeguards. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means. A description of the safeguards provided shall include an analysis of the frequency, duration, and impact of power failures experienced over the past 5 years on effluent quality and on the capability of the Discharger to comply with the terms and conditions of the Order. The adequacy of the safeguards is subject to the approval of the Central Valley Water Board.

   iii. Should the treatment works not include safeguards against reduction, loss, or failure of electric power, or should the Central Valley Water Board not approve the existing safeguards, the Discharger shall, within 90 days of having been advised in writing by the Central Valley Water Board that the existing safeguards are inadequate, provide to the Central Valley Water Board and U.S. EPA a schedule of compliance for providing safeguards such that in the event of reduction, loss, or failure of electric power, the Discharger shall comply with the terms and conditions of this Order. The schedule of compliance shall, upon approval of the Central Valley Water Board, become a condition of this Order.

j. The Discharger, upon written request of the Central Valley Water Board, shall file with the Board a technical report on its preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. This report may be combined with

that required under the Central Valley Water Board Standard Provision contained in section VI.A.2.i of this Order.

The technical report shall:

i. Identify the possible sources of spills, leaks, untreated waste by-pass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes should be considered.

ii. Evaluate the effectiveness of present facilities and procedures and state when they became operational.

iii. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule containing interim and final dates when they will be constructed, implemented, or operational.

The Central Valley Water Board, after review of the technical report, may establish conditions which it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions shall be incorporated as part of this Order, upon notice to the Discharger.

k. A publicly owned treatment works whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment and disposal facilities. The projections shall be made in January, based on the last 3 years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in 4 years, the Discharger shall notify the Central Valley Water Board by 31 January. A copy of the notification shall be sent to appropriate local elected officials, local permitting agencies and the press. Within 120 days of the notification, the Discharger shall submit a technical report showing how it will prevent flow volumes from exceeding capacity or how it will increase capacity to handle the larger flows. The Central Valley Water Board may extend the time for submitting the report.

l. The Discharger shall submit technical reports as directed by the Executive Officer. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code, sections 6735, 7835, and 7835.1. To demonstrate compliance with Title 16, CCR, sections 415 and 3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.

m. The Central Valley Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

n. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.

o. This Order may be reopened to transfer ownership of control of this Order. The succeeding owner or operator must apply in writing requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, address and telephone number of the persons responsible for contact with the Central Valley Water Board, and a statement. The statement shall comply with the signatory and certification requirements in the federal Standard Provisions (Attachment D, section V.B) and state that the new owner or operator assumes full responsibility for compliance with this Order.

p. If the Discharger submits a timely and complete ROWD for permit reissuance, this permit shall continue in force and effect until the permit is reissued or the Regional Water Board rescinds the permit.

q. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this facility, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

r. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, effluent, or receiving water limitation of this Order, the Discharger shall notify the Central Valley Water Board by telephone (916) 464-3291 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Central Valley Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E.

C. Special Provisions

1. Reopener Provisions

a. Conditions that necessitate a major modification of a permit are described in 40 CFR section 122.62, including, but not limited to:

i. If new or amended applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA, or amendments thereto, this permit may be reopened and modified in accordance with the new or amended standards.

ii. When new information, that was not available at the time of permit issuance, would have justified different permit conditions at the time of issuance.

b. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.

c. **Mercury.** If mercury is found to be causing toxicity based on acute or chronic toxicity test results, or if a TMDL program is adopted, this Order shall be reopened, and the mass effluent limitation modified (higher or lower) or an effluent concentration limitation imposed. If the Central Valley Water Board determines that a mercury offset program is feasible for Dischargers subject to a NPDES permit, then this Order may be reopened to reevaluate the mercury mass loading limitation(s) and the need for a mercury offset program for the Discharger.

d. **Water Effects Ratios (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating criteria for applicable inorganic constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total when developing effluent limitations for hardness dependent metals. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

e. **Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS).** On 17 January 2020, certain Basin Plan Amendments to incorporate new strategies for addressing ongoing salt and nitrate accumulation in the Central Valley became effective. Other provisions subject to U.S. EPA approval became effective on 2 November 2020,

when approved by U.S. EPA. As the Central Valley Water Board moves forward to implement those provisions that are now in effect, this Order may be amended or modified to incorporate new or modified requirements necessary for implementation of the Basin Plan Amendments. More information regarding these Amendments can be found on the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) web page: (https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/)

f. **Bay-Delta Plan.** On 25 February 2019, the California Office of Administrative Law approved the 2018 Bay-Delta Plan amendments, which include a numeric water quality objective (WQO) for the San Joaquin River at Vernalis of 1,000 µmhos/cm maximum, year-round, applied as a 30-day running average of mean daily electrical conductivity. Once approved by the United States Environmental Protection Agency (U.S. EPA), the revised WQO will be applicable to the San Joaquin River at Vernalis and this Order may be amended or modified to implement the Bay-Delta Plan WQO's.

g. Whole Effluent Toxicity. This Order may be reopened for modification to revise the aquatic toxicity provisions if the California Supreme Court determines that the test of significant toxicity cannot be used in NPDES permits or the State Water Board suspends or revises the aquatic toxicity water quality standards.

i. Discharge Flow Increase (up to 6.0 MGD). The Discharger has requested an expansion of allowable flows to be discharged to the San Joaquin River. The Order may be reopened to modify the permitted average dry weather flow discharge up to 6.0 MGD upon compliance with the following conditions:

i. Facility Improvements. The Discharger shall have completed construction of an expansion project that results in a design treatment capacity up to 6.0 MGD. The Discharger shall provide certification of completion by the design engineer.

ii. Effluent Limitation Compliance. The certification of completion submitted by the Discharger shall certify that the expanded Facility can meet the requirements of sections IV.A.1, IV.A.2, and V.A of this Order and that the expanded Facility can accommodate and dewater the increased sludge volume.

iii. Request for Flow Increase. The Discharger shall submit a request for an increase in the permitted discharge flow rate, which demonstrates compliance with items i and ii of this provision.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. Toxicity Reduction Evaluation (TRE) Requirements.

i. TRE: The Discharger is required to conduct a TRE, as detailed in the Monitoring and Reporting Program (Attachment E, Section V.G), when any combination of two or more **MDEL or MMEL** violations occur within a single toxicity calendar month or within two successive toxicity calendar months. In addition, if other information indicates toxicity (e.g., results of additional monitoring, results of monitoring at a higher concentration than the IWC, fish kills, intermittent recurring toxicity) or if there is no effluent available to complete a routine monitoring test or **MMEL** compliance test, the Executive Officer may require a TRE

3. Best Management Practices and Pollution Prevention

a. **Pollution Prevention Plan for Mercury.** The Discharger continue to implement a pollution prevention plan for mercury in accordance with Water Code section 13263.3(d)(3). The minimum requirements for the pollution prevention plan are outlined in the Fact Sheet (Attachment F section VI.B.3.a). Annual progress reports shall be submitted by the due dates in the Technical Reports Table E-9 and to assess the effectiveness of the Pollution Prevention Plan.

b. **Salinity Evaluation and Minimization Plan (SEMP).** The Discharger shall continue to implement a SEMP to identify and address sources of salinity discharged from the Facility.

The Discharger submitted a Notice of Intent to comply with the Salt Control Program and selected the Alternative Permitting Approach. Accordingly, the Discharger shall participate in the CV-SALTS Prioritization and Optimization (PandO) Study. Furthermore, an evaluation of the effectiveness of the SEMP shall be submitted with the ROWD. The evaluation shall include, at minimum, the calendar annual average concentrations of effluent electrical conductivity during the term of the Order. If the average electrical conductivity concentration for any calendar year exceeds a performance-based **trigger of 1,600 µmhos/cm**, the Discharger shall evaluate possible sources of salinity contributing to the exceedance of the trigger and update the SEMP to include a plan of action to control salinity.

4. Construction, Operation and Maintenance Specifications

a. Cooling Pond Operating Requirements.

i. The Cooling Pond shall be operated and maintained to prevent inundation or washout due to floods with a 100 year return frequency.

ii. Public contact with wastewater shall be precluded through such means as fences, signs, and other acceptable alternatives.

iv. Freeboard shall never be less than 2 feet (measured vertically to the lowest point of overflow).

vii. The Discharger shall regularly inspect the condition of the cooling pond to ensure the integrity of the structure and lining and prevent infiltration of waste constituents into soils. The Discharger shall maintain and repair the cooling pond as necessary to ensure the integrity of the cooling pond. Necessary repairs shall be completed in reasonable timeframes that are consistent with the severity of the impairment and potential for impact to groundwater quality.

5. Special Provisions for Publicly-Owned Treatment Works (POTWs)

a. **Pretreatment Requirements (Effective upon approval of an industrial pretreatment program)**

i. The Discharger shall be responsible and liable for the performance of all Control Authority pretreatment requirements contained in 40 C.F.R. Part 403, including any subsequent regulatory revisions to 40 C.F.R. Part 403. Where 40 C.F.R. Part 403 or subsequent revision 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 6 months from the issuance date of this permit or the effective date of the 40 CFR Part 403 revisions, whichever comes later. For violations of pretreatment requirements, the Discharger shall be subject to enforcement actions, penalties, fines, and other remedies by U.S. EPA or other appropriate parties, as provided in the CWA. U.S. EPA may initiate enforcement action against a nondomestic user for noncompliance with applicable standards and requirements as provided in the CWA.

ii. The Discharger shall enforce the requirements promulgated under sections 307(b), 307(c), 307(d), and 402(b) of the CWA with timely, appropriate and effective enforcement actions. The Discharger shall cause all 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.

iii. The Discharger shall perform the pretreatment functions as required in 40 C.F.R. Part 403 including, but not limited to:

(a) Implement the necessary legal authorities as provided in 40 CFR Part 403.8(f)(1);

(b) Enforce the pretreatment requirements under 40 C.F.R. sections 403.5 and 403.6;

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

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

iv. **Pretreatment Reporting Requirements.** Pretreatment reporting requirements are included in the Monitoring and Reporting Program, section X.D.5 of Attachment E.

v. **Local Limits Evaluation.** In accordance with 40 C.F.R. section 122.44(j)(2)(ii) the Discharger shall provide a written technical evaluation of the need to revise the local limits under 40 C.F.R. section 403.5(c)(1), at each permit renewal.

b. **Sludge/Biosolids Treatment or Discharge Specifications.** Sludge in this document means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screening material generated during preliminary treatment. Residual sludge means sludge that will not be subject to further treatment at the wastewater treatment plant. Biosolids refer to sludge that has been treated and tested and shown to be capable of being beneficially and legally used pursuant to federal and state regulations as a soil amendment for agricultural, silvicultural, horticultural, and land reclamation activities as specified under 40 C.F.R. Part 503.

i. Collected screenings, residual sludge, biosolids, and other solids removed from liquid wastes shall be disposed of in a manner consistent with Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste, as set forth in Title 27, CCR, division 2, subdivision 1, section 20005, et seq. Removal for further treatment, storage, disposal, or reuse at sites (e.g., landfill, composting sites, soil amendment sites) that are operated in accordance with valid waste discharge requirements issued by a Regional Water Board will satisfy these specifications.

Sludge and solid waste shall be removed from screens, sumps, ponds, clarifiers, etc. as needed to ensure optimal plant performance.

The treatment of sludge generated at the Facility shall be confined to the Facility property and conducted in a manner that precludes infiltration of waste constituents into soils in a mass or concentration that will violate groundwater limitations in section V.B. of this Order. In addition, the storage of residual sludge, solid waste, and biosolids on Facility property shall be temporary and controlled, and contained in a

manner that minimizes leachate formation and precludes infiltration of waste constituents into soils

ii. The use, disposal, storage, and transportation of biosolids shall comply with existing federal and state laws and regulations, including permitting requirements and technical standards included in 40 C.F.R. Part 503. If the State Water Board and the Central Valley Water Board are given the authority to implement regulations contained in 40 C.F.R. Part 503, this Order may be reopened to incorporate appropriate time schedules and technical standards. The Discharger must comply with the standards and time schedules contained in 40 C.F.R. Part 503 whether or not they have been incorporated into this Order.

iii. The Discharger shall comply with section IX.A. Biosolids of the Monitoring and Reporting Program, Attachment E.

iv. The Discharger shall implement onsite sludge/biosolids treatment, processing, and storage for the Facility as described in the Fact Sheet (Attachment F, section II.A). This Order may be reopened to address any proposed change in the onsite treatment, processing, or storage of sludge/biosolids.

6. Other Special Provisions

a. **Disinfection Requirements.** Wastewater shall be oxidized, coagulated, filtered, and adequately disinfected consistent with the State Water Board, Division of Drinking Water (DDW) reclamation criteria, CCR, Title 22, division 4, chapter 3, (Title 22), or equivalent.

7. Compliance Schedules

a. **Compliance Schedules for Final Effluent Limitations for Methylmercury.** This Order requires compliance with the final effluent limitations for methylmercury in Section IV.A.1 of this Order. The Discharger shall comply with the time schedule shown in the Technical Reports Table E-9 to ensure compliance with the final effluent limitations.

VII. COMPLIANCE DETERMINATION

A. BOD_5 and TSS Effluent Limitations (sections IV.A.1.a and IV.A.1.c). Compliance with the final effluent limitations for BOD_5 and TSS required in Waste Discharge Requirements section IV.A.1.a shall be ascertained by 24-hour composite samples. Compliance with effluent limitations required in Waste Discharge Requirements section IV.A.1.c for percent removal shall be calculated using the arithmetic mean of BOD_5 and TSS in effluent samples collected over a monthly period as a percentage of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period.

B. Methylmercury and Total Mercury Mass Loading Effluent Limitations (section IV.A.1.i and IV.A.2.a). The procedures for calculating mass loadings are as follows:

1. The total calendar pollutant mass load shall be determined by the sum of all effluent constituent monitoring results measured during a calendar year divided by the total number of samples collected during the year multiplied the total annual discharge flow. All effluent monitoring data collected under the monitoring and reporting program, pretreatment program, and any special studies shall be used for these calculations.

2. In calculating compliance, the Discharger shall count all non-detect measures at one-half of the detection level. If compliance with the effluent limitation is not attained due to the non-detect contribution, the Discharger shall improve and implement available analytical capabilities and compliance shall be evaluated with consideration of the detection limits.

C. Average Dry Weather Flow Prohibition (section III.E). The average dry weather discharge flow represents the daily average flow when groundwater is at or near normal and runoff is not occurring. Compliance with the average dry weather flow discharge prohibition will be determined annually based on the average daily flow over three consecutive dry weather months (e.g., July, August, and September).

D. Total Coliform Organisms Effluent Limitations (section IV.A.1.h). For each day that an effluent sample is collected and analyzed for total coliform organisms, the 7-day median shall be determined by calculating the median concentration of total coliform bacteria in the effluent utilizing the bacteriological results of the last 7 days. For example, if a sample is collected on a Wednesday, the result from that sampling event and all results from the previous 6 days (i.e., Tuesday, Monday, Sunday, Saturday, Friday, and Thursday) are used to calculate the 7-day median. If the 7-day median of total coliform organisms exceeds a most probable number (MPN) of 2.2 per 100 milliliters, the Discharger will be considered out of compliance. For evaluating compliance with the 7-day median effluent limitation when the discharge to the San Joaquin River occurs for less than seven consecutive days, the 7-day median will be calculated once using all effluent samples collected at EFF-001 when discharging to the San Joaquin River (Discharge Point 001) and/or when discharging to the recycled water system, during the 7-day period ending on the date the discharge to the San Joaquin River ceases back seven days. For example, if the discharge occurs to the San Joaquin River for five consecutive days starting on a Saturday and ending on a Wednesday, the result collected at EFF-001 from the sampling event on Wednesday and all results from the previous 6 days that there was discharge to either the San Joaquin River or the recycled water system (i.e., Tuesday, Monday, Sunday, and Saturday, while discharging to the San Joaquin River, and from Friday and Thursday while discharging to the recycled water system) are used to calculate the 7 day median.

E. Total Residual Chlorine Effluent Limitations (section IV.A.1.g). Continuous monitoring analyzers for chlorine residual or for dechlorination agent residual in the

effluent are appropriate methods for compliance determination. A positive residual dechlorination agent in the effluent indicates that chlorine is not present in the discharge, which demonstrates compliance with the effluent limitations. This type of monitoring can also be used to prove that some chlorine residual exceedances are false positives. Continuous monitoring data showing either a positive dechlorination agent residual or a chlorine residual at or below the prescribed limit are sufficient to show compliance with the total residual chlorine effluent limitations, as long as the instruments are maintained and calibrated in accordance with the manufacturer's recommendations.

Any excursion above the 1-hour average or 4-day average total residual chlorine effluent limitations is a violation. If the Discharger conducts continuous monitoring and the Discharger can demonstrate, through data collected from a back-up monitoring system, that a chlorine spike recorded by the continuous monitor was not actually due to chlorine, then any excursion resulting from the recorded spike will not be considered an exceedance, but rather reported as a false positive. Records supporting validation of false positives shall be maintained in accordance with Section IV Standard Provisions (Attachment D).

F. Effluent Limitations. Compliance with effluent limitations for pollutants other than those specified above shall be determined in accordance with section 2.4.5 of the State Water Board's *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (2005) (State Implementation Policy or SIP) as follows:

1. Dischargers shall be deemed out of compliance with an effluent limitation if the concentration of the pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the RL.
2. When determining compliance with an average weekly and monthly effluent limitation (AWEL and AMEL, respectively) and more than one sample result is available in a week or month, as applicable, the discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of DNQ or ND. In those cases, the discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

a. The data set shall be ranked from low to high, reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

G. Temperature Effluent Limitation (Section IV.A.1.f). Compliance with the effluent limitation for temperature shall be ascertained using the daily average effluent temperature at Monitoring Location EFF-001 and the temperature of the "upstream" receiving water measured on the same day by grab sample at either Monitoring Location RSW-002 or Monitoring Location RSW-003, depending on the direction of the San Joaquin River flow at the time of sampling. Due to the tidal nature of the receiving water, the direction of the San Joaquin River flow at the time of sampling will dictate which monitoring location is representative of the "upstream" receiving water. For periods in which the Facility conveys effluent through the cooling ponds prior to discharge to the San Joaquin River, measurements at EFF-002 shall be used for compliance determination in lieu of measurements at EFF-001.

I. Chlorpyrifos and Diazinon Effluent Limitations (Section IV.A.1.i). Compliance shall be determined by calculating the sum (S), as provided in this Order, with analytical results that are reported as ND concentrations to be considered to be zero.

J. Whole Effluent Toxicity Effluent Limitations. The discharge is subject to determination of "Pass" or "Fail" from chronic whole effluent toxicity tests using the Test of Significant Toxicity (TST) statistical t-test approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010), Appendix A, Figure A-1 and Table A-1 (Chronic Freshwater and East Coast Methods) and Appendix B, Table B-1.

The null hypothesis (Ho) for the TST statistical approach is:

> Mean discharge Instream Waste Concentration (IWC) response ≤ Regulatory Management Decision (RMD) x Mean control response, where the chronic RMD = 0.75 and the acute RMD = 0.80.
>
> A test result that rejects this null hypothesis is reported as "Pass." A test result that does not reject this null hypothesis is reported as "Fail."
>
> The relative "Percent Effect" at the discharge IWC is defined and reported as:
>
> Percent Effect = ((Mean control response – Mean discharge IWC response) / Mean control response) x 100.

This is a t-test (formally Student's t-Test), a statistical analysis comparing two sets of replicate observations, i.e., a control and IWC. The purpose of this statistical test is to determine if the means of the two sets of observations are different (i.e., if the IWC differs from the control, the test result is "Fail"). The Welch's t-test employed by the TST statistical approach is an adaptation of Student's t-test and is used with two samples having unequal variances.

1. **Chronic Whole Effluent Toxicity MDEL (section IV.A.1.d).** If the result of a routine *Ceriodaphnia dubia* chronic whole effluent toxicity test, using the TST statistical approach, is a "Fail" at the IWC for the sublethal endpoint measured in

the test and the percent effect for the survival endpoint is greater than or equal to 50 percent, the Discharger will be deemed out of compliance with the MDEL.

2. **Chronic Whole Effluent Toxicity MMEL (section IV.A.1.e).** If a routine *Ceriodaphnia dubia* chronic whole effluent toxicity test and at least one *Ceriodaphnia dubia* chronic toxicity MMEL compliance test conducted within the same toxicity calendar month result in a "Fail" at the IWC, using the TST statistical approach, the Discharger will be deemed out of compliance with the MMEL.

K. Cooling Pond Operations, Temperature Effluent Limitations (Section IV.A.1.f) and pH Effluent Limitations (Section IV.A.1.b). When utilizing the Cooling Ponds to provide effluent cooling, compliance with the temperature effluent limitations (Section IV.A.1.f) and pH effluent limitations (Section IV.A.1.b) shall be evaluated using effluent monitoring conducted at Monitoring Location EFF-002. Compliance with all other effluent limitations shall be evaluated based on effluent monitoring conducted at Monitoring Location EFF-001.

A

ATTACHMENT A – DEFINITIONS

1Q10
The lowest one-day flow with an average reoccurrence frequency of once in ten years.

7Q10
The lowest average seven consecutive day flow with an average reoccurrence frequency of once in ten years.

Acute Aquatic Toxicity Test
A test to determine an adverse effect (usually lethality) on a group of aquatic test organisms during a short-term exposure (e.g., 24, 48, or 96 hours).

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

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

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

Calendar Month

A period of time from of the first of a month to the last day of the month (e.g., from January 1 to January 31, from April 1 to April 30, or from December 1 to December 31).

Calendar Quarter
A period of time defined as three consecutive calendar months (i.e., from January 1 to March 31, from April 1 to June 30, from July 1 to September 30, or from October 1 to December 31).

Calendar Year
A period of time defined as twelve consecutive calendar months (i.e., January 1 to December 31).

Chronic Aquatic Toxicity Test
A test to determine an adverse effect (sub-lethal or lethal) on a group of aquatic test organisms during an exposure of duration long enough to assess sub-lethal effects.

Carcinogenic
Pollutants are substances that are known to cause cancer in living organisms.

Coefficient of Variation (CV)
CV is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

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

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

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

Detected, but Not Quantified (DNQ)
DNQ are those 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
Dilution Credit is the 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)
ECA is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in U.S. EPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Enclosed Bays
Enclosed Bays means 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.

Endpoint
An effect that is measured in a toxicity test. Endpoints in toxicity tests may include, but are not limited to survival, reproduction, and growth. A measured response of a receptor to a stressor. An endpoint can be measured in a toxicity test or field survey.

Estimated Chemical Concentration
The estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Estuaries
Estuaries means 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 shall be 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.

Inland Surface Waters
All surface waters of the state that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation
The 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
The 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)
The concentration of effluent in the receiving water after mixing.

Maximum Daily Effluent Limitation (MDEL)
The highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Median
The middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X_{(n+1)/2}$. If n is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the n/2 and n/2+1).

Method Detection Limit (MDL)
MDL is the minimum measured 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 in 40 C.F.R. Part 136, Attachment B.

Minimum Level (ML)
ML is the 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
Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

Not Detected (ND)
Sample results which are less than the laboratory's MDL.

Null Hypothesis
A 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.

Ocean Waters
The territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

Percent Effect
The percent effect at the instream waste concentration (IWC) shall be calculated using untransformed data and the following equation:

$$\text{Percent Effect of the Sample} = \frac{\text{Mean Control Response} - \text{Mean Sample Response}}{\text{Mean Control Response}} \cdot 100$$

Persistent Pollutants
Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (PMP)
PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) 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. The Central Valley Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

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

Regulatory Management Decision (RMD)
The 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.

Response
A measured biological effect (e.g., survival, reproduction, growth) as a result of exposure to a stimulus.

Satellite Collection System
The portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

Source of Drinking Water
Any water designated as municipal or domestic supply (MUN) in a Central Valley Water Board Basin Plan.

Species Sensitivity Screening
An analysis to determine the single most sensitive species from an array of test species to be used in a single species laboratory test series.

Standard Deviation (σ)
Standard Deviation is a measure of variability that is calculated as follows:

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

where:

x is the observed value;
μ is the arithmetic mean of the observed values; and
n is the number of samples.

Statewide Toxicity Provisions

The Statewide Toxicity Provisions became effective on 25 April 2022 and include statewide numeric water quality objectives for both acute and chronic toxicity and a program of implementation to control toxicity.Statistical Threshold Value (STV)
The STV for the bacteria receiving water limitation is a set value that approximates the 90th percentile of the water quality distribution of a bacterial population.

Test of Significant Toxicity (TST)
A statistical approach used to analyze aquatic toxicity test data, as described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010), Appendix A, Figure A-1 and Table A-1 (Chronic Freshwater and East Coast Methods) and Appendix B, Table B-1.

Toxicity Reduction Evaluation (TRE)
TRE is a study conducted in a stepwise 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.

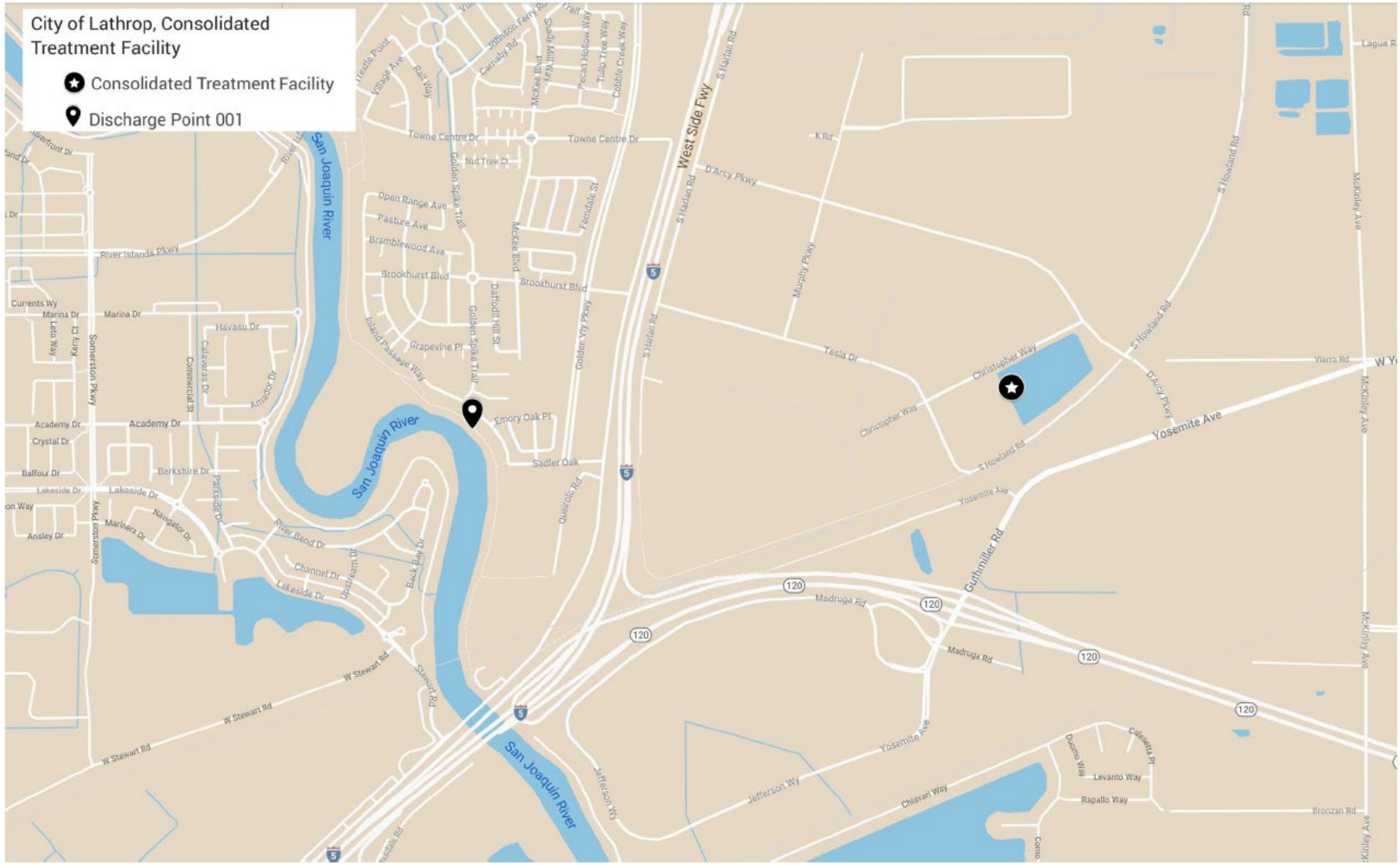
Toxicity Identification Evaluation (TIE)
A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.

WET Maximum Daily Effluent Limitation (MDEL)
For the purposes of chronic and acute aquatic toxicity, an MDEL is an effluent limitation based on the outcome of the TST approach and the resulting percent effect at the IWC.

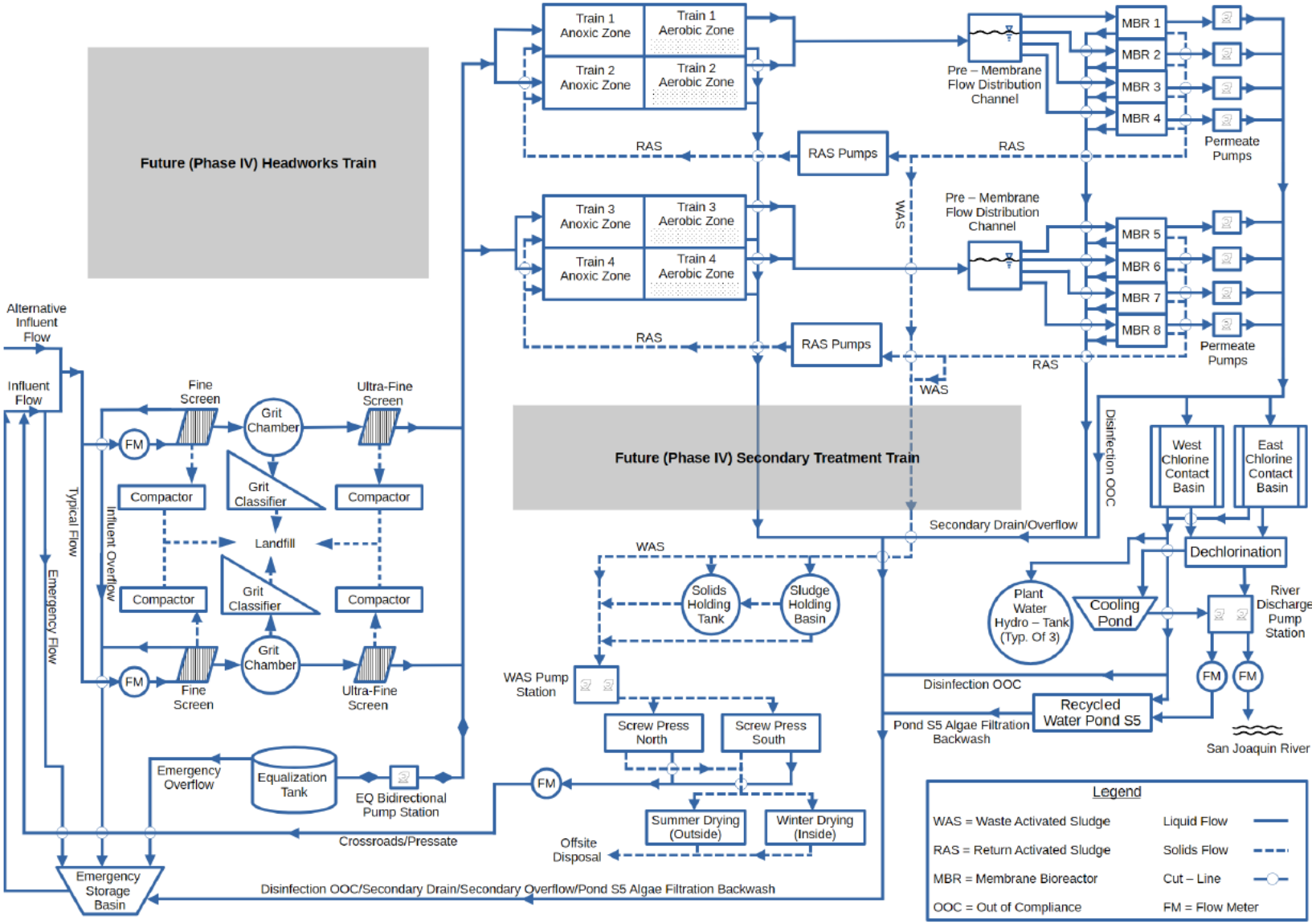
WET Median Monthly Effluent Limit (MMEL)
For the purposes of chronic and acute aquatic toxicity, an MMEL is an effluent limitation based on a maximum of three independent toxicity tests analyzed using the TST approach during a toxicity calendar month.

WET MMEL Compliance Tests
For the purposes of chronic and acute aquatic toxicity, a maximum of two tests that are used in addition to the routine monitoring test to determine compliance with the chronic and acute aquatic toxicity MMEL.

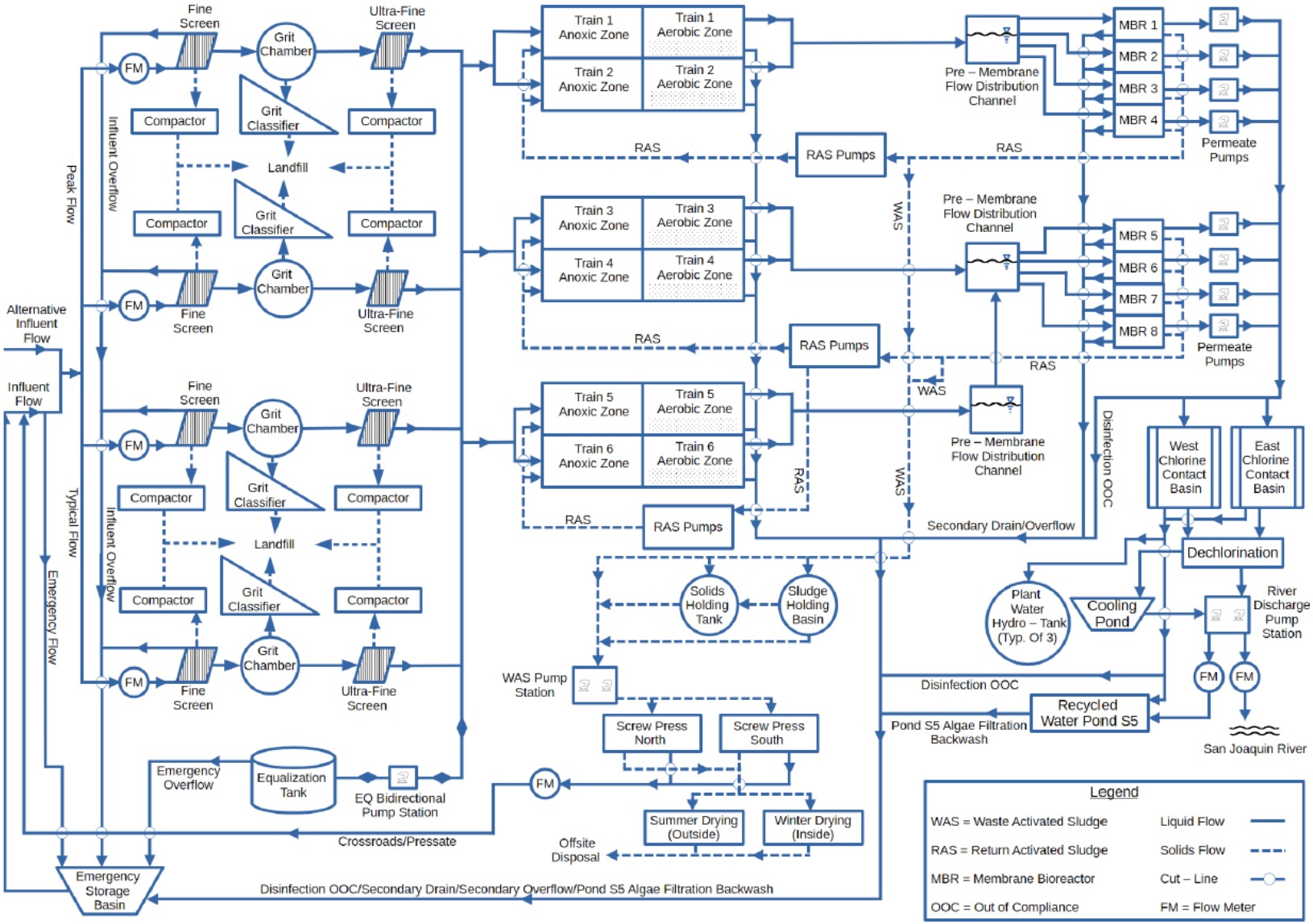
ATTACHMENT B – MAP



ATTACHMENT C-1 – FLOW SCHEMATIC



ATTACHMENT C-2 – PHASE 4 BUILDOUT FLOW SCHEMATIC



ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply:

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

2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA 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. section 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 C.F.R. section 122.41(c).)

