

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION**

11020 Sun Center Drive, #200 Rancho Cordova, California 95670-6114
Phone (916) 464-3291 O Fax (916) 464-4645
[Central Valley Home Page](http://www.waterboards.ca.gov/centralvalley) (<http://www.waterboards.ca.gov/centralvalley>)

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
CA0084476 ORDER R5-2024-0024**

**WASTE DISCHARGE REQUIREMENTS
FOR THE LINCOLN-SMD1 WASTEWATER AUTHORITY (LiSWA)
LiSWA WASTEWATER TREATMENT AND RECLAMATION FACILITY
PLACER COUNTY**

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

Table 1. Discharger Information

Discharger:	Lincoln-SMD1 Wastewater Authority (LiSWA)
Name of Facility:	LiSWA Wastewater Treatment and Reclamation Facility
Facility Street Address:	1245 Fiddymment Road
Facility City, State, Zip:	Lincoln, CA 95468
Facility County:	Placer County

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Tertiary Treated Effluent	38° 51' 05"	121° 21' 23"	Auburn Ravine Creek
002	Tertiary Treated Effluent	38° 51' 38"	121° 20' 55"	Groundwater
003	Secondary Treated Effluent	38° 51' 40"	121° 20' 51"	Groundwater

Table 3. Administrative Information

This Order was Adopted on:	19 April 2024
This Order shall become effective on:	1 June 2024
This Order shall expire on:	31 May 2029
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 May 2028
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 **19 April 2024**.

PATRICK PULUPA, Executive Officer

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I. FACILITY INFORMATION

Information describing the Lincoln-SMD1 Wastewater Authority (LiSWA), LiSWA Wastewater Treatment and Reclamation 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.
- B. 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 E and G through H are also incorporated into this Order.
- C. Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections **IV.B, V.B, VI.C.2.b-d, VI.C.4, 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.
- D. 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.

- E. 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.
- F. 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 R5-2018-0081-01 and Time Schedule Order R5-2019-1003 are 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.** Flows measured at Monitoring Location INF-001 exceeding an average dry weather flow of 5.9 million gallons per day (MGD) are prohibited.
- F. Maximum Hydraulic Capacity at Outfall: 25 MGD, as a Daily Average.** Discharges at Discharge Point 001 (Monitoring Location EFF-001B) exceeding a maximum daily average flow rate of 25 MGD are prohibited.
- G. Pyrethroid Pesticides.** Discharges of pyrethroid pesticides at concentrations that exceed any pyrethroid numeric trigger in Table 4-2 of the Basin Plan to water bodies with designated or existing WARM and/or COLD beneficial uses are prohibited unless the Discharger is implementing a Pyrethroid Management Plan, as detailed in Section VI.C.3.b, to reduce pyrethroid levels in its discharges.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations

1. Final Effluent Limitations – Filter Clearwell Internal Waste Stream Compliance Point – Monitoring Point INT-001

The Discharger shall maintain compliance with the following effluent limitations at the Filter Clearwell Internal Waste Stream Compliance Point. Unless otherwise specified, compliance shall be measured at Monitoring Location INT-001 as described in the MRP, Attachment E.

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

Table 4. Effluent Limitations – Filter Clearwell Internal Waste Stream Compliance Point (Monitoring Point INT-001)

Parameters	Units	Average Monthly	Average Weekly
Biochemical Oxygen Demand, 5-day @ 20°Celsius (BOD ₅)	milligrams per liter (mg/L)	10	15
Total Suspended Solids (TSS)	mg/L	10	15

- b. **Total Coliform Organisms.** Effluent total coliform organisms shall not exceed the following with compliance measured immediately after disinfection as measured at UVS-001:
 - 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 a 30-day period; and
 - iii. 240 MPN/100mL, at any time.
- c. **Percent Removal.** The average monthly percent removal of BOD₅ and TSS shall not be less than 85 percent.

2. Final Effluent Limitations – Discharge Point 001 (Monitoring Location EFF-001A)

The Discharger shall maintain compliance with the following effluent limitations when discharging at Discharge Point 001. Unless otherwise specified, compliance shall be measured at Monitoring Location EFF-001A as described in the MRP, Attachment E.

- a. The Discharger shall maintain compliance with the effluent limitations specified in Table 5.

Table 5. Effluent Limitations – EFF-001A

Parameter	Units	Average Monthly	Average Weekly
Biochemical Oxygen Demand, 5-day @ 20°Celsius (BOD ₅)	milligrams per liter (mg/L)	30	45
Total Suspended Solids (TSS)	mg/L	30	45
Ammonia (as N)	mg/L	1.2	2.8
Nitrate Plus Nitrite (as N)	mg/L	10	17

- b. **pH:**
 - i. 6.5 SU as an instantaneous minimum for discharges to Discharge Point 001.
 - ii. 8.5 SU as an instantaneous maximum.
- c. **Chronic Whole Effluent Toxicity Maximum Daily Effluent Limit (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.
- d. **Chronic Whole Effluent Toxicity Median Monthly Effluent Limit (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.
- e. **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)

$$\text{SAMEL} = \text{CD M-avg}/0.079 + \text{CC M-avg}/0.012 \leq 1.0$$

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)

$$\text{SAWEL} = \text{CD W-avg}/0.14 + \text{CC W-avg}/0.021 \leq 1.0$$

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

3. Interim Effluent Limitations – NOT APPLICABLE

B. Land Discharge Specifications

1. Beginning 1 June 2024, the Discharger shall maintain compliance with the following effluent limitations for discharge to Tertiary Storage Basin 1 and Tertiary Storage Basin 2, with compliance measured at monitoring location LND-001 and Maturation Pond 1 and Maturation Pond 2, with compliance measured at monitoring location LND-002, as described in the attached MRP. The Discharger shall maintain compliance with the effluent limitations specified in Table 6.

Table 6. Land Discharge Specifications – Discharge Point 002 (Monitoring Location LND-001) and Discharge Point 003 (Monitoring Location LND-002)

Parameter	Units	Average Monthly
Nitrate (as N)	mg/L	10

C. Recycling Specifications – NOT APPLICABLE

Recycling specifications for the Facility are included in a separate Master Reclamation Permit, Order R5 2005-0040-01 (as amended by Order R5-2012-0052).

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

The discharge shall not cause the following in Auburn Ravine Creek:

1. **Biostimulatory Substances.** Water to contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.
2. **Chemical Constituents.** Chemical constituents to be present in concentrations that adversely affect beneficial uses.
3. **Color.** Discoloration that causes nuisance or adversely affects beneficial uses.
4. **Dissolved Oxygen:**
 - a. The monthly median of the mean daily dissolved oxygen concentration to fall below 85 percent of saturation in the main water mass
 - b. The 95-percentile dissolved oxygen concentration to fall below 75 percent of saturation; nor
 - c. The dissolved oxygen concentration to be reduced below 7.0 mg/L at any time.
5. **Floating Material.** Floating material to be present in amounts that cause nuisance or adversely affect beneficial uses.

6. **Oil and Grease.** Oils, greases, waxes, or other materials to be present in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.
7. **pH.** The pH to be depressed below 6.5 nor raised above 8.5.
8. **Pesticides:**
 - a. Pesticides to be present, individually or in combination, in concentrations that adversely affect beneficial uses;
 - b. Pesticides to be present in bottom sediments or aquatic life in concentrations that adversely affect beneficial uses;
 - c. Total identifiable persistent chlorinated hydrocarbon pesticides to be present in the water column at concentrations detectable within the accuracy of analytical methods approved by U.S. EPA or the Executive Officer;
 - d. Pesticide concentrations to exceed those allowable by applicable antidegradation policies (see State Water Board Resolution No. 68-16 and 40 CFR section 131.12.);
 - e. Pesticide concentrations to exceed the lowest levels technically and economically achievable;
 - f. Pesticides to be present in concentration in excess of the maximum contaminant levels (MCLs) <set forth in CCR, Title 22, division 4, chapter 15; nor
 - g. Thiobencarb to be present in excess of 1.0 µg/L.
9. **Radioactivity:**
 - a. Radionuclides to be present in concentrations that are harmful to human, plant, animal, or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life; nor
 - b. Radionuclides to be present in excess of the MCLs specified in Table 64442 of section 64442 and Table 64443 of section 64443 of Title 22 of the CCR.
10. **Suspended Sediments.** The suspended sediment load and suspended sediment discharge rate of surface waters to be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

11. **Settleable Substances.** Substances to be present in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.
12. **Suspended Material.** Suspended material to be present in concentrations that cause nuisance or adversely affect beneficial uses.
13. **Taste and Odors.** Taste- or odor-producing substances to be present in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.
14. **Temperature.** The annual average temperature to increase more than 5 °F compared to the ambient stream temperature and shall not cause the receiving stream temperature to rise above:
 - a. 68 °F on a 7-day average of daily maximums basis from 1 October through 31 December;
 - b. 64 °F on a 7-day average of daily maximums basis 1 January through 31 May; and
 - c. 5 °F over the ambient background temperature as a daily average for the period from 1 June through 30 September.
15. **Toxicity.** Toxic substances to be present, individually or in combination, in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.
16. **Turbidity.**
 - a. Shall not exceed 2 Nephelometric Turbidity Units (NTU) where natural turbidity is less than 1 NTU;
 - b. Shall not increase more than 1 NTU where natural turbidity is between 1 and 5 NTUs;
 - c. Shall not increase more than 20 percent where natural turbidity is between 5 and 50 NTUs;
 - d. Shall not increase more than 10 NTU where natural turbidity is between 50 and 100 NTUs; nor
 - e. Shall not increase more than 10 percent where natural turbidity is greater than 100 NTUs.

B. Groundwater Limitations

1. Release of waste constituents from any storage, treatment, or disposal component associated with the Facility shall not cause the underlying groundwater to contain waste constituents in concentrations greater than background water quality or water quality objectives, whichever is greater.

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 Report of Waste Discharge for permit reissuance, this permit shall continue in force and effect until the permit is reissued or the Regional Water Board rescinds the permit.
- 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 limitation, 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 non-compliance, and shall confirm this notification in writing within 5 days, unless the Central Valley Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of non-compliance, and shall describe the measures being taken to remedy the current non-compliance and prevent recurrence including, where applicable, a schedule of implementation. Other non-compliance 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. **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, with the exception of copper. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total. If the Discharger performs studies to determine additional 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.
- d. **Ultraviolet (UV) Disinfection Operating Specifications.** The UV operating specifications in this Order are based on the UV guidelines developed by the National Water Research Institute and American Water Works Association Research Foundation titled, "Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse." If the Discharger conducts a site-specific UV engineering study that identifies site-specific UV operating specifications that will achieve the virus inactivation equivalent to Title 22 disinfected tertiary recycled water, this Order may be reopened to modify the UV operating specifications.
- e. **Facility Expansion.** The Discharger may request an expansion of allowable influent flows to the Facility once the Discharger has completed construction of their expansion project. If the following conditions are met, this Order may be reopened to revise the applicable average dry weather flow prohibition (determined annually at Monitoring Location INF-001) in increments or in whole up to 8.4 MGD:
 - i. **Effluent and Receiving Water Limitation Compliance.** The Discharger shall demonstrate compliance with the effluent limitations and receiving water limitations contained in sections IV.A.1 and IV.A.2 plus V.A of this Order.

- ii. **Facility Expansion.** The Discharger shall have completed construction of an expansion project, that results in a design treatment capacity of increments or in whole, up to 8.4 MGD ADWF.
- iii. **Request for Increase.** The Discharger shall submit to the Central Valley Water Board 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 Requirements.** This Provision requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate, effluent toxicity. If the discharge exceeds the chronic toxicity thresholds defined in this Provision, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE) in accordance with an approved TRE Work Plan and take actions to mitigate the impact of the discharge and prevent recurrence of toxicity. A TRE is a site-specific study conducted in a stepwise process to identify the source(s) of toxicity and the effective control measures for effluent toxicity. TREs are designed to identify the causative agents and sources of whole effluent toxicity, evaluate the effectiveness of the toxicity control options, and confirm the reduction in effluent toxicity
- i. **Chronic Toxicity Effluent Trigger Exceeded.** The Discharger is required to initiate a TRE, as detailed in the Monitoring and Reporting Program (Attachment E, Section V.F), when any combination of two or more MDEL or MMEL violations occur within a single calendar month or within two successive calendar months or when the Discharger has two or more MDEL violations within a single calendar month or within two successive 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.
- b. **Groundwater Monitoring Well Network Evaluation Report.** The Discharger shall conduct an assessment of the current groundwater monitoring well network and propose additional wells, where necessary, to characterize groundwater gradient and quality near and downgradient from Tertiary Storage Basins 1 and 2 and Maturation Ponds 1 and 2, and, if necessary, to better characterize background concentrations. The report shall include a project schedule not to exceed one year, include, if necessary, a closure plan for the decommissioning of existing wells, and satisfy the information requirements, as part of the Groundwater

Monitoring Well Network Evaluation Report. The Discharger must submit the Groundwater Monitoring Well Network Evaluation Report to the Central Valley Water Board on the date provided in the Technical Reports Table of the MRP (Attachment E).

- i. **Groundwater Monitoring Well Installation Work Plan (if necessary).** If the Discharger determines there is a need to install new groundwater monitoring wells, then the Discharger shall follow the requirements of Attachment I – Standard Requirements for Monitoring Well Installation Work Plans and Monitoring Well Installation Reports and provide a Groundwater Monitoring Well Installation Work Plan to the Central Valley Water Board by the date provided in the Technical Reports Table of the MRP (Attachment E).
- ii. **Groundwater Monitoring Well Installation Report (if necessary).** If the Discharger determines there is a need to install new groundwater monitoring wells, then the Discharger shall follow the requirements of Attachment I – Standard Requirements for Monitoring Well Installation Work Plans and Monitoring Well Installation Reports and provide a Groundwater Monitoring Well Installation Report to the Central Valley Water Board by the date provided in the Technical Reports Table of the MRP (Attachment E).

If the Discharger determines there is a need to install new groundwater monitoring wells, then the Discharger shall follow the monitoring requirements for groundwater monitoring wells in Attachment E – Monitoring and Reporting Program, section VIII.B.

3. Best Management Practices and Pollution Prevention

- a. **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. 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 700 $\mu\text{mhos/cm}$** at monitoring locations EFF-001A, LND-001, and/or LND-002, 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.
- b. **Pyrethroid Management Plan.** If the Pyrethroid Pesticides Water Column Chemistry Monitoring results in an exceedance of any acute and/or chronic pyrethroid numeric trigger in Table 4-2 of the Basin Plan to water bodies with designated or existing WARM and/or COLD beneficial uses, the Discharger shall develop and submit a Pyrethroid Management Plan to the Central Valley Water Board, per the requirements described in section

4.2.2.4.12 of the Basin Plan, within one year from the date that an exceedance is identified by either the Discharger or Central Valley Water Board staff. The Discharger shall review monitoring results quarterly and the Discharger shall notify the Central Valley Water Board of any exceedances of the Pyrethroid numeric triggers as soon as possible. If an exceedance is identified, the Discharger shall notify the Central Valley Water Board in writing of the exceedance and the Discharger’s intent to submit a Pyrethroid Management Plan.