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. section 122.41(d).)

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes having 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. section 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. section 122.41(g).)

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. section 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Central Valley 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. section 1318(a)(4)(B); 40 C.F.R. section 122.41(i); Wat. Code, section 13267, 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (33 U.S.C section 1318(a)(4)(B)(ii); 40 C.F.R. section 122.41(i)(1); Wat. Code, sections 13267, 13383);

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (33 U.S.C. section 1318(a)(4)(B)(ii); 40 C.F.R. section 122.41(i)(2); Wat. Code, sections 13267, 13383);

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (33 U.S.C section 1318(a)(4)(B)(ii); 40 C.F.R. section 122.41(i)(3); Wat. Code, section 13267, 13383); and

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (33 U.S.C section 1318(a)(4)(B); 40 C.F.R. section 122.41(i)(4); Wat. Code, sections 13267, 13383.)

G. Bypass

1. Definitions

    a. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. section 122.41(m)(1)(i).)

    b. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. section 122.41(m)(1)(ii).)

2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not

subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. section 122.41(m)(2).)

3. Prohibition of bypass. Bypass is prohibited, and the Central Valley Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. section 122.41(m)(4)(i)):

   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. section 122.41(m)(4)(i)(A));

   b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. section 122.41(m)(4)(i)(B)); and

   c. The Discharger submitted notice to the Central Valley Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. section 122.41(m)(4)(i)(C).)

4. The Central Valley Water Board may approve an anticipated bypass, after considering its adverse effects, if the Central Valley Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. section 122.41(m)(4)(ii).)

5. **Notice**

   a. **Anticipated bypass.** If the Discharger knows in advance of the need for a bypass, it shall submit prior notice if possible, at least 10 days before the date of the bypass. The notice shall be sent to the Central Valley Water Board. As of 21 December 2023, all notices shall be submitted electronically to the initial recipient (State Water Board's California Integrated Water Quality System (CIWQS) Program website (http://www.waterboards.ca.gov/water_issues/programs/ciwqs/), defined in Standard Provisions – Reporting V.J below. Notices shall comply with 40 C.F.R. Part 3, section 122.22, and 40 C.F.R. Part 127. (40 C.F.R. section 122.41(m)(3)(i).)

   b. **Unanticipated bypass.** The Discharger shall submit a notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). The notice shall be sent to the Central Valley Water Board. As of 21 December 2023, all notices shall be submitted electronically to the initial recipient (State Water Board's California Integrated Water Quality System (CIWQS) Program website. (http://www.waterboards.ca.gov/water_issues/programs/ciwqs/), defined in Standard Provisions – Reporting V.J below. Notices shall comply with 40

C.F.R. Part 3, section 122.22, and 40 C.F.R. Part 127. (40 C.F.R. section 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. section 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. section 122.41(n)(2).)

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. section 122.41(n)(3)):

    a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. section 122.41(n)(3)(i));

    b. The permitted facility was, at the time, being properly operated (40 C.F.R. section 122.41(n)(3)(ii));

    c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. section 122.41(n)(3)(iii)); and

    d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. section 122.41(n)(3)(iv).)

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. section 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 C.F.R. section 122.41(f).)

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 C.F.R. section 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Central Valley Water Board. The Central Valley Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. section 122.41(l)(3); 122.61.)

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. section 122.41(j)(1).)

B. Monitoring must be conducted according to test procedures approved under 40 C.F.R. Part 136 for the analyses of pollutants unless another method is required under 40 C.F.R. subchapters N or O. 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 or O. For the purposes of this paragraph, a method is sufficiently sensitive when 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 or O for the measured pollutant or pollutant parameter, or when:

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;

    a. 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;

    b. 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.

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, subchapters N or O, monitoring must be conducted according to a test procedure specified in this Order for such pollutants or pollutant parameters. (40 C.F.R. sections 122.21(e)(3), 122.41(j)(4); 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 C.F.R. part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Central Valley Water Board Executive Officer at any time. (40 C.F.R. section 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 C.F.R. section 122.41(j)(3)(i));

2. The individual(s) who performed the sampling or measurements (40 C.F.R. section 122.41(j)(3)(ii));

3. The date(s) analyses were performed (40 C.F.R. section 122.41(j)(3)(iii));

4. The individual(s) who performed the analyses (40 C.F.R. section 122.41(j)(3)(iv));

5. The analytical techniques or methods used (40 C.F.R. section 122.41(j)(3)(v)); and

6. The results of such analyses. (40 C.F.R. section 122.41(j)(3)(vi).)

C. Claims of confidentiality for the following information will be denied (40 C.F.R. section 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 C.F.R. section 122.7(b)(1)); and

2. Permit applications and attachments, permits and effluent data. (40 C.F.R. section 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Central Valley Water Board, State Water Board, or U.S. EPA within a reasonable time, any information which the Central Valley 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 Central Valley Water Board, State Water Board, or U.S. EPA copies of records required to be kept by this Order. (40 C.F.R. section 122.41(h); Wat. Code, sections 13267, 13383.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Central Valley Water Board, State Water Board, and/or U.S. EPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, V.B.5, and V.B.6 below. (40 C.F.R. section 122.41(k).)

2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA). (40 C.F.R. section 122.22(a)(3).)

3. All reports required by this Order and other information requested by the Central Valley Water Board, State Water Board, or U.S. EPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

    a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. section 122.22(b)(1));

    b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. section 122.22(b)(2)); and

    c. The written authorization is submitted to the Central Valley Water Board and State Water Board. (40 C.F.R. section 122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Central Valley 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. section 122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

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

6. Any person providing the electronic signature for such documents described in Standard Provision – V.B.1, V.B.2, or V.B.3 that are submitted electronically shall meet all relevant requirements of Standard Provisions – Reporting V.B, and shall ensure that all of the 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 section 122.22(e).)

C. Monitoring Reports

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. section 122.41(l)(4).)

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Central Valley Water Board or State Water Board for reporting the results of monitoring, sludge use, or disposal practices. As of 21 December 2016, all reports and forms must be submitted electronically to the initial recipient, defined in Standard Provisions – Reporting V.J, and comply with 40 C.F.R. part 3, section 122.22, and 40 C.F.R. part 127. (40 C.F.R. section 122.41(l)(4)(i).)

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 C.F.R. part 136, or another method required for an industry-specific waste stream under 40 C.F.R. subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting

form specified by the Central Valley Water Board. (40 C.F.R. section 122.41(l)(4)(ii).)

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. section 122.41(l)(4)(iii).)

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance which 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 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 events 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 (combined sewer overflows, sanitary sewer overflows, or bypass events), type of sewer overflow structure (e.g., manhole, combined sewer overflow outfall), discharge volumes untreated by the treatment works treating domestic sewage, types of human health and environmental impacts of the sewer overflow event, and whether the noncompliance was related to wet weather.

   As of 21 December 2020 all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events must be submitted electronically to the initial recipient (State Water Board) defined in Standard Provisions – Reporting V.J. The reports shall comply with 40 C.F.R. part 3. They 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. section 122.41(l)(6)(i).)

F. Planned Changes

The Discharger shall give notice to the Central Valley 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. section 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. section 122.41(l)(1)(i)); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 C.F.R. section 122.41(l)(1)(ii).)

3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R. section 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Central Valley 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. section 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports shall contain the information described in Standard Provision – Reporting V.E and the applicable required data in appendix A to 40 C.F.R. part 127. The Central Valley 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. section 122.41(l)(7).)

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Central Valley Water Board**,** State Water Board, or U.S. EPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. section 122.41(l)(8).)

J. Initial Recipient for Electronic Reporting Data

The owner, operator, or the duly authorized representative is required to electronically submit NPDES information specified in appendix A to 40 C.F.R. part 127 to the appropriate initial recipient, as determined by U.S. EPA, and as defined in 40 C.F.R. section 127.2(b). U.S. EPA will identify and publish the list of initial

recipients on its website and in the Federal Register, by state and by NPDES data group [see 40 C.F.R. section 127.2(c)]. U.S. EPA will update and maintain this listing. (40 C.F.R. section 122.41(l)(9).)

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The Central Valley Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13350, 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Central Valley Water Board of the following (40 C.F.R. section 122.42(b)):

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 C.F.R. section 122.42(b)(1)); and

2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order. (40 C.F.R. section 122.42(b)(2).)

3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 C.F.R. section 122.42(b)(3).).

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (40 C.F.R. section 122.48) requires that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 authorize the Central Valley Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. This MRP establishes monitoring and reporting requirements that implement federal and California requirements.

I. GENERAL MONITORING PROVISIONS

A. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and the approval of the Central Valley Water Board.

B. Final effluent samples shall be taken downstream of the last addition of wastes to the treatment or discharge works where a representative sample may be obtained prior to mixing with the receiving waters. Samples shall be collected at such a point and in such a manner to ensure a representative sample of the discharge.

C. Chemical, bacteriological, and bioassay analyses of any material required by this Order shall be conducted by a laboratory accredited for such analyses by the State Water Resources Control Board (State Water Board), Division of Drinking Water (DDW; formerly the Department of Public Health), in accordance with the provision of Water Code section 13176. Laboratories that perform sample analyses must be identified in all monitoring reports submitted to the Central Valley Water Board. In the event an accredited laboratory is not available to the Discharger for any onsite field measurements such as pH, dissolved oxygen (DO), turbidity, temperature, and residual chlorine, such analyses performed by a non-accredited laboratory will be accepted provided a Quality Assurance-Quality Control Program is instituted by the laboratory. A manual containing the steps followed in this program for any onsite field measurements such as pH, DO, turbidity, temperature, and residual chlorine must be kept onsite in the treatment facility laboratory and shall be available for inspection by Central Valley Water Board staff. The Discharger must demonstrate sufficient capability (qualified and trained employees, properly calibrated and maintained field instruments, etc.) to adequately perform these field measurements. The Quality Assurance-Quality Control Program must conform to U.S. EPA guidelines or to procedures approved by the Central Valley Water Board.

D. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary, at least yearly, to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.

E. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this Monitoring and Reporting Program.

F. Laboratory analytical methods shall be sufficiently sensitive in accordance with the Sufficiently Sensitive Methods Rule (SSM Rule) specified under 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv). A U.S. EPA-approved analytical method is sufficiently sensitive for a pollutant/parameter where:

1. The method minimum level (ML) is at or below the applicable water quality objective for the receiving water, or;

2. The method ML is above the applicable water quality objective for the receiving water but the amount of the pollutant/parameter in the discharge is high enough that the method detects and quantifies the level of the pollutant/parameter, or;

3. the method ML is above the applicable water quality objective for the receiving water, but the ML is the lowest of the 40 C.F.R. 136 U.S. EPA-approved analytical methods for the pollutant/parameter.

G. The Discharger shall ensure that the results of the Discharge Monitoring Report-Quality Assurance (DMR-QA) Study or the most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Resources Control Board electronically via email (QualityAssurance@Waterboards.ca.gov) to the DMR-QA Coordinator.

H. The Discharger shall file with the Central Valley Water Board technical reports on self-monitoring performed according to the detailed specifications contained in this Monitoring and Reporting Program.

II. MONITORING LOCATIONS

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

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	INF-001	A location where a representative sample of the Facility influent can be obtained, prior to any additives, treatment processes, and plant return flows.
001	EFF-001	A location where a representative sample of the Facility effluent can be obtained after dechlorination and prior to discharge to the San Joaquin River, or to the Cooling Ponds when operating to provide effluent cooling prior to discharge to the San Joaquin River.
001	EFF-002	A location where a representative sample of the Facility effluent can be obtained following the Cooling Ponds

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
		when operating to provide effluent cooling, prior to discharge to the San Joaquin River.
--	RSW-001	In the San Joaquin River approximately 900 feet upstream (south) of Discharge Point 001.
--	RSW-002	In the San Joaquin River approximately 500 feet upstream (south) of Discharge Point 001.
--	RSW-003	In the San Joaquin River approximately 500 feet downstream (north) of Discharge Point 001.
--	FIL-001	Monitoring of the filter effluent to be measured immediately downstream of the filters prior to chlorination. This location is for purposes of determining compliance with recycled water discharge specifications, Section IV.C of the WDRs.
--	BIO-001	A location where a representative sample of biosolids can be collected for compliance determination with pretreatment regulations.
001	TCO-001	A location immediately following chlorine disinfection where a representative sample for effluent total coliform organisms can be collected.
--	REC-001	A location where a representative flow measurement to the reclamation system can be obtained.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

1. When discharging to the San Joaquin River, the Discharger shall monitor influent to the Facility at INF-001 in accordance with Table E-2 and the testing requirements described in section III.A.2 below:

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	MGD	Meter	Continuous
Biochemical Oxygen Demand, 5-day @ 20°Celsius (BOD_5)	mg/L	24-hour Composite	1/Week
Total Suspended Solids (TSS)	mg/L	24-hour Composite	1/Week

2. **Table E-2 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-2:

   a. **Applicable to all parameters.** Parameters shall be analyzed using the analytical methods described in 40 CFR part 136; or by methods approved by the Central Valley Water Board or the State Water Board. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 CFR part 136 allowed sample type.

   b. **24-Hour Composite Samples.** All composite samples shall be collected from a 24-hour flow proportional composite.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. When discharging directly to the San Joaquin River or when effluent is discharged to the Cooling Pond for subsequent discharge to the San Joaquin River, the Discharger shall monitor the effluent at EFF-001 in accordance with Table E-3 and the testing requirements described in section IV.A.2 below. If effluent is discharged to the Cooling Pond and not discharged to the San Joaquin River, it is not subject to these monitoring requirements.

Table E-3. Effluent Monitoring at EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	MGD	Meter	Continuous
pH	standard units	Meter	Continuous
Chlorine, Total Residual	mg/L	Meter	Continuous
Temperature	ºF	Meter	Continuous
Total Coliform Organisms	MPN/100mL	Grab	3/Week
Biochemical Oxygen Demand, 5-day @ 20°Celsius (BOD_5)	mg/L	24-hour Composite	1/Week
BOD_5	% removal	Calculate	1/Month
Total Suspended Solids (TSS)	mg/L	24-hour Composite	1/Week
TSS	% removal	Calculate	1/Month
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Week
Electrical Conductivity @ 25°Celsius	µmhos/cm	Grab	1/Week
Dissolved Oxygen	mg/L	Grab	2/Month
Chloroform	µg/L	Grab	1/Month
Dibromochloromethane (DBCM)	µg/L	Grab	1/Month
Dichlorobromomethane (DCBM)	µg/L	Grab	1/Month
Nitrate Nitrogen, Total (as N)	mg/L	Grab	1/Month
Nitrite Nitrogen, Total (as N)	mg/L	Grab	1/Month
Nitrate plus Nitrite, Total (as N)	mg/L	Calculate	1/Month
Barium	µg/L	24-hour Composite	1/Quarter
Copper, Total	µg/L	Grab	1/Quarter
Hardness, Total (as CaCO3)	mg/L	24-hour Composite	1/Quarter
Mercury (methyl)	ng/L	Grab	1/Quarter
Mercury, Total	ng/L	Grab	1/Quarter
Chlorpyrifos	µg/L	Grab	1/Year
Diazinon	µg/L	Grab	1/Year

2. **Table E-3 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-3:

    a. **Applicable to all parameters.** Parameters shall be analyzed using the analytical methods described in 40 CFR part 136 or by methods approved

by the Central Valley Water Board or the State Water Board. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 CFR part 136 allowed sample type.

b. **24-hour composite samples** shall be collected from a 24-hour flow proportional composite.

c. **Handheld Field Meter.** A handheld field meter may be used for **dissolved oxygen, electrical conductivity, temperature** and **pH**, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

d. **Temperature** and **pH** shall be recorded at the time of **ammonia** sample collection.

e. **Ammonia.** Ammonia samples shall be collected concurrently with whole effluent toxicity monitoring.

f. **Total Residual Chlorine** must be monitored using an analytical method that is sufficiently sensitive to measure at the permitted level of 0.01 mg/L.

g. **Hardness** samples shall be collected concurrently with metals samples.

h. **Total Mercury and Methyl Mercury.** Unfiltered methyl mercury and total mercury samples shall be taken using **clean hands/dirty hands procedures**, as described in U.S. EPA method 1669: Sampling Ambient Water for Trace Metals at U.S. EPA Water Quality Criteria Levels, for collection of equipment blanks (section 9.4.4.2). The analysis of methyl mercury and total mercury shall be by U.S. EPA method 1630 and1631 (Revision E), respectively, with a **reporting limit of 0.05 ng/L for methyl mercury and 0.5 ng/L for total mercury**.

i. **Total Coliform Organisms.** Samples for total coliform organisms shall be collected at Monitoring Location TCO-001.

j. **Priority Pollutants.** For all priority pollutant constituents listed in Table E-3 (DBCM, DCBM, chloroform, copper, and mercury) the RL shall be consistent with sections 2.4.2 and 2.4.3 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP) and the SSM Rule specified under 40 C.F.R. sections 122.21(e)(3)and 122.44(i)(1)(iv).

k. **Chlorpyrifos and Diazinon** shall be sampled using U.S. EPA Method 625M, Method 8141, or equivalent GC/MS method with a lower Reporting

Limit than the Basin Plan Water Quality Objectives of 0.015 µg/L and 0.1 µg/L for chlorpyrifos and diazinon, respectively.

l. **Flow.** Effluent flow is measured using a flow meter located downstream of monitoring locations EFF-001 and EFF-002 and captures the total flow to the San Joaquin River under all operating conditions.

m. **Dissolved Oxygen (2/month sampling).** The first sample shall be taken between the first day of calendar month through fifteenth day of calendar month and the second sample shall be taken between the sixteenth day of calendar month through last day of calendar month. A sample is not required if discharge does not occur during the respective sample period.

n. **pH.** Monitoring for pH may be ceased for up to 30 minutes each day for cleaning and calibration of probes.

B. Monitoring Location EFF-002

1. When discharging to the San Joaquin River fromthe Cooling Pond, the Discharger shall monitor the effluent at EFF-002, in accordance with Table E-4 and the testing requirements described in section IV.B.2 below:

Table E-4. Effluent Monitoring at EFF-002

Parameter	Units	Sample Type	Minimum Sampling Frequency
pH	standard units	Grab	3/Week
Temperature	ºF	Grab	3/Week
Dissolved Oxygen	mg/L	Grab	2/Month

2. **Table E-4 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-4:

a. **Applicable to all parameters.** Parameters shall be analyzed using the analytical methods described in 40 CFR part 136 or by methods approved by the Central Valley Water Board or the State Water Board. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 CFR part 136 allowed sample type.

b. **Handheld Field Meter.** A handheld field meter may be used for **dissolved oxygen**, **temperature** and **pH**, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

c. **Grab Sample.** A grab sample is defined as an individual discrete sample collected over a period of time not exceeding 15 minutes. It can be taken manually, using a pump, scoop, vacuum, or other suitable device. Grab samples shall not be collected at the same time each day.

d. **Dissolved Oxygen (2/month sampling).** The first sample shall be taken between the first day of calendar month through fifteenth day of calendar month and the second sample shall be taken between the sixteenth day of calendar month through last day of calendar month. A sample is not required if discharge does not occur during the respective sample period.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Toxicity Calendar Month, Quarter and Year.

1. **Toxicity Calendar Month .** The toxicity calendar month is defined as the period of time beginning on the day of the initiation of the routine toxicity monitoring to the day before the corresponding day of the next month if the corresponding day exists, or if not to the last day of the next month (i.e., from 1 January to 31 January, from 1 February to 28 February, from 1 August to 31 August, etc.).

2. **Toxicity Calendar Quarter.** A toxicity calendar quarter is defined as **three consecutive toxicity calendar months.** For purposes of this Order, the toxicity calendar quarters **begin on 1 January, 1 April, 1 July, and 1 October** (i.e., from 1 January to 31 March, from 1 April to 30 June, from 1 July to 30 September, etc.).

3. **Toxicity Calendar Year.** A toxicity calendar year is defined as **twelve consecutive toxicity calendar months.**

B. Acute Toxicity Testing.

The Discharger shall meet the following acute toxicity testing requirements:

1. **Instream Waste Concentration (IWC) for Acute Toxicity.** The acute toxicity IWC is 100 percent effluent.

2. **Monitoring Frequency.** The Discharger shall perform quarterly acute toxicity testing during the first year following the effective date of this Order, in quarters in which there are at least 15 days of discharge.

4. **Sample Types.** The Discharger may use flow-through or static renewal testing. For static renewal testing, the samples shall be flow proportional 24-hour composites and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at Monitoring Location EFF-001

5. **Test Species.** Test species shall be rainbow trout (*Oncorhynchus mykiss*).

6. **Methods.** The acute toxicity testing samples shall be analyzed using EPA-821-R-02-012, Fifth Edition or methods identified in the Code of Federal Regulations,

title 40, part 136, or other U.S. EPA-approved methods. Temperature, total residual chlorine, and pH shall be recorded at the time of sample collection. No pH adjustment may be made unless approved by the Executive Officer.

7. **Test Failure.** If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger must conduct a replacement test as soon as possible, as specified in the subsection below.

C. Chronic Toxicity Testing. The Discharger shall meet the following chronic toxicity testing requirements:

1. **Instream Waste Concentration (IWC) for Chronic Toxicity.** The chronic toxicity IWC is 6 percent effluent.

2. **Routine Monitoring Frequency.** The Discharger shall perform routine chronic toxicity testing **once per toxicity calendar quarter** in quarters in which there are at least 15 days of discharge to the San Joaquin River, concurrent with effluent ammonia sampling. While the Discharger is conducting a toxicity reduction evaluation the routine monitoring may be reduced to two (2) tests per toxicity calendar year. When there is no effluent available to complete a routine monitoring test or **MMEL Compliance** test, the test shall not be required, and subsequent routine monitoring shall continue at the frequency specified in the permit.

3. **Chronic Toxicity MMEL Compliance Testing.** If a routine chronic toxicity monitoring test results in a “fail” at the IWC, then the Discharger shall complete a chronic toxicity MMEL compliance test. If the MMEL compliance test results in a “pass”, the Discharger shall complete a second chronic toxicity MMEL compliance test. All required chronic toxicity MMEL compliance tests shall be initiated within the same toxicity calendar month as the initiation of the routine monitoring chronic toxicity test. If the first chronic toxicity MMEL compliance test results in a “fail” at the IWC, then the second chronic toxicity MMEL compliance test is unnecessary and is waived.

4. **Additional Routine Monitoring Tests for TRE Determination.** A TRE is required when there is any combination of two or more MDEL or MMEL violations within a single toxicity calendar month or within two successive toxicity calendar months. In order to determine if a TRE is necessary when there is only one MDEL or MMEL violation in a single toxicity month, an additional routine monitoring test is required in the successive toxicity calendar month. This additional routine monitoring test is not required if the Discharger is already conducting a TRE. This additional routine monitoring test could result in a violation of the MDEL and/or the need to conduct additional MMEL compliance tests per section V.C.3 above. The additional routine monitoring test must occur during the same toxicity calendar quarter as the initial routine monitoring test.

5. **Sample Volumes.** Adequate sample volumes shall be collected to provide renewal water to complete the test in the event that the discharge is intermittent.

6. **Test Species.** The testing shall be conducted using the most sensitive species, which is the Cladoceran, water flea (*Ceriodaphnia dubia*). The Discharger shall conduct chronic toxicity tests with Cladoceran, water flea (*Ceriodaphnia dubia*), unless otherwise specified in writing by the Executive Officer (see Section V.F.2 for more information on the determination of the most sensitive species).

7. **Test Methods.** Discharger shall conduct the chronic toxicity tests on effluent samples at the instream waste concentration for the discharge in accordance with species and test methods in Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (EPA/821/R02/013, 2002; Table IA, 40 C.F.R. part 136).

8. **Dilution and Control Water.** Dilution water and control water shall be prepared and used as specified in the test methods manual. If dilution water and control water is different from test organism culture water, then a second control using culture water shall also be used.

9. **Test Failure.** If the effluent chronic toxicity test does not meet all test acceptability criteria (TAC) specified in the referenced test method in EPA/821-R-02-013, the Discharger must conduct a Replacement Test as soon as possible, as specified in subsection B.10, below.

10. **Replacement Test.** When a required toxicity test for routine monitoring or MMEL compliance tests is not completed, a new toxicity test to replace the toxicity test that was not completed shall be initiated as soon as possible. The new toxicity test shall replace the routine monitoring or MMEL compliance tests, as applicable, for the toxicity calendar month in which the toxicity test that was not completed was required to be initiated, even if the new toxicity test is initiated in a subsequent month. The new toxicity test for routine monitoring or MMEL compliance tests, as applicable, and any MMEL compliance tests required to be conducted due to the results of the new toxicity test shall be used to determine compliance with the effluent limitations for the toxicity calendar month in which the toxicity test that was not completed was required to be initiated. The new toxicity test and any MMEL compliance tests required to be conducted due to the results of the new toxicity test shall not be used to substitute for any other required toxicity tests.

    Scenarios could occur in which a test is not initiated by a Discharger within the required time period. When this is caused by circumstances outside of the Discharger's control, that were not preventable with the reasonable exercise of care, the Central Valley Water Board will not require the test to be initiated within the originally required time period, provided that the Discharger promptly initiates, and ultimately completes, a replacement test. In such cases, the Central Valley Water Board must determine that the circumstances were not preventable with the reasonable exercise of care.

C. Quality Assurance and Additional Requirements. Quality assurance measures, instructions, and other recommendations and requirements are found in the test methods manual previously referenced. Additional requirements are below.

1. The discharge is subject to determination of "Pass" or "Fail" from an acute toxicity test and a chronic toxicity test using the Test of Significant Toxicity (TST) statistical t-test approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010), Appendix A, Figure A-1 and Table A-1 (Chronic Freshwater and East Coast Methods) and Appendix B, Table B-1.

2. The null hypothesis (Ho) for the TST statistical approach is:

   Mean discharge IWC response ≤ RMD x Mean control response, where the chronic RMD = 0.75 and the acute RMD = 0.80.

   A test result that rejects this null hypothesis is reported as "Pass." A test result that does not reject this null hypothesis is reported as "Fail."

3. The relative "Percent Effect" at the discharge IWC is defined and reported as:

   Percent Effect = ((Mean control response – Mean discharge IWC response) / Mean control response) x 100.

D. WET Testing Notification Requirements. The Discharger shall notify the Central Valley Water Board any exceedance of chronic toxicity effluent limitation as soon as the Discharger learns of the exceedance, but no later than 24-hours after receipt of the monitoring results.

E. WET Testing Reporting Requirements. The Discharger shall submit the full laboratory report for all toxicity testing as an attachment to CIWQS for the quarterly reporting period and provide the data (i.e., Pass/Fail) in the PET tool for uploading into CIWQS. The laboratory report shall include:

1. The valid toxicity test results for the TST statistical approach, reported as "Pass" or "Fail" and "Percent Effect" at the IWC for the discharge, the dates of sample collection and initiation of each toxicity test all results for effluent parameters monitored concurrently by the lab conducting the toxicity test(s).

2. The statistical analysis used in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010) Appendix A, Figure A-1 and Table A-1, and Appendix B, Table B-1.

3. Statistical program (e.g., TST calculator, CETIS, etc.) output results, including graphical plots, for each toxicity test.

F. Most Sensitive Species Screening. The Discharger conducted its initial species sensitivity screening resulting in *Ceriodaphnia dubia* as the most sensitive species.

The species sensitivity screening shall be conducted at least once every fifteen years and the results of the most recent species sensitivity screening shall be submitted with the Report of Waste Discharge. Since the Discharger performed most sensitive species screening at the beginning of the previous permit term, a subsequent species sensitivity screening to re-evaluate the most sensitive species is not needed until 2038.

G. Toxicity Reduction Evaluations (TRE)

1. **TRE Implementation.** The Discharger is required to conduct a TRE when there is any combination of two or more MDEL or MMEL violations within a single toxicity calendar month or within two successive toxicity calendar months. In addition, if other information indicates toxicity (e.g., results of additional monitoring, results of monitoring at a higher concentration than the IWC, fish kills, intermittent recurring toxicity), the Central Valley Water Board may require a TRE. A TRE may also be required when there is no effluent available to complete a routine monitoring test or MMEL compliance test.

    a. **Preparation and Implementation of Detailed TRE Action Plan.** The Discharger shall conduct TREs in accordance with an approved TRE Work Plan. Within 30 days of the test result that triggered the TRE, the Discharger shall submit to the Executive Officer a TRE Action Plan. The TRE Action Plan shall include the following information, and comply with additional conditions set by the Executive Officer:

        i. Specific actions the Discharger will take to investigate and identify the cause(s) of toxicity, including a TRE WET monitoring schedule;

        ii. Specific actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and

        iii. A schedule for these actions, progress reports, and the final report.

    b. The Central Valley Water Board recognizes that toxicity may be episodic and identification of causes and reduction of sources of toxicity may not be successful in all cases. The TRE may be ended at any stage if monitoring finds there is no longer toxicity.

2. **TRE Work Plan.** The Discharger shall submit to the Central Valley Water Board a TRE Work Plan for approval by the Executive Officer by the due date in the Technical Reports Table E-9. If the Executive Officer does not disapprove the work plan within 60 days, the work plan shall become effective. The TRE Work Plan shall outline the procedures for identifying the source(s) of and reducing or eliminating effluent toxicity. The TRE Work Plan must be of adequate detail to allow the Discharger to immediately initiate a TRE and shall be developed in accordance with U.S. EPA guidance as discussed below.

a. Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants, EPA/833-B-99/002, August 1999.

b. Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (TREs), EPA/600/2-88/070, April 1989.

c. Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures, Second Edition, EPA 600/6-91/003, February 1991.

d. Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I, EPA/600/6-91/005F, May 1992.

e. Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity, Second Edition, EPA/600/R-92/080, September 1993.

f. Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity, Second Edition, EPA 600/R-92/081, September 1993.

g. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, EPA-821-R-02-012, October 2002.

h. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA-821-R-02-013, October 2002.

i. Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, March 1991.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECYCLING MONITORING REQUIREMENTS

A. Monitoring Location FIL-001, REC-001, and TCO-001

1. The Discharger shall monitor recycled water discharge at Monitoring Locations FIL-001, REC-001, and TCO-001 when producing recycled water in accordance with Table E-5 and the testing requirements described in section VII.A.2 below:

Table E-5. Recycled Water Monitoring Requirements

Parameter	Units	Sample Type	Sample Location	Minimum Sampling Frequency
Total Coliform Organisms	MPN/100mL	Grab	TCO-001	1/Day
Turbidity	NTU	Meter	FIL-001	Continuous
Flow	MGD	Meter	REC-001	Continuous

2. **Table E-5 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-5:

    a. **Applicable to all parameters.** Parameters shall be analyzed using the analytical methods described in 40 CFR part 136 or by methods approved by the Central Valley Water Board or the State Water Board. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 CFR part 136 allowed sample type.

    b. **Turbidity.** Report daily average and maximum turbidity. The Discharger shall report documented routine meter maintenance activities including date, time of day, and duration, in which the analyzer(s) is not in operation and no continuous turbidity measurements are available to report for the duration the meter is out of service. If analyzer(s) fail to provide continuous monitoring for more than two hours and influent and/or effluent from the disinfection process is not diverted for retreatment, the Discharger shall obtain and report hourly manual and/or grab sample results.

    c. If monitoring for the parameters in Table E-6 has already been conducted per Order WQ 2016-0068-DDW, then the same sample results can be reported to the Central Valley Water Board to fulfill the monitoring requirements in Table E-5.

VIII. RECEIVING WATER MONITORING REQUIREMENTS

The Central Valley Water Board adopted Resolution R5-2021-0054 on 15 October 2021, approving the governance structure of the Delta Regional Monitoring Program (Delta RMP), a collaboration of regulatory agencies, resource agencies, permittees, scientists, and interested parties formed to develop water quality data necessary for improving the understanding of Delta water quality issues. The goal of this effort is to better coordinate and design current and future monitoring activities in and around the Delta to create a cost-effective approach for providing critically needed water quality information to better inform policy and regulatory decisions of the Central Valley Water Board and other Federal, State and local agencies and organizations.

Delta RMP data is not intended to be used directly to represent either upstream or downstream water quality for purposes of determining compliance with this Order. Delta RMP monitoring stations are established generally as “integrator sites” to evaluate the combined impacts on water quality of multiple discharges into the Delta. Delta RMP monitoring stations would not normally be able to identify the source of any specific constituent but would be used to identify water quality issues needing further evaluation.

The Discharger is required to participate in the Delta RMP, in lieu of individual monitoring and studies. If the Discharger does not adequately participate in the Delta RMP, pursuant to Water Code sections 13267 and 13383 the Discharger will be required to conduct equivalent special studies to evaluate the impacts of the discharge that are being

conducted by the Delta RMP, such as studies for constituents of emerging concern (CECs), current use pesticides, mercury, nutrients, pathogens, etc.

A. Monitoring Location RSW-002 and RSW-003

1. When discharging to the San Joaquin River, the Discharger shall monitor the San Joaquin River at RSW-002 and RSW-003 in accordance with Table E-6 and the testing requirements described in section VIII.A.2 below:

Table E-6. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
pH	standard units	Grab	1/Week
Temperature	°F	Grab	1/Week
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Year
Dissolved Oxygen	mg/L	Grab	1/Year
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Year
Hardness, Total (as CaCO3)	mg/L	Grab	1/Year
Turbidity	NTU	Grab	1/Year

2. **Table E-6 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-6:

   a. **Applicable to all parameters.** Parameters shall be analyzed using the analytical methods described in 40 CFR part 136 or by methods approved by the Central Valley Water Board or the State Water Board. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 CFR part 136 allowed sample type.

   b. **Grab Sample.** A grab sample is defined as an individual discrete sample collected over a period of time not exceeding 15 minutes. It can be taken manually, using a pump, scoop, vacuum, or other suitable device. Grab samples shall not be collected at the same time each day

   c. **Handheld Field Meter.** A handheld field meter may be used for dissolved oxygen, electrical conductivity, temperature, turbidity, and pH, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

   d. **Temperature and pH**. Shall be recorded at the time of ammonia sample collection.

f. **Ammonia**. The method detection limit for ammonia shall be less than or equal to 0.5 mg/L (as N).

3. In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by RSW-002 and RSW-003 when discharging to the San Joaquin River. Attention shall be given to the presence of:

   a. Floating or suspended matter;

   b. Discoloration;

   c. Bottom deposits;

   d. Aquatic life;

   e. Visible films, sheens, or coatings;

   f. Fungi, slimes, or objectionable growths; and

   g. Potential nuisance conditions.

   Notes on receiving water conditions shall be summarized in the monitoring report.

IX. OTHER MONITORING REQUIREMENTS

A. Biosolids

1. Monitoring Location BIO-001

a. A grab sample of sludge shall be collected annually at Monitoring Location BIO-001 in accordance with EPA's POTW Sludge Sampling and Analysis Guidance Document, August 1989, and tested for priority pollutants (excluding asbestos).

b. Biosolids monitoring shall be conducted using the methods in Test Methods for Evaluating Solid Waste, Physical/Chemical methods (EPA publication SW-846), as required in 40 C.F.R. section 503.8(b)(4). All results must be reported on a 100% dry weight basis. Records of all analyses must state on each page of the laboratory report whether the results are expressed in “100% dry weight” or “as is.”

B. Effluent and Receiving Water Characterization

1. **Monitoring Frequency**

   Since the Discharger is participating in the Delta Regional Monitoring Program as described in Attachment E, Section VIII, this Order only requires effluent

characterization monitoring. **However, the Report of Waste Discharge (ROWD) for the next permit renewal shall include, at minimum, one representative ambient background characterization monitoring event for priority pollutant constituents located in Appendix A to 40 C.F.R. part 423 during the term of the permit.** The ambient background characterization monitoring event shall be conducted **at Monitoring Location RSW-001 between 1 April 2028 and 31 March 2029**. Data from the Delta Regional Monitoring Program may be utilized to characterize the receiving water in the permit renewal. Alternatively, the Discharger may conduct any site-specific receiving water monitoring deemed appropriate by the Discharger and submit that monitoring data with the ROWD. In general, monitoring data from samples collected in the immediate vicinity of the discharge will be given greater weight in permitting decisions than receiving water monitoring data collected at greater distances from the discharge point.

a. **Effluent Sampling.** Samples shall be collected from the effluent (Monitoring Location EFF-001) quarterly between **1 April 2028 and 31 March 2029**.

2. **Analytical Methods.** Constituents shall be collected and analyzed consistent with the Discharger's Analytical Methods Report (MRP, X.D.2) using sufficiently sensitive analytical methods and Reporting Levels (RLs) per the SSM Rule specified in 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv). The "Reporting Level" is synonymous with the "Method Minimum Level" described in the SSM Rule.

3. **Analytical Methods Report Certification.** Prior to beginning the Effluent and Receiving Water Characterization monitoring, the Discharger shall provide a certification acknowledging the scheduled start date of the Effluent and Receiving Water Characterization monitoring and confirming that samples will be collected and analyzed as described in the previously submitted Analytical Methods Report. If there are changes to the previously submitted Analytical Methods Report, the Discharger shall outline those changes. A one-page certification form will be provided by Central Valley Water Board staff with the permit's Notice of Adoption that the Discharger can use to satisfy this requirement. The certification form shall be submitted electronically via CIWQS submittal by the due date in the Technical Reports Table E-9.

4. The Discharger shall conduct effluent and receiving water characterization monitoring **when discharging to the San Joaquin River** in accordance with Table E-7 and the testing requirements described in section IX.E-4 below. The results of the monitoring shall be submitted to the Central Valley Water Board with the quarterly self-monitoring reports. Each individual monitoring event shall provide representative sample results for the effluent and upstream receiving water, if receiving water is sampled.

Table E-7. Effluent and Receiving Water Characterization Monitoring

VOLATILE ORGANICS

CTR Number	Volatile Organic Parameters	CAS Number	Units	Effluent Sample Type
25	2-Chloroethyl vinyl Ether	110-75-8	µg/L	Grab
17	Acrolein	107-02-8	µg/L	Grab
18	Acrylonitrile	107-13-1	µg/L	Grab
19	Benzene	71-43-2	µg/L	Grab
20	Bromoform	75-25-2	µg/L	Grab
21	Carbon Tetrachloride	56-23-5	µg/L	Grab
22	Chlorobenzene	108-90-7	µg/L	Grab
24	Chloroethane	75-00-3	µg/L	Grab
26	Chloroform	67-66-3	µg/L	Grab
35	Methyl Chloride	74-87-3	µg/L	Grab
23	Dibromochloromethane	124-48-1	µg/L	Grab
27	Dichlorobromomethane	75-27-4	µg/L	Grab
36	Methylene Chloride	75-09-2	µg/L	Grab
33	Ethylbenzene	100-41-4	µg/L	Grab
89	Hexachlorobutadiene	87-68-3	µg/L	Grab
34	Methyl Bromide (Bromomethane)	74-83-9	µg/L	Grab
94	Naphthalene	91-20-3	µg/L	Grab
38	Tetrachloroethylene (PCE)	127-18-4	µg/L	Grab
39	Toluene	108-88-3	µg/L	Grab
40	trans-1,2-Dichloroethylene	156-60-5	µg/L	Grab
43	Trichloroethylene (TCE)	79-01-6	µg/L	Grab
44	Vinyl Chloride	75-01-4	µg/L	Grab
	Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	Grab
41	1,1,1-Trichloroethane	71-55-6	µg/L	Grab
42	1,1,2-Trichloroethane	79-00-5	µg/L	Grab
28	1,1-Dichloroethane	75-34-3	µg/L	Grab
30	1,1-Dichloroethylene (DCE)	75-35-4	µg/L	Grab
31	1,2-Dichloropropane	78-87-5	µg/L	Grab
32	1,3-Dichloropropylene	542-75-6	µg/L	Grab
37	1,1,2,2-Tetrachloroethane	79-34-5	µg/L	Grab
101	1,2,4-Trichlorobenzene	120-82-1	µg/L	Grab
29	1,2-Dichloroethane	107-06-2	µg/L	Grab
75	1,2-Dichlorobenzene	95-50-1	µg/L	Grab
76	1,3-Dichlorobenzene	541-73-1	µg/L	Grab
77	1,4-Dichlorobenzene	106-46-7	µg/L	Grab

SEMI-VOLATILE ORGANICS

CTR Number	Semi-Organic Volatile Parameters	CAS Number	Units	Effluent Sample Type
60	Benzo(a)Anthracene	56-55-3	µg/L	Grab

CTR Number	Semi-Organic Volatile Parameters	CAS Number	Units	Effluent Sample Type
85	1,2-Diphenylhydrazine	122-66-7	µg/L	Grab
45	2-Chlorophenol	95-57-8	µg/L	Grab
46	2,4-Dichlorophenol	120-83-2	µg/L	Grab
47	2,4-Dimethylphenol	105-67-9	µg/L	Grab
49	2,4-Dinitrophenol	51-28-5	µg/L	Grab
82	2,4-Dinitrotoluene	121-14-2	µg/L	Grab
55	2,4,6-Trichlorophenol	88-06-2	µg/L	Grab
83	2,6-Dinitrotoluene	606-20-2	µg/L	Grab
50	2-Nitrophenol	88-75-5	µg/L	Grab
71	2-Chloronaphthalene	91-58-7	µg/L	Grab
78	3,3-Dichlorobenzidine	91-94-1	µg/L	Grab
62	Benzo(b)Fluoranthene	205-99-2	µg/L	Grab
52	4-Chloro-3-methylphenol	59-50-7	µg/L	Grab
48	2-Methyl-4,6-Dinitrophenol	534-52-1	µg/L	Grab
51	4-Nitrophenol	100-02-7	µg/L	Grab
69	4-Bromophenyl Phenyl Ether	101-55-3	µg/L	Grab
72	4-Chlorophenyl Phenyl Ether	7005-72-3	µg/L	Grab
56	Acenaphthene	83-32-9	µg/L	Grab
57	Acenaphthylene	208-96-8	µg/L	Grab
58	Anthracene	120-12-7	µg/L	Grab
59	Benzidine	92-87-5	µg/L	Grab
61	Benzo(a)Pyrene	50-32-8	µg/L	Grab
63	Benzo(ghi)Perylene	191-24-2	µg/L	Grab
64	Benzo(k)Fluoranthene	207-08-9	µg/L	Grab
65	Bis (2-Chloroethoxy) Methane	111-91-1	µg/L	Grab
66	Bis (2-Chloroethyl) Ether	111-44-4	µg/L	Grab
67	Bis (2-Chloroisopropyl) Ether	108-60-1	µg/L	Grab
68	Bis(2-Ethylhexyl) Phthalate	117-81-7	µg/L	Grab
70	Butylbenzyl Phthalate	85-68-7	µg/L	Grab
73	Chrysene	218-01-9	µg/L	Grab
81	Di-n-butyl Phthalate	84-74-2	µg/L	Grab
84	Di-n-Octyl Phthalate	117-84-0	µg/L	Grab
74	Dibenzo(a,h)anthracene	53-70-3	µg/L	Grab
79	Diethyl Phthalate	84-66-2	µg/L	Grab
80	Dimethyl Phthalate	131-11-3	µg/L	Grab
86	Fluoranthene	206-44-0	µg/L	Grab
87	Fluorene	86-73-7	µg/L	Grab
88	Hexachlorobenzene	118-74-1	µg/L	Grab
90	Hexachlorocyclopentadiene	77-47-4	µg/L	Grab
91	Hexachloroethane	67-72-1	µg/L	Grab
92	Indeno(1,2,3-cd) Pyrene	193-39-5	µg/L	Grab
93	Isophorone	78-59-1	µg/L	Grab
98	N-Nitrosodiphenylamine	86-30-6	µg/L	Grab

CTR Number	Semi-Organic Volatile Parameters	CAS Number	Units	Effluent Sample Type
96	N-Nitrosodimethylamine	62-75-9	µg/L	Grab
97	N-Nitrosodi-n-Propylamine	621-64-7	µg/L	Grab
95	Nitrobenzene	98-95-3	µg/L	Grab
53	Pentachlorophenol (PCP)	87-86-5	µg/L	Grab
99	Phenanthrene	85-01-8	µg/L	Grab
54	Phenol	108-95-2	µg/L	Grab
100	Pyrene	129-00-0	µg/L	Grab

INORGANICS

CTR Number	Inorganic Parameters	CAS Number	Units	Effluent Sample Type
NL	Aluminum	7429-90-5	µg/L	24-hour Composite
1	Antimony, Total	7440-36-0	µg/L	24-hour Composite
2	Arsenic, Total	7440-38-2	µg/L	24-hour Composite
15	Asbestos	1332-21-4	µg/L	24-hour Composite
3	Beryllium, Total	7440-41-7	µg/L	24-hour Composite
4	Cadmium, Total	7440-43-9	µg/L	24-hour Composite
5a	Chromium, Total	7440-47-3	µg/L	24-hour Composite
6	Copper, Total	7440-50-8	µg/L	24-hour Composite
	Iron, Total	7439-89-6	µg/L	24-hour Composite
7	Lead, Total	7439-92-1	µg/L	24-hour Composite
8	Mercury, Total	7439-97-6	µg/L	Grab
NL	Mercury, Methyl	22967-92-6	µg/L	Grab
NL	Manganese, Total	7439-96-5	µg/L	24-hour Composite
9	Nickel, Total	7440-02-0	µg/L	24-hour Composite
10	Selenium, Total	7782-49-2	µg/L	24-hour Composite
11	Silver, Total	7440-22-4	µg/L	24-hour Composite
12	Thallium, Total	7440-28-0	µg/L	24-hour Composite
13	Zinc, Total	7440-66-6	µg/L	24-hour Composite

NON-METALS/MINERALS

CTR Number	Non-Metal/Mineral Parameters	CAS Number	Units	Effluent Sample Type
NL	Boron	7440-42-8	µg/L	24-hour Composite
NL	Chloride	16887-00-6	mg/L	24-hour Composite
14	Cyanide, Total (as CN)	57-12-5	µg/L	Grab
NL	Sulfate	14808-79-8	mg/L	24-hour Composite
NL	Sulfide (as S)	5651-88-7	mg/L	24-hour Composite

PESTICIDES/PCBs/DIOXINS

CTR Number	Pesticide/PCB/Dioxin Parameters	CAS Number	Units	Effluent Sample Type
110	4,4-DDD	72-54-8	µg/L	24-hour Composite
109	4,4-DDE	72-55-9	µg/L	24-hour Composite
108	4,4-DDT	50-29-3	µg/L	24-hour Composite
112	alpha-Endosulfan	959-98-8	µg/L	24-hour Composite
103	alpha-BHC (Benzene hexachloride)	319-84-6	µg/L	24-hour Composite
102	Aldrin	309-00-2	µg/L	24-hour Composite
113	beta-Endosulfan	33213-65-9	µg/L	24-hour Composite
104	beta-BHC (Benzene hexachloride)	319-85-7	µg/L	24-hour Composite
107	Chlordane	57-74-9	µg/L	24-hour Composite
106	delta-BHC (Benzene hexachloride)	319-86-8	µg/L	24-hour Composite
111	Dieldrin	60-57-1	µg/L	24-hour Composite
114	Endosulfan Sulfate	1031-07-8	µg/L	24-hour Composite
115	Endrin	72-20-8	µg/L	24-hour Composite
116	Endrin Aldehyde	7421-93-4	µg/L	24-hour Composite
117	Heptachlor	76-44-8	µg/L	24-hour Composite
118	Heptachlor Epoxide	1024-57-3	µg/L	24-hour Composite
105	gamma-BHC (Benzene hexachloride or Lindane)	58-89-9	µg/L	24-hour Composite
119	Polychlorinated Biphenyl (PCB) 1016	12674-11-2	µg/L	24-hour Composite
120	PCB 1221	11104-28-2	µg/L	24-hour Composite
121	PCB 1232	11141-16-5	µg/L	24-hour Composite
122	PCB 1242	53469-21-9	µg/L	24-hour Composite
123	PCB 1248	12672-29-6	µg/L	24-hour Composite
124	PCB 1254	11097-69-1	µg/L	24-hour Composite
125	PCB 1260	11096-82-5	µg/L	24-hour Composite
126	Toxaphene	8001-35-2	µg/L	24-hour Composite
16	2,3,7,8-TCDD (Dioxin)	1746-01-6	mg/L	24-hour Composite

CONVENTIONAL PARAMETERS

CTR Number	Conventional Parameters	CAS Number	Units	Effluent Sample Type
NL	pH	--	SU	Grab
NL	Temperature	--	ºC	Grab

NON-CONVENTIONAL PARAMETERS

CTR Number	Nonconventional Parameters	CAS Number	Units	Effluent Sample Type
NL	Foaming Agents (MBAS)	MBAS	mg/L	24-hour Composite
NL	Hardness (as CaCO3)	471-34-1	mg/L	24-hour Composite
NL	Specific Conductance (Electrical Conductivity or EC)	EC	µmhos /cm	Grab or 24-hour Composite
NL	Total Dissolved Solids (TDS)	TDS	mg/L	24-hour Composite

CTR Number	Nonconventional Parameters	CAS Number	Units	Effluent Sample Type
NL	Dissolved Organic Carbon (DOC)	DOC	mg/L	24-hour Composite

NUTRIENTS

CTR Number	Nutrient Parameters	CAS Number	Units	Effluent Sample Type
NL	Ammonia (as N)	7664-41-7	mg/L	Grab
NL	Nitrate (as N)	14797-55-8	mg/L	Grab
NL	Nitrite (as N)	14797-65-0	mg/L	Grab
NL	Phosphorus, Total (as P)	7723-14-0	mg/L	24-hour Composite

OTHER CONSTITUENTS OF CONCERN

CTR Number	Other Constituents of Concern	CAS Number	Units	Effluent Sample Type
NL	Barium	7440-39-3	µg/L	24-hour Composite
NL	Molybdenum	7439-98-7	µg/L	24-hour Composite
NL	Chlorpyrifos	2921-88-2	µg/L	Grab
NL	Diazinon	333-41-5	µg/L	Grab

5. **Table E-7 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-7:

    a. **Applicable to All Parameters.** Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. Part 136 or by methods approved by the Central Valley Water Board or the State Water Board.

    b. **Grab Samples.** A grab sample is defined as an individual discrete sample collected over a period of time not exceeding 15 minutes. It can be taken manually, using a pump, scoop, vacuum, or other suitable device.

    c. **24-hour Composite Samples.** All 24-hour composite samples shall be collected from a 24-hour flow proportional composite.

    d. **Redundant Sampling.** The Discharger is not required to conduct effluent monitoring for constituents that have already been sampled in a given month, as required in Table E-3 or E-4, with the exception of hardness which shall be sampled concurrently with the hardness-dependent metals (cadmium, chromium III, lead, nickel, silver, and zinc).

    e. **Concurrent Sampling.** Effluent and receiving water sampling shall be performed at approximately the same time, on the same date.

    f. **Sample Type.** All receiving water samples shall be taken as grab samples. Effluent samples shall be taken as described in Table E-7.

    g. **Bis (2-ethylhexyl) phthalate.** In order to verify if bis (2-ethylhexyl) phthalate is truly present, the Discharger shall take steps to assure that sample containers, sampling apparatus, and analytical equipment are not sources of the detected contaminant.

h. **Total Mercury and Methyl Mercury.** Unfiltered methyl mercury and total mercury samples shall be taken using clean hands/dirty hands procedures, as described in U.S. EPA method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels, for collection of equipment blanks (section 9.4.4.2). The analysis of methyl mercury and total mercury shall be by U.S. EPA method 1630 and1631 (Revision E), respectively, with a reporting limit of 0.05 ng/L for methyl mercury and 0.5 ng/L for total mercury.

i. **Chlorpyrifos and Diazinon** shall be sampled using U.S. EPA Method 625M, Method 8141, or equivalent GC/MS method with a lower Reporting Limit than the Basin Plan Water Quality Objectives of 0.015 µg/L and 0.1 µg/L for chlorpyrifos and diazinon, respectively.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

2. Upon written request of the Central Valley Water Board, the Discharger shall submit a summary monitoring report. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year(s).

3. **Compliance Time Schedules.** For compliance time schedules included in the Order, the Discharger shall submit to the Central Valley Water Board, on or before each compliance due date, the specified document or a written report detailing compliance or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board by letter when it returns to compliance with the compliance time schedule.

4. The Discharger shall report to the Central Valley Water Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act" of 1986.

B. Self-Monitoring Reports (SMRs)

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

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit monthly, quarterly, and annual SMRs including the results of all required monitoring using

U.S. EPA-approved test methods or other test methods specified in this Order. SMRs are to 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 results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR. Monthly SMRs are required even if there is no discharge. If no discharge occurs during the month, the monitoring report must be submitted stating that there has been no discharge.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-8. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	Submit with e.g., monthly SMR
1/Day	Permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with e.g., monthly SMR
1/Week	Permit effective date	Sunday through Saturday	Submit with e.g., monthly SMR
2/Week	Permit effective date	Sunday through Saturday	Submit with monthly SMR
3/Week	Permit effective date	Sunday through Saturday	Submit with monthly SMR
5/Week	Permit effective date	Sunday through Saturday	Submit with monthly SMR
2/Month	Permit effective date	Sunday through Saturday	Submit with monthly SMR
1/Month	Permit effective date	1st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
1/Quarter	Permit effective date	1 January through 31 March 1 April through 30 June 1 July through 30 September 1 October through 31 December	1 May 1 August 1 November 1 February of following year
1/Year	Permit effective date	1 January through 31 December	1 February of following year

4. **Reporting Protocols.** The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current laboratory's Method Detection Limit (MDL), as determined by the procedure in 40 C.F.R. part 136.

The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

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

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

d. Dischargers are to instruct laboratories to establish calibration standards so that the Minimum Level (ML) value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

5. **Multiple Sample Data.** When determining compliance with an AMEL, AWEL, or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

   a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

   b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower

of the two data points where DNQ is lower than a value and ND is lower than DNQ.

6. **The Discharger shall submit SMRs** in accordance with the following requirements:

    a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is 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 within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

    b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the waste discharge requirements; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

    c. The Discharger shall attach all final laboratory reports from all contracted commercial laboratories, including quality assurance/quality control information, with all its SMRs for which sample analyses were performed. This requirement only applies to constituents monitored per Table E-7 “Effluent and Receiving Water Characterization Monitoring”, and per Table E-2 “Effluent Monitoring at EFF-001”, for barium, chloroform, DBCM, DCBM, total mercury, methylmercury, chlorpyrifos, diazinon, and total copper.

7. The Discharger shall submit in the SMRs calculations and reports in accordance with the following requirements:

    a. **Calendar Annual Average Limitations or Triggers.** For constituents with effluent limitations or triggers specified as “calendar annual average” (electrical conductivity) the Discharger shall report the calendar annual average in the December SMR. The annual average shall be calculated as the average of the samples gathered for the calendar year.

    b. **Removal Efficiency (BOD_5 and TSS).** The Discharger shall calculate and report the percent removal of BOD_5 and TSS in the SMRs. The percent removal shall be calculated as specified in section VII.A of the Waste Discharge Requirements.

    c. **Total Coliform Organisms Effluent Limitations.** The Discharger shall calculate and report the 7-day median of total coliform organisms for the

effluent. The 7-day median of total coliform organisms shall be calculated as specified in section VII.D of the Waste Discharge Requirements.

d. **Temperature Effluent Limitations.** To determine compliance with Effluent Limitation IV.A.1.d, the Discharger shall calculate and report the difference in the daily average effluent temperature at Monitoring Locations EFF-001 or EFF-002 (when the Cooling Ponds are operating) and the "upstream" receiving water temperature collected at Monitoring Location RSW-002 or RSW-003, consistent with the Compliance Determination Language in Section VII.G of the Waste Discharge Requirements.

C. Discharge Monitoring Reports (DMRs)

1. 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 any upgraded version. Electronic DMR submittal will be in addition to electronic SMR submittal. Information about electronic DMR submittal (http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring/) is available on the Internet.

D. Other Reports

1. **Analytical Methods Report.** The Discharger shall complete and submit an Analytical Methods Report, electronically via CIWQS submittal, by the due date shown in the Technical Reports Table E-9. The Analytical Methods Report shall include the following for each constituent to be monitored in accordance with this Order: 1) applicable water quality objective, 2) reporting level (RL), 3) method detection limit (MDL), and 4) analytical method. The analytical methods shall be sufficiently sensitive with RLs consistent with the SSM Rule per 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv), and with the Minimum Levels (MLs) in the SIP, Appendix 4. The "Reporting Level or RL" is synonymous with the "Method Minimum Level" described in the SSM Rule. If an RL is not less than or equal to the applicable water quality objective for a constituent, the Discharger shall explain how the proposed analytical method complies with the SSM Rule as outlined above in Attachment E, section I.F. Central Valley Water Board staff will provide a tool with the permit's Notice of Adoption to assist the Discharger in completing this requirement. The tool will include the constituents and associated applicable water quality objectives to be included in the Analytical Methods Report.

2. **Annual Operations Report.** The Discharger shall submit a written report to the Central Valley Water Board, electronically via CIWQS submittal, containing the following by the due date in the Technical Reports Table E-9:

   a. The names, certificate grades, and general responsibilities of all persons employed at the Facility.

b. The names and telephone numbers of persons to contact regarding the plant for emergency and routine situations.

c. A statement certifying when the flow meter(s) and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration.

d. A statement certifying whether the current operation and maintenance manual, and contingency plan, reflect the wastewater treatment plant as currently constructed and operated, and the dates when these documents were last revised and last reviewed for adequacy.

e. The Discharger may also be requested to submit an annual report to the Central Valley Water Board with both tabular and graphical summaries of the monitoring data obtained during the previous year. Any such request shall be made in writing. The report shall discuss the compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.

3. **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 30 April annually 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://www.waterboards.ca.gov/ust/electronic_submittal/index.html).

   The annual report to GeoTracker must include volumetric reporting of the items listed in section 3.2 of the Recycled Water Policy (https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2018/121118_7_final_amendment_oal.pdf). A pdf of the upload confirmation from GeoTracker for the Recycled Water Policy Annual Report shall be uploaded into CIWQS annually as a technical report per Table E-9, to demonstrate compliance with this reporting requirement.

4. **Report of Waste Discharge (ROWD).** For the 5-year permit renewal, the Discharger shall submit a written report to the Central Valley Water Board, electronically via CIWQS submittal, containing, at minimum, the following by the due date in the Technical Reports Table E-9:

   a. Report of Waste Discharge (Form 200);

   b. NPDES Form 2A

   c. NPDES Form 2S;

d. **Salinity Evaluation and Minimization Plan (SEMP).** The Discharger shall evaluate the effectiveness of the SEMP and provide a summary with the Report of Waste Discharge; and

e. **Mixing Zone Requests.** A mixing zone analysis for constituents the Discharger is requesting the continuation of dilution credits and mixing zones in the calculation of water quality-based effluent limits (e.g.,DCBM, DBCM, chloroform, barium, and copper).

6. **Annual Pretreatment Reporting Requirements (Effective upon approval of industrial pretreatment program).** The Discharger shall submit annually a report to the Central Valley Water Board, with copies to U.S. EPA Region 9 and the State Water Board, describing the Discharger's pretreatment activities over the previous 12 months (1 January through 31 December). In the event that the Discharger is not in compliance with any conditions or requirements of this Order, including noncompliance with pretreatment audit/compliance inspection requirements, then the Discharger shall also include the reasons for noncompliance and state how and when the Discharger shall comply with such conditions and requirements.

   An annual report shall be submitted by the due date shown in the Technical Reports Table E-9 and include at least the following items:

   a. A summary of analytical results from representative sampling of the POTW's influent and effluent for those pollutants U.S. EPA has identified under section 307(a) of the CWA which are known or suspected to be discharged by nondomestic users. This will consist of an annual full priority pollutant scan. The sample types for each priority pollutant constituent shall be consistent with the sample types specified in Table E-9 (Effluent and Receiving Water Characterization Monitoring). The Discharger is not required to sample and analyze for asbestos. The Discharger shall submit the results of the annual priority pollutant scan electronically to the Central Valley Water Board using the State Water Board's CIWQS Program Website.

      Sludge shall be sampled during the same 24-hour period and analyzed for the same pollutants as the influent and effluent sampling and analysis. The sludge analyzed shall be a **composite sample of discrete samples taken at approximately 2-hour time intervals when sludge is being dewatered over the 24-hour period**. Wastewater and sludge sampling and analysis shall be performed at least annually. The Discharger shall also provide any influent, effluent or sludge monitoring data for nonpriority pollutants which may be causing or contributing to Interference, Pass-Through or adversely impacting sludge quality. Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 C.F.R. part 136 and amendments thereto;

b. A discussion of Upset, Interference, or Pass-Through incidents, if any, at the treatment plant, which the Discharger knows, or suspects were caused by nondomestic users of the POTW. The discussion shall include the reasons why the incidents occurred, the corrective actions taken and, if known, the name and address of, the nondomestic user(s) responsible. The discussion shall also include a review of the applicable pollutant limitations to determine whether any additional limitations, or changes to existing requirements, may be necessary to prevent Pass-Through, Interference, or noncompliance with sludge disposal requirements;

c. The cumulative number of nondomestic users that the Discharger has notified regarding Baseline Monitoring Reports and the cumulative number of nondomestic user responses;

d. An updated list of the Discharger's significant industrial users (SIUs) including their names and addresses, or a list of deletions, additions and SIU name changes keyed to a previously submitted list. The Discharger shall provide a brief explanation for each change. The list shall identify the SIUs subject to federal categorical standards by specifying which set(s) of standards are applicable to each SIU. The list shall indicate which SIUs, or specific pollutants from each industry, are subject to local limitations. Local limitations that are more stringent than the federal categorical standards shall also be identified;

e. The Discharger shall characterize the compliance status through the year of record of each SIU by employing the following descriptions:

   i. complied with baseline monitoring report requirements (where applicable);

   ii. consistently achieved compliance;

   iii. inconsistently achieved compliance;

   iv. significantly violated applicable pretreatment requirements as defined by 40 C.F.R. section 403.8(f)(2)(vii);

   v. complied with schedule to achieve compliance (include the date final compliance is required);

   vi. did not achieve compliance and not on a compliance schedule; and

   vii. compliance status unknown.

f. A summary of the inspection and sampling activities conducted by the Discharger during the past year to gather information and data regarding the SIUs. The summary shall include:

i. The names and addresses of the SIUs subjected to surveillance and an explanation of whether they were inspected, sampled, or both and the frequency of these activities at each user; and

ii. The conclusions or results from the inspection or sampling of each industrial user.

g. The Discharger shall characterize the compliance status of each SIU by providing a list or table which includes the following information:

i. Name of SIU;

ii. Category, if subject to federal categorical standards;

iii. The type of wastewater treatment or control processes in place;

iv. The number of samples taken by the POTW during the year;

v. The number of samples taken by the SIU during the year;

vi. For a SIU subject to discharge requirements for total toxic organics, whether all required certifications were provided;

vii. A list of the standards violated during the year. Identify whether the violations were for categorical standards or local limits;

viii. Whether the facility is in significant noncompliance (SNC) as defined at 40 C.F.R. section 403.8(f)(2)(viii) at any time during the year;

ix. A summary of enforcement or other actions taken during the year to return the SIU to compliance. Describe the type of action (e.g., warning letters or notices of violation, administrative orders, civil actions, and criminal actions), final compliance date, and the amount of fines and penalties collected, if any. Describe any proposed actions for bringing the SIU into compliance;

x. Restriction of flow to the POTW; and

xi. Disconnection from discharge to the POTW.

h. A brief description of any programs the POTW implements to reduce pollutants from nondomestic users that are not classified as SIUs;

i. A brief description of any significant changes in operating the pretreatment program which differ from the previous year including, but not limited to, changes concerning: the program's administrative structure, local limits, monitoring program or monitoring frequencies, legal-authority, enforcement policy, funding levels, or staffing levels;

j. A summary of the annual pretreatment budget, including the cost of pretreatment program functions and equipment purchases; and

k. A summary of activities to involve and inform the public of the program including a copy of the newspaper notice, if any, required under 40 C.F.R. section 403.8(f)(2)(viii).

Pretreatment Program reports shall be submitted electronically to the Central Valley Water Board via CIWQS submittal and the:

State Water Resources Control Board
NPDES Wastewater@waterboards.ca.gov
and the
U.S. EPA Region 9 Pretreatment Coordinator
R9Pretreatment@epa.gov

7. **Technical Report Submittals.** This Order includes requirements to submit a ROWD, special study technical reports, progress reports, and other reports identified in the MRP (hereafter referred to collectively as "technical reports"). The Technical Reports Table E-9 and subsequent table notes below summarize all technical reports required by this Order and the due dates for submittal. All technical reports shall be submitted electronically via CIWQS submittal. Technical reports should be uploaded as a PDF, Microsoft Word, or Microsoft Excel file attachment.

Table E-9. Technical Reports

Report #	Technical Report	Due Date	CIWQS Report Name
Intentionally left blank	Standard Reporting Requirements	Intentionally left blank	Intentionally left blank
1	Report of Waste Discharge	31 March 2031	ROWD
2	Analytical Methods Report	30 June 2027	MRP X.D.1
3	Analytical Methods Report Certification	31 January 2028	MRP IX.E.3
4	Annual Operations Report	1 February 2028	MRP X.D.2
5	Annual Operations Report	1 February 2029	MRP X.D.2
6	Annual Operations Report	1 February 2030	MRP X.D.2
7	Annual Operations Report	1 February 2031	MRP X.D.2
8	Annual Operations Report	1 February 2032	MRP X.D.2
Intentionally left blank	Compliance Schedule for Final Effluent Limitations for Methylmercury WDR Section VI.C.7.a	Intentionally left blank	Intentionally left blank
14	Mercury Pollution Prevention Plan Annual Progress Report	1 February 2028	WDR VI.C.3.a

Report #	Technical Report	Due Date	CIWQS Report Name
15	Mercury Pollution Prevention Plan Annual Progress Report	1 February 2029	
16	Notification of Full Compliance Signed by Legally Responsible Official (LRO)	31 December 2030	WDR VI.C.3.a
Intentionally left blank	Other Reports	Intentionally left blank	Intentionally left blank
17	Toxicity Reduction Evaluation (TRE) Workplan	1 August 2027	WDR VI.C.G.2
Intentionally left blank	Evaluation of Effectiveness of Salinity Evaluation and Minimization Plan	With ROWD	Intentionally left blank
18	Annual Pretreatment Report	1 March 2028	MRP X.D.5
19	Annual Pretreatment Report	1 March 2029	MRP X.D.5
20	Annual Pretreatment Report	1 March 2030	MRP X.D.5
21	Annual Pretreatment Report	1 March 2031	MRP X.D.5
22	Annual Pretreatment Report	1 March 2032	MRP X.D.5

Table E-9 Note:

1. Beginning 1 February 2028 and annually thereafter until the Facility achieves compliance with the final effluent limitations for methylmercury, the Discharger shall submit annual progress reports on the previously-submitted pollution prevention plan for mercury. **This annual report may be combined with the Annual Operations Report and submitted as one report.** The progress reports shall discuss the effectiveness of the pollution prevention plan in the reduction of mercury in the discharge, include a summary of mercury and methylmercury monitoring results, and discuss updates to the pollution prevention plan.
2. Annual Pretreatment Reports are required once the Industrial Pretreatment Program has been approved by the Central Valley Regional Water Quality Control Board.

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

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

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as "not applicable" have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as "not applicable" are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1 Facility Information

Waste Discharge ID:	5B39NP00085
CIWQS Facility Place ID:	271781
Discharger:	City of Lathrop
Name of Facility:	City of Lathrop Consolidated Treatment Facility
Facility Address:	18800 Christopher Way
Facility City, State Zip:	Lathrop, CA 95330
Facility County:	San Joaquin
Facility Contact, Title and Phone Number:	Paul Zolfarelli, Lead Plant Operator, (209) 406-3845
Authorized Person to Sign and Submit Reports:	Brad Taylor, Public Works Director, (209) 941-7430
Mailing Address:	390 Towne Centre Drive Lathrop, CA 95330
Billing Address:	Same as Mailing Address
Type of Facility:	Publicly Owned Treatment Works
Major or Minor Facility:	Major
Threat to Water Quality:	1
Complexity:	A
Pretreatment Program:	Yes
Recycling Requirements:	Producer
Facility Permitted Flow:	4.0 million gallons per day (MGD)
Facility Design Flow:	4.0 MGD
Watershed:	Sacramento-San Joaquin Delta
Receiving Water:	San Joaquin River
Receiving Water Type:	Enclosed Bay, Estuary

A. The City of Lathrop (hereinafter Discharger) is the owner of the Consolidated Treatment Facility (hereinafter Facility), a Publicly-Owned Treatment Works (POTW)**.** The City of Lathrop contracts Veolia Water North America to operate the Facility. Together, the City of Lathrop and Veolia Water North America are hereinafter referred to as the Discharger.

For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. The Facility discharges wastewater to the San Joaquin River, a water of the United States, within the Sacramento-San Joaquin Delta. The Discharger was previously regulated by Order R5-2022-0004 and amended order R5-2022-0004-01 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0085359 adopted on 17/18 February 2022 and expires on 31 March 2027. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

C. When applicable, state law requires dischargers to file a petition with the 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 any applicable requirements under Water Code section 1211. This is not an NPDES permit requirement.

D. The Discharger filed a Report of Waste Discharge (ROWD) and submitted an application for reissuance of its waste discharge requirements (WDRs) and NPDES permit on 31 March 2026. The application was deemed complete on 30 June 2026. A site visit was conducted on 25 August 2026, to observe operations and collect additional data to develop permit limitations and requirements for waste discharge.

E. Regulations at 40 C.F.R. section 122.46 limit the duration of NPDES permits to a fixed term not to exceed five years. Accordingly, Table 3 of this Order limits the duration of the discharge authorization. Under 40 C.F.R. section 122.6(d), States authorized to administer the NPDES program may administratively continue State-issued permits beyond their expiration dates until the effective date of the new permits, if State law allows it. Pursuant to California Code of Regulations (CCR), title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Discharger complies with all federal NPDES requirements for continuation of expired permits.

II. FACILITY DESCRIPTION

The Discharger provides sewerage service for domestic and a relatively small amount of commercial wastewater from the master planned communities in the western portion of the City, as well as commercial and industrial wastewater from the Crossroads Commercial Center area, South Lathrop, and Lathrop Gateway Business Park. The Facility handles and treats wastewater generated by an estimated population of 27,017.

The Discharger has infrastructure in place to allow wastewater within their collection system that is currently conveyed to the City of Manteca to be conveyed to and treated at the Facility. Were the Discharger to do so, the Facility could treat wastewater from the entire City of Lathrop (40,492 people). The design daily average flow capacity of the Facility is 4.0 MGD, but expansion will increase it to 6.0 MGD by the end of the permit term.

Industry within the service area includes manufacturing, food processing, distribution facilities, restaurants, and trucking companies. Waste streams from some these industries are relatively high-strength commercial/industrial wastewater. In 2005, the Discharger adopted an Industrial Sewer Use Ordinance (Ordinance), which established pretreatment standards prior to discharging industrial wastewater to the Facility. The Ordinance includes numeric effluent limits for total dissolved solids (TDS), biochemical oxygen demand (BOD), and nitrate. The Discharger currently has issued industrial waste discharge permits to four significant industrial users to control discharge to the Facility. The Discharger has submitted updates to its industrial pretreatment program for approval, including updates to local limits.

A. Description of Wastewater and Biosolids Treatment and Controls

The Facility recently completed a treatment capacity expansion and upgrade that resulted in a new design treatment capacity of 4.0 mgd ADWF, known as Phase 3.

The Facility provides secondary and tertiary treatment/filtration, and disinfection of wastewater flows, producing effluent that meets the requirements of disinfected, tertiary 2.2 recycled water in accordance with Title 22 of the California Code of Regulations.

The headworks and primary treatment system at the Facility consists of a three-stage screening process (fine screening, grit removal, ultra-fine screening) and a 950,000-gallon influent equalization tank. Biological treatment consists of a four-train system with each treatment train consisting of an anoxic basin followed by an aeration basin. Following the biological treatment, a membrane bioreactor (MBR) system (operating in parallel) provides liquid-solid separation by a selective membrane barrier. Following filtration, chlorine disinfection with sodium hypochlorite solution occurs in chlorine contact basins. The treated wastewater is dechlorinated using sodium bisulfite prior to discharge to the San Joaquin River. The Facility utilizes cooling ponds after dechlorination to cool the effluent, as needed, to meet temperature limitations prior to discharge to the San Joaquin River.

An emergency storage basin is used to temporarily hold influent flows exceeding the capacity of the headworks. It also receives water from the MBR and effluent that does not meet permit requirements. A cooling pond is used seasonally for effluent cooling, not biological treatment of pollutants. The emergency storage basin and cooling pond are lined with at least 40-mil high-density polyethylene liner. The basin liners are routinely inspected and repaired as needed.

The solids treatment process for Facility waste activated sludge (WAS) consists of a 190,000-gallon aerated sludge holding tank, an aerated sludge holding basin, two screw presses, concrete lined covered winter drying, and concrete lined uncovered summer drying. Phase 3 upgrades included new screw presses and concrete lined drying areas (winter and summer). WAS can be fed directly to the solids holding tank or the screw presses. Biosolids meet Class B pathogen reduction requirements.