The Pyrethroid Management Plan shall identify management practices to reduce discharges of pyrethroid pesticides, as outlined in section 4.5.5.2.2.3 of the Basin Plan, and to consider whether there are potential water quality concerns with replacement insecticide products. Dischargers shall begin implementing their pyrethroid management plans within 30 days after receipt of written approval of their management plan. The Pyrethroid Management Plan shall be deemed complete when it can be demonstrated that the acute and chronic pyrethroids triggers are not exceeded in the final effluent and the demonstration is approved by the Executive Officer.

If a Pyrethroid Management Plan is required, the Discharger shall provide mid-term and/or end-term progress reports, consistent with the table below, to document the management practices that have been implemented to track the effectiveness of the Pyrethroid Management Plan. Reports should be submitted electronically via CIWQS submittal by the due date in the Technical Reports Table E-15.

Table 7. Pyrethroid Management Plan Mid-Term and End-Term Progress Reporting

Pyrethroid Management Plan required and approved by date:	Mid-Term Progress Reporting Required	End-Term Progress Reporting Required
1 June 2026 or prior	Yes 1 December 2027	Yes 31 May 2028
2 June 2026 to 1 June 2027	No	Yes 31 May 2028
2 June 2027 or later	No (see table note)	No (see table note)

Table 7 Note:

Mid-term and end-term progress reports will be required by subsequently reissued NPDES permits until the Pyrethroid Management Plan is deemed complete.

4. Construction, Operation and Maintenance Specifications

- a. **Filtration System Operating Specifications.** 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:

- i. 2 NTU as a daily average;
 - ii. 5 NTU more than 5 percent of the time within a 24-hour period; and
 - iii. 10 NTU, at any time.
- b. **UV Disinfection System Operating Specifications.** The UV disinfection system must be operated in accordance with an operations and maintenance program that assures adequate disinfection, and shall meet the following minimum specifications to provide virus inactivation equivalent to Title 22 Disinfected Tertiary Recycled Water:
- i. **UV Dose.** The minimum hourly average UV dose in the UV reactor shall be 100 millijoules per square centimeter (mJ/cm^2).
 - ii. **UV Transmittance.** The minimum hourly average UV transmittance (at 254 nanometers) in the wastewater measured at UVS-001 shall not fall below 55 percent.
 - iii. The lamp sleeves and cleaning system components must be visually inspected per the manufacturer's operations manual for physical wear (scoring, solarization, seal leaks, cleaning fluid levels, etc.) and to check the efficacy of the cleaning system.
 - iv. The lamp sleeves must be cleaned periodically as necessary to meet the UV dose requirements.
 - v. Lamps must be replaced per the manufacturer's operations manual, or sooner, if there are indications the lamps are failing to provide adequate disinfection. Lamp age and lamp replacement records must be maintained.
- c. **Facility Pond Operating Requirements**
- i. The Facility shall be designed, constructed, 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.
 - iii. Ponds shall be managed to prevent breeding of mosquitos. In particular,
 - (a) An erosion control program should assure that small coves and irregularities are not created around the perimeter of the water surface;
 - (b) Weeds shall be minimized; and

- (c) Dead algae, vegetation, and debris shall not accumulate on the water surface.
- iv. Freeboard shall never be less than 2 feet (measured vertically to the lowest point of overflow).
- v. Ponds shall have sufficient capacity to accommodate allowable wastewater flow and design seasonal precipitation and ancillary inflow and infiltration during the non-irrigation season. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.
- vi. The discharge of waste classified as “hazardous” as defined in section 2521(a) of CCR, Title 23, or “designated,” as defined in section 13173 of the Water Code, to the Facility ponds, is prohibited.
- vii. Objectionable odors originating at this Facility shall not be perceivable beyond the limits of the wastewater treatment and disposal areas (or property owned by the Discharger).
- viii. The Discharger shall regularly inspect the liner condition in the lined Emergency Storage Basin, Maturation Pond 2, and Tertiary Storage Basin 2. The Discharger shall maintain and repair liners as necessary to ensure the integrity of pond liners is maintained and leakage from the liner is minimized.

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

a. Pretreatment Requirements

- 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.

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 in a mass or concentration that will violate groundwater limitations included in section V.B. of this Order.

- 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. **Title 22, or Equivalent, Disinfection Requirements.** Wastewater shall be oxidized, coagulated, filtered, and adequately disinfected pursuant to the State Water Board, Division of Drinking Water (DDW) reclamation criteria, Title 22, or equivalent.

7. Compliance Schedules – NOT APPLICABLE

VII. COMPLIANCE DETERMINATION

- A. **BOD₅ and TSS Effluent Limitations (Sections IV.A.1.a, IV.A.2.a, and IV.A.2.b).** Compliance with the final effluent limitations for BOD₅ and TSS required in Waste Discharge Requirements section IV.A.1.a and IV.A.2 shall be ascertained by 24-hour composite samples. Compliance with effluent limitations required in Waste Discharge Requirements section IV.A.2.b for percent removal shall be calculated using the arithmetic mean of BOD₅ 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. Average Dry Weather Flow Prohibition (Section III.E).** The average dry weather influent flow represents the daily average influent flow when groundwater is at or near normal and runoff is not occurring. Compliance with the average dry weather influent flow prohibition will be determined annually at Monitoring Location INF-001 based on the average daily flow over three consecutive dry weather months (e.g., July, August, and September).
- C. Maximum Hydraulic Capacity at Outfall: 25 MGD, as a Daily Average (Section III.F).** Discharges to Auburn Ravine Creek at Discharge Point 001 exceeding a maximum daily average flow rate of 25 MGD as measured at EFF-001B are prohibited. Compliance with the capacity limit will be determined on a daily basis.
- D. Total Coliform Organisms Effluent Limitations (Section IV.A.1.b.).** For each day that an effluent sample is collected at UVS-001 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.
- E. Effluent Limitations.** Compliance with effluent limitations shall be determined in accordance with section 2.4.5 of the SIP, as follows:
1. Dischargers shall be deemed out of compliance with an effluent limitation, if the concentration in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).
 2. Dischargers shall be required to conduct a Pollutant Minimization Program (PMP) in accordance with section 2.4.5.1 of the SIP when there is evidence that the priority pollutant is present in the effluent above an effluent limitation and either:
 - a. sample result is reported as detected, but not quantified (DNQ) and the effluent limitation is less than the RL; or
 - b. sample result is reported as non-detect (ND) and the effluent limitation is less than the method detection limit (MDL).
 3. When determining compliance with an average monthly effluent limitation (AMEL) and more than one sample result is available in a month, 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.
4. If a sample result, or the arithmetic mean or median of multiple sample results, is below the RL, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation and the discharger conducts a PMP (as described in section 2.4.5.1), the discharger shall **not** be deemed out of compliance.
- F. Dissolved Oxygen Receiving Water Limitation (Section V.A.4.a-c).** The Facility provides a high level of treatment, including tertiary filtration and nitrification, which results in minimal dissolved oxygen impacts in the receiving water. Receiving water monitoring for dissolved oxygen is required once per week when discharging to Auburn Ravine Creek in the MRP (Attachment E) and is sufficient to evaluate the impacts of the discharge and compliance with this Order. Receiving water monitoring data measured at Monitoring Locations RSW-001 and RSW-002 will be used to determine compliance with part “c” of the dissolved oxygen receiving water limitation to ensure the discharge does not cause the dissolved oxygen concentrations in Auburn Ravine Creek to be reduced below 7.0 mg/L at any time. However, should more frequent dissolved oxygen and temperature receiving water monitoring be conducted, Central Valley Water Board staff may evaluate compliance with parts “a” and “b”.
- G. Temperature Receiving Water Limitation (Section V.A.14)** Compliance with the temperature receiving water limitation for the 5°F increase in ambient stream temperature (daily and annual average) will be determined based on the difference in the temperature measured at Monitoring Location RSW-001 compared to the downstream temperature measured at Monitoring Location RSW-002, with consideration of effluent quality to evaluate whether effluent discharge caused the change. The annual average temperature increase compared to the ambient stream temperature shall be assessed using data from all days in the calendar year for which both RSW-001 and RSW-002 temperature data exists, including days on which there is no discharge at Discharge Point 001. Compliance with the temperature receiving water limitations of 68°F from 1 October to 31 December and 64°F from 1 January to 31 May on a 7-day running average of daily maximums will be measured at Monitoring Location RSW-002, with consideration of effluent and upstream receiving water quality to evaluate whether effluent discharge caused the violation.

1. **Seven-day Running Average of Daily Maximums.** The 7-day running average of daily temperature maximums shall be calculated when there has been 1 or more discharges within a 7-day period. The 7-day running average of daily temperature maximums shall be determined from the daily maximums collected at Monitoring Location RSW-002 for all samples collected over the past 7-days whether discharge occurred or not. For example, if temperature samples were collected on Monday, Wednesday and Friday but discharge only occurred on Wednesday and Friday, the Discharger should determine the 7-day running average of daily maximums from the data collected on Monday, Wednesday and Friday. If there has been no discharge over the past 7 days or more, then compliance reporting for the 7-day running averages of daily maximums is not required.
 2. **Upstream Temperature Exceeds Downstream Temperature Limit.** For each day the daily maximum temperature at the upstream monitoring location (RSW-001) exceeds 68°F from 1 October to 31 December or 64°F from 1 January to 31 May, the Discharger shall determine compliance for that day with the 5°F increase in average daily receiving water temperature between RSW-001 and RSW-002 (with consideration of effluent quality to evaluate whether effluent discharge caused the temperature change) instead of the corresponding receiving water temperature limitation of 68°F from 1 October to 31 December or 64°F from 1 January to 31 May as 7-day running average of daily maximums as required by sections V.A.14.a and b.
- H. **Turbidity Receiving Water Limitations (Section V.A.16.a and b).** When discharging to Auburn Ravine Creek, compliance with the annual average turbidity receiving water limitations in sections V.A.16.a and V.A.16.b will be determined based on the change in the annual average turbidity measured at Monitoring Location RSW-001 compared to the downstream annual average turbidity measured at Monitoring Location RSW-002. Compliance with the turbidity receiving water limitations in sections V.A.16.c-e will be determined based on the change in turbidity measured at Monitoring Location RSW-001 compared to the downstream turbidity measured at Monitoring Location RSW-002, with consideration of effluent quality to evaluate whether effluent discharge caused the change.
- I. **Whole Effluent Toxicity Effluent Limitations.** When discharging to Auburn Ravine Creek, 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 \leq Regulatory Management Decision (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."

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 "Pass" or "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.2.d).** If the result of a routine chronic whole effluent toxicity test, using the TST statistical approach, is a "Fail" at the IWC for the survival 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.2.e).** If the result of a routine chronic whole effluent toxicity test, using the TST statistical approach, is a "Fail" at the IWC, the Discharger shall conduct a maximum of two additional MMEL compliance tests during the calendar month. If one of the additional MMEL compliance test results in a "Fail" at the IWC, the Discharger will be deemed out of compliance with the MMEL.

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

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

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

Average Monthly Effluent Limitation (AMEL)

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 (e.g., from January 1 to March 31, from April 1 to June 30, or from October 1 to December 31).

Calendar Year

A period of time defined as twelve consecutive calendar months (e.g., from 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 NOA), 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.

Effect Concentration (EC)

A point estimate of the toxicant concentration that would cause an observable adverse effect (e.g. death, immobilization, or serious incapacitation) in a given percent of the test organisms, calculated from a continuous model (e.g. Probit Model). EC₂₅ is a point estimate of the toxicant concentration that would cause an observable adverse effect in 25 percent of the test organisms.

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 study. 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 as determined by the Central Valley Water Board. For purposes of aquatic toxicity testing, the IWC shall be determined as described in Section III.C.1. of the Statewide Toxicity Provisions. For assessing whether receiving waters meet the numeric water quality objectives, the undiluted ambient water shall be used as the IWC in the Test of Significant Toxicity (TST) as indicated in Section III.B.3 of the Statewide Toxicity Provisions.

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

Refers to the State Policy for Water Quality Control: Toxicity Provisions (as amended by the State Water Board on Oct. 5, 2021, or as subsequently amended).

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 Section IV.B.1.c of the Statewide Toxicity Provisions.

Toxicity Calendar Month

A period of time from a day of one month 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 (e.g., from January 1 to January 31, from June 15 to July 14, or from January 31 to February 27).

Toxicity Calendar Quarter

A period of time defined as three consecutive toxicity calendar months (e.g., from January 1 to March 31, from June 15 to October 14, or from September 10 to December 9).

Toxicity Calendar Year

A period of time defined as twelve consecutive toxicity calendar months (e.g., from January 1 to December 31, from June 15 to June 14 of the following year, or from September 10 to September 9 of the following year).

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. (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 Maximum Daily Effluent Target (MDET)

For the purposes of chronic aquatic toxicity, an MDET is a target used to determine whether a Toxicity Reduction Evaluation (TRE) should be conducted. Not meeting the MDET is not a violation of an effluent limitation.

WET Median Monthly Effluent Target (MMET)

For the purposes of chronic aquatic toxicity, an MMET is a target based on a maximum of three independent toxicity tests used to determine whether a TRE should be conducted. Not meeting the MMET is not a violation of an effluent limitation.