Biosolids are hauled off by a contractor and applied to agricultural land in Merced County. Land application is covered under General Waste Discharge Requirements (WDRs) for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities (General Order), DWQ No. 2004-0012-DWQ, Notice of Applicability No. 2004-0012-DWQ-0034. Transportation and disposal/reuse of the biosolids is regulated by U.S. EPA under 40 C.F.R. part 503.

Effluent is either discharged to the San Joaquin River or to the recycled water distribution system. The Discharger recycles a portion of its wastewater for irrigation of agricultural and landscape use areas. Recycled water distribution is regulated by separate State Water Board Water Quality Order WQ 2016-0068-DDW, Water Reclamation Requirements for Recycled Water Use. This Order regulates the production of recycled water. Discharge to surface water occurs when the recycled water distribution system is at capacity.

B. Discharge Points and Receiving Waters

1. The Facility is located in section S2 T2S R6E, Mount Diablo Base and Meridian, as shown in Attachment B, a part of this Order.

2. Treated municipal wastewater is discharged at Discharge Point No. 001 to the San Joaquin River, a water of the United States at a point latitude 37° 47' 42" North and latitude 121° 18' 25" West.

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

Effluent limitations contained in Order R5-2022-0004-01 for discharges from Discharge Point 001 (Monitoring Locations EFF-001 and/or EFF-002) and representative monitoring data from the term of Order R5-2022-0004-01 are as follows:

Table F-2 Historic Effluent Limitations

Parameter	Units	Historic Effluent Limitations	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Biochemical Oxygen Demand (BOD),	mg/L	AMEL 10 AWEL 15	3.1	4.7	--

Parameter	Units	Historic Effluent Limitations	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
5-day @ 20°Celsius					
Total Suspended Solids (TSS)	mg/L	AMEL 10 AWEL 15	6.1	10.5	--
Ammonia (Total as Nitrogen)	mg/L	AMEL 1.1 AWEL 2.5	<0.20	<0.20	--
Nitrate plus Nitrite (Total as Nitrogen)	mg/L	AMEL 10 AWEL 22	4.5	4.5	--
pH	su	Instantaneous Max 8.5 Instantaneous Min 6.5	--	--	6.1 - 8.5
Total Residual Chlorine	mg/L	4-day average 0.011 1-hour average 0.019	--	4-day avg 0.006	1-hr avg 1.316
Electrical Conductivity @ 25°Celsius	µmhos/cm	AA 1,600	980	1020	1030
Dibromochloromethane (DBCM)	µg/L	AMEL 15 MDEL 27	10.2	--	10.4
Dichlorobromomethane (DCBM)	µg/L	AMEL 36 MDEL 71	34	--	36
Bromoform	µg/L	AMEL 17 MDEL 34	0.33	--	0.38
Chloroform	µg/L	AMEL 130 MDEL 270	61	--	63
Barium	µg/L	AMEL 280 AWEL 330	--	117	117
Lead, Total	µg/L	AMEL 2.3 MDEL 5.0	1.4	--	1.4
Methylmercury	gram/year	Annual Load 0.18	Annual Load 2.1	--	--
Mercury, Total	gram/year	Annual Load 12	Annual Load 0.14	--	--

Table F-2 Notes:

1. **Ammonia.** All ammonia results from February 2024 through March 2026 were less than the lab report RL of 0.20 mg/L.
2. **Total Residual Chlorine.** The averaging periods for total residual chlorine are 4-day and 1-hour averages, as opposed to the heading listed at the top of table F-2.

D. Compliance Summary

The Central Valley Water Board issued Administrative and Civil Liability (ACL) Complaint R5-2025-0504 on 30 September 2025, which proposed to assess a civil liability of $87,000 against the Discharger for pH and chlorine residual effluent limit violations under Order R5-2022-0004-01. The Discharger paid the mandatory minimum penalty of $87,000.

The Central Valley Water Board issued Administrative and Civil Liability (ACL) Complaint R5-2026-0506 on 27 May 2026, which proposed to assess a civil liability of $3,000 against the Discharger for chlorine residual effluent limit violations under Order R5-2022-0004-01. The Discharger paid the mandatory minimum penalty of $3,000.

E. Planned Changes

Due to the City's rapid development, the City has initiated design and construction of facilities to expand the CTF permitted discharge flow to 6.0 mgd ADWF, known as Phase 4. The proposed design expands the headworks and includes the addition of two new biological treatment trains. The existing MBRs added in Phase 3 will provide tertiary membrane filtration for all biological treatment trains. Construction will be complete within the term of the renewed NPDES permit.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

This Order serves as WDRs pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this Facility to surface waters.

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA, (commencing with section 21100) of Division 13 of the Public Resources Code. Additionally, the adoption of Title 22 water reclamation requirements for the Facility constitutes permitting of an existing facility that is categorically exempt from the provisions of CEQA pursuant to CCR, title 14, section 15301.

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

1. **Water Quality Control Plan.** Requirements of this Order specifically implement the applicable Water Quality Control Plans.

   a. **Basin Plan.** The Central Valley Water Board adopted a Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, (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, the Basin Plan 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. Beneficial uses applicable to the San Joaquin River are as follows:

Table F-3 Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	San Joaquin River	Municipal and domestic water supply (MUN); Agricultural supply, including stock watering (AGR); Industrial process supply (PROC); Industrial service supply (IND); Water contact recreation (REC-1); Non-contact water recreation (REC-2); Warm freshwater habitat (WARM); Cold freshwater habitat (COLD); Warm and cold migration of aquatic organisms (MIGR); Warm spawning, reproduction, and/or early development (SPWN); Wildlife habitat (WILD); Navigation (NAV).

   b. **Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California.** The Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California (ISWEBE Plan) was adopted by the State Water Resources Control Board (State Water Board) on 1 December 2020, under authority provided by Water Code sections 13140 and 13170. Except as otherwise indicated, this ISWEBE Plan establishes provisions for water quality and sediment quality that apply to all inland surface waters, enclosed bays, and estuaries and coastal lagoons of the state, including both waters of the United States and surface waters of the state. The State Water Board rescinded the ISWEBE Plan on 5 October 2021 in Resolution No. 2021-0044. The portions of the ISWEBE Plan, including the Toxicity Provisions, remain in effect as state policy for water quality control.

c. Statewide Toxicity Provisions. On 1 December 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. Per State Water Board Resolution 2021-0044, 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 25 April 2022 and by U.S. EPA on 1 May 2023.

On 14 December 2023, the State Water Board applied for U.S. EPA Region 9 review and approval of a limited-use alternative test procedure (ATP) for the use of one-effluent concentration when conducting whole effluent toxicity (WET) testing (see 40 C.F.R. § 136.5). 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 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 of *Camarillo Sanitary District v. California Regional Water Quality Control Board - Los Angeles Region* (Cal. Ct. App., 19 Dec. 2024, No. 2D CIV. B333420) 2024 WL 5164726, unpublished.

A separate legal challenge to the State Water Board's adoption of the Toxicity Provisions originated in Fresno County Superior Court on 18 July 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 9 October 2023, the superior court denied the petition in its entirety.

On 19 December 2023, three of the Petitioners filed a notice of appeal of the Fresno Superior Court's decision upholding the Toxicity Provisions. On 5 August 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 Code of Federal Regulations part 136. (See *Camarillo*

Sanitary Dist. v. State Wat. Res. Control Board (2025) 113 Cal.App.5th 407, review granted 12 Nov. 2025, S292989.) The Court of Appeal did not, however, disturb the Toxicity Provisions' use of the TST as a part of its WQOs. The State Water Board prevailed on all other claims in the litigation. The Court of Appeal's decision became final on 4 September 2025.

On 15 September 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 12 November 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 Central Valley Water Board must fully implement the WQOs and their implementation procedures in the Toxicity Provisions. The numeric WQOs 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 WQOs continue to serve as the applicable federal water quality standards in California.

The Central Valley 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. § 122.44(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 WQOs for aquatic toxicity in the Board's regional water quality control plans (i.e., Basin Plans), 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 WQOs. As such, there are currently no basin plan or SIP procedures in effect for implementing narrative WQOs to determine reasonable potential as required by 40 Code of Federal Regulations section 122.44(d)(1)(ii). As a result, the Board must fully implement all of the Toxicity Provisions.

d. **Bay-Delta Plan.** The Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan) was adopted in May 1995 by the State Water Board superseding the 1991 Bay-Delta Plan. The Bay-Delta Plan identifies the beneficial uses of the estuary and includes objectives for flow, salinity, and endangered species protection.

The Bay-Delta Plan includes water quality objectives for electrical conductivity for the South Delta in the vicinity of the discharge.

On 25 February 2019, the Office of Administrative Law approved amendments to the Bay-Delta Plan adopted by the state in 2018, which include a numeric water quality objective of 1,000 µmhos/cm maximum (year-round), applied as a 30-day running average of mean daily electrical conductivity.

Section 303(c) of the Clean Water Act requires a state to submit water quality standards to U.S. EPA for review and approval. On 31 March 2019, the State Water Board submitted the revised southern Delta salinity objectives to U.S. EPA. In a response dated 11 June 2019, U.S. EPA stated that it could not conduct a substantive review based on the information provided by the State Water Board and further requested that the State Water Board submit the minimum required information specified by 40 CFR section 131.6 within 90 days. The State Water Board subsequently resubmitted the revised southern Delta salinity objectives on 26 August 2019 in compliance with 40 C.F.R. section 131.6. At this time, U.S. EPA has not acted to approve or deny the revised southern Delta salinity objectives.

Pursuant to 40 C.F.R. section 131.21(a), the Regional Administrator shall either notify the State within 60 days that the revisions are approved, or notify the State within 90 days that the revisions are disapproved. In addition, 40 C.F.R. section 131.21(e) states that a State or authorized Tribe's applicable water quality standard for purposes of the Clean Water Act remains the applicable standard until U.S. EPA approves a change, deletion, or addition to that water quality standard, or until U.S. EPA promulgates a more stringent water quality standard. As a result, the applicable water quality standard for electrical conductivity pursuant to the Clean Water Act remains 700 µmhos/cm from April to August and 1000 µmhos/cm from September to March as noted in Table 2, Water Quality Objectives for Agricultural Beneficial Uses, in the Bay-Delta Plan. See section IV.C.3.b.iv of this Fact Sheet for discussion of the applicability of these objectives to the Discharger.

e. **Thermal Plan.** The State Water Board adopted the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan) on 7 January 1971 and amended this plan on 18 September 1975. This plan contains temperature objectives for surface waters.

Last permit term, the Discharger was considered a new discharge of "elevated temperature waste" to an estuary, as defined in the Thermal Plan. Elevated temperature waste discharges are required to comply with

temperature objectives in section 5.A. of the Thermal Plan, which are listed below:

1. Elevated temperature waste discharges shall comply with the following:

    a. The maximum temperature shall not exceed the natural receiving water temperature by more than 20°F.

    b. Elevated temperature waste discharges either individually or combined with other discharges shall not create a zone, defined by water temperatures of more than 1°F above natural receiving water temperature, which exceeds 25 percent of the cross-sectional area of a main river channel at any point.

    c. No discharge shall cause a surface water temperature rise greater than 4°F above the natural temperature of the receiving waters at any time or place.

    d. Additional limitations shall be imposed when necessary to assure protection of beneficial uses.

f. **Sediment Quality.** The State Water Board adopted the Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1, Sediment Quality on 16 September 2008, and it became effective on 25 August 2009. This plan supersedes other narrative sediment quality objectives and establishes new sediment quality objectives and related implementation provisions for specifically defined sediments in most bays and estuaries. Requirements of this Order implement sediment quality objectives of this Plan.

2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** U.S. EPA adopted the NTR on 22 December 1992, and later amended it on 4 May 1995 and 9 November 1999. About forty criteria in the NTR applied in California. On 18 May 2000, U.S. EPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on 13 February 2001. These rules contain federal water quality criteria for priority pollutants.

3. **State Implementation Policy.** On 2 March 2000, the State Water Board adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). The SIP became effective on 28 April 2000, with respect to the priority pollutant criteria promulgated for California by the U.S. EPA through the NTR and to the priority pollutant objectives established by the Central Valley Water Board in the Basin Plan. The SIP became effective on 18 May 2000, with respect to the

priority pollutant criteria promulgated by the U.S. EPA through the CTR. The State Water Board adopted amendments to the SIP on 24 February 2005, that became effective on 13 July 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

4. **Antidegradation Policy.** Federal regulation 40 C.F.R. section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16 ("Statement of Policy with Respect to Maintaining High Quality of Waters in California") (State Anti-Degradation Policy). The State Anti-Degradation Policy is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. The State Anti-Degradation Policy requires that existing water quality be maintained unless degradation is justified based on specific findings. The Central Valley Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 C.F.R. section 131.12 and the State Anti-Degradation Policy. The Board finds this order is consistent with the Federal and State Water Board antidegradation regulations and policy.

5. **Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 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 must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

6. **Domestic Water Quality.** In compliance with Water Code section 106.3, it is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This Order promotes that policy by requiring discharges to meet maximum contaminant levels (MCLs) designed to protect human health and ensure that water is safe for domestic use.

7. **Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state**.** The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

8. **Emergency Planning and Community Right to Know Act.** Section 13263.6(a) of the Water Code, requires that "the Regional Water Board shall prescribe

effluent limitations as part of the waste discharge requirements of a POTW for all substances that the most recent toxic chemical release data reported to the state emergency response commission pursuant to section 313 of the Emergency Planning and Community Right to Know Act of 1986 (42 U.S.C. Sec. 11023) (EPCRA) indicate as discharged into the POTW, for which the State Water Board or the Regional Water Board has established numeric water quality objectives, and has determined that the discharge is or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to, an excursion above any numeric water quality objective".

The most recent toxic chemical data report does not indicate any reportable off-site releases or discharges to the collection system for this Facility. Therefore, a reasonable potential analysis based on information from EPCRA cannot be conducted. Based on information from EPCRA, there is no reasonable potential to cause or contribute to an excursion above any numeric water quality objectives included within the Basin Plan or in any State Water Board plan, so no effluent limitations are included in this permit pursuant to Water Code section 13263.6(a).

However, as detailed elsewhere in this Order, available effluent data indicate that there are constituents present in the effluent that have a reasonable potential to cause or contribute to exceedances of water quality standards and require inclusion of effluent limitations based on federal and state laws and regulations.

9. **Storm Water Requirements.** U.S. EPA promulgated federal regulations for storm water on 16 November 1990 in 40 C.F.R. parts 122, 123, and 124. The NPDES Industrial Storm Water Program regulates storm water discharges from wastewater treatment facilities. Wastewater treatment plants are applicable industries under the storm water program and are obligated to comply with the federal regulations. The State Water Resources Control Board Water Quality Order 2014-0057-DWQ, General Permit for Storm Water Discharges Associated with Industrial Activities (NPDES General Permit No. CAS000001), does not require facilities to obtain coverage if discharges of storm water are regulated under another individual or general NPDES permit adopted by the State Water Board or Regional Water Board (Finding I.B.20). All storm water at the Facility is captured and directed to the Facility headworks for treatment and disposal under this Order. Therefore, coverage under the General Storm Water Permit is not required.

11. **Statewide General Waste Discharge Requirements for Sanitary Sewer Systems.** On 6 December 2022, the State Water Board adopted Order 2022-0109-DWQ, *Statewide Waste Discharge Requirements General Order for Sanitary Sewer Systems*, which became effective on 5 June 2023. The General Order requires public agencies that own or operate sanitary sewer systems with greater than one mile of pipes or sewer lines to enroll for coverage and to comply with prohibitions and requirements including but not limited to development of sanitary sewer management plans (SSMPs) and reporting all sanitary sewer

overflows (SSOs). The Discharger is subject to the requirements of Order 2022-0103-DWQ.

12. **Sewage Sludge and Biosolids.** This Order does not authorize any act that results in violation of requirements administered by U.S. EPA to implement 40 C.F.R. Part 503, Standards for the Use or Disposal of Sewage Sludge. These standards regulate the final use or disposal of sewage sludge that is generated during the treatment of domestic sewage in a municipal wastewater treatment facility. The Discharger is responsible for meeting all applicable requirements of 40 C.F.R. Part 503 that are under U.S. EPA's enforcement authority.

13. **Findings on Water Quality Impacts in Disadvantaged or Tribal Communities and Environmental Justice Concerns.** Consistent with Water Code section 13149.2, the Central Valley Water Board has taken into account environmental justice, tribal impact, and racial equity considerations in issuing this Order. The discharges regulated by this Order may impact one or more disadvantaged communities or tribal communities. The Facility regulated by this Order discharges treated municipal wastewater to the San Joaquin River and is subject to discharge limitations given potential to cause or contribute to exceedances of water quality objectives for certain constituents, including mercury and salinity. This Order addresses potential adverse impacts to water quality from the Facility's discharge by setting prohibitions and limits on the discharge of wastewater, requiring ongoing monitoring and reporting of the discharged wastewater and receiving water, and imposing other specifications on the facility's wastewater treatment operations.

D. Impaired Water Bodies on CWA 303(d) List

1. Under section 303(d) of the 1972 CWA, states, territories, and authorized tribes are required to develop lists of water quality limited segments. The waters on these lists do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. The Basin Plan references this list of Water Quality Limited Segments (WQLSs), which are defined as "…those sections of lakes, streams, rivers or other fresh water bodies where water quality does not meet (or is not expected to meet) water quality standards even after the application of appropriate limitations for point sources (40 C.F.R. part 130, et seq.)." The Basin Plan also states, "Additional treatment beyond minimum federal standards will be imposed on dischargers to [WQLSs]. Dischargers will be assigned or allocated a maximum allowable load of critical pollutants so that water quality objectives can be met in the segment." Delta Waterways (southern portion), which includes the segment of the San Joaquin River into which the Facility discharges, is listed as a WQLS for: chlorpyrifos, diazinon, dichlorodiphenyltrichloroethane (DDT), electrical conductivity, group A pesticides, invasive species, mercury, and unknown toxicity on the state's current (2020–2022) CWA Section 303(d) list of impaired waterbodies. In addition, the San Joaquin River (in Delta Waterways, southern portion) is listed as a WQLS for temperature.

2. Total Maximum Daily Loads (TMDLs). Tables F-4 and F-5, below, identifies the 303(d) listings and any applicable TMDLs. This permit includes WQBELs that are consistent with the assumptions and considerations of the applicable WLAs in the 2007 TMDL for diazinon and chlorpyrifos and the 2011 TMDL for methylmercury.

Table F-4 303 (d) List for the Delta Waterways, Southern Portion

Pollutant	Potential Sources	TMDL Status
Chlorpyrifos	Source Unknown	Adopted and Effective (10 October 2007)
Diazinon	Source Unknown	Adopted and Effective (10 October 2007)
DDT	Source Unknown	Planned for Completion 2027
Salinity	Source Unknown	Planned for Completion 2027
Group A Pesticides	Source Unknown	Planned for Completion 2027
Invasive Species	Source Unknown	To Be Determined
Mercury	Agricultural Return Flows, Atmospheric Deposition, Highway/Road/Bridge Runoff, Industrial Point Sources, Municipal Point Sources, Natural Sources, Resource Extraction, Urban Runoff/Storm Sewers	Adopted and Effective (20 October 2011)
Toxicity	Source Unknown	To Be Determined

Table F-5 303 (d) List for the San Joaquin River (in Delta Waterways, Southern Portion)

Pollutant	Potential Sources	TMDL Status
Temperature	Source Unknown	Planned for Completion 2034

3. The CWA Section 303(d) listings and TMDLs have been considered in the development of the Order.

E. Other Plans, Polices and Regulations

1. **Title 27.** The discharge authorized herein, and the treatment and storage facilities associated with the discharge of treated municipal wastewater, except for discharges of residual sludge and solid waste, are exempt from the requirements of Title 27, CCR, section 20005 et seq (hereafter Title 27). The exemption, pursuant to Title 27 CCR section 20090(a), is based on the following:

a. The waste consists primarily of domestic sewage and treated effluent;

b. The waste discharge requirements are consistent with water quality objectives; and

c. The treatment and storage facilities described herein are associated with a municipal wastewater treatment plant.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the 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 in the Code of Federal Regulations: 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 the receiving water.

A. Discharge Prohibitions

1. **Prohibition III.A (No discharge or application of waste other than that described in this Order).** This prohibition is based on Water Code section 13260 that requires filing of a ROWD before discharges can occur. The Discharger submitted a ROWD for the discharges described in this Order; therefore, discharges not described in this Order are prohibited.

2. **Prohibition III.B (No bypasses or overflow of untreated wastewater, except under the conditions at CFR section122.41(m)(4)).** As stated in section I.G of Attachment D, Standard Provisions, this Order prohibits bypass from any portion of the treatment facility. Federal regulations, 40 C.F.R. section 122.41(m), define “bypass” as the intentional diversion of waste streams from any portion of a treatment facility. This section of the federal regulations, 40 C.F.R. section 122.41(m)(4), prohibits bypass unless it is unavoidable to prevent loss of life, personal injury, or severe property damage. In considering the Regional Water Board’s prohibition of bypasses, the State Water Board adopted a precedential decision, Order No. WQO 2002-0015, which cites the federal regulations, 40 C.F.R. section 122.41(m), as allowing bypass only for essential maintenance to assure efficient operation.

3. **Prohibition III.C (No controllable condition shall create a nuisance**). This prohibition is based on Water Code section 13050 that requires water quality objectives established for the prevention of nuisance within a specific area. The Basin Plan prohibits conditions that create a nuisance

4. **Prohibition III.D (No discharge of hazardous waste)**. This prohibition is based on CCR, title 22, section 66261.1 et seq, that prohibits discharge of hazardous waste.

5. **Prohibition III.E (Average Dry Weather Flow)**. This prohibition is based on the design average dry weather flow treatment capacity rating for the Facility and ensures the Facility is operated within its treatment capacity.

6. **Prohibition III.G (Cooling Pond Operations).** This prohibition is based on use of the cooling pond and ensures all constituents that are monitored for receiving water discharges per Table E-3 are also monitored when the effluent is routed to the cooling pond prior to discharges to the receiving water.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing U.S. EPA permit regulations at 40 C.F.R. section 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at 40 C.F.R. part 133.

Regulations promulgated in 40 C.F.R. section 125.3(a)(1) require technology-based effluent limitations for municipal Dischargers to be placed in NPDES permits based on Secondary Treatment Standards or Equivalent to Secondary Treatment Standards.

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) established the minimum performance requirements for POTWs [defined in section 304(d)(1)]. Section 301(b)(1)(B) of that Act requires that such treatment works must, as a minimum, meet effluent limitations based on secondary treatment as defined by the U.S. EPA Administrator.

Based on this statutory requirement, U.S. EPA developed secondary treatment regulations, which are specified in 40 C.F.R. part 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of BOD_5, TSS, and pH.

2. Applicable Technology-Based Effluent Limitations

a. **BOD_5 and TSS.** Federal regulations at 40 C.F.R. part 133, establish the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for BOD_5 and TSS. A daily maximum effluent limitation for BOD_5 and TSS is also included in the Order to ensure that

the treatment works are not organically overloaded and operate in accordance with design capabilities. In addition, 40 C.F.R. section 133.102, in describing the minimum level of effluent quality attainable by secondary treatment, states that the 30-day average percent removal shall not be less than 85 percent. This Order contains a limitation requiring an average of 85 percent removal of BOD_5 and TSS over each calendar month. This Order requires Water Quality Based Effluent Limitations (WQBELs) that are equal to or more stringent than the secondary technology-based treatment described in 40 CFR part 133 (See section IV.C.3.vii of the Fact Sheet for a discussion on Pathogens which includes WQBELs for BOD_5 and TSS.)

b. **pH.** The secondary treatment regulations at 40 C.F.R. part 133 also require that pH be maintained between 6.0 and 9.0 standard units. This Order, however, requires more stringent WQBELs for pH to comply with the Basin Plan's water quality objectives for pH.

Summary of Technology-based Effluent Limitations
Discharge Point 001

Table F-6 Summary of Technology-based Effluent Limitations

Parameter	Units	Effluent Limitations
Biochemical Oxygen Demand (5-day @ 20°Celsius) (BOD5)	mg/L	AMEL 30 AWEL 45
BOD5	Percent Removal	AMEL 85
Total Suspended Solids (TSS)	mg/L	AMEL 30 AWEL 45
TSS	Percent Removal	AMEL 85
pH	Standard Units	Instantaneous Min 6.0 Instantaneous Max 9.0

Table F-5 Notes:

1. Note that more stringent WQBELs for BOD_5, pH, and TSS are applicable and are established as final effluent limitations in this Order (see section IV.C.2.a of this Fact Sheet).

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

CWA section 301(b) and 40 C.F.R. section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based

requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements that are necessary to meet applicable water quality standards. The rationale for these requirements, which consist of tertiary treatment or equivalent requirements, is discussed in section IV.C.2.a of this Fact Sheet.

Section 122.44(d)(1)(i) of 40 C.F.R. requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the 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 for the pollutant, 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 the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated beneficial uses of the receiving water as specified in the Basin Plan and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

Finally, 40 C.F.R. section 122(d)(1)(vii) requires effluent limits to be developed consistent with any available WLAs developed and approved for the discharge.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply.

The Basin Plan on page 2-1 states: "Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning…" and with respect to disposal of wastewaters states that "...disposal of wastewaters is [not] a prohibited use of waters of the State; it is merely a use which cannot be satisfied to the detriment of beneficial uses."

The federal CWA section 101(a)(2), states: "it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on the water be achieved by July 1, 1983." Federal Regulations, developed to implement the

requirements of the CWA, create a rebuttable presumption that all waters be designated as fishable and swimmable. Federal Regulations, 40 CFR sections 131.2 and 131.10, require that all waters of the State regulated to protect the beneficial uses of public water supply, protection and propagation of fish, shellfish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation. 40 C.F.R. section 131.3(e) defines existing beneficial uses as those uses actually attained after 28 November 1975, whether or not they are included in the water quality standards. Federal Regulation, 40 C.F.R. section 131.10 requires that uses be obtained by implementing effluent limitations, requires that all downstream uses be protected and states that in no case shall a state adopt waste transport or waste assimilation as a beneficial use for any waters of the United States.

a. **Receiving Water and Beneficial Uses.** Refer to III.C.1. above for a complete description of the receiving water and beneficial uses.

b. **Effluent and Ambient Background Data.** The reasonable potential analysis (RPA), as described in section IV.C.3 of this Fact Sheet, was based on data from 1 February 2024 through 30 March 2026, which includes effluent and ambient background data submitted in SMRs, the ROWD and Technical Reports from the previous permit term. Additional receiving water data for disinfection biproducts from City of Tracy and City of Stockton were analyzed to ensure adequate assimilative capacity for the limits at those facilities.

c. **Assimilative Capacity/Mixing Zone**

i. The CWA directs the states to adopt water quality standards to protect the quality of its waters. U.S. EPA's current water quality standards regulation authorizes states to adopt general policies, such as mixing zones, to implement state water quality standards (40 CFR sections 122.44 and 122.45). The U.S. EPA allows states to have broad flexibility in designing its mixing zone policies. Primary policy and guidance on determining mixing zone and dilution credits is provided by the SIP and the Basin Plan. If no procedure applies in the SIP or the Basin Plan, then the Central Valley Water Board may use the U.S. EPA Technical Support Document for Water Quality-Based Toxics Control (EPA/505/2-90-001) (TSD).

For non-Priority Pollutant constituents, the allowance of mixing zones by the Central Valley Water Board is discussed in the Basin Plan, Policy for Application of Water Quality Objectives, which states the following, in part: *"In conjunction with the issuance of NPDES and storm water permits, the Regional Board may designate mixing zones within which water quality objectives will not apply provided the discharger has demonstrated to the satisfaction of the Regional Board that the mixing zone will not adversely impact beneficial uses. If*

allowed, different mixing zones may be designated for different types of objectives, including, but not limited to, acute aquatic life objectives, chronic aquatic life objectives, human health objectives, and acute and chronic whole effluent toxicity objectives, depending in part on the averaging period over which the objectives apply. In determining the size of such mixing zones, the Regional Board will consider the applicable procedures and guidelines in the EPA's Water Quality Standards Handbook and the [TSD]. Pursuant to EPA guidelines, mixing zones designated for acute aquatic life objectives will generally be limited to a small zone of initial dilution in the immediate vicinity of the discharge."

For Priority Pollutants, the SIP supersedes the Basin Plan mixing zone provisions. Section 1.4.2 of the SIP states, in part, "…with the exception of effluent limitations derived from TMDLs, in establishing and determining compliance with effluent limitations for applicable human health, acute aquatic life, or chronic aquatic life priority pollutant criteria/objectives or the toxicity objective for aquatic life protection in a basin plan, the Regional Board may grant mixing zones and dilution credits to dischargers…The applicable priority pollutant criteria and objectives are to be met through a water body except within any mixing zone granted by the Regional Board. **The allowance of mixing zones is discretionary and shall be determined on a discharge-by-discharge basis.** The Regional Board may consider allowing mixing zones and dilution credits only for discharges with a physically identifiable point of discharge that is regulated through an NPDES permit issued by the Regional Board." [emphasis added]

For incompletely mixed discharges, the Discharger must complete an independent mixing zone study to demonstrate to the Central Valley Water Board that a dilution credit is appropriate. In granting a mixing zone, section 1.4.2.2 of the SIP requires the following to be met:

*"**A mixing zone shall be as small as practicable.** The following conditions must be met in allowing a mixing zone:*

A mixing zone shall not:

1. *compromise the integrity of the entire water body;*
2. *cause acutely toxic conditions to aquatic life passing thorough the mixing zone;*
3. *restrict the passage of aquatic life;*
4. *adversely impact biologically sensitive or critical habitats, including, but not limited to, habitat of species listed under federal or State endangered species laws;*
5. *produce undesirable or nuisance aquatic life;*

6. result in floating debris, oil, or scum;

7. produce objectionable color, odor, taste, or turbidity;

8. cause objectionable bottom deposits;

9. cause nuisance;

10. dominate the receiving water body or overlap a mixing zone from different outfalls; or

11. be allowed at or near any drinking water intake. A mixing zone is not a source of drinking water. To the extent of any conflict between this determination and the Sources of Drinking Water Policy (Resolution No. 88-63), this SIP supersedes the provisions of that policy."

Section 1.4.2.1 of the SIP establishes the authority for the Central Valley Water Board to consider dilution credits based on the mixing zone conditions in a receiving water. Section 1.4.2.1 in part states:

"The dilution credit, D, is a numerical value associated with the mixing zone that accounts for the receiving water entrained into the discharge. The dilution credit is a value used in the calculation of effluent limitations (described in section 1.4). ***Dilution credits may be limited or denied on a pollutant-by-pollutant basis, which may result in a dilution credit for all, some, or no priority pollutants in the discharge.****"*

ii. **San Joaquin River and Outfall Characteristics**

The Facility discharges to the San Joaquin River within the legal boundary of Sacramento-San Joaquin Delta. The outfall consists of a 20-inch diameter pipe submerged side-bank outfall. The wetted river width at the outfall location is approximately 260 feet, and the San Joaquin River depth is approximately 14 feet at mean low tidal condition. There is a tidal flow measurement station, installed and maintained by the California Department of Water Resources (DWR), in the San Joaquin River approximately 0.7 miles upstream of the Facility's outfall.

iii. **Dilution/Mixing Zone Study Results.**

Last permit term, to support a mixing zone request for CTR human health criteria and the Delta barium site-specific water quality objective, the Discharger submitted the October 2020 mixing zone study prepared by Robertson-Bryan Inc., Dilution Credit and Mixing Zone Evaluation for the City of Lathrop Consolidated Treatment Facility (2020 Mixing Zone Study) and in August 2021, the Discharger provided a Technical Memorandum (August 2021 TM) identifying the

concentrations for DBCM and DCBM in the downstream receiving waters needed to maintain adequate assimilative capacity for the Tracy Wastewater Treatment Plant and the Stockton Wastewater Recovery Center which have been granted mixing zones for these volatile organic compounds.

The 2020 Mixing Zone study provided DSM2 modeling results that assessed the maximum potential effect of the Facility discharge to the San Joaquin River under a discharge rate of 2.5 MGD under critical receiving water flows, using the period from 1 January 2008 through 31 December 2016, which includes the extended drought period of 2012-2015.The August 2021 TM also provided dilution credits and mixing zone sizes associated with the calculated AMELs for DBCM and DCBM. In October 2021, the Discharger provided a Technical Memorandum summarizing results of a limited disinfection by-product study conducted to evaluate the Facility's discharge performance for DBCM and DCBM expected under a surface water discharge situation (October 2021 TM). In November 2021, the Discharger provided an update to the October 2021 TM (November 2021 TM) after the disinfection byproduct study was extended to better define the Facility's discharge performance.

The San Joaquin River is tidal, and the flow of dilution water varies with the tidal cycle. Tidal action impacts the receiving water with multiple doses of the effluent as the San Joaquin River flows downstream past the discharge, reverses moving upstream past the discharge a second time, then again reverses direction and passes the discharge point a third time as the net flow conveys the effluent down the river. Because of the flow complexities at the discharge site, it is necessary to determine effluent dilution using numerical models of the San Joaquin River system. In the studies described above, and the dilution study update described below, the DWR's Delta Simulation Model II (DSM2) was used.

DSM2 is a one-dimensional computer model developed by the Delta Modeling Section of DWR for simulation of hydrodynamics, water quality, and particle transport in the Sacramento-San Joaquin Delta. A model grid representing the network of Delta channels was developed by DWR to cover major Delta channels, the Sacramento River upstream to the City of Sacramento, and the San Joaquin River upstream to Vernalis. DSM2 was calibrated and validated in 1997 by DWR and in 2000 by a group of agencies, water users, and stakeholders. In 2009, DSM2 was calibrated and validated again to account for morphological changes, such as the flooded Liberty Island, and bathymetry, hydrodynamic and water quality data collected after the 2000 calibration.

The Discharger submitted an updated Dilution Credit and Mixing Zone Evaluation for the City of Lathrop Consolidated Treatment Facility (2026 Mixing Zone Study) that addressed the projected effluent discharge rates in 2032 (the end of this permit term) and under critical receiving water flows, using the period from October 1, 2007, through February 26, 2025. For an ADWF discharge rate of 4.0 MGD, the maximum monthly average effluent discharge rate presented in the 2026 Mixing Zone Study is 4.74 MGD and the annual average discharge rate is 4.11 MGD.

The Discharger requested dilution credits for human health criteria for chloroform, DCBM, and DBCM, and for aquatic life criteria for copper, for the Basin Plan site-specific objective for barium, and for the instream waste concentration of chronic whole effluent toxicity. The human health criteria for chloroform, DBCM, and DCBM are based on long-term exposures (i.e., 70 years), so it is appropriate to derive the dilution credit and associated mixing zones for these constituents from the long-term dilution in the San Joaquin River.

The barium Basin Plan site-specific objective is expressed as a maximum concentration, however, the objective is not for the protection of short-term exposures (e.g., protection of aquatic life from acute effects). Rather, the objective for barium was developed based on existing water quality to ensure compliance with the antidegradation policy to maintain the high-quality waters. Since the water quality objective for barium is a maximum value that is not to be exceeded, the 1Q10-based dilution ratio applies for deriving dilution credit for barium.

At the annual average discharge rate of 4.11 MGD the DSM2 modeling estimated a critical long-term effluent fraction of 0.4, which corresponds to a 249:1 dilution and a San Joaquin River long-term flow of 1,584 cfs, and is the basis for human health criteria dilution credit and mixing zones per the SIP. However, the 2026 Mixing Zone Study determined proposed constituent-specific human health criteria dilution credits less than 249:1 based on Facility performance. Similarly, the 2026 Mixing Zone Study proposed constituent-specific dilution credits and mixing zone sizes for barium and copper. To determine the size of the mixing zone for each constituent, the 2026 Mixing Zone Study used the Cornell Mixing Zone Expert System (CORMIX) model. Output from the CORMIX modeling consists of plume mixing predictions at defined distances downstream of the discharge. The size of the mixing zones (i.e., distance downstream) were determined at the point where the necessary dilution was met. The dilution credits and associated mixing zone sizes for each constituent used in the derivation of the final effluent limitations are shown on Table F-7.

The 2026 Mixing Zone Study shows that although an increase in effluent discharge volumes is assumed, the effluent percentages within the San Joaquin River are less than the effluent percentages for the 2.5 mgd ADWF condition resulting from the modeling supporting the dilution credits and mixing zones in the current NPDES permit. The reason for this is that the longer hydrologic period modeled contains a greater proportion of wetter hydrologic periods. The shorter duration hydrologic period in the 2020 Mixing Zone Study was heavily impacted by the 2012-2015 drought.