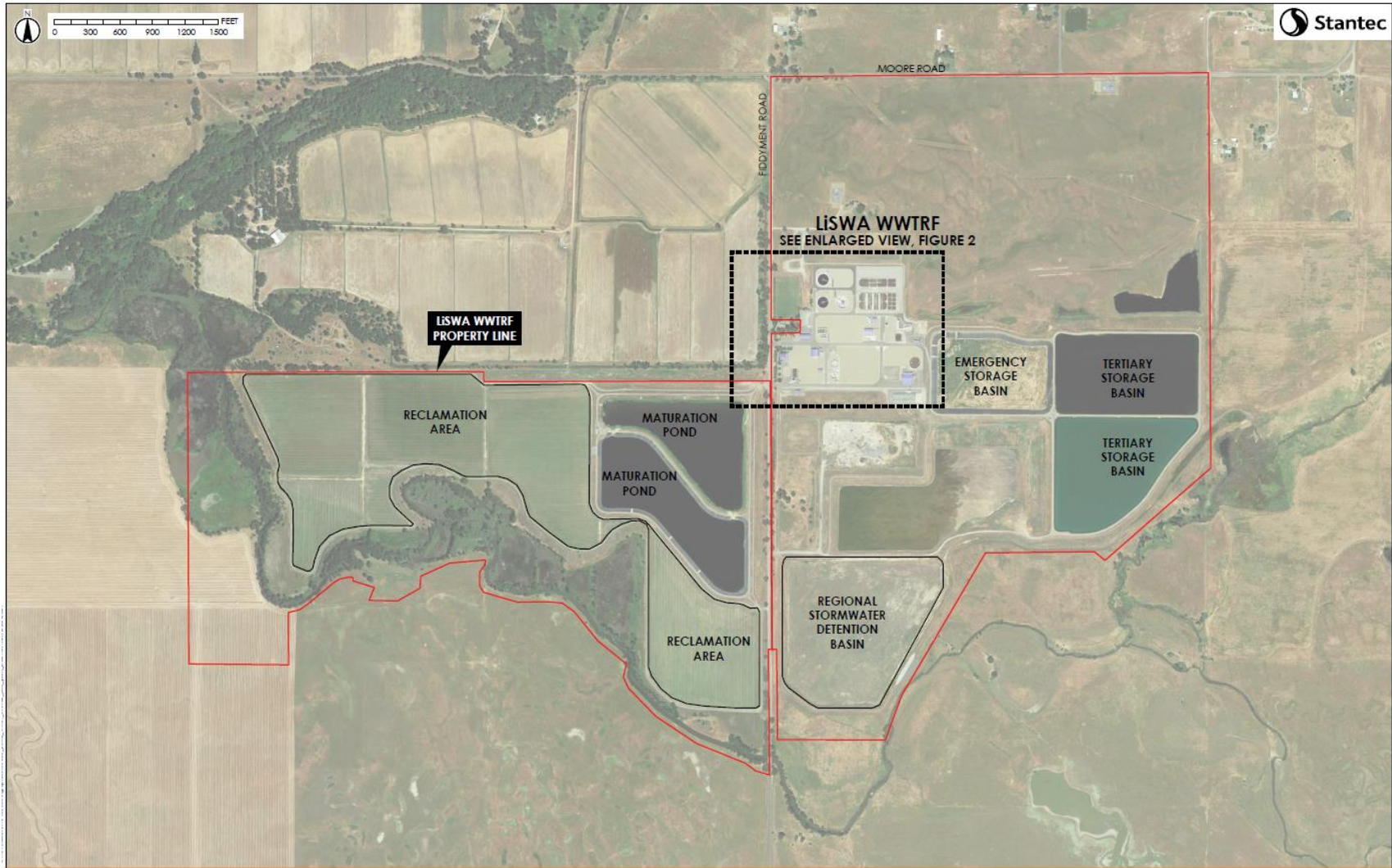
WET MMEL Compliance Tests

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.

WET MMET Tests

For the purposes of chronic aquatic toxicity, for dischargers not required to comply with numeric chronic toxicity effluent limitations, MMET Tests are a maximum of two tests that are used in addition to the routine monitoring test to determine whether a TRE should be conducted.

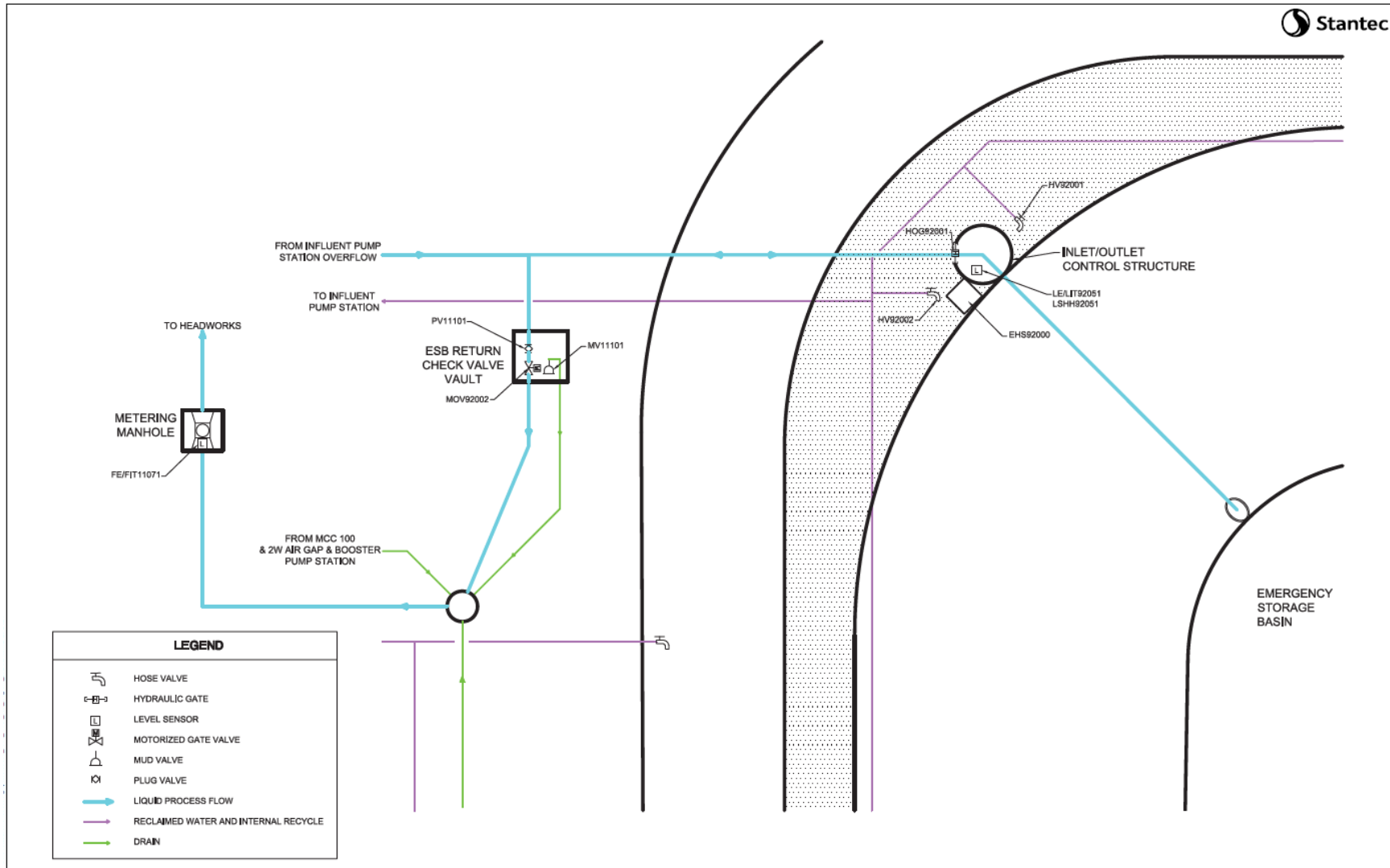
ATTACHMENT B – FACILITY MAPS
ATTACHMENT B-1 – MAP OF ENTIRE FACILITY



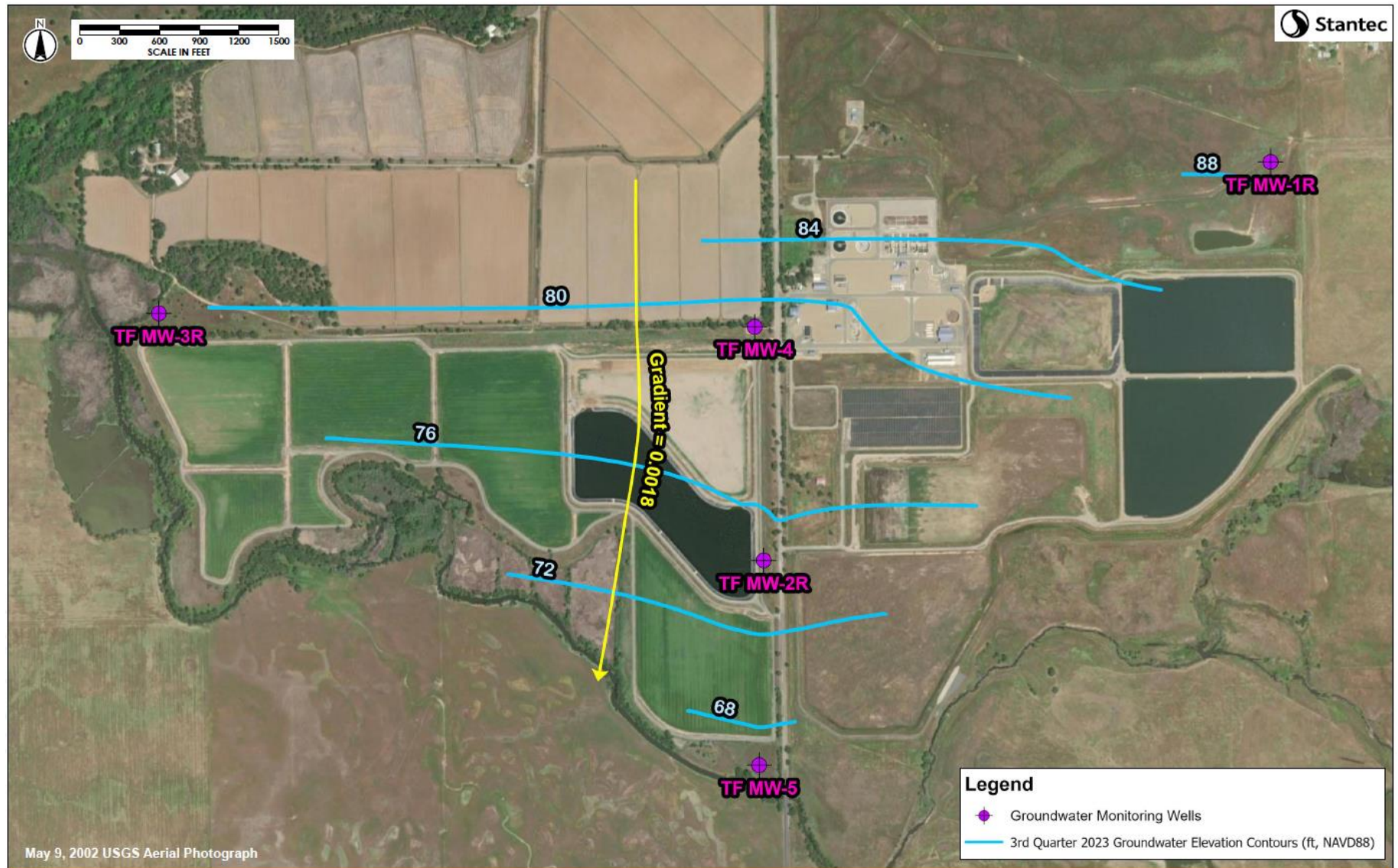
ATTACHMENT B-2 – CLOSE-UP MAP OF TREATMENT PROCESSES



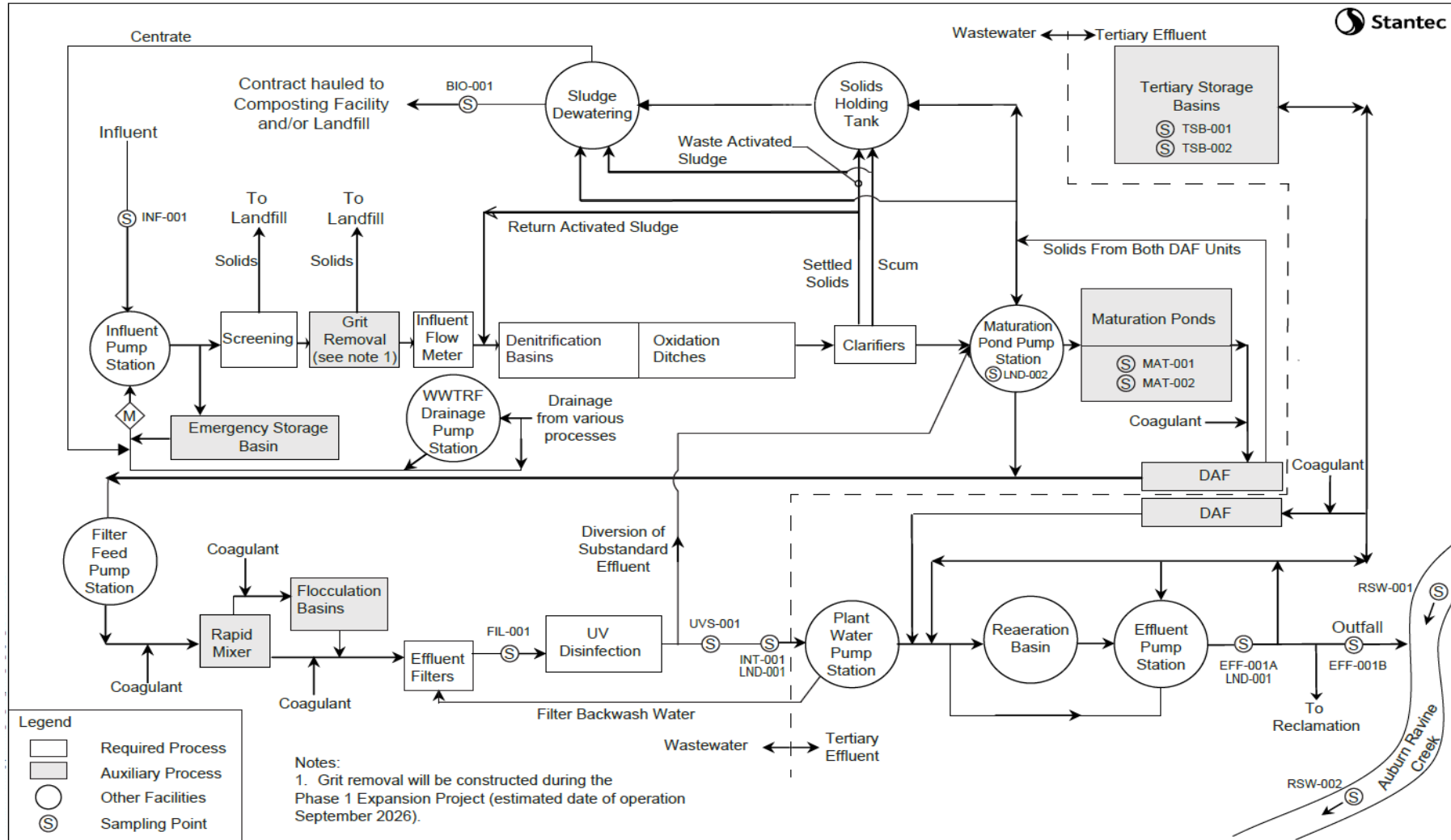
ATTACHMENT B-3 – EMERGENCY STORAGE BASIN DETAIL



ATTACHMENT B-4 – GROUNDWATER MONITORING WELL NETWORK



ATTACHMENT C – 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/) (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/). (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 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 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).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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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 at the following address or electronically via email to the DMR-QA Coordinator:

State Water Resources Control Board
Quality Assurance Program Officer
Office of Information Management and Analysis
1001 I Street, Sacramento, CA 95814
- 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 influent into the Facility can be collected prior to entering into the treatment process. Composite sampler before the Parshall flume. Latitude: 38° 51' 42" N Longitude: 121° 20' 41" W
--	INT-001	An internal monitoring location at the filter clearwell where a representative sample of the effluent from the tertiary filters can be collected. Latitude: 38° 51' 40" N Longitude: 121° 20' 53" W
001	EFF-001A	A location where a representative sample of the effluent from the Treatment Facility can be collected downstream from the last connection through which wastes can be admitted to the outfall before being discharged to Auburn Ravine Creek. Latitude 38° 51' 38" N Longitude 121° 20' 55" W
001	EFF-001B	A location where the discharge flow from the entire Facility to Auburn Ravine Creek can be measured. Latitude 38° 51' 05" N Longitude 121° 21' 23" W
002	LND-001	Land discharge monitoring location where a representative sample of the effluent from the Treatment Facility can be collected prior to discharge into Tertiary Storage Basin 1 and/or Tertiary Storage Basin 2. Latitude: 38° 51' 38" N Longitude: 121° 20' 55" W
003	LND-002	Land discharge monitoring location at the Maturation Pond Pump Station where a representative sample of process water can be collected prior to discharge into Maturation Pond 1 and/or Maturation Pond 2. Latitude: 38° 51' 40" N Longitude 121° 20' 51" W
--	MAT-001	Monitoring location where a representative sample of process water contained in Maturation Pond 1 can be collected, e.g., at the pond outlet. Latitude: 38° 51' 34" N Longitude 121° 21' 17" W
--	MAT-002	Monitoring location where a representative sample of process water contained in Maturation Pond 2 can be collected, e.g., at the pond outlet. Latitude: 38° 51' 36" N Longitude: 121° 21' 16" W
--	TSB-001	Tertiary Storage Basin Number 1, used to hold tertiary treated effluent from the treatment facility before discharge to Auburn Ravine Creek or discharge to the reclamation system. Latitude: 38° 51' 35" N Longitude: 121° 20' 24" W

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	TSB-002	Tertiary Storage Basin 2, used to hold tertiary treated effluent from the treatment facility before discharge to Auburn Ravine Creek or discharge to the reclamation system. Latitude: 38° 51' 34" N Longitude 121° 20' 24" W
--	RSW-001	Auburn Ravine Creek, approximately 75 feet upstream of Discharge Point 001. Latitude: 38° 52' 06" N Longitude: 121° 21' 24" W
--	RSW-002	Auburn Ravine Creek, approximately 2,000 feet downstream of Discharge Point 001. Latitude: 38° 52' 04" N Longitude: 121° 21' 45" W
--	FIL-001	A location where a representative sample of the effluent from the tertiary filtration system can be collected immediately downstream of the filters and prior to the ultraviolet light (UV) disinfection system. Latitude: 38° 51' 41" N Longitude: 121° 20' 53" W
--	UVS-001	A location where a representative sample of wastewater can be collected immediately downstream of the UV disinfection system.
--	BIO-001	A location where a representative sample of biosolids can be obtained.
--	MW-1 through MW-5	Groundwater monitoring wells 1, 2, 3, 4 and 5.

Table E-1 Note:

1. The North latitude and West longitude information in Table E-1 are approximate for administrative purposes.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

1. The Discharger shall monitor influent to the Facility at Monitoring Location 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°Celcius (BOD ₅)	mg/L	24-hour Composite	3/Week
Total Suspended Solids (TSS)	mg/L	24-hour Composite	3/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 INT-001

1. The Discharger shall monitor tertiary treated effluent at Monitoring Location INT-001 in accordance with Table E-3 and the testing requirements described in section IV.A.2 below:

Table E-3. Effluent Monitoring – Monitoring Location INT-001

Parameter	Units	Sample Type	Minimum Sampling Frequency
Biochemical Oxygen Demand, 5-day @ 20°Celcius (BOD ₅)	mg/L	24-hour Composite	3/Week
BOD ₅	% removal	Calculate	1/Month
Total Suspended Solids (TSS)	mg/L	24-hour Composite	3/Week
TSS	% removal	Calculate	1/Month
Electrical Conductivity @ 25°Celcius	µmhos/cm	Grab	1/Month

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

- c. **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.
- d. **Handheld Field Meter.** A handheld field meter may be used for **electrical conductivity** 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.
- e. **Electrical Conductivity.** When discharge occurs at Discharge Point 001 and there is return flow from Tertiary Storage Basin 1 and/or 2, the electrical conductivity samples collected at EFF-001A and INT-001 shall be collected within a 12-hour period of each other.

B. Monitoring Location EFF-001A

1. When discharging to Auburn Ravine Creek, the Discharger shall monitor effluent at Monitoring Location EFF-001A as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding ML:

Table E-4. Effluent Monitoring – Monitoring Location EFF-001A

Parameter	Units	Sample Type	Minimum Sampling Frequency
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
pH	standard units	Grab	1/Day
Temperature	°F	Grab	1/Day
Dissolved Oxygen	mg/L	Grab	1/Day
Ammonia (as N)	mg/L	Grab	1/Week
Nitrate (as N)	mg/L	Grab	1/Month
Nitrite (as N)	mg/L	Grab	1/Month
Nitrate plus Nitrite (as N)	mg/L	Calculate	1/Month
Electrical Conductivity @ 25°Celsius	µmhos/cm	Grab	1/Month
Hardness (as CaCO ₃)	mg/L	Grab	1/Quarter
Total Dissolved Solids	mg/L	Grab	1/Month
Dissolved Organic Carbon	mg/L	Grab	1/Quarter
Chlorpyrifos	µg/L	Grab	1/Year
Diazinon	µg/L	Grab	1/Year

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. **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 **electrical conductivity, 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.
 - d. **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.
 - e. **Dissolved Organic Carbon** monitoring shall be conducted concurrently with pH and hardness sampling.
 - f. **Electrical Conductivity.** When discharge occurs at Discharge Point 001 and there is return flow from Tertiary Storage Basin 1 and/or 2, the electrical conductivity samples collected at EFF-001A and INT-001 shall be collected within a 12-hour period of each other.
 - g. **EFF-001A Monitoring.** When there is no return flow from Tertiary Storage Basin 1 and/or 2 to Discharge Point 001, samples for EFF-001A can be collected at INT-001 since the effluent flow directly flows from INT-001 past EFF-001A to Discharge Point 001.

C. Monitoring Location EFF-001B

1. When discharging to Auburn Ravine Creek, the Discharger shall monitor discharge flow at monitoring location EFF-001B as follows.

Table E-5. Effluent Monitoring – Monitoring Location EFF-001B

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	MGD	Meter	Continuous (see table note 1.)

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. **Flow.** The Discharger shall calculate and report the average daily flow for each day. The average daily flow shall be calculated as specified in section VII.C and D of the Waste Discharge Requirements and reported in the monthly self-monitoring reports (SMRs).

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

- A. **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 100 percent effluent.
 2. **Routine Monitoring Frequency.** The Discharger shall perform routine chronic toxicity testing **once per toxicity calendar month** in months in which there is expected to be at least 15 days of discharge to the receiving water. While the Discharger is conducting a TRE, the Executive Officer may authorize a reduction in the frequency of routine monitoring to a minimum of two (2) chronic aquatic toxicity tests per toxicity calendar year. The Discharger shall return to the routine monitoring schedule either at the conclusion of the TRE or one year after the initiation of the TRE, whichever occurs sooner.
 3. **Toxicity Calendar Month, Quarter, and Year.**
 - a. **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. For purposes of this Order, the toxicity calendar month **begins on 1st of the month** (i.e., from January 1 to January 31, from February 1 to February 28/29, from March 1 to March 31, etc.).
 - b. **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 January 1, April 1, July 1, and October 1** (i.e., from January 1 to March 31, from April 1 to June 30, from July 1 to September 30, etc.).
 - c. **Toxicity Calendar Year.** A toxicity calendar year is defined as **twelve consecutive toxicity calendar months**. For purposes of this Order, the toxicity calendar year **begins on January 1** (i.e., January 1 to December 31), in years in which there are at least 15 days of discharge in at least one calendar quarter.
 4. **Chronic Toxicity MMEL Compliance Testing.** If a routine chronic toxicity monitoring test results in a “fail” at the IWC, then a maximum of two chronic

toxicity MMEL compliance tests shall be completed. The chronic toxicity MMEL compliance tests shall be initiated within the same calendar month that the routine monitoring chronic toxicity test was initiated that resulted in the “fail” at the IWC. 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.

5. **Additional Routine Monitoring Tests for TRE Determination.** In order to determine if a TRE is necessary an additional routine monitoring test is required when there is one violation of the chronic toxicity MDEL or MMEL, but not two violations in a single toxicity calendar month. This additional routine monitoring test is not required if the Discharger is already conducting a TRE. This additional routine monitoring test shall be initiated within two weeks after the toxicity calendar month in which the MMEL or MDEL violation occurred. The toxicity calendar month of the violation and the toxicity calendar month of the additional routine monitoring shall be considered “successive toxicity calendar months” for purposes of determining whether a TRE is required. This additional routine monitoring test is also used for compliance purposes, and could result in the need to conduct MMEL compliance testing per Section V.B.4 above.
6. **Sample Volumes.** Adequate sample volumes shall be collected to provide renewal water to complete the test in the event that the discharge is intermittent.
7. **Test Species.** The testing shall be conducted using the most sensitive species. The Discharger shall conduct chronic toxicity tests with the **cladoceran, water flea (*Ceriodaphnia dubia*)**.

The Executive Officer shall have discretion to allow the temporary use of the next appropriate species as the most sensitive species when the Discharger submits documentation and the Executive Officer determines that the Discharger has encountered unresolvable test interference or cannot secure a reliable supply of test organisms. The “next appropriate species” is a species in Table 1 of the Statewide Toxicity Provisions in the same test method classification (e.g., chronic aquatic toxicity test methods, acute aquatic toxicity test method), in the same salinity classification (e.g., freshwater or marine), and in the same taxon as the most sensitive species. When there are no other species in Table 1 in the same taxon as the most sensitive species (e.g., freshwater chronic toxicity tests), the “next appropriate species” is the species exhibiting the highest percent effect at the IWC tested in the species sensitivity screening other than the most sensitive species.

8. **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).

9. **Dilution and Control Water.** Dilution water and control water shall be laboratory water prepared and used as specified in the test methods manual. If dilution water and control water are different from test organism culture water, then a second control using culture water shall also be used. A receiving water control or laboratory water control may be used as the diluent.
10. **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.11, below.
11. **Replacement Test.** When a required toxicity test for routine monitoring or a 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 the 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 toxicity calendar month. The new toxicity test for routine monitoring or for the 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 MMEL compliance tests required to be conducted due to the results of the new toxicity test shall not be used.

If it is determined that any specific monitoring event was not initiated in the required time period due to circumstances outside of the Discharger's control that were not preventable with the reasonable exercise of care, the Discharger is not required to initiate the specific monitoring event in the required time period if the Discharger promptly initiates, and ultimately completes a replacement test.

- 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 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 \leq 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.

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 or receiving water concentration differs from the control, the test result is "Pass" or "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.

- D. WET Testing Notification Requirements.** The Discharger shall notify the Central Valley Water Board of test results exceeding the chronic toxicity effluent limitation/monitoring target 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 reporting period (e.g., monthly, quarterly, semi-annually or annually) 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 with the toxicity test(s); and progress reports on TRE investigations.
 2. The statistical analysis used in section IV.B.1.c of the Statewide Toxicity Provisions; and
 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 shall perform rescreening to re-evaluate the most sensitive species within 15 years of the most recent species sensitivity screening or the effluent used in the species sensitivity screening is no longer representative of the effluent (e.g., the design flow has increased to meet the needs of additional connections added to the collection system).
 1. **Frequency of Testing for Species Sensitivity Screening.** Species sensitivity screening for chronic toxicity shall include, at a minimum, chronic WET testing for four consecutive calendar quarters, except for any quarter where there is

expected to be less than 15 days of discharge, using the water flea (*Ceriodaphnia dubia*), fathead minnow (*Pimephales promelas*), and green alga (*Pseudokirchneriella subcapitata*). The tests shall be performed at an IWC of no less than 100 percent effluent.

2. **Determination of Most Sensitive Species.** If a single test in the species sensitivity screening testing results in a “Fail” using the TST statistical approach, then the species used in that test shall be established as the most sensitive species. If there is more than a single test that results in a “Fail”, then of the species with results of a “Fail”, the species that exhibits the highest percent effect shall be established as the most sensitive species. If none of the tests in the species sensitivity screening results in a “Fail”, but at least one of the species exhibits a percent effect greater than **10** percent, then the single species that exhibits the highest percent effect shall be established as the most sensitive species. In all other circumstances, the Executive Officer shall have discretion to determine which single species is the most sensitive considering the test results from the species sensitivity screening.

The “next appropriate species” is a species in Table 1 of the Statewide Toxicity Provisions in the same test method classification (e.g., chronic aquatic toxicity test methods, acute aquatic toxicity test method), in the same salinity classification (e.g., freshwater or marine), and in the same taxon as the most sensitive species. When there are no other species in Table 1 in the same taxon as the most sensitive species (e.g., freshwater chronic toxicity tests), the “next appropriate species” is the species exhibiting the highest percent effect at the IWC tested in the species sensitivity screening other than the most sensitive species. The Executive Officer shall have discretion to allow the temporary use of the next appropriate species as the most sensitive species when the Discharger submits documentation and the Executive Officer determines that the Discharger has encountered unresolvable test interference or cannot secure a reliable supply of test organisms.

The most sensitive species shall be used for chronic toxicity testing for the remainder of the permit term. The Discharger may use the four most recent tests for use in determining the most sensitive species if the tests were conducted in a manner sufficient to make such determination.

If the most sensitive species cannot be determined from the species sensitivity screening discussed above, the Discharger shall rotate the test species as the most sensitive species every toxicity calendar year as follows:

- a. *Ceriodaphnia dubia* (survival and reproduction test) for the remainder of the toxicity calendar year this Order is effective;
- b. *Pimephales promelas* (larval survival and growth test) for the entire toxicity calendar year following the toxicity calendar year this Order is effective;

- c. *Pseudokirchnerella subcapitata* (growth test) for the entire toxicity calendar year of the second year following the toxicity calendar year this Order is effective; and
- d. Cycling back to *Ceriodaphnia dubia* (survival and reproduction test) after *Pseudokirchnerella subcapitata* (growth test) and through the same rotation.