The Discharger requested the same dilution credit and mixing zone for barium as in the current Order. This has been granted and is shown in Table F-7.

Table F-7 Mixing Zones and Dilution Credits

Parameter	Mixing Zone Type	Allowed Dilution Credit	Mixing Zone Size L x W (feet)
Barium	Acute (see table note)	8:1	16.7 x 6.4
Chloroform	Human Health	1:1	2.3 x 3.4
DBCM	Human Health	39:1	294 x 50
DCBM	Human Health	94:1	857 x 83
Copper	Acute and Chronic Aquatic Life	Acute 2.2:1 Chronic 2.2:1	Acute 4.5 x 7.2 Chronic 8.2 x 9.2

Table F-7 Notes:

1. The Basin Plan objective for barium was not developed to protect a specific beneficial use; rather, it was developed to satisfy antidegradation requirements by protecting ambient water quality from a level of degradation that was generally considered unacceptable. The barium objective was established as a maximum concentration, similar to acute aquatic life toxicants, because at the time it was adopted, there was typically not much data available and setting a longer averaging period was considered difficult to implement given ambient monitoring for barium was infrequent. Since the water quality objective for barium is a maximum value that is not to be exceeded, the acute aquatic life 1Q10-based dilution ratio was applied for deriving dilution credit for barium.

iv. **Evaluation of Available Dilution for Human Health Criteria (Chloroform, DCBM, and DBCM) and Barium Water Quality Objective.** The SIP requires a mixing zone must be as small as practicable and comply with eleven (11) mixing zone prohibitions under section 1.4.2.2.A. The mixing zone sizes listed in Table F-7 for human

health criteria for chloroform, DCBM, and DBCM, and the barium Basin Plan water quality objective meet the eleven prohibitions of the SIP as follows:

(1) Shall not compromise the integrity of the entire water body – The TSD states that, *"If the total area affected by elevated concentrations within all mixing zones combined is small compared to the total area of a water body (such as a river segment), then mixing zones are likely to have little effect on the integrity of the water body as a whole, provided that the mixing zone does not impinge on unique or critical habitats."* The mixing zone is not applicable to aquatic life criteria. The mixing zone does not compromise the integrity of the entire water body.

(2) Shall not cause acutely toxic conditions to aquatic life passing through the mixing zone – The mixing zone is not applicable to aquatic life criteria. Therefore, acutely toxic conditions will not occur in the mixing zone.

(3) Shall not restrict the passage of aquatic life – The human health mixing zone is not applicable to aquatic life criteria. Therefore, the mixing zone will not restrict the passage of aquatic life.

(4) Shall not 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 is not applicable to aquatic life criteria. The mixing zone will not impact biologically sensitive or critical habitats.

(5-9) Shall not produce undesirable or nuisance aquatic life; result in floating debris, oil, or scum; produce objectionable color, odor, taste, or turbidity; cause objectionable bottom deposits; cause nuisance – The allowance of the mixing zone will not produce undesirable or nuisance aquatic life, result in floating debris, oil, or scum; produce objectionable color, odor, taste, or turbidity; cause objectionable bottom deposits; or cause nuisance. This Order requires the discharge to meet Title 22 (or equivalent) tertiary filtration, which will ensure continued compliance with these mixing zone requirements. Therefore, the allowance of the mixing zone will not produce undesirable or nuisance aquatic life, result in floating debris, oil, or scum; produce objectionable color, odor, taste, or turbidity; cause objectionable bottom deposits, or cause nuisance.

(10) Shall not dominate the receiving water body or overlap a mixing zone from different outfalls – The mixing zone is small relative to the water body, so it will not dominate the water body. Furthermore, the mixing zone does not overlap mixing zones from other outfalls. There are no outfalls or mixing zones in the vicinity of the discharge.

(11) Shall not be allowed at or near any drinking water intake – The mixing zone is not near a drinking water intake.

A pollutant-by-pollutant evaluation is provided in subsection vi below to evaluate whether the mixing zones for each pollutant are as small as practicable and comply with the State and federal antidegradation requirements.

v. **Evaluation of Available Dilution for Acute and Chronic Aquatic Life Criteria (Copper).** The SIP requires a mixing zone must be as small as practicable and comply with eleven (11) prohibitions under section 1.4.2.2.A. The mixing zone sizes listed in Table F-7 for acute and chronic aquatic life criteria for copper meet the eleven prohibitions of the SIP as follows:

(1) Shall not compromise the integrity of the entire waterbody – The TSD states that, "*If the total area affected by elevated concentrations within all mixing zones combined is small compared to the total area of a waterbody (such as a river segment), then mixing zones are likely to have little effect on the integrity of the waterbody as a whole, provided that the mixing zone does not impinge on unique or critical habitats*." make up a small fraction of the multi-mile length creek. The mixing zones do not compromise the integrity of the entire waterbody.

(2) Shall not cause acutely toxic conditions to aquatic life passing through the mixing zone – The SIP requires that the acute mixing zone be appropriately sized to prevent lethality to organisms passing through the mixing zone. U.S. EPA recommends that float times through a mixing zone less than 15 minutes ensures that there will not be lethality to passing organisms. The acute mixing zone allowed in this Order extends only 4.5 feet downstream from the outfall. The float time is very short, literally only a few seconds. Compliance with these requirements ensures that acutely toxic conditions to aquatic life passing through the acute and chronic mixing zones do not occur.

(3) Shall not restrict the passage of aquatic life – The Discharger conducted a mixing zone study to evaluate the near-field effects of the discharge. The Discharger evaluated the zone of passage around the mixing zone where water quality objectives are met. The allowed mixing zone has been established to ensure an adequate zone of passage is maintained. The maximum width of the mixing zone is 9.2 feet whereas the river width is approximately 180 feet (at the bottom). Thus, zone of passage would be provided across 92 percent of the channel width.

(4) Shall not adversely impact biologically sensitive or critical habitats, including, but not limited to, habitat of species listed under federal

or State endangered species laws – The acute and chronic mixing zones will not cause acutely toxic conditions, allow an adequate zone of passage, and are sized appropriately to ensure that there will be no adverse impacts to biologically sensitive or critical habitats.

(5-9) Shall not produce undesirable or nuisance aquatic life; result in floating debris, oil, or scum; produce objectionable color, odor, taste, or turbidity; cause objectionable bottom deposits; cause nuisance – The allowance of the acute and chronic mixing zones will not produce undesirable or nuisance aquatic life, result in floating debris, oil, or scum; produce objectionable color, odor, taste, or turbidity; cause objectionable bottom deposits; or cause nuisance. This Order requires the discharge to meet Title 22 (or equivalent) tertiary filtration, which will ensure continued compliance with these mixing zone requirements. Therefore, the allowance of the mixing zones will not produce undesirable or nuisance aquatic life, result in floating debris, oil, or scum; produce objectionable color, odor, taste, or turbidity; cause objectionable bottom deposits, or cause nuisance.

(10) Shall not dominate the receiving water body or overlap a mixing zone from different outfalls – The acute and chronic mixing zones are small relative to the water body, so it will not dominate the water body. Furthermore, the mixing zones do not overlap mixing zones from other outfalls. There are no outfalls or mixing zones in the vicinity of the discharge.

(11) Shall not be allowed at or near any drinking water intake – The acute and chronic mixing zones are not near a drinking water intake.

A pollutant-by-pollutant evaluation is provided in subsection v. below to evaluate whether the mixing zones for each pollutant are as small as practicable and comply with the State and federal antidegradation requirements.

vi. **Evaluation of Available Dilution for Specific Constituents (Pollutant-by-Pollutant Evaluation)**

When determining whether to allow dilution credits for a specific pollutant, several factors must be considered, such as, available assimilative capacity, facility performance, and compliance with state and federal antidegradation requirements. The receiving water contains assimilative capacity for barium, chloroform, DCBM, DBCM, copper, human health criteria, acute aquatic life criteria, and chronic aquatic life criteria mixing zones that meet the mixing zone prohibitions of the SIP section 1.4.2.2.A.

The SIP also requires that "[a] mixing zone shall be as small as practicable" and states in section 1.4.2.2.B that "[t]he RWQCB shall deny or significantly limit a mixing zone and dilution credits as necessary to protect beneficial uses, meet the conditions of this Policy, or comply with other regulatory requirements." The State Anti-Degradation Policy, which incorporates the federal antidegradation policy (State Water Board Order WQ 86-17 [Fay]), requires that existing quality of waters be maintained unless degradation is justified based on specific findings. Item 2 of the State Anti-Degradation Policy states:

> "Any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained."

The mixing zones allowed in this Order are as small as practicable and will result in the Discharger implementing best practicable treatment or control of the discharge necessary to assure that pollution or nuisance will not occur and the highest water quality consistent with maximum benefit to the people of the State will be maintained.

A pollutant-by-pollutant evaluation is provided below that evaluates facility performance and percent assimilative capacity used for each pollutant.

(a) **Barium.** To ensure the mixing zone is as small as practicable and considering section 1.4.2.2.B of the SIP, the Central Valley Water Board finds the mixing zone must be limited. The dilution credit for barium has been based on Facility performance resulting in a dilution credit of 8:1 and a mixing zone extending 16.7 feet downstream of the Discharger's outfall.

The allowance of a mixing zone and dilution credits are a discretionary act by the Central Valley Water Board. The mixing zone and dilution credit for barium permitted in this Order will result in no increase in the discharge and no additional use of assimilative capacity since the AMEL is the same as the previous permit. According to U.S. EPA's memorandum on Tier 2 Antidegradation Reviews and Significance Thresholds, any individual decision to lower water quality for nonbioaccumulative chemicals that is limited to 10 percent of the available assimilative capacity represents

minimal risk to the receiving water and is fully consistent with the objectives and goals of the Clean Water Act. Per U.S. EPA guidance a simple antidegradation analysis is appropriate in this case. Furthermore, the effluent limits have been limited based on Facility performance which will result in the implementation of best practicable treatment or control of the discharge necessary to assure that a pollution or nuisance will not occur and the highest water quality consistent with maximum benefit to the people of the State will be maintained.

(b) **Chloroform.** To ensure the mixing zone is as small as practicable and considering section 1.4.2.2.B of the SIP, the Central Valley Water Board finds the mixing zone must be limited. The dilution credit for chloroform has been adjusted based on Facility performance resulting in a dilution credit of 1:1 and a mixing zone extending 2.3 feet downstream has been granted for chloroform.

The allowance of a mixing zone and dilution credits are a discretionary act by the Central Valley Water Board. The mixing zone and dilution credit for chloroform permitted in this Order will result inno increase in the discharge and no additional use of assimilative capacity since the AMEL is the lower than the AMEL in the previous permit. According to U.S. EPA's memorandum on Tier 2 Antidegradation Reviews and Significance Thresholds, any individual decision to lower water quality for nonbioaccumulative chemicals that is limited to 10 percent of the available assimilative capacity represents minimal risk to the receiving water and is fully consistent with the objectives and goals of the Clean Water Act. Per U.S. EPA guidance a simple antidegradation analysis is appropriate in this case. Furthermore, the effluent limits have been limited based on Facility performance which will result in the implementation of best practicable treatment or control of the discharge necessary to assure that a pollution or nuisance will not occur and the highest water quality consistent with maximum benefit to the people of the State will be maintained.

(c) **DBCM and DCBM.**,To ensure the mixing zone is as small as practicable and considering section 1.4.2.2.B of the SIP, the Central Valley Water Board finds the mixing zone must be limited.

The City of Tracy Wastewater Treatment Plant and the City of Stockton Regional Wastewater Control Facility are located downstream of the Facility discharge. These facilities discharge to the Delta and have been granted mixing zones for DCBM and DBCM based on available assimilative capacity. The August 2021 TM estimated average monthly effluent limitations of 52 µg/L and 71 µg/L for DBCM and DCBM (at 2.5 MGD effluent flow), respectively, that would preserve the assimilative capacity for the Stockton and Tracy facilities. Dilution credits for DBCM and DCBM

to 132:1 and 128:1, respectively, would ensure adequate assimilative capacity is maintained for Tracy and Stockton.

The dilution credit for DBCM has been based on Facility performance resulting in a dilution credit of 39:1 and a mixing zone extending 294 feet downstream has been granted for DBCM. The dilution credit for DCBM has been based on Facility performance resulting in a dilution credit of 94:1 and a mixing zone extending 857 feet downstream has been granted for DCBM.

The allowance of a mixing zone and dilution credits are a discretionary act by the Central Valley Water Board. The mixing zone and dilution credit for DBCM and DCBM permitted in this Order will result in an increase in the discharge, DBCM will use 22% percent of the available assimilative capacity in the receiving water and DCBM will use 79% percent of the available assimilative capacity in the receiving water. According to U.S. EPA's memorandum on Tier 2 Antidegradation Reviews and Significance Thresholds, any individual decision to lower water quality for nonbioaccumulative chemicals that is limited to 10 percent of the available assimilative capacity represents minimal risk to the receiving water and is fully consistent with the objectives and goals of the Clean Water Act. Per U.S. EPA guidance requires a complete antidegradation analysis is appropriate in this case. The discharger completed a complete antidegradation analysis for effluent flows up to 6.0 MGD in 2020. See section IV.D.4 of this Fact Sheet for details on the 2020 antidegradation analysis and justification for the use of over 10% assimilative capacity for DBCM and DCBM.

Furthermore, the effluent limits have been limited based on Facility performance which will result in the implementation of best practicable treatment or control of the discharge necessary to assure that a pollution or nuisance will not occur and the highest water quality consistent with maximum benefit to the people of the State will be maintained.

(d) **Copper.** As outlined above, acute and chronic aquatic life criteria mixing zones extending 4.5 feet and 8.2 feet, respectively, downstream of the Facility's outfall and dilution credit of 2.2:1 and 2.2:1, respectively, meet the eleven mixing zone prohibitions of section 1.4.2.2.A of the SIP. Furthermore, considering Facility performance and compliance with the state and federal antidegradation requirements, the mixing zones are as small as practicable and comply with section 1.4.2.2.B of the SIP.

The allowance of a mixing zone and dilution credits are a discretionary act by the Central Valley Water Board. The mixing zones and dilution credits for copper permitted in this Order will

result in a minor increase in the discharge (i.e., use 5 percent of the available assimilative capacity in the receiving water). According to U.S. EPA's memorandum on Tier 2 Antidegradation Reviews and Significance Thresholds, any individual decision to lower water quality for nonbioaccumulative chemicals that is limited to 10 percent of the available assimilative capacity represents minimal risk to the receiving water and is fully consistent with the objectives and goals of the Clean Water Act. Per U.S. EPA guidance a simple antidegradation analysis is appropriate in this case. Furthermore, considering existing Facility performance and the de minimis impact on the receiving water, the effluent limits will result in the implementation of best practicable treatment or control of the discharge necessary to assure that a pollution or nuisance will not occur and the highest water quality consistent with maximum benefit to the people of the State will be maintained.

Based on the findings above, this Order grants mixing zones and dilution credits that have been used for the calculation of WQBELs for barium, chloroform, DCBM, DBCM, and copper. The dimensions of the mixing zones and allowable dilution credits are shown in Table F-7, above. The percent assimilative used was calculated for antidegradation purposes comparing current permitted discharge to the revised permitted discharge with the mixing zone at the long-term receiving water flow of 1,584 cfs. Use of the long-term receiving water flow is appropriate for antidegradation purposes which considers the long-term effect of an allowed permitted increase in the mass loading on the receiving water. The percent assimilative capacity used calculations are summarized in Table F-8, below.

Table F-8 Percent Assimilative Capacity Used Calculations

Parameter	Barium	Chloroform	DBCM	DCBM	Copper, Total
Water Quality Objective/ Criteria	100 µg/L	60 µg/L	0.41 µg/L	0.56 µg/L	8.1 µg/L
Maximum Background Concentration	46 µg/L	ND	ND	ND	3.8 µg/L
Existing Permitted Condition (AMEL)	280 µg/L	130 µg/L	15 µg/L	36 µg/L	--
Revised Permitted Condition (AMEL)	280 µg/L	120 µg/L	16 µg/L	53 µg/L	15 µg/L
Existing Permitted Assimilative Capacity	8.5%	1.0%	21%	43%	--
Revised Permitted Assimilative Capacity	10%	0.9%	22%	79%	5%
Percent Change in Assimilative Capacity	0%	-0.1%	1.4%	20%	3%

Table F-8 Notes:

1. Existing Permitted Condition is the existing average monthly effluent limitation or applicable water quality objective/criteria if there is currently no effluent limitation. **Copper** is the only parameter in the table above without an existing effluent limitation. The water quality objective for copper is hardness dependent and based on effluent and receiving water data collected during the previous permit term and is described in greater detail in section IV.C.2.e of this fact sheet.
2. Revised Permitted Condition is new average monthly effluent limitation implemented in this Order with the new allowed mixing zone(s) and receiving water flows.
3. Existing Permitted Assimilative Capacity is the mixed downstream concentration based on the existing permitted condition minus the water quality objective/criteria.
4. Revised Permitted Assimilative Capacity is the mixed downstream concentration based on the revised permitted condition minus the water quality objective/criteria.
5. A negative Percent Change in Assimilative Capacity denotes an increase in assimilative capacity.

d. **Conversion Factors.** The default U.S. EPA conversion factors contained in Appendix 3 of the SIP were used to convert the applicable dissolved criteria to total criteria when developing effluent limitations for CTR metals. Per the Reopener Provisions of this Order, if the Discharger performs studies to determine site-specific WERs or dissolved-to-total metal translators this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

e. **Hardness-Dependent CTR Metals Criteria.** The CTR and the NTR contain water quality criteria for seven metals that vary as a function of hardness. The lower the hardness the lower the water quality criteria. The metals with hardness-dependent criteria include cadmium, copper, chromium III, lead, nickel, silver, and zinc. This Order has established the criteria for hardness-dependent metals based on the hardness of the receiving water (actual ambient hardness) as required by the SIP and the CTR.

The ambient hardness for the San Joaquin River upstream of the Facility ranges from 85 mg/L to 150 mg/L based on collected ambient data from February 2024 through November 2024 for the effluent and receiving water characterization sampling. Given the high variability in ambient hardness values, there is no single hardness value that describes the ambient receiving water for all possible scenarios (e.g., minimum, maximum). Because of this variability, staff has determined that based on the ambient hardness concentrations measured in the receiving water, the Central Valley Water Board has discretion to select ambient hardness values within the range of 85 mg/L (minimum) up to 150 mg/L (maximum).

The Central Valley Water Board finds that the use of the ambient hardness values and associated acute and chronic criteria shown in Table F-9 to conduct the reasonable potential analysis (RPA) and to calculate

WQBELs, protect beneficial uses under all ambient receiving water conditions and comply with the SIP, CTR, and Basin Plan.

Table F-9. Summary of Criteria for CTR Hardness-dependent Metals

CTR Metals	Ambient Hardness (mg/L)	Acute Criteria (µg/L, total)	Chronic Criteria (µg/L, total)
Copper	85	12	8.1
Chromium III	85	1520	180
Cadmium	85 (acute) 85 (chronic)	3.8	2.2
Lead	85	66	2.6
Nickel	85	410	45
Silver	85	3.1	--
Zinc	85	110	110

Table F-9 Notes:

1. **Criteria (µg/L total).** Acute and chronic criteria were rounded to two significant figures in accordance with the CTR (40 C.F.R. section 131.38(b)(2)).
2. **Ambient hardness (mg/L).** Values in Table F-9 represent actual observed receiving water hardness measurements.
3. **Copper.** This Order allows a mixing zone for copper as discussed in section IV.C.2.c. When considering dilution to calculate the WQBELs the appropriate ambient hardness is 84.9 mg/L (as CaCO3) based solely on upstream receiving water hardness from RSW-001.

3. Determining the Need for WQBELs

Clean Water Act section 301(b)(1)(C) requires effluent limitations necessary to meet water quality standards, and 40 C.F.R. section 122.44(d) requires NPDES permits to include conditions that are necessary to achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality. Federal regulations at 40 C.F.R 122.44(d)(1)(i) state, "Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level that will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." Additionally, 40 C.F.R. section 122(d)(1)(vii) requires effluent limits to be developed consistent with any available WLAs developed and approved for the discharge. The process to determine whether a WQBEL is required as described in 40 C.F.R. section 122.44(d)(1)(i) is referred to as a reasonable potential analysis or RPA. Central Valley Water Board staff conducted RPAs for nearly 200 constituents, including the 126 U.S. EPA priority toxic pollutants. This section includes details of the RPAs for constituents of concern for the Facility. The entire RPA is included in the administrative record and a summary of the constituents of concern is provided in Attachment G.

For priority pollutants, the SIP dictates the procedures for conducting the RPA.

For non-priority pollutants the Central Valley Water Board is not restricted to one particular RPA method; therefore, the RPAs have been conducted based on U.S. EPA guidance considering multiple lines of evidence and the site-specific conditions of the discharge. Ammonia, acute toxicity, chlorine residual, nitrate plus nitrite, pH, pathogens, and temperature are not priority pollutants. Due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA for these non-priority pollutant parameters based on a qualitative assessment as recommended by U.S. EPA guidance. U.S. EPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states, "State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available…A permitting authority might also determine that WQBELs are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBELs for pathogens in all permits for POTWs discharging to contact recreational waters)." U.S. EPA's TSD also recommends that factors other than effluent data should be considered in the RPA, "When determining whether or not a discharge causes, has the reasonable potential to cause, or contributes to an excursion of a numeric or narrative water quality criterion for individual toxicants or for toxicity, the regulatory authority can use a variety of factors and information where facility-specific effluent monitoring data are unavailable. These factors also should be considered with available effluent monitoring data." With regard to POTWs, U.S. EPA recommends that, "POTWs should also be characterized for the possibility of chlorine and ammonia problems." (TSD, p. 50)

a. **Constituents with Total Maximum Daily Load (TMDL).**
40 C.F.R. section 122.44(d)(1)(vii) provides: "When developing water quality-based effluent limits under [section 122.44(d)(1)], the permitting authority shall ensure that: (A) The level of water quality to be achieved by limits on point sources established under this paragraph is derived from, and complies with all applicable water quality standards; and (B) Effluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available WLA for the discharge prepared by the State and approved by U.S. EPA pursuant to [Total Maximum Daily Loads regulations]." U.S. EPA construes 40 C.F.R. section 122.44(d)(1)(vii)(B) to mean that "when WLAs are available, they must be used to translate water quality standards into NPDES permit limits." 54 Fed. Reg. 23868, 23879 (June 2, 1989).

The segment of the San Joaquin River that the Facility discharges to is subject to TMDLs for diazinon and chlorpyrifos and methylmercury, and WLA's under those TMDL's are available. The Central Valley Water Board developed WQBELs for these pollutants pursuant to 40 C.F.R. section

122.44(d)(1)(vii), which does not require or contemplate a reasonable potential analysis.

i. **Diazinon and Chlorpyrifos.**

(a) **WQO.** The Central Valley Water Board completed a TMDL for diazinon and chlorpyrifos in the Sacramento – San Joaquin Delta Waterways and amended the Basin Plan to include diazinon and chlorpyrifos WLAs and water quality objectives. The Basin Plan Amendment for the Control of Diazinon and Chlorpyrifos Runoff into the Sacramento – San Joaquin Delta was adopted by the Central Valley Water Board on 23 June 2006 and became effective on 10 October 2007.

The amendment modified Basin Plan Chapter 3 (Water Quality Objectives) to establish site-specific numeric objectives for diazinon and chlorpyrifos in the Delta waterways and identified the requirements to meet the additive formula already in Basin Plan Chapter 4 (Implementation) for the additive toxicity of diazinon and chlorpyrifos.

The amendment states that "The waste load allocations for all NPDES-permitted dischargers…shall not exceed the sum (S) of one (1) as defined below:

$S = Cd/WQOd + Cc/WQOc \leq 1.0$

Where:

Cd = diazinon concentration in µg/L of point source discharge

Cc = chlorpyrifos concentration in µg/L of point source discharge

WQOd = acute or chronic diazinon water quality objective in µg/L

WQOc = acute or chronic chlorpyrifos water quality objective in µg/L

Available samples collected within the applicable averaging period for the water quality objective will be used to determine compliance with the allocations and loading capacity. For purposes of calculating the sum (S) above, analytical results that are reported as 'non-detectable' concentrations are considered to be zero."

Appendix 42 of the Basin Plan lists waterways subject to the Sacramento-San Joaquin Delta Waterway TMDL for chlorpyrifos and diazinon, and includes the San Joaquin River.

(b) **WQBELs.** WQBELs for diazinon and chlorpyrifos are required per the TMDL. This Order includes effluent limits calculated based on the WLAs contained in the TMDL, as follows:

Average Monthly Effluent Limitation (AMEL)

S(AMEL) = Cd (M-avg)/0.079+ Cc (M-avg)/0.012≤ 1.0

Where:

Cd(M-avg) = average monthly diazinon effluent concentration in µg/L

Cc (M-avg) = average monthly chlorpyrifos effluent concentration in µg/L

Average Weekly Effluent Limitation (AWEL)

S(AWEL) = Cd (W-avg)/0.14+ Cc (W-avg)/0.021≤ 1.0

Where:

Cd(W-avg) = average weekly diazinon effluent concentration in µg/L

Cc (W-avg) = average weekly chlorpyrifos effluent concentration in µg/L

(d) **Plant Performance and Attainability.** Chlorpyrifos and diazinon were not detected in the five effluent sampling events conducted between February 2024 and March 2026. Furthermore, since these pesticides have been banned for public use, they are not expected to be present in the influent to the Facility. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

ii. **Mercury.**

(a) **WQO.** The Basin Plan contains fish tissue objectives for all Sacramento-San Joaquin Delta waterways listed in Appendix 43 of the Basin Plan, which states, "…the average methylmercury concentrations shall not exceed 0.08 and 0.24 mg methylmercury/kg, wet weight, in muscle tissue of trophic level 3 and 4 fish, respectively (150-500 mm total length). The average methylmercury concentrations shall not exceed 0.03 mg methylmercury/kg, wet weight, in whole fish less than 50 mm in length." The Delta Mercury Control Program contains aqueous methylmercury WLA's that are calculated to achieve these fish tissue objectives. Methylmercury reductions are assigned to dischargers with concentrations of methylmercury greater than 0.06 ng/L (the concentration of methylmercury in water to meet the fish tissue objective). Staff has calculated that the Facility is allocated 0.18 grams/year of methylmercury by 31 December

2030, as part of the unassigned load allocation listed in Table IV-7B of the Basin Plan.

The CTR contains a human health criterion of 50 ng/L for total mercury for waters from which both water and aquatic organisms are consumed. However, in 40 C.F.R. part 131, U.S. EPA acknowledges that the human health criteria may not be protective of some aquatic or endangered species and that "…more stringent mercury limits may be determined and implemented through the use of the State's narrative criterion." In the CTR, U.S. EPA reserved the mercury criteria for freshwater and aquatic life and may adopt new criteria at a later date.

The State Water Board adopted Resolution 2017-0027 on 2 May 2017, which approved Part 2 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California—Tribal and Subsistence Fishing Beneficial Uses and Mercury Provisions (Statewide Mercury Provisions). The Statewide Mercury Provisions establish a Sport Fish Water Quality Objective of an average 0.2 mg/kg methylmercury fish tissue concentration within a calendar year for waters with the beneficial uses of commercial and sport fishing (COMM), tribal tradition and culture (CUL), wildlife habitat (WILD), and marine habitat (MAR). This fish tissue objective corresponds to a water column concentration of 12 ng/L of total mercury for flowing water bodies (e.g., rivers, creeks, streams, and waters with tidal mixing). As shown in Table F-2, the beneficial uses of the San Joaquin River within the Sacramento-San Joaquin Delta include COMM and WILD; therefore, the Sport Fish Water Quality Objective is applicable. However, the mercury water quality objectives established in the Statewide Mercury Provisions do not supersede the site-specific numeric mercury water quality objectives established in the Basin Plan, and section IV.D.1 of the Statewide Mercury Provisions specifies that the implementation provisions do not apply to dischargers that discharge to receiving waters for which a mercury or methylmercury TMDL is established pertaining to the same beneficial use or uses. Consequently, this Order continues to implement the Basin Plan's Delta Mercury Control Program for the control of methylmercury in the receiving water.

(b) **RPA Results.** Section 1.3 of the SIP states, "The RWQCB shall conduct the analysis in this section of each priority pollutant with an applicable criterion or objective, excluding priority pollutants for which a TMDL has been developed, to determine if a water

quality-based effluent limitation is required in the Discharger's permit."

The maximum effluent concentration (MEC) for mercury was 8.08 ng/L based on 9 samples collected between February 2024 and March 2026. The maximum observed upstream receiving water mercury concentration was 9.2 ng/L based on 4 samples collected between January 2024 and November 2024 for the effluent and receiving water characterization monitoring.

The maximum effluent concentration (MEC) for methylmercury was 0.0586 ng/L based on 9 samples collected between February 2024 and March 2026. The maximum observed upstream receiving water mercury concentration was 0.099 ng/L based on 4 samples collected between January 2024 and November 2024 for the effluent and receiving water characterization monitoring.

(c) **WQBELs.** The Basin Plan's Delta Mercury Control Program includes WLA's for POTW's in the Delta and unused allocation for "existing facilities that previously discharged to land and then began to discharge to surface water". This Order contains a final WQBEL for methylmercury based on the allocation needed for final buildout (6.0 MGD) of 0.18 grams per year. Effective 31 December 2030, the total calendar methylmercury load shall not exceed 0.18 grams.

(d) Plant Performance and Attainability. A compliance schedule in accordance with the State Water Board's Compliance Schedule Policy and the Delta Mercury Control Program has been established in section VI.C.7.a of this Order. The final WQBELs for methylmercury are effective 31 December 2030.

b. **Constituents with No Reasonable Potential.** Central Valley Water Board staff conducted reasonable potential analyses for nearly 200 constituents, including the 126 U.S. EPA priority toxic pollutants. All reasonable potential analyses are included in the administrative record and a summary of the constituents of concern is provided in Attachment G. WQBELs are not included in this Order for constituents that do not demonstrate reasonable potential to cause or contribute to an instream excursion of an applicable water quality objective; however, monitoring for those pollutants is established in this Order as required by the SIP. If the results of effluent monitoring demonstrate reasonable potential, this Order may be reopened and modified by adding an appropriate effluent limitation.

Most constituents with no reasonable potential are not discussed in this Order. This section only provides the rationale for the reasonable potential

analyses for the following constituents of concern that were found to have no reasonable potential after assessment of the data:

i. **Aluminum**

(a) **WQO.** The State Water Board Division of Drinking Water (DDW) has established Secondary Maximum Contaminant Levels (MCLs) to assist public drinking water systems in managing their drinking water for public welfare considerations, such as taste, color, and odor. The Secondary MCL for aluminum is 200 µg/L for protection of the MUN beneficial use. Title 22 requires compliance with Secondary MCLs on an annual average basis. Aluminum is the third most abundant element in the earth's crust and is ubiquitous in both soils and aquatic sediments. When mobilized in surface waters, aluminum has been shown to be toxic to various fish species. However, the potential for aluminum toxicity in surface waters is directly related to the chemical form of aluminum present, and the chemical form is highly dependent on water quality characteristics that ultimately determine the mechanism of aluminum toxicity. Surface water characteristics, including pH, temperature, colloidal material, fluoride and sulfate concentrations, and dissolved organic carbon, all influence aluminum speciation and its subsequent bioavailability to aquatic life. The 2018 U.S. EPA NAWQC for protection of freshwater aquatic life for aluminum recommends acute (1-hour average; criteria maximum concentration or CMC) and chronic (4-day average; criteria continuous concentration or CCC) standards based upon Multiple Linear Regression (MLR) models for vertebrate and invertebrate species that use pH, dissolved organic carbon (DOC), and total hardness to quantify the effects of these water chemistry parameters on the bioavailability and resultant toxicity of aluminum to aquatic organisms. The 2018 Aluminum NAWQC document provides look up tables or a Microsoft Excel spreadsheet to calculate the criteria based on pH, DOC, and total hardness. The U.S. EPA aluminum criteria have been used to implement the Basin Plan's narrative toxicity objective.

(b) **RPA Results.** For priority pollutants, the SIP dictates the procedures for conducting the RPA. Aluminum is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific conditions of the discharge, the Central Valley Water Board used professional judgment in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent. The Secondary MCL is derived from human welfare considerations (e.g., taste, odor, laundry staining), not for toxicity. Secondary MCL's are drinking water standards

contained in Title 22 of the California Code of Regulations and requires compliance with these standards on an annual average basis, when sampling at least quarterly. To be consistent with how compliance with the standards is determined, for the Secondary MCL the RPA was conducted based on the calendar annual average effluent aluminum concentrations. Calculating a maximum annual average concentration considers variability in the data, per 40 C.F.R. § 122.44(d)(1)(ii).

The maximum annual average effluent concentration for aluminum was 75 µg/L based on 4 samples collected between February 2024 and November 2024 for the effluent and receiving water characterization monitoring. Upstream receiving water aluminum concentrations range from 137 to 371 µg/L based on 4 samples collected between February 2024 and November 2024 for the effluent and receiving water characterization monitoring. Effluent aluminum is consistently less than the concentrations in the receiving water and below the Secondary MCL. Therefore, the Central Valley Water Board finds the discharge does not have reasonable potential to cause or contribute to an exceedance in the receiving water and the Facility is adequately controlling the discharge of aluminum.

ii. **Bis(2-ethylhexyl) phthalate**

(a) **WQO.** The CTR includes a criterion of 1.8 µg/L for Bis(2-ethylhexyl) phthalate (Bis-2) for the protection of human health for waters from which both water and organisms are consumed.

(b) **RPA Results.** Bis-2 results from the Effluent and Receiving Water Characterization resulted in one out of four effluent samples at 8.5 µg/L, which is greater than the applicable water quality criteria; three other effluent sample results were non-detect. The Discharger confirmed contamination issues in the sample result greater than the criteria and took a fifth sample that resulted in a non-detect result. Therefore, the Central Valley Water Board finds the discharge does not have reasonable potential to cause or contribute to an exceedance in the receiving water and the Facility is adequately controlling the discharge of Bis-2.

iii. **Cyanide**

(a) **WQO.** The CTR includes a criterion of 5.2 µg/L for cyanide for the protection of human health for waters from which both water and organisms are consumed.

(b) **RPA Results.** One of four cyanide samples collected during the effluent and receiving water characterization in 2024, was reported as having a concentration of 5.2 µg/L, which is

equivalent to the CTR chronic freshwater aquatic life criterion of 5.2 µg/L. The Discharger determined the spike in cyanide was due to overdosing sodium hydroxide during disinfection, likely as a result of adjustments to achieve the proper dosing. Therefore, the Central Valley Water Board finds the discharge does not have reasonable potential to cause or contribute to an exceedance in the receiving water and the Facility is adequately controlling the discharge of cyanide.

iv. **Salinity**

(a) **WQO.** Basin Plan section 3.1 contains a WQO for chemical constituents that incorporates state MCLs (Cal. Code Regs., tit. 22, §§ 64431, 64444, 64449), contains a narrative objective, and contains numeric site-specific WQOs for certain specified water bodies for electrical conductivity (EC), total dissolved solids (TDS), and chloride. The U.S. EPA Ambient Water Quality Criteria for Chloride recommends acute and chronic criteria for the protection of aquatic life. There are no U.S. EPA water quality criteria for the protection of aquatic life for EC, TDS, and/or sulfate. Additionally, there are no U.S. EPA numeric water quality criteria for the protection of agricultural, livestock, and industrial uses. Numeric values for the protection of these uses are typically based on site specific conditions and evaluations to determine the appropriate constituent threshold necessary to implement the Basin Plan's narrative WQO for chemical constituents. The Central Valley Water Board must determine the applicable numeric limit to implement the narrative objective for the protection of agricultural supply. Table F-10, below, contains various recommended levels for EC or TDS, sulfate, and chloride.