If a single test exhibits toxicity, demonstrated by a test that results in a "Fail" using the TST statistical approach, then the species used in that test shall be established as the most sensitive species until a subsequent Order rescinding this Order becomes effective.

G. Toxicity Reduction Evaluations (TRE)

1. **TRE Implementation.** 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 calendar month or within two successive calendar months has occurred. 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, which per the Discharger's approved TRE Work 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.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

A. Monitoring Locations LND-001 and LND-002

1. The Discharger shall monitor effluent discharged to Tertiary Storage Basins 1 and 2 (Discharge Point 002) and Maturation Ponds 1 and 2 (Discharge Point

003), measured at LND-001 and LND-002, respectively, as follows in Table E-6 and the testing requirements described in section VI.A.2, below. Monitoring requirements for specific parameters listed in Table E-6 may be satisfied with INT-001 samples provided that is representative of the discharge to LND-001, but they shall be reported for both sample locations in CIWQS.

Table E-6. Land Discharge Monitoring Requirements – LND-001 and LND-002

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow to Tertiary Storage Basin 1 and/or Tertiary Storage Basin 2	MGD	Meter	1/Day
BOD ₅	mg/L	Grab	1/Week
pH	Standard Units	Grab	1/Week
Nitrate (as N)	mg/L	Grab	1/Week
Total Nitrogen (as N)	mg/L	Grab	1/Month
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Week
Standard Minerals	mg/L	Grab	1/Quarter

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. **Handheld Field Meter.** A handheld field meter may be used for **pH** and **electrical conductivity**, 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. **Standard minerals** shall include the following: boron, calcium, iron, magnesium, potassium, sodium, chloride, manganese, phosphorus, total alkalinity (including alkalinity series), and hardness, and include verification that the analysis is complete (i.e., cation/anion balance).
 - d. **Standard minerals (except for Chloride)** shall be sampled quarterly for the first two years after the effective date of this Order, but can be reduced to an annual monitoring frequency after the two year period.
 - e. **Flow to Tertiary Storage Basin 1 and/or Tertiary Storage Basin 2.** Monitoring requirements are only applicable to LND-001.

B. Pond Monitoring Locations TSB-001, TSB-002, MAT-001 and MAT-2

1. The Discharger shall monitor Tertiary Storage Basin 1 (TSB-001), Tertiary Storage Basin 2 (TSB-002), Maturation Pond 1 (MAT-001), and Maturation Pond 2 (MAT-002) in accordance with Table E-7 and the testing requirements included in section VI.B.2 below:

Table E-7. Pond Monitoring Requirements – TSB-001, TSB-002, MAT-001 and MAT-002

Parameter	Units	Sample Type	Minimum Sampling Frequency
Water Present	Yes/No	Observation	1/Week
Pond in Use	Yes/No	Observation	1/Week
Freeboard	Feet	Measure	1/Week
Dissolved Oxygen	mg/L	Grab	1/Week
Chloride	mg/L	Grab	1/Quarter
Pond Conditions	--	Observation	1/Week

2. **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.** 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. **Dissolved Oxygen.** Samples shall be collected at a depth of one foot from each pond in use, opposite the inlet, between 8:00 a.m. and 10:00 a.m. (when dissolved oxygen concentrations are typically lowest). If dissolved oxygen results for any pond in use are less than 1 mg/L, the Discharger shall implement corrective measures as specified in the operation and maintenance manual and monitor the pond daily until its dissolved oxygen stabilizes above 1 mg/L. If there is insufficient pond depth to accurately measure the dissolved oxygen concentration, the Discharger shall include in its eSMR the pond depth and an explanation why dissolved oxygen monitoring was not performed.
 - c. **Freeboard.** Freeboard, as defined in Provision VI.C.4.c.iv, shall be monitored to the nearest tenth of a foot.
 - d. **Handheld Field Meter.** A handheld field meter may be used for **dissolved oxygen**, 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.

- e. **Observation.** Pond condition observations shall be kept in a logbook at the Facility. Attention shall be given to presence or absence of odors, dead algae, vegetation, weeds, debris, erosion, liner condition, and erosion or other structural failures. Notes regarding these listed pond conditions shall be summarized in the self-monitoring report.

VII. RECYCLING MONITORING REQUIREMENTS – NOT APPLICABLE

Recycling monitoring requirements are included in a separate Master Reclamation Permit Order R5-2005-0040-01 (as amended by Order R5-2012-0052).

VIII. RECEIVING WATER MONITORING REQUIREMENTS

A. Monitoring Locations RSW-001 and RSW-002

- 1. When discharging to the Auburn Ravine Creek, the Discharger shall monitor Auburn Ravine Creek at Monitoring Locations RSW-001 and RSW-002 in accordance with Table E-8 and the testing requirements described in section VIII.A.2 below:

Table E-8. Receiving Water Monitoring Requirements – RSW-001 and RSW-002

Parameter	Units	Sample Type	Minimum Sampling Frequency
pH	Standard Units	Grab	1/Week
Dissolved Oxygen	mg/L	Grab	1/Week
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Month
Dissolved Organic Carbon	mg/L	Grab	1/Quarter
Hardness (as CaCO3)	mg/L	Grab	1/Quarter
Temperature	°F	Grab	1/Week
Turbidity	NTU	Grab	1/Week

- 2. **Table E-8 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-8:
 - 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 **temperature, dissolved oxygen, pH, and electrical conductivity**, 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. **Temperature.** The Discharger may collect temperature samples at RSW-001 and RSW-002 when not discharging at Discharge Point 001 to demonstrate compliance with annual average temperature limitations.
3. In conducting receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by Monitoring Locations RSW-001 and RSW-002 when discharging to Auburn Ravine Creek. 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.

B. Monitoring Locations MW-1, MW-2, MW-3, MW-4, and MW-5

1. The Discharger shall monitor groundwater at Groundwater Monitoring Locations MW-1, MW-2, MW-3, MW-4 and MW-5, and any additional well installed to monitor groundwater, as specified in Table E-9 and the testing requirements in section VIII.B.4.
2. Prior to construction and/or beginning a sampling program of any new groundwater monitoring wells, the Discharger shall submit plans and specifications to the Central Valley Water Board. Once installed, all new wells shall be added to the monitoring network (which currently consists of well numbers MW-1, MW-2, MW-3, MW-4 and MW-5) and shall be sampled and analyzed according to the schedule below.
3. Prior to sampling, the groundwater elevations shall be measured, and the wells shall be purged of at least three well volumes until temperature, pH, and electrical conductivity have stabilized.

Table E-9. Groundwater Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Depth to Groundwater	±0.01 feet	Measurement	1/Quarter
Groundwater Elevation	±0.01 feet	Calculated	1/Quarter
Gradient	feet/feet	Calculated	1/Quarter
Gradient Direction	Degrees	Calculated	1/Quarter
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Quarter
pH	standard units	Grab	1/Quarter
Nitrate (as N)	mg/L	Grab	1/Quarter
Total Dissolved Solids	mg/L	Grab	1/Quarter
Total Organic Carbon	mg/L	Grab	1/Quarter
Iron, Dissolved	µg/L	Grab	1/Quarter
Manganese, Dissolved	µg/L	Grab	1/Quarter
Arsenic, Dissolved	µg/L	Grab	1/Quarter
Hardness (as CaCO ₃)	mg/L	Grab	1/Quarter
Alkalinity, Total (as CaCO ₃)	mg/L	Grab	1/Quarter
Standard Minerals	µg/L	Grab	1/Quarter

2. **Table E-9 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-9:

- a. **Groundwater elevation** shall be determined based on depth-to-water measurements from a surveyed measuring point elevation on the well. The groundwater elevation shall be used to calculate the direction and gradient of groundwater flow, which must be reported.
- b. **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. Monitoring requirements for specific parameters listed in Table E-9 may be collected and analyzed with the same sample for the respective quarter required in Order R5-2005-0040-01, but the analytical results shall be reported independently for each Order based on their specific reporting requirements.
- c. **Handheld Field Meter.** A handheld field meter may be used for **pH** and **electrical conductivity**, 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. **Standard minerals** shall include the following: boron, calcium, iron, magnesium, potassium, sodium, chloride, manganese, phosphorus, total alkalinity (including alkalinity series), and hardness, and include verification that the analysis is complete (i.e., cation/anion balance).
- e. **Minimum Sampling Frequency.** Existing monitoring wells MW-1, MW-2, MW-3, MW-4 and MW-5 shall be sampled quarterly for the first two years after the effective date of this Order, but can be reduced to twice per year monitoring frequency after the two year period for **total dissolved solids, total organic carbon, iron, manganese, arsenic, alkalinity, hardness, and standard minerals.** This reduced frequency does not apply to any wells constructed after the effective date of this Order.

IX. OTHER MONITORING REQUIREMENTS

A. Biosolids

1. Monitoring Location BIO-001

- a. A composite sample of sludge shall be collected once per permit term 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. Filtration System and Ultraviolet Light (UV) Disinfection System

- 1. **Monitoring Locations UVS-001 and FIL-001.** The Discharger shall monitor the filtration system at Monitoring Location FIL-001 and the UV disinfection system at Monitoring Location UVS-001 in accordance with Table E-10 and the testing requirements described in section IX.B.2 below:

Table E-10. Filtration System and UV Disinfection System Monitoring Requirements

Parameter	Units	Sample Type	Monitoring Location	Minimum Sampling Frequency
Flow	MGD	Calculated	UVS-001	1/Day
Turbidity	NTU	Meter	FIL-001	Continuous
Number of UV banks in operation	Number	Observation	N/A	Continuous
UV Transmittance	Percent (%)	Meter	FIL-001	Continuous
UV Dose	mJ/cm ²	Calculated	N/A	Continuous

Parameter	Units	Sample Type	Monitoring Location	Minimum Sampling Frequency
Total Coliform Organisms	MPN/100mL	Grab	UVS-001	1/Day

2. **Table E-10 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-10:

- 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. **Continuous analyzers.** 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. 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. **Turbidity.** Report daily average and maximum turbidity.
- d. **UV Dose.** Report daily minimum hourly average UV dose and daily average UV dose. The minimum hourly average dose shall consist of lowest hourly average dose provided in any channel that had at least one bank of lamps operating during the hour interval. For channels that did not operate for the entire hour interval, the dose will be averaged based on the actual operation time.

C. Pyrethroid Pesticides Monitoring

1. **Water Column Chemistry Monitoring Requirements.** The Discharger shall conduct effluent (EFF-001A) and receiving water (RSW-001 and RSW-002) baseline monitoring in accordance with Table E-11. **Quarterly monitoring shall be conducted for one year concurrent with the Effluent and Receiving Water Characterization Monitoring.** The discharger shall also submit a minimum of one quality assurance/quality control (QA/QC) sample during the year to be analyzed for the constituents listed in Table E-12.

The monitoring shall be conducted in the effluent at monitoring location EFF-001A and downstream receiving water at monitoring location RSW-002 and the results of such monitoring be submitted to the Central Valley Water Board with the quarterly self-monitoring reports. The Discharger shall use one of the Environmental Laboratory Accreditation Program (ELAP)-accredited laboratories

and methods that have been approved by the Central Valley Water Board’s Executive Officer for use in assessing compliance with the Basin Plan. A current list of ELAP approved laboratories and points of contact can be found on the [Central Valley Water Board’s Pyrethroid Pesticides TMDL and Basin Plan Amendment Webpage](https://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/central_valley_projects/central_valley_pesticides/pyrethroid_tmdl_bpa/index.html),

https://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/central_valley_projects/central_valley_pesticides/pyrethroid_tmdl_bpa/index.html.

Monitoring can either be conducted by the Discharger or can be done as part of a group monitoring effort. If the Discharger chooses to participate in a group monitoring effort, the timing and the other study requirements of the monitoring can be modified by the Executive Officer.

Table E-11. Pyrethroid Pesticides Monitoring

Parameter	CAS Number	Sample Units	Sample Type	Analytical Method	Reporting Level
Total Bifenthrin	82657-04-3	ng/L	Grab	See Table Note 1	1.3
Total Cyfluthrin	68359-37-5	ng/L	Grab	See Table Note 1	1.3
Total Cypermethrin	52315-07-8	ng/L	Grab	See Table Note 1	1.7
Total Esfenvalerate	51630-58-1	ng/L	Grab	See Table Note 1	3.3
Total Lambda-cyhalothrin	91465-08-6	ng/L	Grab	See Table Note 1	1.2
Total Permethrin	52645-53-1	ng/L	Grab	See Table Note 1	10
Freely Dissolved Bifenthrin	82657-04-3	ng/L	Calculated	Calculated from total concentration	--
Freely Dissolved Cyfluthrin	68359-37-5	ng/L	Calculated	Calculated from total concentration	--
Freely Dissolved Cypermethrin	52315-07-8	ng/L	Calculated	Calculated from total concentration	--
Freely Dissolved Esfenvalerate	51630-58-1	ng/L	Calculated	Calculated from total concentration	--
Freely Dissolved Lambda-cyhalothrin	91465-08-6	ng/L	Calculated	Calculated from total concentration	--
Freely Dissolved Permethrin	52645-53-1	ng/L	Calculated	Calculated from total concentration	--

Parameter	CAS Number	Sample Units	Sample Type	Analytical Method	Reporting Level
Dissolved Organic Carbon (DOC)		mg/L	Grab	--	--
Total Organic Carbon (TOC)		mg/L	Grab	--	--

Table Notes:

1. The Discharger shall use ELAP-accredited laboratories and methods validated by Central Valley Water Board staff for pyrethroid pesticides water column chemistry monitoring. A current list of ELAP-approved laboratories and points of contact can be found on the [Central Valley Water Board’s Pyrethroid Pesticides TMDL and Basin Plan Amendment Webpage](https://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/central_valley_projects/central_valley_pesticides/pyrethroid_tmdl_bpa/index.html): https://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/central_valley_projects/central_valley_pesticides/pyrethroid_tmdl_bpa/index.html.

The freely dissolved concentration of each quantified pyrethroid pesticide in a sample may be directly measured or estimated using partition coefficients. Methods for direct measurement must be approved by the Executive Officer before they are used to determine the freely dissolved pyrethroid concentrations that are used for determining exceedances of the pyrethroid pesticides numeric triggers.

To estimate the freely dissolved concentration of a pyrethroid pesticide with partition coefficients, the following equation shall be used:

$$C_{dissolved} = \frac{C_{total}}{1 + (K_{OC} \times [POC]) + (K_{DOC} \times [DOC])}$$

Where:

C dissolved = concentration of a an individual pyrethroid pesticide that is in the freely dissolved phase (ng/L),

C total = total concentration of an individual pyrethroid pesticide in water (ng/L),

KOC = organic carbon-water partition coefficient for the individual pyrethroid pesticide (L/kg),

[POC] = concentration of particulate organic carbon in the water sample (kg/L), which can be calculated as [POC]=[TOC]-[DOC],

[TOC] = total organic carbon in the sample (kg/L)

KDOC = dissolved organic carbon-water partition coefficient (L/kg),

[DOC] = concentration of dissolved organic carbon in the sample (kg/L).

Site-specific or alternative study-based partition coefficients approved by the Executive Officer may be used for KOC and KDOC in the above equation. If site-specific or alternative study-based partition coefficients are not available or have not been approved, the following partition coefficients shall be used for KOC and KDOC in the above equation:

Table E-12. Pyrethroid Pesticide Partition Coefficients

Pyrethroid Pesticide	Receiving water KOC (L/kg)	Receiving water KDOC (L/kg)	Effluent KOC (L/kg)	Effluent KDOC (L/kg)
Bifenthrin	4,228,000	1,737,127	15,848,932	800,000
Cyfluthrin	3,870,000	2,432,071	3,870,000	2,432,071
Cypermethrin	3,105,000	762,765	6,309,573	200,000
Esfenvalerate	7,220,000	1,733,158	7,220,000	1,733,158
Lambda-cyhalothrin	2,056,000	952,809	7,126,428	200,000
Permethrin	6,075,000	957,703	10,000,000	200,000

- 2. Water Column Toxicity Monitoring Requirements.** When discharging to the Auburn Ravine Creek, the Discharger shall monitor the toxicity of the downstream receiving water using U.S. EPA method EPA-821-R-02-012 (Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, USEPA, October 2002, or most recent edition). Except as specified in this order, water column toxicity testing shall follow the measurement quality objectives provided in the Surface Water Ambient Monitoring Program (SWAMP) Quality Assurance Program Plan (SWRCB, 2018). When feasible, the Discharger shall use the Southern California Coastal Water Research Project (SCCWRP) guidance (Schiff and Greenstein, 2016) on test organism age and size for *Hyalella azteca*.

For consistency with U.S. EPA Method EPA-821-R-02-012 and ELAP accreditation, *Hyalella Azteca* water column toxicity testing for baseline monitoring must be performed at 20 degrees Celsius.

Quarterly monitoring shall be conducted for one year concurrent with the Pyrethroid Pesticides Water Column Chemistry Monitoring during Effluent and Receiving Water Characterization Monitoring (see section IX.E of this MRP for specific dates). Downstream receiving water monitoring shall be conducted at monitoring location RSW-002 when discharging to the Auburn Ravine Creek and the results of such monitoring be submitted to the Central Valley Water Board with the quarterly self-monitoring reports. Monitoring can either be conducted by the Discharger or can be done as part of a group monitoring effort. If the Discharger chooses to participate in a group monitoring effort, the timing of the monitoring can be modified by the Executive Officer.

- 3. Exceedance of Numeric Triggers.** If the Pyrethroid Pesticides Water Column Chemistry Monitoring identifies an exceedance of any pyrethroid pesticides numeric trigger, the Discharger shall notify the Central Valley Water Board in writing of the exceedance and the Discharger’s intent to submit a Pyrethroid Management Plan. Monitoring results should be reviewed quarterly, and the Discharger shall notify the Central Valley Water Board of any exceedances of the Pyrethroid numeric triggers as soon as possible. The Pyrethroid Management Plan, as outlined in section VI.C.3 of this Order, shall be submitted to the Central

Valley Water Board within one year from the date that an exceedance is identified by either the Discharger or Central Valley Water Board staff. Pyrethroid concentrations that exceed the acute and/or chronic pyrethroid numeric triggers, as outlined in Table 4-2 of the Basin Plan, constitute an exceedance of a numeric trigger. In the absence of a pyrethroid numeric trigger exceedance, observed toxicity in the water column does not constitute a violation of the pyrethroid conditional prohibition.

Identification of an exceedance provides the information that the Pyrethroid Pesticides Water Column Chemistry Monitoring was designed to collect, per Chapter V of the Basin Plan; therefore, once an exceedance is identified, the Discharger may cease conducting subsequent Pesticides Water Column Chemistry Monitoring.

D. Effluent and Receiving Water Characterization

1. Monitoring Frequency

- a. **Effluent Sampling.** Samples shall be collected from the effluent (Monitoring Location EFF-001A) **quarterly between 1 July 2025 and 30 June 2026**, in calendar quarters where discharge occurs for 15 days or more.
 - b. **Receiving Water Sampling.** Samples shall be collected from the upstream receiving water (Monitoring Location RSW-001) **quarterly between 1 July 2025 and 30 June 2026**, in calendar quarters where discharge occurs for 15 days or more.
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. 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.
 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-15.

4. The Discharger shall conduct effluent and receiving water characterization monitoring in accordance with Table E-13 and the testing requirements described in section IX.D.5 below.

Table E-13. 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
21	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
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

CTR Number	Semi-Organic Volatile Parameters	CAS Number	Units	Effluent Sample Type
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
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
14	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	--	°C	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	Grab
NL	Specific Conductance (Electrical Conductivity or EC)	EC	µmhos/cm	24-hour Composite

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

NUTRIENTS

CTR Number	Nutrient Parameters	CAS Number	Units	Effluent Sample Type
NL	Ammonia (as N)	7664-41-7	mg/L	24-hour Composite
NL	Nitrate (as N)	14797-55-8	mg/L	24-hour Composite
NL	Nitrite (as N)	14797-65-0	mg/L	24-hour Composite
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	1,2,3-Trichloropropane (TCP)	96-18-4	µg/L	Grab
NL	Trichlorofluoromethane	75-69-4	µg/L	Grab
NL	1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	µg/L	Grab
NL	Styrene	100-42-5	µg/L	Grab
NL	Xylenes	1330-20-7	µg/L	Grab
NL	Barium	7440-39-3	µg/L	24-hour Composite
NL	Fluoride	16984-48-8	mg/L	24-hour Composite
NL	Molybdenum	7439-98-7	µg/L	24-hour Composite
NL	Tributyltin	688-73-3	µg/L	24-hour Composite
NL	Alachlor	15972-60-8	µg/L	24-hour Composite
NL	Atrazine	1912-24-9	µg/L	24-hour Composite
NL	Bentazon	25057-89-0	µg/L	24-hour Composite
NL	Carbofuran	1563-66-2	µg/L	24-hour Composite
NL	2,4-D	94-75-7	µg/L	24-hour Composite
NL	Dalapon	75-99-0	µg/L	24-hour Composite
NL	1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	µg/L	24-hour Composite
NL	Di(2-ethylhexyl)adipate	103-23-1	µg/L	24-hour Composite
NL	Dinoseb	88-85-7	µg/L	24-hour Composite
NL	Diquat	85-00-7	µg/L	24-hour Composite
NL	Endothal	145-73-3	µg/L	24-hour Composite
NL	Ethylene Dibromide (EDB)	106-93-4	µg/L	24-hour Composite
NL	Methoxychlor	72-43-5	µg/L	24-hour Composite
NL	Molinate (Ordram)	2212-67-1	µg/L	24-hour Composite
NL	Oxamyl	23135-22-0	µg/L	24-hour Composite
NL	Picloram	1918-02-1	µg/L	24-hour Composite
NL	Simazine (Princep)	122-34-9	µg/L	24-hour Composite
NL	Thiobencarb	28249-77-6	µg/L	24-hour Composite
NL	2,4,5-TP (Silvex)	93-72-1	µg/L	24-hour Composite

CTR Number	Other Constituents of Concern	CAS Number	Units	Effluent Sample Type
NL	Chlorpyrifos	2921-88-2	µg/L	24-hour Composite
NL	Diazinon	333-41-5	µg/L	24-hour Composite

5. **Table E-13 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-13:
- 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, with the exception of hardness which shall be sampled concurrently with the hardness-dependent metals (cadmium, chromium III, copper, 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-13.
 - g. **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 and 1631 (Revision E), respectively, with a reporting limit of 0.05 ng/L for methyl mercury and 0.5 ng/L for total mercury.
 - h. **Ammonia (as N).** Sampling is only required in the upstream receiving water.
 - 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/) (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-14. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	Submit with Monthly SMR

Sampling Frequency	Monitoring Period Begins On	Monitoring Period	SMR Due Date
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 Monthly SMR
1/Week, 2/Week, 3/Week	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
2/Month	Permit effective date	1st day of calendar month through the 15 th day of the calendar month and the 16 th day through the last day of the calendar month	Submit with Monthly SMR
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
2/Year	Permit effective date	1 January through 30 June 1 July through 31 December	1 August 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 (\pm 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.
 7. The Discharger shall submit in the SMRs calculations and reports in accordance with the following requirements:
 - a. **Removal Efficiency (BOD₅ and TSS).** The Discharger shall calculate and report the percent removal of BOD₅ and TSS in the SMRs. The percent removal shall be calculated as specified in section VII.A of the Waste Discharge Requirements.
 - b. **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.
 - c. **Dissolved Oxygen Receiving Water Limitations.** The Discharger shall report monthly in the self-monitoring report the dissolved oxygen concentrations in the effluent (EFF-001A) and the receiving water (Monitoring Locations RSW-001 and RSW-002).
 - d. **Turbidity Receiving Water Limitations.** The Discharger shall calculate and report the turbidity increase in the receiving water applicable to the natural turbidity condition specified in section V.A.16.a-e. of the Waste Discharge Requirements.
 - e. **Temperature Receiving Water Limitations.** The Discharger shall calculate and report the temperature change in the receiving water based on the difference in temperature at Monitoring Locations RSW-001 and RSW-002 and report the temperature at RSW-002.

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/) (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-15. 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-15:
 - 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/) (<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) (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) (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-15, to demonstrate compliance with this reporting requirement.

5. **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-15:
- a. Report of Waste Discharge (Form 200);
 - b. NPDES Form 1 (not needed if submitting Form 2A);
 - c. NPDES Form 2A;
 - d. NPDES Form 2S; and
 - e. **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.
6. **Annual Pretreatment Reporting Requirements.** 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-15 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-13 (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 grab sample, taken after dewatering by the centrifuges, from the Solids Holding Tank, which is equivalent to a sludge composite sample. 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-15 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-15. 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 May 2028	ROWD
2	Analytical Methods Report	1 September 2024	MRP X.D.1
3	Analytical Methods Report Certification	1 April 2025	MRP IX.D.3
4	Annual Operations Report	1 February 2025	MRP X.D.2
5	Annual Operations Report	1 February 2026	MRP X.D.2
6	Annual Operations Report	1 February 2027	MRP X.D.2
7	Annual Operations Report	1 February 2028	MRP X.D.2
8	Annual Operations Report	1 February 2029	MRP X.D.2
9	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2025	MRP X.D.3
10	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2026	MRP X.D.3
11	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2027	MRP X.D.3
12	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2028	MRP X.D.3
13	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2029	MRP X.D.3
14	Annual Pretreatment Report	28 February 2025	MRP X.D.6
15	Annual Pretreatment Report	28 February 2026	MRP X.D.6
16	Annual Pretreatment Report	28 February 2027	MRP X.D.6
17	Annual Pretreatment Report	28 February 2028	MRP X.D.6
18	Annual Pretreatment Report	28 February 2029	MRP X.D.6
Intentionally left blank	Other Reports	Intentionally left blank	Intentionally left blank
19	Groundwater Monitoring Well Network Study	1 March 2026	WDR VI.C.2.b
20	Groundwater Monitoring Well Installation Work Plan (if necessary)	1 June 2026	WDR VI.C.2.b.i
21	Groundwater Monitoring Well Installation Report (if necessary)	1 June 2027	WDR VI.C.2.b.ii
22	Pyrethroids Management Plan (if required)	1 June 2029	WDR VI.C.3.b
23	Pyrethroids Management Plan Mid-Term Progress Report (if required)	1 June 2029	WDR VI.C.3.b

Report #	Technical Report	Due Date	CIWQS Report Name
24	Pyrethroids Management Plan End-Term Progress Report (if required)	1 June 2029	WDR VI.C.3.b

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:	5A31NP00011
CIWQS Facility Place ID:	238365
Discharger:	Lincoln-SMD1 Wastewater Authority
Name of Facility:	LiSWA Wastewater Treatment and Reclamation Facility
Facility Address:	1245 Fiddymment Road
Facility City, State Zip:	Lincoln, CA 95648
Facility County:	Placer County
Facility Contact, Title and Phone Number:	Gary Hengst, Chief Plant Operator, (916) 434-5062
Authorized Person to Sign and Submit Reports:	George Barber, (530) 378-5240
Mailing Address:	1245 Fiddymment Road, Lincoln, CA 95648
Billing Address:	Same as Mailing Address
Type of Facility:	Publicly Owned Treatment Works (POTW)
Major or Minor Facility:	Major
Threat to Water Quality:	1
Complexity:	A
Pretreatment Program:	Yes
Recycling Requirements:	Recycling regulated under Master Reclamation Permit R5-2005-0040-01 (as amended by Order R5-2012-0052)

Facility Permitted Flow:	Existing Plant: 5.9 million gallons per day (MGD), average dry weather flow
Facility Design Flow:	Existing Plant: 5.9 MGD, average dry weather flow
Watershed:	Lower Sacramento
Receiving Water:	Auburn Ravine Creek
Receiving Water Type:	Inland Surface Water

- A. The LiSWA (hereinafter Discharger) is the owner and operator of the LiSWA Wastewater Treatment and Reclamation Facility (hereinafter Facility), a POTW. Stantec Consulting is the contract operator of the Facility.

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 Auburn Ravine Creek, a water of the United States and tributary of the Sacramento River, via East Side Canal and Natomas Cross Canal, within the Lower Sacramento watershed. The Discharger was previously regulated by Order R5-2018-0081-01 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0084476 adopted on 7 December 2018 with an expiration date of 31 January 2024. 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 30 January 2023. The application was deemed complete on 16 May 2023.
- 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 a population of approximately 67,000; with 51,000 in the City of Lincoln and 16,000 in western Placer County. The Facility's current design average dry weather flow capacity for tertiary treated wastewater is 5.9 MGD, with plans to expand the capacity in increments or in whole, up to 8.4 MGD ADWF.