Table F-10 Salinity Water Quality Criteria/Objectives

Parameters	Bay-Delta Plan WQO	Secondary MCL Recommended Level.	Secondary MCL Upper Level	Secondary MCL Short-term Maximum	U.S. EPA NAWQC	Maximum Calendar Annual Average Effluent Concentration	Maximum Daily Effluent Concentration
EC (µmhos/cm) or TDS (mg/L)	EC 1,000 (see table note 3)	EC 900 or TDS 500	EC 1,600 or TDS 1,000	EC 2,200 or TDS 1,500	N/A	EC 850 TDS 465	EC 1030 TDS 489
Sulfate (mg/L)	N/A	250	500	600	N/A	72	100
Chloride (mg/L)	N/A	250	500	600	860 1-hour / 230 4-day	117	121

Table F-10 Notes:

1. **Agricultural Water Quality Objectives.** Applicable agricultural water quality objectives vary. Basin Plan section 4.2 contains a Policy for Application of Water Quality Objectives, which provides procedures for establishing numeric water quality objectives to implement the narrative water quality objective for chemical constituents. The Basin Plan does not require improvement over naturally occurring background concentrations. In cases where the natural background concentration of a particular constituent exceeds an applicable water quality objective, the natural background concentration will be considered to comply with the objective.
2. **Secondary MCLs.** Secondary MCLs are for protection of public welfare and are stated as a recommended level, upper level, and a short-term maximum level. Per the Basin Plan, "Recommended" concentrations are not water quality objectives per se, but should be considered water resource management goals. For waters designated for MUN beneficial use, constituent concentrations ranging to "Upper" concentration levels are only acceptable if authorized by the Central Valley Water Board based on a demonstration that it is no reasonable or feasible to achieve lower levels. Concentrations exceeding "Upper" concentration levels may only be permitted in accordance with the provisions of Title 22. (See Cal. Code Regs., tit. 22, § 64449.)
3. **Bay-Delta Plan WQO.** Currently effective electrical conductivity water quality objective is 700 µmhos/cm (April – August) and 1,000 µmhos/cm (September – March), applied as a 30-day running average of mean daily electrical conductivity. Pending revised electrical conductivity water quality objective is 1,000 µmhos/cm (year-round), applied as a 30-day running average of mean daily electrical conductivity.

(b) **RPA Results.**

(1) **Chloride.** Chloride concentrations in the effluent ranged from 112 mg/L to 121 mg/L, with an average of 117 mg/L. These levels do not exceed the Secondary MCL. Background concentrations in The San Joaquin River

ranged from 42 mg/L to 81 mg/L, with an average of 52 mg/L, for 4 samples collected by the Discharger from February 2024 through November 2024 for the effluent and receiving water characterization monitoring.

(2) **Electrical Conductivity or Total Dissolved Solids.** A review of the Discharger's monitoring reports shows an average effluent EC of 755 µmhos/cm, with a range from 536 µmhos/cm to 1030 µmhos/cm, during a June sampling event. These EC levels do not necessarily represent the range of EC that can occur if the City's water supply relies more heavily on groundwater, as it did in 2017 when conducting effluent and receiving water characterization monitoring for the original NPDES permit application. During 2017, EC averaged 1,401 µmhos/cm, with a range of 1,220 µmhos/cm to 1,490 µmhos/cm (12 samples). These levels exceed the Secondary MCL and the Basin Plan site-specific EC limit. The background receiving water EC averaged 540 µmhos/cm. The average TDS effluent concentration was 464 mg/L with concentrations ranging from 437 mg/L to 489 mg/L. These levels do not exceed the Secondary MCL. The background receiving water TDS ranged from 159 mg/L to 366 mg/L, with an average of 231 mg/L.

(3) **Sulfate.** Sulfate concentrations in the effluent ranged from 58 mg/L to 100 mg/L, with an average of 72 mg/L. These levels do not exceed the Secondary MCL. Background concentrations in the San Joaquin River ranged from 35 mg/L to 70 mg/L, with an average of 48 mg/L.

(c) **WQBELs.**

As discussed above, the discharge does not have reasonable potential to cause or contribute to an in-stream excursion of water quality objectives for salinity. On 17 January 2020, certain amendments to the Basin Plan incorporating a Program to Control and Permit Salt Discharges to Surface and Groundwater (Salt Control Program) became effective. Other amendments became effective on 2 November 2020 when approved by the U.S. EPA. The Salt Control Program is a three-phased program, with each phase lasting 10 to 15 years. The Basin Plan requires all salt dischargers to comply with the provisions of the program. Two compliance pathways are available for salt dischargers during Phase 1.

The Phase 1 Compliance pathways are: 1) Conservative Salinity Permitting Approach, which utilizes the existing

regulatory structure and focuses on source control and conservative salinity limits on the discharge, and limits the use of assimilative capacity and compliance time schedules; and, 2) Alternative Salinity Permitting Approach, which is an alternative approach to compliance through implementation of specific requirements such as participating in the Salinity Prioritization and Optimization Study (P&O Study) rather than the application of conservative discharge limits.

The Discharger submitted a Notice of Intent for the Salt Control Program indicating its intent to meet the Alternative Salinity Permitting Approach. Therefore, this Order requires implementation of a Salinity Evaluation and Minimization Plan, participation in the Salinity P&O Study, and includes a performance-based trigger for EC **of 1,600 µmhos/cm** consistent with the Alternative Salinity Permitting Approach, which accommodates the range of EC under different water supply scenarios**.**

(d) **Plant Performance and Attainability.** Analysis of the effluent data shows that the MEC of 1,490 µmhos/cm and the maximum annual average EC of 1,401 µmhos/cm are less than the performance-based trigger of 1,600. The Central Valley Water Board concludes, therefore, that the Facility effluent EC would regularly be under the performance-based trigger.

c. **Constituents with Reasonable Potential.** The Central Valley Water Board finds that the discharge has a reasonable potential to cause or contribute to an instream excursion above a water quality standard for ammonia, nitrate plus nitrite, pathogens, pH, barium, chloroform, copper, dibromochloromethane (DBCM), and dichlorobromomethane (DCBM). WQBELs for these constituents are included in this Order. A summary of the RPA is provided in Attachment G, and a detailed discussion of the RPA for each constituent is provided below.

i. **Ammonia**

(a) **WQO.** The 2013 U.S. EPA National Ambient Water Quality Criteria (NAWQC) for the protection of freshwater aquatic life for total ammonia (2013 Criteria), recommends acute (1-hour average; criteria maximum concentration or CMC) and chronic (30-day average; criteria continuous concentration or CCC) standards based on pH and temperature. U.S. EPA also recommends that no 4-day average concentration should exceed 2.5 times the 30-day CCC. The 2013 Criteria reflects the latest scientific knowledge on the toxicity of ammonia to certain freshwater aquatic life, including toxicity data on sensitive

freshwater unionid mussels, non-pulmonary snails, and other freshwater organisms.

The Central Valley Clean Water Association (CVCWA) organized a coordinated effort for POTWs within the Central Valley Region, the Freshwater Mussel Collaborative Study for Wastewater Treatment Plants, to determine how the latest scientific knowledge on the toxicity of ammonia reflected in the 2013 Criteria could be implemented in the Central Valley Region. Through this effort a Criteria Recalculation Report was developed in January 2020 using toxicity studies for the freshwater mussel species present in Central Valley Region waters.

The Criteria Recalculation Report implemented U.S. EPA's Recalculation Procedure utilizing toxicity bioassays conducted on resident mussel species to replace the toxicity data for the eastern mussel species in the national dataset to develop site-specific ammonia criteria for waters within the Central Valley Region, including all surface waters in the Sacramento River, San Joaquin River, and Tulare Lake Basin Plans.

U.S. EPA Office of Science and Technology reviewed and approved the Criteria Recalculation Report with a more conservative approach for utilizing the acute-to-chronic ratio procedure for developing the site-specific chronic criterion. The Central Valley Water Board finds that the site-specific ammonia criteria provided in the January 2020 Criteria Recalculation Report implements the Basin Plan's narrative toxicity objective to protect aquatic life beneficial uses of the receiving water.

Site-specific Criteria for San Joaquin River. The recalculated site-specific criteria developed in the Criteria Recalculation Report for the acute and chronic criteria are presented based on equations that vary according to pH and temperature for situations where freshwater mussels are present and where they are absent. In this case, for the San Joaquin River freshwater mussels have been assumed to be present. In addition, the recalculated criteria include equations that provide enhanced protection for important salmonid species in the genus Oncorhynchus, that can be implemented for receiving waters where salmonid species are present. Because the San Joaquin River has a beneficial use of cold freshwater habitat and the presence of salmonids in the San Joaquin River is well-documented, the criteria equations for waters where salmonids are present were used.

The acute (1-hour average) criterion or CMC was calculated using paired effluent pH and temperature data, collected during the period from February 2024 to March 2026. The most stringent CMC of 1.32 mg/L (ammonia as N) calculated has been implemented in this Order.

The chronic (30-day average) criterion or CCC was calculated using paired downstream receiving water pH and temperature data, collected during the period from February 2024 to March 2026. The most stringent 30-day rolling average CCC of 0.78 mg/L (ammonia as N) has been implemented in this Order.

The chronic (4-day average) concentration is derived in accordance with the U.S. EPA criterion as 2.5 times the 30-day CCC. Based on the 30-day CCC of 0.78 mg/L (ammonia as N), the 4-day average concentration that should not be exceeded is 1.96 mg/L (ammonia as N).

(b) **RPA Results.** The Facility is a POTW that treats domestic wastewater. Untreated domestic wastewater contains ammonia in concentrations that is harmful to aquatic life and exceed the Basin Plan narrative toxicity objective. The Discharger currently uses a biological nutrient removal treatment system to remove ammonia from the waste stream. Inadequate or incomplete treatment may result in the discharge of ammonia to the receiving stream, which creates the basis for the discharge to have a reasonable potential to cause or contribute to an instream excursion above the site-specific acute and chronic criteria for ammonia provided by the January 2020 Criteria Recalculation Report. Therefore, the Central Valley Water Board finds the discharge has reasonable potential for ammonia and WQBELs are required.

(c) **WQBELs.** The Central Valley Water Board calculates WQBELs in accordance with SIP procedures for non-CTR constituents, and ammonia is a non-CTR constituent. The SIP procedure assumes a 4-day averaging period for calculating the long-term average discharge condition (LTA). However, U.S. EPA recommends modifying the procedure for calculating permit limits for ammonia using a 30-day averaging period for the calculation of the LTA corresponding to the 30-day CCC. Therefore, while the LTAs corresponding to the acute and 4-day chronic criteria were calculated according to SIP procedures, the LTA corresponding to the 30-day CCC was calculated assuming a 30-day averaging period. This Order contains a final average monthly effluent limitation (AMEL) and average weekly effluent limitation (AWEL) for ammonia of 0.77 mg/L and 1.2

mg/L, respectively, based on the site-specific ammonia criteria for the San Joaquin River.

(d) **Plant Performance and Attainability.** The Facility is designed to provide tertiary treatment and fully nitrify the wastewater. The MEC for ammonia during the previous permit term was 0.15 mg/L. Therefore, the Central Valley Water Board finds that immediate compliance with the ammonia limits are feasible.

ii. **Barium**

(a) **WQO**. The Basin Plan includes a criterion of 100 µg/L for barium for the protection of Beneficial Uses in the Sacramento-San Joaquin Delta.

(b) **RPA Results.** The MEC for barium was 117 µg/L based on 25 samples collected from February 2024 through March 2026, which is greater than the objective. In 2017 and 2018 when groundwater composed a greater proportion of City's water supply, the MEC for barium was 192 µg/L based on 14 samples. Out of 4 samples from February 2024 through November 2024 collected at the upstream receiving water during the effluent and receiving water characterization monitoring, barium had a maximum value of 45.5 µg/L. Therefore, barium in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan criterion for the protection of Beneficial Uses in the Sacramento-San Joaquin Delta.

(c) **WQBELs**. The receiving water contains assimilative capacity for barium; therefore, as discussed in section IV.C.2.c of the Fact Sheet, a dilution credit of 3:1 was allowed in the development of WQBELs for barium. Based on the allowable dilution credit, this Order contains an AMEL of 280 µg/L and an AWEL of 490 µg/L for barium based on the Basin Plan criterion for the protection of Beneficial Uses in the Sacramento-San Joaquin Delta.

(d) **Plant Performance and Attainability.** Analysis of the effluent barium data shows that the MEC of 117 µg/L is less than the applicable WQBELs with dilution. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

iii. **Chlorine Residual**

(a) **WQO.** U.S. EPA developed NAWQC for protection of freshwater aquatic life for chlorine residual. The recommended 4-day average (chronic) and 1-hour average (acute) criteria for chlorine residual are 0.011 mg/L and 0.019 mg/L, respectively.

These criteria are protective of the Basin Plan's narrative toxicity objective.

(b) **RPA Results.** The concentrations of chlorine used to disinfect wastewater are high enough to harm aquatic life and violate the Basin Plan narrative toxicity objective if discharged to the receiving water. Reasonable potential therefore does exist and effluent limits are required.

The Discharger uses chlorine for disinfection, which is extremely toxic to aquatic organisms. Although the Discharger uses a sodium bisulfite process to dechlorinate the effluent prior to discharge to the San Joaquin River, the existing chlorine use and the potential for chlorine to be discharged provides the basis for the discharge to have a reasonable potential to cause or contribute to an instream excursion above the NAWQC.

(c) **WQBELs.** The U.S. EPA's TSD for Water Quality-Based Toxics Control [EPA/505/2-90-001] contains statistical methods for converting chronic (4-day) and acute (1-hour) aquatic life criteria to average monthly and maximum daily effluent limitations based on the variability of the existing data and the expected frequency of monitoring. However, because chlorine is an acutely toxic constituent that can and will be monitored continuously, an average 1-hour limitation is considered more appropriate than an average daily limitation. This Order contains a 4-day average effluent limitation and 1-hour average effluent limitation for chlorine residual of 0.011 mg/L and 0.019 mg/L, respectively, based on U.S. EPA's NAWQC, which implements the Basin Plan's narrative toxicity objective for protection of aquatic life.

(d) **Plant Performance and Attainability.** The Discharger uses sodium bisulfite to dechlorinate the effluent prior to discharge to the San Joaquin River. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

iv. **Chloroform**

(a) **WQO**. Chloroform is a priority pollutant, however the CTR reserved the human health criteria. The U.S. EPA developed the 2015 recommended National Ambient Water Quality Criteria for Chloroform that includes a criterion of 60 µg/L for the protection of human health for waters from which both water and organisms are consumed, which implements the Basin Plan's narrative toxicity and chemical constituents objectives.

(b) **RPA Results.** The MEC for chloroform was 62.8 µg/L based on 27 samples collected from February 2024 through March 2026,

which is greater than the objective. In 5 samples collected from February 2024 through April 2025 during the effluent and receiving water characterization monitoring, chloroform was not detected in the upstream receiving water. Therefore, chloroform in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the U.S. EPA recommended National Ambient Water Quality Criteria for the protection of human health.

(c) **WQBELs**. The receiving water contains assimilative capacity for chloroform; therefore, as discussed in section IV.C.2.c of the Fact Sheet, a human health dilution credit of 1:1 was allowed in the development of WQBELs for chloroform. Based on the allowable dilution credit, this Order contains an AMEL of 120 µg/L and an MDEL of 170 µg/L for chloroform based on the 2015 recommended U.S. EPA National Ambient Water Quality Criteria for the protection of human health.

(d) **Plant Performance and Attainability.** Analysis of the effluent chloroform data shows that the MEC of 62.8 µg/L is less than the applicable WQBELs with dilution. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

v. **Copper, Total**

(a) **WQO**. This Order has established the criteria for hardness-dependent metals based on the hardness of the receiving water (actual ambient hardness) as required by the SIP and the CTR. The ambient hardness for the San Joaquin River ranges from 85 mg/L to 150 mg/L based on collected ambient data from February 2024 through November 2024 during the effluent and receiving water characterization monitoring. Copper is a Hardness dependent metal. The Central Valley Water Board finds that the associated chronic and acutecopper criteria are 8.1 and 12 µg/L respectively.

(b) **RPA Results.** The MEC for copper was 9.9 µg/L based on 4 samples collected during the effluent and receiving water characterization sampling from 2024, which is greater than the applicable chronic copper criterion of 8.1 ug/L. In 4 samples, copper was detected in the upstream receiving water at 3.8 µg/L. Therefore, copper in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for the protection of aquatic life.

(c) **WQBELs**. The receiving water contains assimilative capacity for copper; therefore, as discussed in section IV.C.2.c of the Fact Sheet, an aquatic life chronic dilution credit of 2.2:1 and an acute dilution credit of 2.1:1 was allowed in the development of

WQBELs for copper. Based on the allowable dilution credit, this Order contains an AMEL of 15 µg/L and an MDEL of 29 µg/L for copper.

(d) **Plant Performance and Attainability.** Analysis of the effluent copper data shows that the MEC of 9.9 µg/L is less than the applicable WQBELs with dilution. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

vi. Dibromochloromethane (DBCM)

(a) **WQO**. The CTR includes a criterion of 0.41 µg/L for DBCM for the protection of human health for waters from which both water and organisms are consumed.

(b) **RPA Results.** The MEC for DBCM was 10.4 µg/L based on 27 samples collected from February 2024 through March 2026, which is greater than the CTR criterion. In 5 samples collected from February 2024 through April 2025 during the characterization monitoroing, DBCM was not detected in the upstream receiving water. Therefore, DBCM in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for the protection of human health.

(c) WQBELs. The receiving water contains assimilative capacity for DBCM; therefore, as discussed in section IV.C.2.c of the Fact Sheet, a human health dilution credit of 39:1 was allowed in the development of WQBELs for DBCM. Based on the allowable dilution credit, this Order contains an AMEL of 16 µg/L and an MDEL of 36 µg/L for DBCM based on the CTR criterion for the protection of human health.

(d) **Plant Performance and Attainability.** Analysis of the effluent DBCM data shows that the MEC of 10.4 µg/L is less than the applicable WQBELs with dilution. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

vii. **Dichlorobromomethane (DCBM)**

(a) **WQO**. The CTR includes a criterion of 0.56 µg/L for DCBM for the protection of human health for waters from which both water and organisms are consumed.

(b) **RPA Results.** The MEC for DCBM was 36.3 µg/L based on 27 samples collected from February 2024 through March 2026. The MEC for DCBM was sampled in April of 2024. DCBM concentrations have decreased to approximately 10 µg/L from April 2025 to April 2026.

In 5 samples collected from February 2024 through April 2025 during the characterization monitoroing, DCBM was not detected in the upstream receiving water. Therefore, DCBM in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for the protection of human health.

(c) **WQBELs.** The receiving water contains assimilative capacity for DCBM; therefore, as discussed in section IV.C.2.c of the Fact Sheet, a human health dilution credit of 94:1 was allowed in the development of WQBELs for DCBM. Based on the allowable dilution credit, this Order contains an AMEL of 53 µg/L and an MDEL of 110 µg/L for DCBM based on the CTR criterion for the protection of human health.

(d) **Plant Performance and Attainability.** Analysis of the effluent DCBM data shows that the MEC of 36.3 µg/L is less than the applicable WQBELs with dilution. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible. Monitoring within the last permit term demonstrated that relatively higher DCBM concentrations can occur when the drinking water system must rely on a greater proportion of groundwater rather than surface water. The higher DCBM levels are believed to be related to the higher salinity content of groundwater (such as chloride or bromide) that may promote DCBM formation in the CTF chlorination process since DCBM has not been detected at levels greater than 0.5 µg/L in the facility's influent. The CTF is operated to minimize DCBM formation to the extent practicable by utilizing low-CT chlorine dosing, as approved by DDW. This order allows greater dilution to accommodate for variability in drinking water sources and their effect on DBCM concentrations.

viii. **Nitrate and Nitrite**

(a) **WQO.** DDW has adopted Primary MCLs for the protection of human health for nitrite and nitrate that are equal to 1 mg/L and 10 mg/L (measured as nitrogen), respectively. DDW has also adopted a Primary MCL of 10 mg/L for the sum of nitrate and nitrite, measured as nitrogen.

U.S. EPA has developed a primary MCL and an MCL goal of 1 mg/L for nitrite (as nitrogen). For nitrate, U.S. EPA has developed Drinking Water Standards (10 mg/L as Primary MCL) and NAWQC for protection of human health (10 mg/L for non-cancer health effects).

(b) **RPA Results.** The Facility is a POTW that treats domestic wastewater. Untreated domestic wastewater contains ammonia in concentrations that is harmful to aquatic life and exceed the Basin Plan's narrative toxicity objective. The Discharger currently uses a two-step biological nutrient removal treatment process to first convert the ammonia to nitrate, then remove the nitrate from the waste stream. Inadequate or incomplete treatment may result in the discharge of nitrate and/or nitrite to the receiving stream in concentrations that may exceed the Primary MCL and would violate the Basin Plan's narrative chemical constituents' objective. Therefore, the Central Valley Water Board finds the discharge has a reasonable potential to cause or contribute to an instream excursion above the Primary MCL and WQBELs are required for nitrate plus nitrite.

(c) **WQBELs.** This Order contains an average monthly effluent limitation (AMEL) and average weekly effluent limitation (AWEL) for nitrate plus nitrite of 10 µg/L and 22 µg/L, respectively, based on the Basin Plan's narrative chemical constituents objective for protection of the MUN beneficial use. These effluent limitations are included in this Order to assure the treatment process adequately nitrifies and denitrifies the waste stream to protect the beneficial use of municipal and domestic supply.

(d) **Plant Performance and Attainability.** The Facility is designed to provide tertiary treatment and fully nitrify and denitrify the wastewater. Therefore, the Central Valley Water Board finds that immediate compliance with the nitrate plus nitrite limitations are feasible.

ix. **Pathogens**

(a) **WQO.** DDW has developed reclamation criteria, CCR, Division 4, Chapter 3 (Title 22), for the reuse of wastewater. Title 22 requires that for spray irrigation of food crops, parks, playgrounds, schoolyards, and other areas of similar public access, wastewater be adequately disinfected, oxidized, coagulated, clarified, and filtered, and that the effluent total coliform levels not exceed 2.2 MPN/100 mL as a 7-day median; 23 MPN/100 mL, not to be exceeded more than once in a 30-day period; and 240 MPN/100 mL, at any time.

Title 22 is not directly applicable to surface waters; however, the Central Valley Water Board finds the stringent disinfection criteria are appropriate since the undiluted effluent may be used for the irrigation of food crops and/or for body-contact water recreation. Coliform organisms are intended as an indicator of

the effectiveness of the entire treatment train and the effectiveness of removing other pathogens.

(b) **RPA Results.** Raw domestic wastewater inherently contains human pathogens that threaten human health and life, and constitute a threatened pollution and nuisance under CWC section 13050 if discharged untreated to the receiving water. The beneficial uses of San Joaquin River include municipal and domestic supply, water contact recreation, and agricultural irrigation supply, and there is, at times, less than 20:1 dilution. To protect these beneficial uses, the Central Valley Water Board finds that the wastewater must be disinfected and adequately treated to prevent disease. Although the Discharger provides disinfection, inadequate or incomplete disinfection creates the potential for pathogens to be discharged. Therefore, the Central Valley Water Board finds the discharge has reasonable potential for pathogens and WQBELs are required.

(c) **WQBELs.** Special Provisions VI.C.6.a of this Order requires, "Wastewater shall be oxidized, coagulated, filtered, and adequately disinfected pursuant to the State Water Board, DDW reclamation criteria, CCR, Title 22, division 4, chapter 3, (Title 22), or equivalent." In accordance with the requirements of Title 22, this Order includes effluent limitations for total coliform organisms of 2.2 MPN/100 mL as a 7-day median; 23 MPN/100 mL, not to be exceeded more than once in a 30-day period; and 240 MPN/100 mL as an instantaneous maximum.

The tertiary treatment process, or equivalent, is capable of reliably treating wastewater to a turbidity level of 2 nephelometric turbidity units (NTU) as a daily average. Failure of the filtration system such that virus removal is impaired would normally result in increased particles in the effluent, which result in higher effluent turbidity. Turbidity has a major advantage for monitoring filter performance. Coliform testing, by comparison, is not conducted continuously and requires several hours, to days, to identify high coliform concentrations. Therefore, in addition to total coliform organisms effluent limitations, this Order includes operational specifications for turbidity of 0.2 NTU more than 5 percent of the time within a 24-hour period and 0.5 NTU at any time.

Final WQBELs for BOD_5 and TSS are also required based on the technical capability of the tertiary process. The tertiary treatment standards for BOD_5 and TSS are indicators of the effectiveness of the tertiary treatment process. The principal design parameter for wastewater treatment plants is the daily BOD_5 and TSS loading rates and the corresponding removal

rate of the system. The application of tertiary treatment processes results in the ability to achieve lower levels for BOD_5 and TSS than the technology-based secondary standards. Therefore, this Order requires AMELs for BOD_5 and TSS of 10 mg/L, which is technically based on the capability of a tertiary system.

This Order contains effluent limitations for BOD_5, total coliform organisms, and TSS and requires a tertiary level of treatment, or equivalent, necessary to protect the beneficial uses of the receiving water. The Central Valley Water Board has previously considered the factors in Water Code section 13241 in establishing these requirements.

(d) **Plant Performance and Attainability.** The Facility provides tertiary treatment and utilizes a chlorine disinfection system that is designed to achieve Title 22 criteria. Therefore, the Central Valley Water Board concludes that immediate compliance with these effluent limitations is feasible for tertiary treated discharges from the Facility.

x. **pH**

(a) **WQO.** The Basin Plan includes a water quality objective for surface waters (except for Goose Lake) that the "pH shall not be depressed below 6.5 nor raised above 8.5."

(b) **RPA Results.** Raw domestic wastewater inherently has variable pH. Additionally, some wastewater treatment processes can increase or decrease wastewater pH which if not properly controlled, would violate the Basin Plan's numeric objective for pH in the receiving water. Therefore, reasonable potential exists for pH and WQBELs are required.

(c) **WQBELs.** Effluent limitations for pH of 6.5 as an instantaneous minimum and 8.5 as an instantaneous maximum are included in this Order based on protection of the Basin Plan objectives for pH.

(d) **Plant Performance and Attainability.** Analysis of effluent pH data shows that immediate compliance with the WQBELs is feasible.

xi. **Temperature**

(a) **WQO.** The Thermal Plan requires that, "The maximum temperature shall not exceed the natural receiving water temperature by more than 20°F."

(b) **RPA Results.** Treated domestic wastewater is an elevated temperature waste, which could cause or threaten to cause the receiving water temperature to exceed temperature objectives established in the Thermal Plan. Therefore, reasonable potential exists for temperature and WQBELs are required.

The Facility is a POTW that treats domestic wastewater, which is an elevated temperature waste. This provides the basis for the discharge to have a reasonable potential to cause or contribute to an excursion above Thermal Plan requirements.

(c) **WQBELs.** To ensure compliance with the Thermal Plan, an effluent limitation for temperature is included in this Order.

(d) **Plant Performance and Attainability.** Monitoring data indicates that consistent compliance with the requirements of the Thermal Plan is feasible from February through October. The use of the Cooling Ponds will ensure compliance during the months of November through January.

4. WQBEL Calculations

a. This Order includes WQBELs for ammonia, barium, total copper, DBCM, chloroform, chlorine residual, chlorpyrifos, DCBM, diazinon, methyl mercury, total mercury, nitrate plus nitrite, pH, and temperature. The general methodology for calculating WQBELs based on the different criteria/objectives is described in subsections IV.C.4.b through e, below. See Attachment H for the WQBEL calculations.

b. **Effluent Concentration Allowance.** For each water quality criterion/objective, the ECA is calculated using the following steady-state mass balance equation from section 1.4 of the SIP:

ECA = C + D(C – B) where C>B, and
ECA = C where C≤B

where:

ECA = effluent concentration allowance
D = dilution credit
C= the priority pollutant criterion/objective
B= the ambient background concentration.

According to the SIP, the ambient background concentration (B) in the equation above shall be the observed maximum with the exception that an ECA calculated from a priority pollutant criterion/objective that is intended to protect human health from carcinogenic effects shall use the arithmetic mean concentration of the ambient background samples.

c. **Primary and Secondary MCLs.** For non-priority pollutants with primary MCLs to protect human health (e.g., nitrate plus nitrite), the AMEL is set equal to the primary MCL and the AWEL is calculated using the AWEL/AMEL multiplier, where the AWEL multiplier is based on a 98th percentile occurrence probability and the AMEL multiplier is from Table 2 of the SIP.

For non-priority pollutants with secondary MCLs that protect public welfare (e.g., taste, odor, and staining), WQBELs were calculated by setting the LTA equal to the secondary MCL and using the AMEL multiplier to set the AMEL. The AWEL was calculated using the MDEL/AMEL multiplier from Table 2 of the SIP.

d. **Aquatic Toxicity Criteria.** For priority pollutants with acute and chronic aquatic toxicity criteria, the WQBELs are calculated in accordance with section 1.4 of the SIP. The ECAs are converted to equivalent long-term averages (i.e. LTA_{acute} and $LTA_{chronic}$) using statistical multipliers and the lowest LTA is used to calculate the AMEL and MDEL using additional statistical multipliers. For non-priority pollutants, WQBELs are calculated using similar procedures, except that an AWEL is determined utilizing multipliers based on a 98th percentile occurrence probability.

e. **Human Health Criteria.** For priority pollutants with human health criteria, the WQBELs are calculated in accordance with section 1.4 of the SIP. The AMEL is set equal to the ECA and the MDEL is calculated using the MDEL/AMEL multiplier from Table 2 of the SIP. For non-priority pollutants with human health criteria, WQBELs are calculated using similar procedures, except that an AWEL is established using the MDEL/AMEL multiplier from Table 2 of the SIP.

$$AMEL = mult_{AMEL}\left[\min\left(\overbrace{M_A ECA_{acute}}^{LTA_{acute}}, M_C ECA_{chronic}\right)\right]$$

$$MDEL = mult_{MDEL}\left[\min\left(M_A ECA_{acute}, \underbrace{M_C ECA_{chronic}}_{LTA_{chronic}}\right)\right]$$

$$MDEL_{HH} = \left(\frac{mult_{MDEL}}{mult_{AMEL}}\right) AMEL_{HH}$$

where:

$mult_{AMEL}$ = statistical multiplier converting minimum LTA to AMEL
$mult_{MDEL}$ = statistical multiplier converting minimum LTA to MDEL

M_A = statistical multiplier converting acute ECA to LTA_{acute}
M_C = statistical multiplier converting chronic ECA to $LTA_{chronic}$

Summary of Water Quality-Based Effluent Limitations
Discharge Point 001

Table F-11 Summary of Water Quality-Based Effluent Limitations

Parameter	Units	Average Monthly Effluent Limitations	Average Weekly Effluent Limitations	Maximum Daily Effluent Limitations
Ammonia (Total as Nitrogen)	mg/L	0.77	1.2	--
Barium	µg/L	280	490	--
Copper, Total	µg/L	15	--	29
Chlorpyrifos	µg/L	--	--	See Table Note 1
Diazinon	µg/L	--	--	See Table Note 1
Chloroform	µg/L	120	--	170
Dibromochloromethane (DBCM)	µg/L	16	--	36
Dichlorobromomethane (DCBM)	µg/L	53	--	110
Methylmercury	ng/L	See Table note 2	--	
Nitrate plus Nitrite (Total as Nitrogen)	mg/L	10	22	--
pH	Standard Units	--		Minimum 6.5 Maximum 8.5
Temperature	°F	--		See Table Note 3
Total Chlorine Residual	mg/L	--	0.011 mg/L, as a 4-day average	0.019 mg/L, as a 1-hour average
Total Coliform Organisms	MPN/100 mL	--	AWEL 2.2	MDEL 23, Instantaneous Max 240

Table F-11 Notes:

1. **Diazinon and Chlorpyrifos.** Effluent diazinon and chlorpyrifos concentrations shall not exceed the sum of one (1.0) as identified in IV.C.3.a.i.(a) of this Fact Sheet.
2. **Methylmercury.** The effluent calendar year annual methylmercury load shall not exceed 0.18 grams, in accordance with the Delta Mercury Control Program, effective 31 December 2030.
3. **Temperature.** The maximum temperature of the discharge shall not exceed the natural receiving water temperature by more than 20°F.
4. **Total Coliform Organisms.** AWEL applied as a 7-day median effluent limitation. MDEL is

not to be exceeded more than once in any 30-day period.

5. Whole Effluent Toxicity (WET)

a. **Chronic Toxicity.** The chronic aquatic toxicity water quality objective is expressed as a null hypothesis and an alternative hypothesis with a regulatory management decision (RMD) of 0.75, where the following null hypothesis, Ho, shall be used

Ho: Mean response (ambient water) ≤ 0.75 • mean response (control)

And where the following alternative hypothesis, Ha, shall be used:

Ha: Mean response (ambient water) > 0.75 • mean response (control)

Attainment of the water quality objective is demonstrated by conducting chronic aquatic toxicity testing and rejecting this null hypothesis in accordance with the Test of Significant Toxicity (TST) statistical approach described in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R-10-003, 2010), Appendix A, Figure A-1 and Table A-1 (Chronic Freshwater and East Coast Methods) and Appendix B, Table B-1. When the null hypothesis is rejected, the alternative hypothesis is accepted in its place, and there is no exceedance of the chronic aquatic toxicity water quality objective. Failing to reject the null hypothesis (referred to as a "fail") is equivalent to an exceedance of the chronic aquatic toxicity water quality objective.

To evaluate compliance with the Statewide Toxicity Provisions aquatic toxicity numeric objectives, acute and chronic whole effluent toxicity testing data has been evaluated in the development of this Order.

The table below is chronic WET testing performed by the Discharger from 4 March 2024 through 5 January 2026.

Table F-12 Chronic Whole Effluent Toxicity Testing Results – Test of Significant Toxicity (100 Percent Effluent)

Date	Fathead Minnow (*Pimephales promelas)* Survival		Fathead Minnow (*Pimephales promelas)* Growth		Water Flea (*Ceriodaphnia dubia)* Survival		Water Flea (*Ceriodaphnia dubia)* Reproduction		Green Algae (*Pseudokirch-neriella subcapitata)* Growth	
	Pass/ Fail	% Effect	Pass/ Fail	% Effect	Pass/ Fail	% Effect	Pass/ Fail	% Effect	Pass/ Fail	% Effect
3/4/2024	Pass	0.0	Pass	-9.7	Pass	-11	Pass	-40	Pass	2.1
4/1/2024 or 4/22/2024	Pass	-2.6	Pass	-3.6	Pass	0	Fail	14	Pass	-6.6
8/19/2024 (see table note)	Pass	0.0	Pass	-14	Pass	0	Fail	30	Pass	-21
11/8/2024	Pass	-8.1	Pass	-14	Pass	0	Fail	19	Pass	-6.0

Date	Fathead Minnow (*Pimephales promelas)* Survival		Fathead Minnow (*Pimephales promelas)* Growth		Water Flea (*Ceriodaphnia dubia)* Survival		Water Flea (*Ceriodaphnia dubia)* Reproduction		Green Algae (*Pseudokirch-neriella subcapitata)* Growth	
	Pass/ Fail	% Effect	Pass/ Fail	% Effect	Pass/ Fail	% Effect	Pass/ Fail	% Effect	Pass/ Fail	% Effect
1/13/2025	--	--	--	--	Pass	0	Fail	21	--	--
4/14/2025	--	--	--	--	Pass	0	Fail	31	--	--
5/12/2025	--	--	--	--	Pass	0	Fail	23	--	--
5/19/2025	--	--	--	--	Pass	0	Fail	82	--	--
11/17/2025	--	--	--	--	Pass	0	Pass	6.0	--	--
1/5/2026	--	--	--	--	Pass	0	Pass	9.6	--	--

Table Note: The 19 August 2024 test at 12.5% effluent exhibited 14% effect to *C. dubia* reproduction and 11% effect to *C. dubia* survival.

i. **RPA.** A dilution credit of 16 has been granted for chronic whole effluent toxicity, resulting in an instream waste concentration (IWC) of 6 percent effluent. Chronic toxicity testing has been conducted to-date using dilution series ranging from 12.5–100% effluent, not at the IWC of 6 percent effluent. A test result that fails the Test of Significant Toxicity (TST) or has a percent effect of greater than 10 percent at the IWC demonstrates the discharge has a reasonable potential to cause or contribute to an exceedance of the Statewide Toxicity Provisions aquatic toxicity numeric objectives. Based on chronic toxicity testing results shown in the table above, there were one or more fails of the TST **and/or** the percent effect exceeded 10 percent in multiple chronic *C. dubia* tests (e.g., therefore, the discharge is considered to have reasonable potential to cause or contribute to an instream exceedance of the Statewide Toxicity Provisions' numeric chronic aquatic toxicity objective.

ii. **WQBELs.** The following effluent limitations have been established for chronic whole effluent toxicity:

Chronic Whole Effluent Toxicity Median Monthly Effluent Limitation (MMEL). No more than one chronic aquatic toxicity test initiated in a toxicity calendar month shall result in a "Fail" at the IWC for any endpoint.