A. Description of Wastewater and Biosolids Treatment and Controls

1. Facility Treatment Processes

a. Required Processes

- Influent flow meter
- Screening;
- Biological treatment within oxidation ditches that include nitrification and denitrification;
- Secondary clarification; three secondary clarifiers;
- Granular medium filtration; and
- Disinfection with ultraviolet (UV) light.

b. Auxiliary Processes

- Chemical coagulation and rapid mix flocculation;
- Two maturation ponds, which are designed to equalize flow within the treatment process, effluent temperatures with receiving water temperatures, and to effectively equalize effluent concentrations. The maturation ponds operate as one unit as these can be operated in parallel and/or in a series. Maturation Pond 1's slopes are lined with high-density polyethylene (HDPE) and Maturation Pond 2 is completely lined with a single 60-mil HDPE liner, but not double lined with leak detection. Due to use, exposure to the weather, and other factors, liners can degrade in time and result in unregulated discharges to groundwater. The liners in Maturation Ponds 1 and 2 were installed to aid in the maintenance of the ponds, not to prevent percolation of process water to groundwater. Therefore, for the above-mentioned reasons this Order considers both Maturation Ponds 1 and 2 a combined discharge point to groundwater;
- Dissolved air flotation (DAF) to remove algae that grows in the maturation ponds;
- Emergency Storage Basin with a 2-foot compacted clay liner on top of a 60-mil HDPE liner, capable of holding approximately 79 million gallons, is

provided to hold all influent and effluent that does not meet discharge requirements;

- During peak flows and/or emergency diversions to the Emergency Storage Basin, aerators are used when regulating return flows to the Influent Pump Station. The impounded wastewater is returned via gravity. The duration of peak flows and/or emergency diversions are typically short, less than 7 days, and return flows from the Emergency Storage Basin commences almost immediately after diversion initiates;
- Two existing storage basins for holding tertiary treated effluent from the Facility labeled as Tertiary Storage Basin 1 and 2 (capacity of 90 MG each). The Tertiary Storage Basins operate as one unit as these can be operated in parallel and/or in a series. Tertiary Storage Basin 1 slopes on the north and west are lined to prevent wave erosion. Tertiary Storage Basin 2 is fully lined with single 60-mil HDPE, but not double lined with leak detection. Due to use, exposure to the weather, and other factors, liners can degrade in time and result in unregulated discharges to groundwater. The liners in Tertiary Storage Basins 1 and 2 were installed to aid in the maintenance of the basins, not to prevent percolation of process water to groundwater. Therefore, for the above-mentioned reasons this Order considers both Tertiary Storage Basins 1 and 2 a combined discharge point to groundwater;
- Hard-pan layers are known to exist around the treatment plant area. There is no empirical study data to confirm percolation rates. Due to the Tertiary Storage Basin 1 and Maturation Pond 1 being partially lined, hard-pan geology, and no observed decrease in water levels in idle winter ponds, percolation rates are expected to be low.
- Field 7 is a stormwater storage basin and is planned as the future site of the optional Tertiary Storage Basin 3 (if constructed).
- The Orchard Creek 100-year flood plain is close to the southern boundary of the Facility. At the TSBs, a flood control channel diverts flood waters to the Stormwater Retention Basin south of the plant and contains flood waters which prevents contact with the TSB levees. The top of the levees exceed 124 feet MSL in elevation and the 100-year flood elevation is less than 106 feet MSL. At the maturation ponds, the reclamation field perimeters prevent primary flood channels from encroaching to the maturation pond levees. The secondary flood area can encroach on the maturation pond levees but is less than 105 feet MSL and the top of the levee is 114 feet MSL.

2. Pond Area

a. Maturation Ponds 1 and 2

- Maturation Pond 1 is 19.5 acres at maximum water surface (less area at reduced depths).
- Maturation Pond 2 is 20.8 acres at maximum water surface.

b. Tertiary Storage Basins 1 and 2

- Tertiary Storage Basin 1 and 2 are 20.7 acres and 21.9 acres, respectively, at maximum water surface.

3. Pond Working Liquid Depths

a. Maturation Ponds 1 and 2

- High water level elevation is 114.0 feet above mean sea level (AMSL) with 2 feet overflow freeboard. The low water level elevation is 96.5 feet AMSL, drained.
- Working depth is 0 feet to 17.5 feet with overflow freeboard. Working depth is usually 10 feet to 12 feet to retain equalization storage capacity.

b. Tertiary Storage Basins 1 and 2

- High water level elevation is 123.0 feet AMSL. Low water level elevation is 108.5 feet AMSL, usually 110.5 feet to prevent plant growth in Tertiary Storage Basin 1.
- Working Depth 13.5 feet in Tertiary Storage Basin 1 and 15.5 feet in Tertiary Storage Basin 2 when fully drained.

4. Pond Invert Elevations

a. Maturation Ponds 1 and 2

- 96.5 feet AMSL at the lowest point (floor slopes up).

b. Tertiary Storage Basins 1 and 2

- 108.5 feet AMSL at the lowest point (floor slopes up).

5. Vertical Separation Distance Between Pond Invert and Highest Anticipated Groundwater

Groundwater elevations vary over time, as do projected groundwater gradients between monitoring wells

a. Maturation Ponds 1 and 2

- Groundwater Monitoring Well MW-2 appears most in line with Maturation Ponds 1 and 2 and indicates a maximum recorded groundwater elevation of 85.0 feet AMSL.
- The minimum vertical separation between pond inverts and groundwater is 11.5 feet.
- The average groundwater elevation is approximately 78 feet AMSL.
- The average separation is approximately 18.5 feet.

b. Tertiary Storage Basins 1 and 2

- Groundwater Monitoring Well MW-4 appears most in line with the Tertiary Storage Basins 1 and 2 and indicates a maximum recorded groundwater elevation of 96.0 feet AMSL.
- The minimum vertical separation between the Tertiary Storage Basins invert and groundwater is 12.5 feet.
- The average groundwater elevation is approximately 88 feet AMSL.
- The average separation is approximately 20.5 feet.

6. Biosolids Treatment and Disposal

- Sludge is dewatered using a centrifuge and/or active solar drier.
- Sludge is hauled to a landfill and/or a composting facility.
- The Facility produces approximately 1,506 dry metric tons of biosolids, annually. Transportation and disposal/reuse of the biosolids are regulated by U.S. EPA under 40 C.F.R. part 503.
- All dewatering centrate returns to the plant drain system and back to the influent pump station where it passes through the Facility treatment system.

7. Groundwater Monitoring Network

- Five Groundwater Monitoring Wells are located on site (MW-1, MW-2, MW-3, MW-4, and MW-5).

8. Discharge Point 001 Design Capacity. Tertiary treated effluent is either discharged to Auburn Ravine Creek at Discharge Point 001 or to on-site and off-site reclamation areas (regulated by WDR Order R5-2005-0041-01). The Discharger has the ability to divert tertiary treated effluent to the tertiary storage

basins to store recycled water, store final effluent during downstream flood events, and/or store effluent that does not meet requirements of this Order (e.g., receiving water temperature limits). Because the Facility is able to temporarily store tertiary treated effluent and discharge it at a later date, there are times when no discharge to Auburn Ravine Creek at Discharge Point 001 is occurring and there are times when the discharge to Auburn Ravine Creek exceeds the regulated flow capacity of the treatment works (e.g., flow is being discharged directly from the treatment process and stored, treated effluent is being discharged from the tertiary storage basins). The outfall at Discharge Point 001 currently possesses a maximum hydraulic capacity of 25 MGD, as a daily average.

B. Discharge Points and Receiving Waters

1. The Facility is located in Sections 29 and 30, T11N, R6E, MDB&M, as shown in Attachment B, a part of this Order.
2. Treated municipal wastewater is discharged at Discharge Point 001 to Auburn Ravine Creek, a water of the United States and tributary of the Sacramento River, via East Side Canal and Natomas Cross Canal, at a point latitude 38° 51' 05" N longitude 121° 21' 23" W.
3. Tertiary treated municipal wastewater is discharged to groundwater at Discharge Point 002 from Tertiary Storage Basins 1 and 2 at an approximate latitude of 38° 51' 38" N longitude 121° 20' 55" W. Discharge to groundwater occurs when treated effluent is stored in Tertiary Storage Basin 1 or 2, which is a storage basin designed to hold tertiary treated effluent prior to discharge to Auburn Ravine Creek or to the reclamation system.
4. Secondary treated, undisinfected municipal wastewater is discharged to groundwater at Discharge Point 003 from Maturation Ponds 1 and 2 at an approximate latitude of 38° 51' 40" N longitude 121° 20' 51" W. Discharge to groundwater occurs when process water is stored in Maturation Ponds 1 or 2, which are treatment ponds designed to equalize flow within the Facility, to equalize effluent temperatures with receiving water temperatures, and to effectively equalize effluent concentrations of conservative contaminants, such as metals in the process water.
5. The Facility is located on the following APNs: 021-283-002-000, 021-283-003-000, 021-283-011-000, 021-282-009-000, and 021-140-032-000. The treatment facilities, emergency storage basin and tertiary storage basins, east of Fiddymment Road, are located on APNs 021-283-002-000, 021-283-003-000, and 021-283-011-000. The maturation ponds and reclamation area, west of Fiddymment Road, are located on APNs 021-282-009-000 and 021-140-032-000.

Table F-2 Land Application Area Owners

APN		Total Acreage	Owner
1	021-283-002-000	18.9	Lincoln-SMD1 Wastewater Agency
2	021-283-003-000	420.19	Lincoln-SMD1 Wastewater Agency
3	021-283-011-000	1.6	Lincoln-SMD1 Wastewater Agency
4	021-282-009-000	151.40	Lincoln-SMD1 Wastewater Agency
5	021-140-032-000	131.40	Lincoln-SMD1 Wastewater Agency

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

1. Effluent limitations contained in Order R5-2018-0081-01 for discharges from the Filter Clearwell Internal Waste Stream Compliance Point (Monitoring Location INT-001) and representative monitoring data from the term of Order R5-2018-0081-01 are as follows:

Table F-3 Historic Effluent Limitations and Monitoring Data – Filter Clearwell Internal Waste Stream Compliance Point (INT-001)

Parameter	Units	Historic Effluent Limitations	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	AMEL 10 AWEL 15	5.9	14	35
Total Suspended Solids	mg/L	AMEL 10 AWEL 15	5.6	8.0	18
Total Coliform Organisms	MPN/100 ml	AMEL 23 (see table note 1. below) AWEL 2.2 (see table note 2. below) MDEL 240 (see table note 3. below)	--	<2	70

Table F-3 Notes:

1. Applied as a 7-day median effluent limitation.
 2. Not to be exceeded more than once in any 30-day period.
 3. Applied as an instantaneous maximum effluent limitation.
2. Effluent limitations contained in Order R5-2018-0081-01 for discharges from Discharge Point 001 (Old Monitoring Location EFF-001) and representative monitoring data from the term of Order R5-2018-0081-01 are as follows:

Table F-4 Historic Effluent Limitations and Monitoring Data – EFF-001A and EFF-001B

Parameter	Units	Historic Effluent Limitations	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Average Dry Weather Flow	MGD	MDEL 25	--	--	16 (see table note 1 below)
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	AMEL 30 AWEL 45	6.9	15	31
Biochemical Oxygen Demand (5-day @ 20°C)	% Removal	AMEL 85	97.5 (see table note 2 below)	--	--
pH	Standard Units	Instantaneous Minimum 6.5 Instantaneous Maximum 8.5	--	--	6.9 (minimum) 8.3 (maximum)
Total Suspended Solids	mg/L	AMEL 30 AWEL 45	5.4	11	23
Total Suspended Solids	% Removal	AMEL 85	97.4 (see table note 2 below)	--	--
Ammonia (as N)	mg/L	AMEL 0.70 AWEL 1.6	0.40	0.70	2.1
Mercury, Total Recoverable	lbs/year	AMEL 0.28 AWEL -- MDEL --	0.0063 (see table note 3 below)	--	--

Table F-4 Notes:

1. Represents the maximum observed daily discharge flow.
2. Represents the minimum observed percent removal.
3. Represents the maximum total calendar annual mass load as an instantaneous maximum effluent limitation.

D. Compliance Summary

Since the adoption of Order R5-2018-0081 the Discharger has not received Mandatory Minimum Penalties (MMPs).

E. Planned Changes

The Discharger is in the process of completing a phased expansion project to increase the Facility's treatment capacity incrementally from an average dry weather flow of 5.9 MGD to an average dry weather flow of up to 8.4 MGD in order to accommodate planned growth. An Antidegradation Analysis has been completed for 8.4 MGD. The phases will incrementally include new grit removal, oxidation ditch(es), secondary clarifier(s), a recycled activated sludge (RAS) pump station, a maturation pond outlet pump station, a dissolved air flotation thickener (DAFT), new filter(s) and hydraulic improvements to achieve an equivalent ADWF capacity up to 8.4 MGD.

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 land discharge 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, Fifth Edition (Revised May 2018), for the Sacramento and San Joaquin River Basins (hereinafter Basin Plan) that 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.

The Basin Plan at II-2.00 states that the beneficial uses of any specifically identified water body generally apply to its tributary streams. The Basin Plan in Table II-1, section II, does not specifically identify beneficial uses for Auburn Ravine Creek, but does identify present and potential uses for the Sacramento River from the Colusa Basin Drain to the I Street Bridge, to which Auburn Ravine Creek, via East Side Canal and Natomas Cross Canal, is tributary. 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 (MUN). Thus, beneficial uses applicable to Auburn Ravine Creek are as follows:

Table F-5 Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Auburn Ravine Creek	<u>Existing:</u> Municipal and domestic supply (MUN); agricultural supply for irrigation (AGR); water contact recreation, including canoeing and rafting (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 and cold spawning, reproduction, and/or early development (SPWN); wildlife habitat (WILD); and navigation (NAV).
002 and 003	Groundwater	<u>Existing:</u> Municipal and domestic water supply (MUN); agricultural supply (AGR); industrial service supply (IND); and industrial process supply (PRO).

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, §§ 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. §§ 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. 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 Discharger has submitted a Notice of Intent (NOI) and been approved for coverage under the State Water Board Water Quality Order 2014-0057-DWQ, General Permit for Storm Water Discharges Associated with Industrial Activities (NPDES General Permit No. CAS000001). Therefore, this Order does not regulate storm water.
10. **Statewide General Waste Discharge Requirements for Sanitary Sewer Systems.** The State Water Board adopted the General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order (WQ 2022-0103-DWQ) on 6 December 2023. The General Order requires public agencies that own or operate sanitary sewer systems with greater than 1 mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMPs) and report all sanitary sewer overflows (SSOs), among other requirements and prohibitions.

The Discharger is subject to the requirements of, and must comply with, State Water Board Order WQ 2022-0103-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems and any subsequent order.