Chronic Whole Effluent Toxicity Maximum Daily Effluent Limitation (MDEL). No chronic aquatic toxicity test shall result in a "Fail" at the Instream Waste Concentration (IWC) for the sub-lethal endpoint measured in the test and a percent effect for the survival endpoint greater than or equal to 50 percent.

b. **Acute Toxicity.** The acute aquatic toxicity water quality objective is expressed as a null hypothesis and an alternative hypothesis with a regulatory management decision (RMD) of 0.80, where the following null hypothesis, Ho, shall be used:

Ho: Mean response (ambient water) ≤ 0.80 • mean response (control)

And where the following alternative hypothesis, Ha, shall be used:

Ha: Mean response (ambient water) > 0.80 • mean response (control)

Attainment of the water quality objective is demonstrated by conducting acute aquatic toxicity testing and rejecting this null hypothesis in accordance with the TST statistical approach. When the null hypothesis is rejected, the alternative hypothesis is accepted in its place, and there is no exceedance of the acute aquatic toxicity water quality objective. Failing to reject the null hypothesis (referred to as a "fail") is equivalent to an exceedance of the acute aquatic toxicity water quality objective.

The table below is acute WET testing performed by the Discharger from February 2024 through January 2026.

Table F-13 Acute Whole Effluent Toxicity Testing Results – Test of Significant Toxicity

Date	**Fathead Minnow (*Pimephales promelas*) Survival**	
	Pass/Fail	Percent Effect
2/26/2024	Pass	0
4/8/2024	Pass	0
8/27/2024	Pass	0
12/3/2024	Pass	0
1/22/2025	Pass	0
4/22/2025	Pass	0
12/2/2025	Pass	0
1/15/2026	Pass	0

i. **RPA.** In accordance with section III.C.3.b of the Statewide Toxicity Provisions, an RPA for acute aquatic toxicity was conducted. The basis for the decision to conduct an RPA for acute aquatic toxicity was because the facility is being issued Chronic WET limits that are calculated using an IWC of less than 100%. No acute toxicity test resulted in a fail or had percent effect of less than 100%. There is no RP for acute toxicity in the discharge, so WQBELs have not been retained for acute toxicity.

D. Final Effluent Limitation Considerations

1. Mass-based Effluent Limitations

40 C.F.R section 122.45(f)(1) requires effluent limitations be expressed in terms of mass, with some exceptions, and 40 C.F.R. section 122.45(f)(2) allows pollutants that are limited in terms of mass to additionally be limited in terms of other units of measurement. Pursuant to the exceptions to mass limitations provided in 40 CF.R. section 122.45(f)(1), some effluent limitations are not expressed in terms of mass, such as pH and temperature, and when the applicable standards are expressed in terms of concentration (e.g., CTR criteria and MCLs) and mass limitations are not necessary to protect the beneficial uses of the receiving water.

2. Averaging Periods for Effluent Limitations

40 C.F.R. section 122.45 (d) requires average weekly and average monthly discharge limitations for POTWs unless impracticable. For chloroform, DBCM, DCBM, and copper, average weekly effluent limitations have been replaced with maximum daily effluent limitations in accordance with section 1.4 of the SIP.

3. Satisfaction of Anti-Backsliding Requirements

The CWA specifies that a revised permit may not include effluent limitations that are less stringent than the previous permit unless a less stringent limitation is justified based on exceptions to the anti-backsliding provisions contained in CWA sections 402(o) or 303(d)(4), or, where applicable, 40 C.F.R. section 122.44(l).

The effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order, with the exception of effluent limitations for Dibromochloromethane (DBCM), Dichlorobromomethane (DCBM), bromoform, lead, electrical conductivity, and acute whole effluent toxicity. The effluent limitations for these pollutants are less stringent than those in Order R5-2022-0004-01. This relaxation or removal of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

a. **CWA section 402(o)(1) and 303(d)(4).** CWA section 402(o)(1) prohibits the establishment of less stringent water quality-based effluent limits “except in compliance with section 303(d)(4).” CWA section 303(d)(4) has two parts: paragraph (A) which applies to nonattainment waters and paragraph (B) which applies to attainment waters.

   i. For waters where standards are not attained, CWA section 303(d)(4)(A) specifies that any effluent limit based on a TMDL or other WLA may be revised only if the cumulative effect of all such revised effluent limits based on such TMDLs or WLAs will assure the attainment of such water quality standards.

ii. For attainment waters, CWA section 303(d)(4)(B) specifies that a limitation based on a water quality standard may be relaxed where the action is consistent with the antidegradation policy.

The San Joaquin River is considered an attainment water for DBCM, DCBM, bromoform, lead, electrical conductivity (EC), and acute toxicity because the receiving water is not listed as impaired on the 303(d) list for these constituents. The exceptions in section 303(d)(4) address both waters in attainment with water quality standards and those not in attainment, i.e. waters on the section 303(d) impaired waters list. As discussed in section IV.D.4, below, relaxation or removal of the effluent limits complies with federal and state antidegradation requirements. Thus, relaxation of effluent limitations for DBCM and DCBM and removal of the effluent limitations for bromoform, lead, EC, and acute toxicity from Order R5-2022-0004-01 meets the exception in CWA section 303(d)(4)(B).

b. **CWA section 402(o)(2).** CWA section 402(o)(2) provides several exceptions to the anti-backsliding regulations. CWA 402(o)(2)(B)(i) allows a renewed, reissued, or modified permit to contain a less stringent effluent limitation for a pollutant if information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance.

As described further in section IV.C.3.b of this Fact Sheet, updated information that was not available at the time Order R5-2022-0004-01 was issued indicates that bromoform, lead, EC, and acute toxicity do not exhibit reasonable potential to cause or contribute to an exceedance of water quality objectives in the receiving water. Additionally, updated information that was not available at the time Order R5-2022-0004-01 was issued indicates that less stringent effluent limitations for DBCM and DCBM based on available dilution credits satisfy requirements in CWA section 402(o)(2). The updated information that supports the relaxation or removal of effluent limitations for these constituents includes the following:

i. **Bromoform.** Monitoring for bromoform during the current permit term yielded a maximum effluent concentration (MEC) of 0.38 µg/L, which is lower than the chronic California Toxics Rule (CTR) criterion of 4.3 µg/L for the protection of human consumption of water and organisms.

ii. **Lead.** Monitoring for lead (as total recoverable) during the current permit term yielded an MEC of 0.56 µg/L, which is lower than the hardness-adjusted chronic CTR freshwater aquatic life criterion of 2.8 µg/L.

iii. **Acute whole effluent toxicity.** This Order removes the effluent limitation for acute whole effluent toxicity per standard approach under

the new Statewide Toxicity Provisions, because chronic toxicity testing is generally protective of both acute and chronic toxicity, and whole effluent toxicity data shows no reasonable potential for acute toxicity. This Order includes effluent limitations for chronic whole effluent toxicity, consistent with the Statewide Toxicity Provisions.

ii. **EC.** This Order includes salinity controls by enforcing best management practices which include ongoing participation in CV SALTS. The Discharger is participating in the CV-SALTS's SaltControl Program Alternative Pathway. This Order removes the effluent limitation for EC and establishes a performance-based effluent trigger for EC in accordance with the Alternative Pathway and the Bay-Delta Plan.

iv. Dibromochloromethane (DBCM) and Dichlorobromomethane (DCBM). The WQBELs for DBCM and DCBM in the previous permit term were based on a dilution and mixing zone study conducted at an effluent flow of 2.5 MGD. The discharger conducted a new mixing zone study for the plant expansion to 4.0 MGD. The results of this study are described in section of this fact sheet and show that greater dilution is available than was evaluated in the previous permit term. Therefore, this Order includes less stringent effluent limitations for DCBM and DBCM based on the performance of the Facility and the available dilution. As discussed below and in section IV.C.2.c of this Fact Sheet, the mixing zones for DBCM and DCBM have been sized to limit the use of assimilative capacity for DBCM and DCBM.

c. **Barium.** For Barium, the AWEL has changed from the previous Order. However, the effluent limit is not less stringent. In this case, the waste load allocation (WLA) in this Order and the previous Order are identical. The WLA provides a definition of effluent quality that is necessary to meet the water quality standards of the receiving water and is used to derive WQBELs that are used to enforce the WLA.

The TSD warns that, "*Direct use of a WLA as a permit limit creates a significant risk that the WLA will be enforced incorrectly, since effluent variability and the probability basis for the limit are not considered specifically.*" (TSD, p. 96) The SIP and TSD include identical procedures for calculating WQBELs that use the statistical variability of the effluent to convert the WLA to AMELs and MDELs.

The new effluent data used to calculate WQBELs for this Order has different statistical variability (i.e., coefficient of variation (CV) is different) than used in the previous Order. Changes in the CV can result in small changes to the effluent limits. However, the slight changes in effluent limits do not allow for an increase in the pollutants discharged. The TSD states, "*Since effluents are variable and permit limits are developed based on a low probability of exceedance, the permit limits should consider effluent*

variability and ensure that the requisite loading from the WLA is not exceeded under normal conditions. In effect then, the limits must "force" treatment plant performance, which, after considering acceptable effluent variability, will only have a low statistical probability of exceeding the WLA and will achieve the desired loadings." (TSD, p. 97) Therefore, although there are slight differences in the effluent limit, the WLA is identical, so the level of treatment needed to maintain compliance with the effluent limit remains the same. Consequently, the effluent limit is not less stringent than the previous Order, and there is no backsliding.

WQBELs for barium were calculated based on monitoring data collected between February 2024 through March 2026, this is not considered representative of possible treatment plant performance. In 2017 when groundwater composed a greater proportion of City's water supply, the MEC for barium was greater than the current plant data and should be considered when developing barium effluent limitations. Therefore, with the inclusion of data from 2017 through 2020, Central Valley Water Board staff considers this effluent data to be the most representative and reliable dataset to use to determine current Facility performance and development of WQBELs.

The AWEL for barium in this Order was calculated as a higher value than in previous Order R5-2022-0004 and R5-2022-0004-01. However, the AMEL remains the same. The WQBELs in both Orders are based on the same WLA. The reason for the change in the AWEL is due to a change in the variability of the effluent data for barium. The WQBELs, however, are equally protective of the beneficial uses. The level of treatment needed to maintain compliance with the effluent limits remains the same. Consequently, the effluent limits are not less stringent than the previous permit, and there is no backsliding.

This Order removes generalized receiving water limitations contained in the discharger's prior waste discharge requirements. The removal of this requirement is consistent with the U.S. Supreme Court's holding in the case of the *City and County of San Francisco vs. U.S. Environmental Protection Agency* (2025) 145 U.S. 704. However, as discussed in Attachment F, Section V.A, the Board has determined that the existing requirements 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 generalized receiving water limitation does not authorize the additional 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. Antidegradation Policies

The permitted discharge is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and the State Anti-Degradation Policy. This Order

provides for an increase in the volume and mass of pollutants discharged. The increase will not cause a violation of water quality objectives and will not unreasonably affect present and anticipated beneficial uses. Furthermore, compliance with these requirements in this order will result in the use of best practicable treatment or control of the discharge to assure that a pollution or nuisance will not occur and result in water quality consistent with the maximum benefit to the people of the State will be maintained.

This Order grants mixing zones for development of the water quality-based effluent limitations for barium, copper, chloroform, DBCM, and DCBM in accordance with the Basin Plan, the SIP, U.S. EPA's Water Quality Standards Handbook, 2nd Edition (updated July 2007), and the TSD. As discussed in section IV.C.2.c of this Fact Sheet, the mixing zones comply with applicable provisions of both the state and federal antidegradation policies.

The Discharger developed a report titled *Antidegradation Analysis for the Proposed Consolidated Treatment Facility Discharge to the San Joaquin River (October 2020)*, that provides an antidegradation analysis following the guidance provided by State Water Board APU 90-004. Pursuant to the guidelines, the Antidegradation Analysis evaluated whether changes in water quality resulting from the proposed new discharge to the San Joaquin River of up to 6.0 MGD of tertiary treated wastewater are consistent with the maximum benefit to the people of the State, will not unreasonably affect beneficial uses, will not cause water quality to be less than water quality objectives, and that the discharge provides protection for existing in-stream uses and water quality necessary to protect those uses. Findings from the Antidegradation Analysis are summarized below.

a) **Water Quality Parameters And Beneficial Uses Which Will Be Affected By The Proposed New Discharge And The Extent Of The Impact.**

Compliance with this Order will not adversely impact beneficial uses of the receiving water or downstream receiving waters. All beneficial uses will be maintained and protected. Federal antidegradation requirements at 40 C.F.R. section 131.12 defines the following tier designations to describe water quality in the receiving water body.

Tier 1 Designation*: Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.* (40 C.F.R. §131.12)

Tier 2 Designation*: Where the quality of waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development*

in the area in which the waters are located. In allowing such degradation or lower water quality, the State shall assure water quality adequate to protect existing uses fully. Further, the State shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control. (40 C.F.R. §131.12)

The tier designation is assigned on a pollutant-by-pollutant basis. The Sacramento-San Joaquin Delta (Southern Portion) is impaired for chlorpyrifos, diazinon, DDT, EC, Group A pesticides, invasive species, mercury, and toxicity. Due to the CWA 303(d) listings, the waterbody has a Tier 1 designation per 40 C.F.R. §131.12 for these parameters. The Antidegradation Analysis conducted an analysis of the potential impact of each constituent and their use of assimilative capacity at the ADWF of 2.5 MGD and full buildout ADWF of 6.0 MGD.

Based on the analysis, a discharge up to 6.0 MGD ADWF would result in only a minor increase in concentration (i.e., use less than 10% of baseline assimilative capacity) compared with the baseline condition (i.e., no discharge) for antimony, arsenic, bromoform, chloride, fluoride, MBAS, nitrate plus nitrite (as N), Sulfate, TDS, cadmium, chromium III, selenium, silver, and zinc. The analysis found that barium, DBCM, and DCBM would use greater than 10% of the baseline assimilative capacity.

As discussed below and in section IV.C.2.c of this Fact Sheet, the mixing zones for barium, DBCM, and DCBM have been sized to limit the use of assimilative capacity for these constituents to comply with State and federal antidegradation requirements. This Order will result in best practicable treatment or control of the discharge necessary to assure a pollution of nuisance will not occur and highest water quality consistent with the maximum benefit to the people of the State will be maintained.

b) **Scientific Rationale for Determining Potential Lowering of Water Quality**

The rationale used in the Antidegradation Analysis is based on Code of Federal Regulation, Section 131.12 (40 CFR 131.12), USEPA memorandum Regarding Tier 2 Antidegradation Reviews and Significance Thresholds (USEPA 2005) USEPA Region 9 Guidance on Implementing the Antidegradation Provisions of 40 CFR 131.12 (USEPA 1987), State Water Board Resolution No. 68-16, a State Water Board 1987 policy memorandum to the Regional Water Quality Control Boards, and an Administrative Procedures Update (APU 90-004) issued by the State Water Board to the Regional Water Quality Control Boards.

The scientific rationale used in the Antidegradation Analysis to determine if the Order allows a lowering of water quality is to determine the reduction of assimilative capacity. Assimilative capacity was calculated on a mass-balanced, concentration basis and, for bioaccumulative

constituents, calculated on a mass loading basis. This approach is consistent with recent U.S. EPA guidance and addresses a key objective of the Antidegradation Analysis to "[c]ompare receiving water quality to the water quality objectives established to protect designated beneficial uses" (APU 90-004). U.S. EPA has recommended ten (10) percent as a measure of significance for identifying those substantial lowering of water quality that should receive a full tier 2 antidegradation review. APU 90-004 requires the consideration of "feasible alternative control measures" as part of the procedures for a complete antidegradation analysis.

The Antidegradation Analysis analyzed each pollutant detected in the effluent and receiving water to determine if a discharge up to 6.0 MGD ADWF authorized by this Order potentially allows significant increase of the number of pollutants present in the upstream and downstream receiving water influenced by the proposed discharge. Pollutants that significantly increased concentration or mass downstream would have required an alternatives analysis to determine whether implementation of alternatives to the proposed action would be in the best socioeconomic interest of the people of the region and be to the maximum benefit of the people of the State. Details on the scientific rationale are discussed in detail in the Antidegradation Analysis. This includes a detailed discussion on calculating acute, chronic, and long-term water quality effects associated with a continuous discharge to a tidal estuary where the outfall and tidal flows provide the critical mixing and dilution.

The Central Valley Water Board concurs with this scientific approach.

c) **Alternative Control Measures Considered**

The Discharger considered several alternatives that would reduce or eliminate the lowering of water quality resulting from the initial 2.5 MGD, current 4.0 MGD and future discharge of 6.0 MGD discharge. Several effluent disposal alternatives were assessed to determine if any alternative would substantially reduce or eliminate the lowering of water quality because of the initial 2.5 MGD, current 4.0 MGD and future discharge of 6.0 MGD discharge. These plant expansion alternatives are summarized below:

1. Zero discharge (100%), recycling of effluent;
2. Regionalization with the City of Manteca Water Quality Control Facility; and
3. Different/higher levels of treatment to address constituent-specific issues;

None of the alternatives evaluated would substantially reduce or eliminate significant water quality impacts of the proposed action, because the proposed action would not significantly degrade water quality. Some of the alternatives may result in water quality effects

elsewhere, or other environmental impacts, that are worse than those identified for the proposed action.

d) **Socioeconomic Evaluation**

The objective of the socioeconomic analysis was to determine if the lowering of San Joaquin River water quality is in the maximum interest of the people of the state. The socioeconomic evaluation considered the social benefits and costs based on the ability to accommodate socioeconomic development in the City of Lathrop. The primary benefits of this action will be realized through achieving the following objectives:

1. Provide for planned City buildout and development based on the City's General Plan by providing effluent discharge to the San Joaquin River.
2. Provide efficient and cost-effective wastewater services through buildout of the City.
3. Maximize use of recycled water in the City presently and in the future.

Future development in the City of Lathrop, would rely on the Discharger and its Facility for wastewater collection, treatment, and recycled water services which would free land that would otherwise be used for land discharge. The Facility's future expansion to 6.0 MGD ADWF surface water discharge would accommodate planned and approved growth in the City of Lathrop. Should the incremental changes in San Joaquin River water quality characterized herein be disallowed, such action would: (1) force the Discharger to continue to discharge to land that would otherwise be used for development; (2) require adding a reverse-osmosis treatment processes, UV disinfection, and possibly other plant upgrades, to eliminate the small water quality changes; or (3) prohibit planned and approved development within and adjacent to the Discharger's service area. On balance, allowing the minor degradation of water quality is in the best interest of the people of the area and the state, compared to these other options; and is necessary to accommodate important economic or social development in the area.

e) **Justification for Allowing Degradation**

Potential degradation identified in the Antidegradation Analysis and due to this Order is justified by the following considerations:

1. The mixing zones for barium, DBCM and DCBM have been sized to minimize use of assimilative capacity and degradation consistent with the implementation of best practicable treatment or control of the discharge. Furthermore, the Discharger has optimize the chlorine disinfection system to minimize the formation of DBCM and DCBM to comply with this Order.

2. Implementation of alternatives does not provide important socioeconomic benefit to the people of the region, nor do they provide maximum benefit to the people of the State. The alternatives to the proposed project would inhibit socioeconomic growth making it economically infeasible for any new development to occur.
3. The Discharger's planned wastewater treatment facility will produce Title 22 tertiary treated effluent that will result in minimal water quality degradation. The Discharger's planned wastewater treatment process will meet or exceed the highest statutory and regulatory requirements which meets or exceeds best practical, treatment or control (BPTC);
4. The Order is fully protective of the beneficial uses of the San Joaquin River. The anticipated water quality changes in the San Joaquin River will not reduce or impair its designated beneficial uses and is consistent with State and federal antidegradation policies;
5. No feasible alternatives currently exist to reduce the impacts; and
6. The Discharger has fully satisfied the requirements of the intergovernmental coordination and public participation provisions of the State's continuing planning process concurrent with the public participation period of this Order.

This Order relaxes the effluent limitations for DBCM and DCBM from the previous permit based on the allowance of mixing zones in accordance with the Basin Plan, the SIP, U.S. EPA's Water Quality Standards Handbook, 2nd Edition (updated July 2007), and the TSD. As discussed in section IV.C.2.c of this Fact Sheet, the mixing zones are as small as practicable and have been limited as necessary to ensure the effluent limitations result in the implementation of BPTC necessary to assure that a pollution or nuisance will not occur and the highest water quality consistent with maximum benefit to the people of the State will be maintained.

5. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD5, pH, and TSS. Restrictions on BOD5, pH, and TSS are discussed in Section IV.B.2 of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order contains effluent limitations more stringent than the minimum, federal technology-based requirements that are necessary to meet water quality standards. These requirements include some limitations that are more stringent than required by the CWA.

WQBELs have been derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant 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 the individual WQBELs for priority pollutants are based on the CTR implemented by the SIP, which was approved by U.S. EPA on 18 May 2000. Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

Summary of Final Effluent Limitations
Discharge Point 001

Table F-14 Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations	Basis
Biochemical Oxygen Demand (BOD), 5-day @ 20°Celsius	mg/L	AMEL 10 AWEL 15	TTC
BOD	Percent Removal	AMEL 85	CFR
Total Suspended Solids	mg/L	AMEL 10 AWEL 15	TTC
TSS	Percent Removal	AMEL 85	CFR
pH	Standard Units	Instantaneous Max 8.5 Instantaneous Min 6.5	BP
Ammonia Nitrogen, Total	mg/L	AMEL 0.77 AWEL 1.2	NAWQC
Chlorpyrifos	µg/L	see table note 2	TMDL
Diazinon	µg/L	see table note 2	TMDL
Methyl Mercury	Grams per year	Annual Loading 0.18, note 3	TMDL
Nitrate plus Nitrite	mg/L	AMEL 10 AWEL 22	MCL
Barium	µg/L	AMEL 280 AWEL 490	BP
Copper	µg/L	AMEL 15 MDEL 29	CTR
Chloroform	µg/L	AMEL 120 MDEL 170	CTR, NAWQC
DBCM	µg/L	AMEL 16 MDEL 36	CTR
DCBM	µg/L	AMEL 53 MDEL 110	CTR
Temperature	°F	See table note 4	TP
Total Coliform Organisms	MPN/100mL	AWEL 2.2 (see table note 5. below) MDEL 23 (see table note 6. below)	Title 22

Table F-14 Notes:

1. **DC** – Based on the design capacity of the Facility.
   TTC – Based on tertiary treatment capability. These effluent limitations reflect the capability of a properly operated tertiary treatment plant.
   CFR – Based on secondary treatment standards contained in 40 CFR part 133.
   BP – Based on water quality objectives contained in the Basin Plan.
   CTR – Based on water quality criteria contained in the California Toxics Rule and applied as specified in the SIP.
   NAWQC – Based on U.S. EPA's National Ambient Water Quality Criteria for the protection of freshwater aquatic life.
   TMDL – Based on the TMDL for salinity and boron in the lower San Joaquin River.
   TP – Thermal Plan
   MCL – Based on the Primary Maximum Contaminant Level.
   Title 22 – Based on State Water Board Division of Drinking Water Reclamation Criteria, CCR, Division 4, Chapter 3 (Title 22).
2. **Diazinon and Chlorpyrifos.** Effluent diazinon and chlorpyrifos concentrations shall not exceed the sum of one (1.0) as identified in Section IV.C.3.a.i(a) of this Fact Sheet..
3. **Methylmercury.** The effluent calendar year annual methylmercury load shall not exceed 0.18 grams, in accordance with the Delta Mercury Control Program, effective 31 December 2030.
4. **Temperature.** The maximum temperature of the discharge shall not exceed the natural receiving water temperature by more than 20°F.
5. **Total Coliform Organisms.** AWEL applied as a 7-day median effluent limitation. MDEL is not to be exceeded more than once in any 30-day period.

E. Interim Effluent Limitations

1. **Interim Limits for Total Mercury.** The Compliance Schedule Policy requires the Central Valley Water Board to establish interim requirements and dates for their achievement in the NPDES permit. Interim numeric effluent limitations are required for compliance schedules longer than one year. Interim effluent limitations must be based on current treatment plant performance or previous final permit limitations, whichever is more stringent.

   The interim limitations for total mercury in this Order are based on the current treatment plant performance. In developing the interim limitation, where there are 10 sampling data points or more, sampling and laboratory variability is accounted for by establishing interim limits that are based on normally distributed data where 99.9% of the data points will lie within 3.3 standard deviations of the mean (Basic Statistical Methods for Engineers and Scientists, Kennedy and Neville, Harper and Row). Therefore, the interim AMELs in this Order are established as the mean plus 3.3 standard deviations of the available data.

   When there are less than 10 sampling data points available, the U.S. EPA Technical Support Document for Water Quality-based Toxics Control ((EPA/505/2-90-001), TSD) recommends a CV of 0.6 be utilized as representative of wastewater effluent sampling. The TSD recognizes that a

minimum of 10 data points is necessary to conduct a valid statistical analysis, and recommends setting the CV to 0.6 because for small datasets the uncertainty is too large to calculate a standard deviation and mean with statistical confidence. In developing effluent limitations, the U.S. EPA has developed a statistical approach in which the estimated maximum effluent concentration is calculated as the upper bound of the log normal distribution of effluent concentrations at a high confidence level. Table 3-1, *Reasonable Potential Multiplying Factors: 99% Confidence Level and 99% Probability Basis*, in U.S. EPA's TSD, contain multiplying factors used for estimating expected concentrations of a pollutant based on sample results. When there are less than 10 sampling data points available, the interim performance based AMELs in this Order are established by multiplying the maximum effluent concentration by the multiplying factors from Table 3-1 of the TSD, based on the number of samples and a CV of 0.6.

The interim maximum daily effluent limitations (MDELs) were calculated using the MDEL/AMEL multipliers per Table 2 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California.

The Central Valley Water Board finds that the Discharger can undertake source control and treatment plant measures to maintain compliance with the interim limitations included in this Order. Interim limitations are established when compliance with final effluent limitations cannot be achieved by the existing discharge. Discharge of constituents in concentrations in excess of the final effluent limitations, but in compliance with the interim effluent limitations, can significantly degrade water quality and adversely affect the beneficial uses of the receiving stream on a long-term basis. The interim limitations, however, establish an enforceable ceiling concentration until compliance with the effluent limitation can be achieved.

The following table summarizes the calculations of the interim effluent limitations for Total Mercury:

Table F-15 Interim Effluent Limitation Calculation Summary

Parameter	Units	Maximum Effluent Concentration	Mean	Standard Deviation	Number of Samples	Interim Limit
Total Mercury	grams/year	3.6	2.1	1.5	2	12

F. Land Discharge Specifications – Not Applicable

G. Recycling Specifications

Treated wastewater discharged for reclamation is regulated under separate waste discharge requirements and must meet the requirements of CCR, Title 22.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

On 4 March 2025, the U.S. Supreme Court issued a decision in the case of the City and County of San Francisco vs. U.S. Environmental Protection Agency (2025) 145 U.S. 704, which challenged some of the limits in NPDES permits. The Court ruled that “end result” provisions (e.g. receiving water limitations) are not allowed by the federal Clean Water Act and that NPDES permits must have specific requirements to meet water quality objectives and protect beneficial uses. Based on this ruling, no receiving water limitations are included in this Order.

The Clean Water Act and implementing regulations specify that effluent limitations are required when there is reasonable potential for a discharge to cause or contribute to an exceedance of any applicable water quality standard. A Reasonable Potential Analysis (RPA) is a key step taken by permit writers to determine if a discharge has the potential to violate water quality standards. An RPA includes characterization of the effluent and receiving waters and an assessment of the water quality standards to see if projected concentrations in the receiving water after mixing with the effluent have the “reasonable potential” (RP) to exceed the water quality criteria. Effluent limitations and other permit conditions are prescribed based on an evaluation of this information. RPAs and effluent limitation calculations follow established NPDES program procedures and requirements (State Water Resources Control Board, 2005 and U.S. Environmental Protection Agency, 1991). This Order also requires regular effluent and receiving water sampling to document any potential effects to the receiving water. In addition, this Order requires characterization monitoring of priority pollutants in the ambient background receiving water and effluent during the permit term. All Central Valley NPDES permits contain a general re-opener provision that allow the Central Valley Water Board to amend the permit and include conditions, effluent limitations, provisions, or prohibitions. This would include scenarios where monitoring data indicate the need for new effluent limitations to ensure receiving water quality objectives are met. As an additional assurance, this Order prohibits operational changes that would significantly impact the character of the waste discharge. Nonetheless, the question remains as to whether an NPDES permit is adequately protective of water quality when the receiving water limitations are removed; or alternatively, whether additional conditions should be considered when removing receiving water limitations.

1. **Summary of the specific considerations for the removal of receiving water limitations.** These considerations include associated effluent limitations, best management practices (BMPs) and/or water quality monitoring requirements.

   a. **Bacteria.** On 7 August 2018 the State Water Board adopted Resolution No. 2018-0038 establishing Bacteria Provisions, which are specifically titled “Part 3 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California—Bacteria Provisions and a Water Quality Standards Variance Policy” and “Amendment to the Water Quality Control

Plan for Ocean Waters of California—Bacteria Provisions and a Water Quality Standards Variance Policy." The Bacteria Water Quality Objectives established in the Bacteria Provisions supersede any numeric water quality objective for bacteria for the REC-1 beneficial use contained in a water quality control plan before the effective date of the Bacteria Provision. However, the Statewide Bacteria Provisions provide that where a permit, waste discharge requirement (WDR), or waiver of WDR includes an effluent limitation or discharge requirement that is derived from a water quality objective or other guidance to control bacteria (for any beneficial use) that is more stringent than the Bacteria Water Quality Objective, the Bacteria Water Quality Objective would not be implemented in the permit, WDR, or waiver of WDR. Since this Order includes effluent limitations and discharge requirements equivalent to the DDW Title 22 disinfected tertiary reclamation criteria that are more stringent than the Statewide Bacteria Objectives, the Statewide Bacteria Objectives have not been implemented in this Order. The Facility is a POTW that treats its water to tertiary standards and has strict total coliform limitations that meet Title 22 disinfection or equivalent standards. This Order contains total coliform effluent limitations based on the Title 22 disinfection or equivalent reclamation criteria, which are more stringent than the Statewide Bacteria Objectives described below.

b. Biostimulatory Substances and Dissolved Oxygen requirements. The Basin Plan contains a biostimulatory narrative water quality objective (WQO) and dissolved oxygen numeric water quality objectives that have been incorporated into previous permits as receiving water limitations. Biostimulatory substances and low dissolved oxygen can cause eutrophication and excessive algal growth in the receiving water along with other water quality issues related to taste, odor, color and toxicity. Discharges with high Biological Oxygen Demand (BOD) and/or Chemical Oxygen Demand (COD) may contribute to dissolved oxygen problems downstream. There is no RP for dissolved oxygen; however, this Order requires dissolved oxygen monitoring in the effluent and receiving waters. This Order requires frequent monitoring of dissolved oxygen in the receiving water as well as visual monitoring of the receiving water for fungi, slimes, or objectionable growths as an indication of the effects of the effluent to the receiving water from biostimulatory substances and decreased dissolved oxygen. This Order includes effluent limitations for BOD5 and percent removal of BOD5 and TSS

c. Chemicals, Pesticides, and Radioactive requirements. The Basin Plan has narrative and numeric water quality objectives for chemicals, pesticides, and radionuclides that are typically used as receiving water limitations in NPDES permits. As with other water quality constituents, NPDES regulations require effluent limitations where existing data indicate reasonable potential to cause or contribute to an exceedance in the receiving water. Attachments G and H provide details regarding the specific chemical constituents with reasonable potential and associated effluent limitations. These effluent limitations ensure the protection of beneficial uses in the receiving water. There is no RP based

on existing data for any radioactive constituents on the characterization monitoring list. There is no RP based on existing data for any pesticides or radioactive constituents on the characterization monitoring list. There is RP for DCBM, DBCM, chloroform, barium and copper; however, this Order includes effluent limitations and effluent monitoring for DCBM, DBCM, chloroform, barium and copper.

d. Color, Taste, and Odors requirements. The Basin plan has a narrative water quality objective for color as well as one for taste and odors. These have been incorporated into previous permits as receiving water limitations. Color, taste, and odors are rarely concerns for tertiary treated wastewater discharges in the Central Valley, and no effluent limitations are included in this permit. Thus, frequent visual monitoring of the receiving water for discoloration and other potential nuisance conditions is required.

e. pH requirements. The Basin Plan has narrative water quality objectives for pH that have been used as receiving water limitations in previous permits. A pH that is too high or too low can influence the solubility of metals and nutrients in the receiving water and impact the overall health of aquatic life. Thus, the permit includes pH effluent limitations and requires frequent monitoring of pH in the receiving water.

f. Temperature requirements. The Basin Plan has numeric receiving water limitations for receiving waters with beneficial uses of COLD or WARM to ensure the wastewater does not significantly increase the receiving water temperature above the natural receiving water temperature. Significant changes in temperature can affect the ability of aquatic organisms to survive in the receiving water. There is no RP for temperature based on existing data and the Discharger utilizes a cooling pond when necessary to mitigate temperature impacts to the receiving water. This Order does include effluent limits for temperature based on the Thermal Plan objectives and includes frequent temperature monitoring in the effluent and receiving water.

g. Toxicity requirements. The Basin Plan contains a narrative water quality objective for toxicity that has been incorporated into previous permits as a receiving water limitation. However, with the adoption of the Statewide Toxicity Provisions (State Water Resources Control Board, 2021) in 2023, numeric aquatic toxicity water quality objectives were established along with required effluent limitations and/or targets for non-stormwater NPDES permits to ensure the protection of aquatic life beneficial uses in receiving waters. Elevated levels of ammonia are also known to be toxic to aquatic organisms. This Order includes chronic whole effluent toxicity effluent limitations and requires frequent monitoring of chronic whole effluent toxicity. There is RP for ammonia in the effluent. This order includes ammonia limits and requires frequent monitoring of ammonia in the effluent.

h. Turbidity requirements. The Basin Plan includes numeric turbidity water quality objectives that are based on existing turbidity in the receiving waters. These have been incorporated into previous permits as receiving water limitations. The discharge does not have reasonable potential or effluent limitations for turbidity, however the permit requires frequent monitoring of turbidity in the receiving waters. The Facility is a POTW that treats their water to tertiary standards. The permit includes filtration system operating specifications with strict turbidity requirements to ensure disinfection systems are effective. These limitations are low enough to ensure protection of beneficial uses in the receiving water.

i. Floating Material, Oil and Grease, Suspended Sediments, Suspended Material, and Settleable Substances requirements. The previous permit contained receiving water limitations relative to narrative water quality objectives in the Basin Plan for Floating Material, Oil and Grease, Suspended Sediments, Suspended Material and Settleable Substances. These constituents can affect water quality by reducing water clarity and light penetration which can ultimately lead to increased water temperatures, decreased dissolved oxygen levels, and eutrophication. Contamination from these substances can impact both aquatic and human health. This Order requires frequent visual monitoring in the receiving waters for floating material, visible films, sheens or coating, suspended matter, and bottom deposits. This Order also includes numeric effluent limitations for Total Suspended Solids.

2. Review of Other Relevant Factors

In addition to the considerations listed in section V.A.1 above, Central Valley Water Board staff also considered the other relevant factors below in the review of receiving water limitations.

a. Synergistic effects. Is there a known concern that the discharge will combine with the receiving water and produce adverse synergistic effects? For example, surface water discharges may be fully compliant with dissolved oxygen and narrative objectives, but may combine with poor conditions in the receiving water to cause harmful algal blooms (HABs), eutrophication, dissolved oxygen sag, toxic effects, taste and odor, and other harmful conditions. Is there the concern that the discharge when combined with the receiving water would have color concerns (e.g., mine discharge, floc due to pH change, etc.)?

There are no known concerns for adverse synergistic effects in the receiving water.

b. Limitations enforced within the receiving water. Are there specific chemicals or pesticides that have Basin Plan objectives that are not enforced through effluent limitations? For example, certain organochlorine pesticides effluent limitations are based on numeric water quality objectives consistent with applicable regulations. However, more stringent Basin Plan objectives

require the receiving water to be “non-detect” for these materials. In these circumstances, removing the receiving water limitation would result in reduced protections that are required under federal and state regulations.

The discharge does not demonstrate exceedances of the Basin Plan’s receiving water quality objectives for this category of chemicals and/or pesticides.

c. Other site-specific information. Are there any special studies that have been conducted in the receiving water body/watershed or impairments that relate to existing receiving water limitations?

This Order considers the Clean Water Act 303(d) List of Impaired Water Bodies when they are developed. The receiving water has Total Maximum Daily Load (TMDL) requirements for chlorpyrifos, diazinon, and mercury. This Order includes effluent limitations for chlorpyrifos, diazinon, and mercury based on the TMDLs.

Salinity constituents are also a concern in Central Valley water bodies. The Discharger submitted a Notice of Intent for the Salt Control Program indicating its intent to meet the Alternative Salinity Permitting Approach.

The Central Valley Water Board’s Pyrethroid Control Program, adopted in 2017, requires larger POTWs (> 1 million gallons a day of discharge) to monitor for pyrethroids to determine if they have pyrethroids in the discharge that exceed trigger levels. The Discharger conducted quarterly pyrethroid monitoring during 2024 and submitted the results to the Central Valey Water Board. Staff reviewed the results and determined that they satisfy the pyrethroid monitoring requirements. No pyrethroids were detected in the effluent and the discharge complied with the pyrethroid numeric triggers in Table 4-2 of the Basin Plan..

d. Data characterization. Have the effluent and receiving water been fully characterized?

This Order requires characterization monitoring in the effluent and receiving water every permit term. A full scan of priority pollutant and other constituents of concern is required.

e. Compliance history. The Facility did not have any compliance issues meeting receiving water limitations during the most recent permit term. .

3. Review of Receiving Water Limitations

Based on Central Valley Water Board staff review of the considerations presented above, existing permit provisions are adequate to ensure the Facility discharge consistently meets federal and state regulations for the protection of beneficial uses in the receiving water. The effluent limitations and receiving water

monitoring in this Order along with the permit prohibitions and reopener provisions provide a multi-pronged approach to ensuring water quality standards are met. As such, receiving water limitations from the previous permit can be removed without the inclusion of additional conditions.

Table F-16 Receiving Water Limitations Review

Receiving Water Limitations Removed	Effluent Limitations and/or Monitoring	Other Relevant Factors
Bacteria (Numeric WQO)	Total Coliform Monitoring after filtration. No reasonable potential (RP), and receiving water limitation is not needed due to tertiary treatment standards. Total coliform effluent limitations are included.	This Order includes effluent limitations and discharge requirements equivalent to the DDW Title 22 disinfected tertiary reclamation criteria that are more stringent than the Statewide Bacteria Objectives.
Biostimulatory Substances (Narrative WQO)	No RP based on effluent data, but Biochemical Oxygen Demand (BOD), BOD percent removal effluent limitations are included.	
Chemical Constituents (Narrative WQO)	Applicable effluent limitations and effluent monitoring are required for constituents with RP.	Quarterly priority pollutant characterization monitoring (effluent and upstream RW) during 2028 and 2029.
Electrical Conductivity (Narrative WQO)	Monitoring for EC is required in the effluent and receiving water. Effluent monitoring trigger included.	Participation in the Salinity Control Program Alternative permitting approach.
Color (Narrative WQO)	No RP due to tertiary treatment standards. Visual monitoringfor discoloration is required in RW.	
Dissolved Oxygen (Numeric WQO)	No RP, tertiary treatment results in minimal DO impacts. Monitoring is required in RW.	
Floating Material (Narrative WQO)	No RP due to tertiary treatment standards. Visual monitoring is required in RW.	

Receiving Water Limitations Removed	Effluent Limitations and/or Monitoring	Other Relevant Factors
Oil and Grease (Narrative WQO)	No RP due to tertiary treatment standards. Visual monitoring of visible films, sheens, or coatings is required in the RW.	
pH (Numeric WQO)	No RP, but pH effluent limitations are included. Monitoring is required in the RW.	
Pesticides (Narrative/Numeric WQO)	No RP for pesticides in the characterization monitoring list. Effluent complies with pyrethroid triggers.	
Radioactivity (Narrative/Numeric WQO)	No RP. With tertiary treatment standards, no adverse impacts to beneficial uses are expected in the RW.	
Suspended Sediments (Narrative WQO)	No RP based on effluent data, but Total Suspended Solids effluent limitation is included. Visual monitoring of suspended matter is required in the RW.	
Settleable Substances (Narrative WQO)	No RP based on effluent data, but Total Suspended Solids effluent limitation is included. Visual monitoring for bottom deposits is required in the RW.	
Suspended Material (Narrative WQO)	No RP based on effluent data, but Total Suspended Solids effluent limitation is included. Visual monitoring of suspended matter is required in the RW.	
Taste and Odors (Narrative WQO)	No RP due to tertiary treatment standards. Monitoring of potential nuisance conditions is required in the RW.	
Temperature (Numeric WQO)	RP, Existing Discharge of Elevated Temperature Waste to an Estuary. A numeric	The Discharger must meet the water quality objective

Receiving Water Limitations Removed	Effluent Limitations and/or Monitoring	Other Relevant Factors
	effluent limit and monitoring are included in this order.	at section 5.A.(1) of the Thermal Plan.
Toxicity (Narrative WQO)	Ammonia Nitrogen, Total (as N) effluent limitations. Toxicity limits and monitoring under the Statewide Toxicity Provisions are included. See Section IV.C.5 of this Fact Sheet.	
Turbidity (Numeric WQO)	No effluent limitation due to Filtration System Operating Specifications. Monitoring for turbidity is required in the RW.	This Order includes effluent limitations and discharge requirements equivalent to the DDW Title 22 disinfected tertiary reclamation criteria.

B. Groundwater

1. Numeric groundwater limitations and monitoring have not been established as part of this order. The Discharger ceased discharges to land in 2023 and upgraded their biosolids handling facilities during their Phase 3 upgrades, and the two belt filter presses and old air-drying pad will be decommissioned. Land application of biosolids is covered under General Waste Discharge Requirements (WDRs) for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities (General Order), DWQ No. 2004-0012-DWQ, Notice of Applicability No. 2004-0012-DWQ-0034. Transportation and disposal/reuse of the biosolids is regulated by U.S. EPA under 40 C.F.R. part 503.

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. section 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

Sections 122.41(a)(1) and (b) through (n) of 40 C.F.R. establish conditions that apply to all state issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) of 40 C.F.R. allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 C.F.R. section 123.25, this Order omits federal

conditions that address enforcement authority specified in 40 C.F.R. sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

a. **Mercury.** This provision allows the Central Valley Water Board to reopen this Order in the event mercury is found to be causing toxicity based on acute or chronic toxicity test results, or if a TMDL program is adopted. In addition, this Order may be reopened if the Central Valley Water Board determines that a mercury offset program is feasible for dischargers subject to NPDES permits.

b. **Water Effects Ratio (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating criteria for applicable inorganic constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total when developing effluent limitations for copper. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

c. **Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS).** On 17 January 2020, certain Basin Plan Amendments to incorporate new strategies for addressing ongoing salt and nitrate accumulation in the Central Valley became effective. Other provisions subject to U.S. EPA approval became effective on 2 November 2020, when approved by U.S. EPA. As the Central Valley Water Board moves forward to implement those provisions that are now in effect, this Order may be amended or modified to incorporate new or modified requirements necessary for implementation of the Basin Plan Amendments. More information regarding these Amendments can be found on the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) web page:
(https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/)

d. **Increase Average Dry Weather Flow to 6.0 MGD.** Due to the City's rapid development, the City has initiated design and construction of facilities to expand the CTF treatment capacity to 6.0 mgd ADWF, known as Phase 4. This order may be reopened to modify the discharge specifications, effluent limitations and monitoring requirements in this order based on the updated flow.

2. Special Studies and Additional Monitoring Requirements

a. **Toxicity Reduction Evaluation (TRE).** Pursuant to the Toxicity Provisions, the Discharger is required to initiate a TRE when any combination of two or more **MDEL or MMEL exceedances** occur within a single toxicity calendar month or within two successive toxicity calendar months. In addition, if other information indicates toxicity (e.g., results of additional monitoring, results of monitoring at a higher concentration than the IWC, fish kills, intermittent recurring toxicity), the Central Valley Water Board may require a TRE. A TRE may also be required when there is no effluent available to complete a routine monitoring test or **MMEL** compliance test. MRP Section V.F. provides additional details regarding the TRE.

3. Best Management Practices and Pollution Prevention

a. **Water Code section 13263.3(d)(3) Pollution Prevention Plans.** This Order requires continued implementation of a pollution prevention plan for mercury per Water Code section 13263.3(d)(1)(C). The pollution prevention plans required in section VI.C.3.a. and in section VI.C.7.a of this Order, shall, at a minimum, meet the requirements outlined in Water Code section 13263.3(d)(3). The minimum requirements for the pollution prevention plans include the following:

i. An estimate of all of the sources of a pollutant contributing, or potentially contributing, to the loadings of a pollutant in the treatment plant influent.

ii. An analysis of the methods that could be used to prevent the discharge of the pollutants into the Facility, including application of local limits to industrial or commercial dischargers regarding pollution prevention techniques, public education and outreach, or other innovative and alternative approaches to reduce discharges of the pollutant to the Facility. The analysis also shall identify sources, or potential sources, not within the ability or authority of the Discharger to control, such as pollutants in the potable water supply, airborne pollutants, pharmaceuticals, or pesticides, and estimate the magnitude of those sources, to the extent feasible.

iii. An estimate of load reductions that may be attained through the methods identified in subparagraph ii.

iv. A plan for monitoring the results of the pollution prevention program.

v. A description of the tasks, cost, and time required to investigate and implement various elements in the pollution prevention plan.

vi. A statement of the Discharger's pollution prevention goals and strategies, including priorities for short-term and long-term action, and a description of the Discharger's intended pollution prevention activities for the immediate future.

vii. A description of the Discharger's existing pollution prevention programs.

viii. An analysis, to the extent feasible, of any adverse environmental impacts, including cross-media impacts or substitute chemicals that may result from the implementation of the pollution prevention program.

ix. An analysis, to the extent feasible, of the costs and benefits that may be incurred to implement the pollution prevention program.

b. Salinity Evaluation and Minimization Plan (SEMP). The Basin Plan includes a Salt Control Program for discharges to groundwater and surface water. The Salt Control Program is a phased approach to address salinity in the Central Valley Region. During Phase I the focus will be on conducting a Prioritization and Optimization (PandO) Study to provide information for subsequent phases of the Salt Control Program. During Phase I, the Salt Control Program includes two compliance pathways for dischargers to choose; a Conservative Salinity Permitting Approach and an Alternative Salinity Permitting Approach.

The Discharger submitted a notice to intent for the Salt Control Program indicating its intent to meet the Alternative Salinity Permitting Approach. Under the Alternative Permitting Approach, the Basin Plan requires dischargers implement salinity minimization measures to maintain existing salinity levels and participate in the PandO Study. The Discharger's NOI demonstrated adequate participation in the PandO and this Order requires continued participation to meeting the requirements of the Alternative Salinity Permitting Approach. This Order also requires continued implementation of the Discharger's SEMP and includes a performance-based salinity trigger to ensure salinity levels do not increase. In accordance with the Basin Plan, the salinity trigger was developed based on existing facility performance and considers possible temporary increases that may occur due to water conservation and/or drought.

4. Construction, Operation, and Maintenance Specifications

a. **Filtration System Operating Specifications.** Turbidity is included as an operational specification as an indicator of the effectiveness of the filtration system for providing adequate disinfection. The membrane filtration process utilized at this Facility is capable of reliably meeting a turbidity of 0.2 nephelometric turbidity units (NTU) at least 95 percent of the time. Failure of the treatment system such that virus removal is impaired would

normally result in increased particles in the effluent, which result in higher effluent turbidity. Turbidity has a major advantage for monitoring filter performance, allowing immediate detection of filter failure and rapid corrective action. The operational specification requires that turbidity prior to disinfection shall not exceed; 0.2 NTU, more than 5 percent of the time within a 24-hour period, and an instantaneous maximum of 0.5 NTU.

5. Special Provisions for POTWs

a. **Pretreatment Requirements**

i. The federal CWA section 307(b), and federal regulations, 40 C.F.R. part 403, require publicly owned treatment works to develop an acceptable industrial pretreatment program. A pretreatment program is required to prevent the introduction of pollutants, which will interfere with treatment plant operations or sludge disposal and prevent pass through of pollutants that exceed water quality objectives, standards or permit limitations. Pretreatment requirements are imposed pursuant to 40 C.F.R. part 403.

ii. Once approved ,the Discharger shall implement and enforce its approved pretreatment program and is an enforceable condition of this Order. If the Discharger fails to perform the pretreatment functions, the Central Valley Water Board, the State Water Board or U.S. EPA may take enforcement actions against the Discharger as authorized by the CWA.

b. **Sludge/Biosolids Treatment or Discharge Specifications.** Sludge in this Order means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screening material generated during preliminary treatment. Residual sludge means sludge that will not be subject to further treatment at the wastewater treatment plant. Biosolids refer to sludge that has been treated and tested and shown to be capable of being beneficially and legally used pursuant to federal and state regulations as a soil amendment for agricultural, silvicultural, horticultural, and land reclamation activities as specified under 40 C.F.R. part 503. This Order does not regulate offsite use or disposal of biosolids, which are regulated instead under 40 C.F.R. part 503; administered by U.S. EPA. The Sludge/Biosolids Treatment or Discharge Specifications in this Order implement the California Water Code to ensure sludge/biosolids are properly handled onsite to prevent nuisance, protect public health, and protect groundwater quality.

6. Other Special Provisions

a. **Disinfection Requirements.** Consistent with previous Order R5-2022-0004 and R5-2022-0004-01, this Order requires wastewater to be

oxidized, coagulated, filtered, and adequately disinfected consistent with DDW reclamation criteria, CCR, Title 22, division 4, chapter 3 (Title 22), or equivalent. The disinfection requirements are discussed in detail above in section IV.C.3, Determining the Need for WQBELs (see Pathogens).

7. Compliance Schedules

In general, an NPDES permit must include final effluent limitations that are consistent with CWA section 301 and with 40 C.F.R. section 122.44(d). There are exceptions to this general rule. The State Water Board's Resolution 2008-0025 "Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits" (Compliance Schedule Policy) allows compliance schedules for new, revised, or newly interpreted water quality objectives or criteria, or in accordance with a Total Maximum Daily Load (TMDL). All compliance schedules must be as short as possible, and may not exceed ten years from the effective date of the adoption, revision, or new interpretation of the applicable water quality objective or criterion, unless a TMDL allows a longer schedule. Where a compliance schedule for a final effluent limitation exceeds one year, the Order must include interim numeric effluent limitations for that constituent or parameter, interim requirements and dates toward achieving compliance, and compliance reporting within 14 days after each interim date. The Order may also include interim requirements to control the pollutant, such as pollutant minimization and source control measures.

Based on information submitted with the ROWD, monitoring reports, and other miscellaneous submittals, it has been demonstrated to the satisfaction of the Central Valley Water Board that the Discharger needs time to implement actions to comply with the final effluent limitations for methylmercury.

The Delta Mercury Control Program is composed of two phases. Phase 1 is complete and Phase 1 review is currently underway. Phase 1 emphasizes studies and pilot projects to develop and evaluate management practices to control methylmercury. Phase 1 includes provisions for: implementing pollution minimization programs and interim mass limits for inorganic (total) mercury point sources in the Delta and Yolo Bypass; controlling sediment-bound mercury in the Delta and Yolo Bypass that may become methylated in agricultural lands, wetlands, and open-water habitats; and reducing total mercury loading to the San Francisco Bay, as required by the Water Quality Control Plan for the San Francisco Bay. As part of Phase 1, the CVCWA Coordinated Methylmercury Control Study Work Plan was approved by the Executive Officer on 7 November 2013. The final CVCWA Methylmercury Control Study was submitted to the Central Valley Water Board on 19 October 2018 and revised on 26 October 2018.

As part of Phase 1, the Delta Mercury Control Program also required dischargers to participate in a Mercury Exposure Reduction Program (MERP). The objective of the MERP is to reduce mercury exposure of Delta fish consumers most likely affected by mercury.

The Central Valley Water Board is conducting a Phase 1 Delta Mercury Control Program Review that considers: modification of methylmercury goals, objectives, allocations and/or the final compliance date; implementation of management practices and schedules for methylmercury controls; and adoption of a mercury offset program for dischargers who cannot meet their load and WLA's after implementing all reasonable load reduction strategies. The review will also consider other potential public and environmental benefits and negative impacts (e.g., habitat restoration, flood protection, water supply, and fish consumption) of attaining the allocations. The fish tissue objectives, linkage analysis between objectives and sources, and the attainability of the allocations will be re-evaluated based on the findings of Phase 1 control studies and other information. The linkage analysis, fish tissue objectives, allocations, and time schedules shall be adjusted at the end of Phase 1, or subsequent program reviews, if appropriate.

Phase 2 begins after the Phase 1 Delta Mercury Control Program Review. During Phase 2, dischargers shall implement methylmercury control programs and continue inorganic (total) mercury reduction programs. Compliance monitoring and implementation of upstream control programs also shall occur in Phase 2. Any compliance schedule contained in an NPDES permit must be "…an enforceable sequence of actions or operations leading to compliance with an effluent limitation…" per the definition of a compliance schedule in CWA section 502(17). See also 40 C.F.R. section 122.2 (definition of schedule of compliance). The compliance schedule for methylmercury meets these requirements.

Federal regulations at 40 C.F.R. section 122.47(a)(1) require that, "Any schedules of compliance under this section shall require compliance as soon as possible…" The Compliance Schedule Policy also requires that compliance schedules are as short as possible and may not exceed 10 years, except when "…a permit limitation that implements or is consistent with the waste load allocations specified in a TMDL that is established through a Basin Plan amendment, provided that the TMDL implementation plan contains a compliance schedule or implementation schedule." As discussed above, the Basin Plan's Delta Mercury Control Program includes compliance schedule provisions and allows compliance with the WLA's for methylmercury by 2030.

Until the Central Valley Water Board conducts the Phase 1 Delta Mercury Control Program Review, it is not possible to determine the appropriate compliance date for the Discharger that is as soon as possible. Therefore, this Order establishes a compliance schedule for the final WQBELs for methylmercury with full compliance required by 31 December 2030, which is consistent with the Final Compliance Date of the TMDL. At completion of the Phase 1 Delta Mercury Control Program Review, the final compliance date for this compliance schedule will be re-evaluated to ensure compliance is required as soon as possible. Considering the available information, the compliance

schedule is as short as possible in accordance with federal regulations and the Compliance Schedule Policy.

VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

CWA section 308 and 40 C.F.R. sections 122.41(h), (j)-(l), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 authorize the Central Valley Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The Monitoring and Reporting Program (MRP), Attachment E of this Order establishes monitoring, reporting, and recordkeeping requirements that implement federal and state requirements. The burden, including costs, of these monitoring and reporting requirements bears a reasonable relationship to the need for the reports and the benefits to be obtained therefrom. The Discharger, as owner and operator of the Facility, is required to comply with these requirements, which are necessary to determine compliance with this Order. The following provides additional rationale for the monitoring and reporting requirements contained in the MRP for this facility.

Water Code section 13176, subdivision (a), states: "The analysis of any material required by [Water Code sections 13000-16104] shall be performed by a laboratory that has accreditation or certification pursuant to Article 3 (commencing with section 100825) of Chapter 4 of Part 1 of Division 101 of the Health and Safety Code." The DDW accredits laboratories through its Environmental Laboratory Accreditation Program (ELAP).

Section 13176 cannot be interpreted in a manner that would violate federal holding time requirements that apply to NPDES permits pursuant to the CWA. (Wat. Code sections 13370, subd. (c), 13372, 13377.). Section 13176 is inapplicable to NPDES permits to the extent it is inconsistent with CWA requirements. (Wat. Code section 13372, subd. (a).) Lab accreditation is not required for field tests such as tests for color, odor, turbidity, pH, temperature, dissolved oxygen, electrical conductivity, and disinfectant residual.

A. Influent Monitoring

1. Influent monitoring is required to collect data on the characteristics of the wastewater and to assess compliance with effluent limitations (e.g., BOD_5 and TSS reduction requirements). The monitoring frequencies and sample types have been retained from Order R5-2022-0004-01, except as noted in Table F-17, below.

B. Effluent Monitoring

1. Pursuant to the requirements of 40 C.F.R. section 122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. Effluent monitoring is necessary to assess compliance with effluent limitations, assess the effectiveness of the treatment process, and to assess the impacts of the discharge on the receiving stream.

2. Effluent monitoring frequencies and sample types have been retained from Order R5-2022-0004-01, except as noted in Table F-17, below.

C. Receiving Water Monitoring

1. Surface Water

a. Receiving water monitoring is necessary to assess the impacts of the discharge on the receiving stream. Receiving surface water monitoring frequencies and sample types have been retained from Order R5-2022-0004-01, except as noted in Table F-17, below.

Table F-16 Summary of Monitoring Changes

Parameter, Units	Type of Monitoring	Prior Sample Frequency	Revised Sample Frequency	Reason for Change
Biochemical Oxygen Demand, 5-day @ 20°Celsius (BOD_5)	Effluent (EFF-001)	3/Week	1/Week	Consistency with other tertiary treatment facilities
Total Suspended Solids (TSS)	Effluent (EFF-001)	3/Week	1/Week	Consistency with other tertiary treatment facilities
Barium	Effluent (EFF-001)	1/Month	1/Quarter	No effluent limit violations last permit term.
Bromoform	Effluent (EFF-001)	1/Month	Characterization Sampling	No RP, limits removed
Copper, Total	Effluent (EFF-001)	Characterization Sampling	1/Quarter	RP, limits added
Lead, Total	Effluent (EFF-001)	1/Month	Characterization Sampling	No RP, limits removed
Acute Toxicity	Effluent (EFF-001)	1/Quarter	Characterization Sampling	No RP, following Toxicity Provisions guidance
Dissolved Oxygen	Receiving Water (RSW-002 and RSW-003)	1/Month	1/Year	Participation in the Delta RMP.
Dissolved Organic Carbon	Receiving Water (RSW-002 and RSW-003)	1/Quarter	--	Originally added to establish baseline DOC levels for the development of Aluminum criteria.
Ammonia Nitrogen, Total (as N)	Receiving Water (RSW-002	1/Month	1/Year	Participation in the Delta RMP.

Parameter, Units	Type of Monitoring	Prior Sample Frequency	Revised Sample Frequency	Reason for Change
	and RSW-003)			
Electrical Conductivity @ 25°C	Receiving Water (RSW-002 and RSW-003)	1/Quarter	1/Year	Participation in the Delta RMP.
Hardness, Total (as CaCO3)	Receiving Water (RSW-002 and RSW-003)	1/Quarter	1/Year	Participation in the Delta RMP.
Turbidity	Receiving Water (RSW-002 and RSW-003)	2/Month	1/Year	Participation in the Delta RMP. Not needed to determine compliance with turbidity RSW limits.

D. Whole Effluent Toxicity Testing Requirements

Aquatic toxicity testing is necessary to evaluate the aggregate toxic effect of a mixture of toxicants in the effluent on the receiving water. Acute toxicity testing is conducted over a short time period and measures mortality, while chronic toxicity testing is conducted over a short or longer period and may measure mortality, reproduction, and growth. For this permit, aquatic toxicity testing is to be performed following methods identified in the Code of Federal Regulations, title 40, part 136, or other U.S. EPA-approved methods, or included in the following U.S. EPA method manuals: Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition (EPA-821-R-02-013).

Quarterly chronic whole effluent toxicity testing is required to demonstrate compliance with the chronic toxicity effluent limitations/targets.

1. The discharge is subject to determination of “Pass” or “Fail” from a chronic toxicity test using the Test of Significant Toxicity (TST) statistical t-test approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010), Appendix A, Figure A-1 and Table A-1 (Chronic Freshwater and East Coast Methods) and Appendix B, Table B-1.

   This is a t-test (formally Student’s t-Test), a statistical analysis comparing two sets of replicate observations, i.e., a control and IWC. The purpose of this

statistical test is to determine if the means of the two sets of observations are different (i.e., if the IWC differs from the control, the test result is “Fail”). The Welch’s t-test employed by the TST statistical approach is an adaptation of Student’s t-test and is used with two samples having unequal variances.

2. The null hypothesis (Ho) for the TST statistical approach is:

   Mean discharge IWC response ≤ RMD x Mean control response, where the chronic RMD = 0.75.

   A test result that rejects this null hypothesis is reported as “Pass.” A test result that does not reject this null hypothesis is reported as “Fail.”

3. The relative “Percent Effect” at the discharge IWC is defined and reported as:

   Percent Effect = ((Mean control response – Mean discharge IWC response) / Mean control response) x 100.

4. **Species Sensitivity Screening.** The Discharger conducted an initial species sensitivity screening resulting in ***Ceriodaphnia dubia*** as the most sensitive species.

   Under the Toxicity Provisions, the Discharger shall perform subsequent species sensitivity screening to re-evaluate the most sensitive species if the effluent used in the initial species sensitivity screening is no longer representative of the effluent or if a species sensitivity screening has not been performed in the last fifteen years. Subsequent species sensitivity screening may also be required prior to every order issuance, renewal or reopening, if reopening to address aquatic toxicity.

   Pursuant to Section V.F of the MRP, the Discharger performed species sensitivity screening and submitted the results with **their quarterly SMRs**. The most sensitive species to be used for chronic toxicity testing was determined in accordance with the process outlined in the MRP section V.F at an IWC of 100% effluent. The species that exhibited the highest percent effect was the water flea (*Ceriodaphnia dubia*), with a percent effect of 82 percent. Consequently, *Ceriodaphnia dubia* has been established as the most sensitive species for chronic WET testing.

   Future species sensitivity screening for chronic toxicity shall include, at a minimum, chronic WET testing four consecutive calendar quarters using the water flea (*Ceriodaphnia dubia*), fathead minnow (*Pimephales promelas*), and green algae (*Pseudokirchneriella subcapitata*). The tests shall be performed at an IWC of no less than 6 percent effluent and one control. For subsequent species sensitivity screening, if the first two species sensitivity screening events result in no change in the most sensitive species, the Discharger may cease the

subsequent species sensitivity screening and the most sensitive species will remain unchanged.

5. **Toxicity Reduction Evaluation (TRE).** The Monitoring and Reporting Program of this Order requires chronic WET testing to demonstrate compliance with the numeric chronic toxicity effluent limitations. The Discharger is required to initiate a TRE when there is any combination of two or more chronic toxicity MDEL or MMEL violations within a single toxicity calendar month or within two successive toxicity calendar months. In addition, if other information indicates toxicity (e.g., results of additional monitoring, results of monitoring at a higher concentration than the IWC, fish kills, intermittent recurring toxicity), the Central Valley Water Board may require a TRE. A TRE may also be required when there is no effluent available to complete a routine monitoring test, MMET test, or MMEL compliance test.

E. Other Monitoring Requirements

1. **Biosolids Monitoring.** Biosolids monitoring is required to ensure compliance with the pretreatment requirements contained in 40 C.F.R. part 403 and implemented in section VI.C.5.a. of this Order. Biosolids monitoring is required per U.S. EPA guidance to evaluate the effectiveness of the pretreatment program. Biosolids monitoring for compliance with 40 C.F.R. part 503 regulations is not included in this Order since it is a program administered by U.S. EPA's part 503 Biosolids Program (https://www.epa.gov/biosolids/compliance-and-annual-reporting-guidance-about-clean-water-act-laws)

2. **Title 22 Recycled Water Monitoring.** Title 22 disinfected tertiary recycled water production monitoring and reporting are required to ensure compliance with the Recycling Specifications in Section IV.C of the WDRs and the accepted Title 22 Engineering report.

4. **Effluent and Receiving Water Characterization Monitoring.** In accordance with section 1.3 of the SIP, periodic monitoring is required for priority pollutants for which criteria or objectives apply and for which no effluent limitations have been established. This Order requires quarterly effluent and one representative ambient background characterization monitoring event between 1 April 2028 and 31 March 2029 for priority pollutant constituents located in Appendix A to 40 C.F.R. part 423 during the term of the permit, in order to collect data to conduct an RPA for the next permit renewal.

5. **Discharge Monitoring Report-Quality Assurance (DMR-QA) Study Program**. Under the authority of section 308 of the CWA (33 U.S.C. section 1318), U.S. EPA requires all dischargers under the NPDES Program to participate in the annual DMR-QA Study Program. The DMR-QA Study evaluates the analytical ability of laboratories that routinely perform or support self-monitoring analyses required by NPDES permits. There are two options to satisfy the requirements of the DMR-QA Study Program: (1) The Discharger can obtain and analyze a DMR-

QA sample as part of the DMR-QA Study; or (2) Per the waiver issued by U.S.EPA to the State Water Board, the Discharger can submit the results of the most recent Water Pollution Performance Evaluation Study from their own laboratories or their contract laboratories. A Water Pollution Performance Evaluation Study is similar to the DMR-QA Study. Thus, it also evaluates a laboratory's ability to analyze wastewater samples to produce quality data that ensure the integrity of the NPDES Program. The Discharger shall submit annually the results of the DMR-QA Study or the results of the most recent Water Pollution Performance Evaluation Study to the State Water Board. The State Water Board's Quality Assurance Program Officer will send the DMR-QA Study results or the results of the most recent Water Pollution Performance Evaluation Study to U.S. EPA's DMR-QA Coordinator and Quality Assurance Manager.

VIII. PUBLIC PARTICIPATION

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

A. Notification of Interested Persons

The Central Valley 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. Additionally, consistent with Water Code section 189.7, the Central Valley Water Board conducted outreach to potentially affected disadvantaged and/or tribal communities concerning tentative WDRs. Notification was provided through the following <add posting details here>**.** Additionally, the NOPH was posted on the Central Valley Water Board's Tentative Orders webpage.

The public had access to the agenda and any changes in dates and locations through the Central Valley Water Board's website (http://www.waterboards.ca.gov/centralvalley/board_info/meetings/)

B. Written Comments

Interested persons were invited to submit written comments concerning tentative WDRs as provided through the notification process. Comments were due either in person or by mail to the Executive Office at the Central Valley Water Board at the address on the cover page of this Order.

To be fully responded to by staff and considered by the Central Valley Water Board, the written comments were due at the Central Valley Water Board office by 5:00 p.m. on **07 December 2026**.

C. Public Hearing

The Central Valley Water Board held a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: **11/12 February 2027**
Time: **8:30 a.m.**
Location: Online

and

Regional Water Quality Control Board, Central Valley Region
11020 Sun Center Dr., Suite #200
Rancho Cordova, CA 95670

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

D. Reconsideration of Waste Discharge Requirements

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water board to review the action in accordance with Water Code section 13320 and CCR, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., within 30 calendar days of the date of adoption of this Order at the following address, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day:

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

Or by email at waterqualitypetitions@waterboards.ca.gov

Instructions on how to file a petition for review (http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml) are available on the Internet.

E. Information and Copying

The Report of Waste Discharge, other supporting documents, and comments received are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Central Valley Water Board by calling (916) 464-3291.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Central Valley Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Matt Richter at 916-464-4745, or matthew.richter@waterboards.ca.gov.

ATTACHMENT G – SUMMARY OF REASONABLE POTENTIAL ANALYSIS

Constituent	Units	MEC	B	C	CMC	CCC	Water and Org	Org. Only	Basin Plan	MCL	Reasonable Potential
Ammonia Nitrogen, Total (as N)	mg/L	0.15	0.61	0.77	1.1	0.77	--	--	--	--	Yes
Barium	µg/L	117	46	100	--	--	--	--	--	100	Yes
Bromoform	µg/L	0.38	ND	4.3	--	--	4.3	360	--	--	No
Chloroform	µg/L	63	ND	60	--	--	60	--	--	--	Yes
Copper, Total	µg/L	9.9	3.8	8.1	12	8.1	1300	--	--	1000	Yes
DBCM	µg/L	10.4	ND	0.41	--	--	0.41	34	--	--	Yes
DCBM	µg/L	36	ND	0.56	--	--	0.56	46	--	--	Yes
Electrical Conductivity @ 25°C	µmhos/ cm	1030	870	1000	--	--	--	--	1000	1600	No
Lead, Total	µg/L	1.4	1.2	2.6	66	2.6	--	--	--	--	No
Mercury, Total	ng/L	8.1	9.2	12	--	--	--	--	--	12	No
Methylmercury	ng/L	0.06	0.10	--	--	--	--	--	--	--	TMDL
Nitrate plus Nitrite, Total (as N)	mg/L	4.8	2.2	10	--	--	--	--	--	10	Yes
Nitrate, Total (as N)	mg/L	4.8	2.2	10	--	--	--	--	--	10	No
Nitrite, Total (as N)	mg/L	0.02	0.02	1	--	--	--	--	--	1	No

Attachment G Table Notes:

1. All inorganic concentrations are given as a total concentration.

2. Ammonia. U.S. EPA National Recommended Ambient Water Quality Criteria, Freshwater Aquatic Life Protection, the CMC is measured using a 1-hour average; the CCC is measured using a 30-day average.

3. **Bay-Delta Plan WQO.** Currently effective electrical conductivity water quality objective is 700 µmhos/cm (April – August) and 1,000 µmhos/cm (September – March), applied as a 30-day running average of mean daily electrical conductivity. Pending revised electrical conductivity water quality objective is 1,000 µmhos/cm (year-round), applied as a 30-day running average of mean daily electrical conductivity.

Abbreviations used in this table:

MEC =	Maximum Effluent Concentration
B =	Maximum Receiving Water Concentration or lowest detection level, if non-detect
C =	Criterion used for Reasonable Potential Analysis
CMC =	Criterion Maximum Concentration (CTR or NTR)
CCC =	Criterion Continuous Concentration (CTR or NTR)
Water and Org =	Human Health Criterion for Consumption of Water and Organisms (CTR or NTR)
Org Only =	Human Health Criterion for Consumption of Organisms Only (CTR or NTR)
Basin Plan =	Numeric Site-Specific Basin Plan Water Quality Objective
MCL =	Drinking Water Standards Maximum Contaminant Level
NA =	Not Available
ND =	Non-detect

ATTACHMENT H-1 – CALCULATION OF WQBELS

HUMAN HEALTH WQBELS CALCULATIONS

Parameter	Units	Criteria	Mean Background Concentration	Effluent CV	Dilution Factor	MDEL/AMEL Multiplier	AWEL/AMEL Multiplier	AMEL Multiplier	AMEL	MDEL	AWEL
Barium	µg/L	100	52	0.65	3.0	--	1.8	1.6	280	--	490
Chloroform	µg/L	4.3	ND	0.23	1	1.7	--	1.2	120	170	--
DBCM	µg/L	0.41	ND	0.66	39	2.1	--	1.6	16	36	--
DCBM	µg/L	0.56	ND	0.68	94	2.1	--	1.6	53	110	--
Nitrate Nitrogen, Total (as N)	µg/L	10	2.2	0.46	--	1.7	--	1.4	10	--	22

Attachment H-1 Table Notes:

1. CV was established according to section 1.4 of the SIP.

Abbreviations used in this table:

CV = Coefficient of Variation
MDEL = Maximum Daily Effluent Limitation
AMEL = Average Monthly Effluent Limitation
MDEL = Maximum Daily Effluent Limitation
AWEL = Average Weekly Effluent Limitation

ATTACHMENT H-2 – CALCULATION OF WQBELS

AQUATIC LIFE WQBELS CALCULATIONS

Parameter	Units	CMC Criteria	CCC Criteria	B	Effluent CV	CMC Dilution Factor	CCC Dilution Factor	ECA Multiplier$_{acute}$	LTA$_{acute}$	ECA Multiplier$_{chronic}$	LTA$_{chronic}$	AMEL Multiplier$_{95}$	AWEL Multiplier	MDEL Multiplier$_{99}$	AMEL	AWEL	MDEL
Ammonia Nitrogen, Total (as N)	mg/L	1.3	0.78	0.5	0.17	--	--	0.42	0.55	0.84	0.65	1.4	2.1	2.3	0.77	1.2	--
Copper, Total	µg/L	12	8.1	3.8	0.6	2.1	2.2	0.32	9.3	0.32	9.4	1.5	2.7	3.1	15	--	29
Chlorpyrifos	µg/L	0.03	0.02	--	--	0.32	0.01	0.53	0.01	1.6	2.7	Note 4	Note 4	Note 4	<1	<1	--
Diazinon	µg/L	0.16	0.10	--	--	0.32	0.05	0.053	0.05	1.6	2.7	Note 4	Note 4	Note 4	<1	<1	--

Attachment H-2 Table Notes:

1. AMEL calculated according to section 1.4 of the SIP using a 95th percentile occurrence probability.
2. AWEL calculated according to section 1.4 of the SIP using a 98th percentile occurrence probability.
3. MDEL calculated according to section 1.4 of the SIP using a 99th percentile occurrence probability.
4. Diazinon and Chlorpyrifos. See Fact Sheet section IV.C.3.a.i.(c) for a discussion of the calculation of these effluent limitations.

Abbreviations used in this table:

B = Maximum Receiving Water Concentration or lowest detection level, if non-detect
CMC = Criterion Maximum Concentration (CTR or NTR)
CCC = Criterion Continuous Concentration (CTR or NTR)
CV = Coefficient of Variation (established in accordance with section 1.4 of the SIP)
ECA Effluent Concentration Allowance
LTA Aquatic Life Calculations – Long-Term Average
MDEL = Maximum Daily Effluent Limitation
AMEL = Average Monthly Effluent Limitation
MDEL = Maximum Daily Effluent Limitation
AWEL = Average Weekly Effluent Limitation