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. On 6 April 2018 U.S. EPA gave final approval to California's 2014 – 2016 section 303(d) List of Water Quality Limited Segments. 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." Neither Auburn Ravine Creek nor East Side Canal are listed as impaired on the 303(d) list of impaired water bodies. The listing for Natomas Cross Canal (Sutter County) includes mercury. The listing for the Sacramento River (Knights Landing to the Delta) includes chlordane, dichlorodiphenyltrichloroethane (DDT), dieldrin, mercury, polychlorinated biphenyls (PCBs), and unknown toxicity.

2. Total Maximum Daily Loads (TMDLs). Table F-6, below, identifies the 303(d) listings and any applicable TMDLs for Natomas Cross Canal and Sacramento River (Knights Landing to the Delta). At the time of this permit renewal, there are no approved TMDLs with waste load allocations (WLAs) that apply to this Facility.

Table F-6. 303 (d) List for Natomas Cross Canal and Sacramento River

Pollutant	Potential Sources	TMDL Status (see Table note 2)
Mercury (Natomas Cross Canal (Sutter County))	Source Unknown	Under Development
Chlordane (Sacramento River (Knights Landing to the Delta))	Source Unknown	Under Development
DDT (Sacramento River (Knights Landing to the Delta))	Source Unknown	Under Development
Dieldrin (Sacramento River (Knights Landing to the Delta))	Source Unknown	Under Development
Mercury (Sacramento River (Knights Landing to the Delta))	Source Unknown	Under Development

Pollutant	Potential Sources	TMDL Status (see Table note 2)
PCBs (Sacramento River (Knights Landing to the Delta))	Source Unknown	Under Development
Unknown Toxicity (Sacramento River (Knights Landing to the Delta))	Source Unknown	Under Development

Table F-6 Notes:

1. The 303(d) listings and TMDLs have been considered in the development of the Order.
2. This impairment is not currently prioritized for TMDL development during the permit period. The date of completion for a TMDL will be updated in future permit revisions should the prioritization of this impairment change.

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.

The Facility receives influent primarily from domestic sources but does currently receive influent from three industrial sources covered under the City’s pretreatment program. The Facility is currently permitted to discharge up to 25 MGD of tertiary treated wastewater to Auburn Ravine Creek. The Facility is also permitted to discharge tertiary treated wastewater to groundwater from Tertiary Storage Basins 1 and 2, which are used to hold tertiary treated wastewater before it is discharged to Auburn Ravine Creek, to the reclamation system (which includes ponds to the west and south of Tertiary Storage Basins 1 and 2) or to groundwater. The Facility is also permitted to discharge secondary treated wastewater to groundwater from Maturation Ponds 1 and 2, which are a treatment ponds designed to equalize flow within the Facility, to equalize effluent temperatures with receiving water temperatures, and to equalize effluent concentrations in the Facility effluent.

The Auburn Ravine Creek serves as a natural drainage basin originating in the City of Auburn and flowing westward, ultimately joining the Sacramento River. This watercourse is subject to regulation by PG&E upstream and is employed by the Nevada Irrigation District (NID) to transport water to agricultural operations in the valley. Downstream of the Moore Road bridge, located west of the City of Lincoln, the Auburn Ravine Creek features a section characterized by a hardened creek bed. The geological composition of the discharge and treatment plant region consists of hard pan layers, evident in the presence of numerous vernal pools within the vicinity. Additionally, the rice farms in the area are influenced by these hard pan conditions, retaining water and exhibiting low percolation rates.

Geotechnical assessments have identified perched groundwater lenses atop these hard-pan layers, effectively isolating surface conditions from deeper aquifer layers. Run-off from the region adheres to natural topographical drainage patterns, primarily flowing towards the Auburn Ravine and descending westward. Some runoff also moves southward, ultimately converging with Orchard Creek before joining the Auburn Ravine west of the discharge location. There are no ponds or lakes in the immediate vicinity of the Facility, except for seasonal rice fields and the Facility's treatment plant ponds.

The groundwater gradient predominantly follows a north-to-south direction. Within approximately 1 mile and 1.5 miles east of Discharge Point 001, the City of Lincoln maintains two drinking water wells that conform to established drinking water quality standards. The area is characterized by a relatively low population density, primarily comprising farmland. Discharge Point 001 is located at an approximate elevation of 108 feet above mean sea level in Placer County, California, where the average annual rainfall measures approximately 22 inches. According to data from the California Irrigation Management Information System (CIMIS), the reference evaporation rate for Zone 14 (Mid Central Valley) stands at 57.0 inches per year.

In order to qualify for an exemption from Title 27 under section 20090(b), the Discharger, which is subject to WDRs and is prohibited from discharging wastewater that needs to be managed as "hazardous waste" under Title 22, chapter 11, division 4.5, must demonstrate compliance with the Basin Plan, which requires that constituent concentrations in the groundwater do not exceed either the Basin Plan's groundwater water quality objectives or background groundwater concentrations, whichever is greater. The Discharger operates a groundwater monitoring network that consists of five monitoring wells (MW-1 through MW-5), which was installed to monitor discharges to groundwater from the reclamation ponds on site but not specifically Tertiary Storage Basins 1 and 2 or Maturation Ponds 1 and 2. Therefore, this Order requires a groundwater well network assessment to determine if any of the existing wells can be used to monitor groundwater compliance for discharges from Tertiary Storage Basins 1 and 2 and Maturation Ponds 1 and 2, or if new wells need to be installed for this purpose.

The following is a summary of EC, chloride, nitrate, pH, iron, and manganese data between 2004 and 2023 from monitoring wells MW-1, MW-2, MW-3, MW-4, and MW-5.

Table F-7 Groundwater Monitoring Data Summary (2004-2023)

Well ID	EC (µmhos/cm)	Chloride (mg/L)	Nitrate (as N) (mg/L)	pH (std. units)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)
MW-1	Min: 448 Avg: 493 Max: 578	Min: 49 Avg: 65 Max: 90	Min: <0.1 Avg: 0.2 Max: 0.4	Min: 5.7 Avg: 6.4 Max: 7.2	Min: <0.03 Avg: 0.16 Max: 0.9	Min: <0.01 Avg: 0.04 Max: 0.17
MW-2	Min: 377 Avg: 445 Max: 612	Min: 21 Avg: 41 Max: 53	Min: <0.2 Avg: 2.4 Max: 8.0	Min: 5.8 Avg: 6.6 Max: 7.1	Min: <0.03 Avg: 0.07 Max: 0.08	Min: <0.01 Avg: 0.03 Max: 0.06
MW-3	Min: 555 Avg: 621 Max: 709	Min: 26 Avg: 34 Max: 43	Min: <0.1 Avg: 0.2 Max: 0.4	Min: 6.2 Avg: 6.6 Max: 7.1	Min: <0.01 Avg: 0.10 Max: 0.35	Min: <0.01 Avg: 0.18 Max: 0.96
MW-4	Min: 257 Avg: 400 Max: 440	Min: 10 Avg: 45 Max: 57	Min: <0.1 Avg: 0.6 Max: 3.3	Min: 5.6 Avg: 6.5 Max: 7.4	Min: <0.03 Avg: 0.05 Max: 0.06	Min: <0.01 Avg: 0.01 Max: 0.02
MW-5	Min: 456 Avg: 508 Max: 588	Min: 11 Avg: 39 Max: 66	Min: <0.2 Avg: 2.1 Max: 5.4	Min: 6.2 Avg: 6.8 Max: 7.2	Min: <0.03 Avg: 0.06 Max: 0.06	Min: <0.01 Avg: 0.01 Max: 0.01

All five wells remain below the nitrate MCL of 10 mg/L and EC averaged less than 700 µmhos/cm.

The following is a summary of annual average groundwater elevation, EC, chloride, nitrate, total coliform organisms, iron, and manganese data from the most recent five year for monitoring wells MW-1, MW-2, MW-4, and MW-5. The past five year annual averages of constituents that were collected at EFF-001A are also provided for comparison. Not all parameters collected from the monitoring wells were collected at EFF-001A.

Table F-8 Annual Average Groundwater Elevation Data (ft NAVD88)

Year	MW-1	MW-2	MW-3	MW-4	MW-5
2018	90.7	78.6	79.4	77.5	68.6
2019	92.7	80.2	79.7	79.7	69.6
2020	88.9	78.0	79.4	78.6	68.1
2021	84.1	76.1	79.9	77.1	66.9
2022	87.9	71.9	80.0	71.0	65.2

Table F-9 Annual Average Electrical Conductivity Groundwater Monitoring Data (µmhos/cm)

Year	MW-1	MW-2	MW-3	MW-4	MW-5
2018	497	389	592	406	525
2019	476	419	590	413	536

Year	MW-1	MW-2	MW-3	MW-4	MW-5
2020	476	404	643	425	568
2021	471	395	638	417	556
2022	520	404	644	425	561

Table F-10 Annual Average Chloride Groundwater Monitoring Data (mg/L)

Year	MW-1	MW-2	MW-3	MW-4	MW-5
2018	60	41	34	48	55
2019	57	40	35	48	59
2020	52	36	39	46	60
2021	53	38	39	47	63
2022	59	40	37	45	64

Table F-11 Annual Average Nitrate as Nitrogen Groundwater Monitoring Data (mg/L)

Year	MW-1	MW-2	MW-3	MW-4	MW-5
2018	<0.1	1.5	0.2	0.1	0.9
2019	0.2	1.0	0.2	0.3	0.7
2020	0.1	1.7	0.3	0.3	0.8
2021	<0.1	1.5	0.1	0.3	0.8
2022	0.2	1.4	0.1	0.5	0.7

Table F-12 Annual Average Total Coliform Organisms Groundwater Monitoring Data (MPN/100mL)

Year	MW-1	MW-2	MW-3	MW-4	MW-5
2018	<0.1	<0.1	<0.1	<0.1	<0.1
2019	<0.1	<0.1	<0.1	<0.1	<0.1
2020	<0.1	<0.1	<0.1	<0.1	<0.1
2021	<0.1	<0.1	<0.1	<0.1	N/A
2022	<0.1	<0.1	<0.1	<0.1	<0.1

Table F-13 Annual Average Dissolved Iron Groundwater Monitoring Data (mg/L)

Year	MW-1	MW-2	MW-3	MW-4	MW-5
2018	<0.03	<0.03	0.05	<0.03	<0.03
2019	<0.03	<0.03	0.07	<0.03	<0.03
2020	<0.03	<0.03	0.08	<0.03	<0.03
2021	<0.03	<0.03	<0.03	<0.03	<0.03
2022	<0.03	<0.03	<0.03	<0.03	<0.03

Table F-14 Annual Average Dissolved Manganese Groundwater Monitoring Data (mg/L)

Year	MW-1	MW-2	MW-3	MW-4	MW-5
2018	<0.01	<0.01	0.05	<0.01	<0.01
2019	<0.01	<0.01	0.21	0.01	<0.01
2020	<0.01	<0.01	0.31	0.01	<0.01
2021	<0.01	<0.01	0.03	0.01	<0.01
2022	<0.01	<0.01	0.05	0.02	<0.01

Table F-15 Annual Average EFF-001A Data

Year	Ammonia as Nitrogen (mg/L)	Nitrate as Nitrogen (mg/L)	Total Coliform Organisms (MPN/100 mL)	EC (µmhos/cm)
2018	<0.10	4.7	<1.0	410
2019	<0.10	3.7	<1.0	440
2020	<0.10	4.4	<1.0	450
2021	<0.10	4.8	<1.0	420
2022	<0.10	5.0	<1.0	330

Ammonia in the Facility effluent has remained below 0.1 mg/L on average. Nitrate and coliform concentrations meet their respective water quality objectives for the Facility effluent and all five monitoring wells. EC on average is less than 700 µmhos/cm in the effluent and all five monitoring wells.

The following are trend plots of MW-1 through MW-5 data collected since 2004 for EC, chloride, nitrate, pH, iron and manganese. The monitoring well concentrations are depicted as solid lines.

Figure F-1. Groundwater Electrical Conductivity Trends

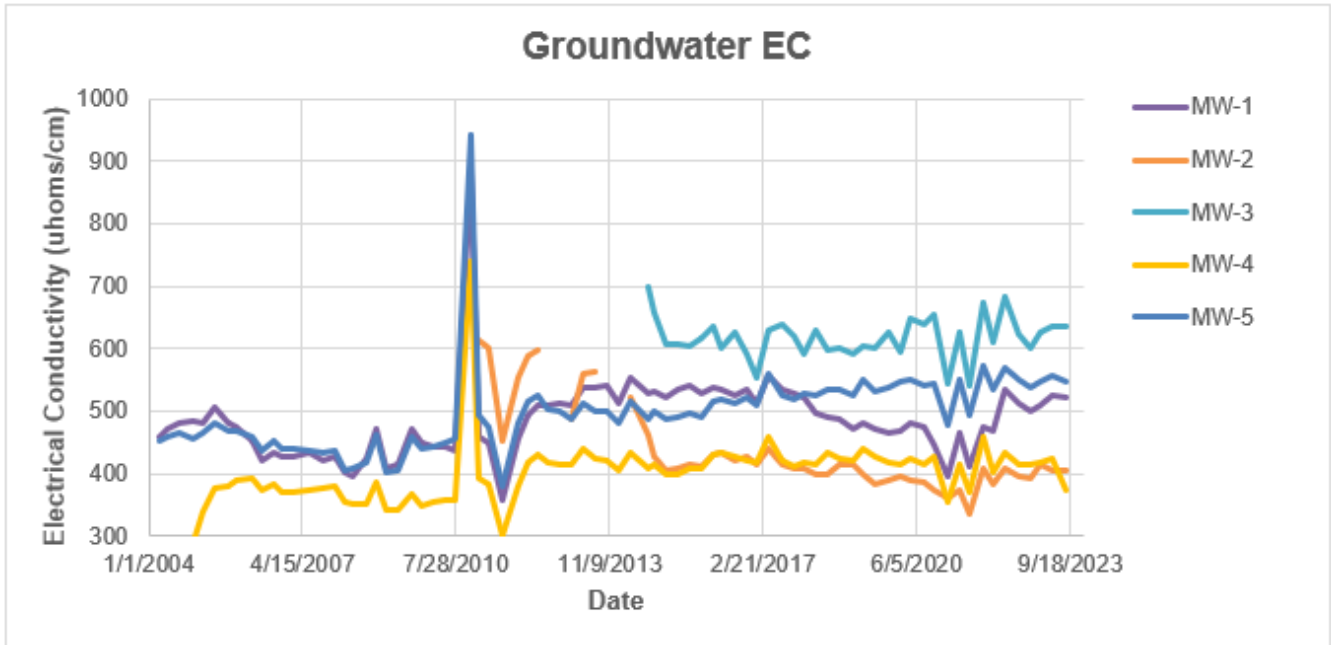


Figure F-2. Groundwater Chloride Trends

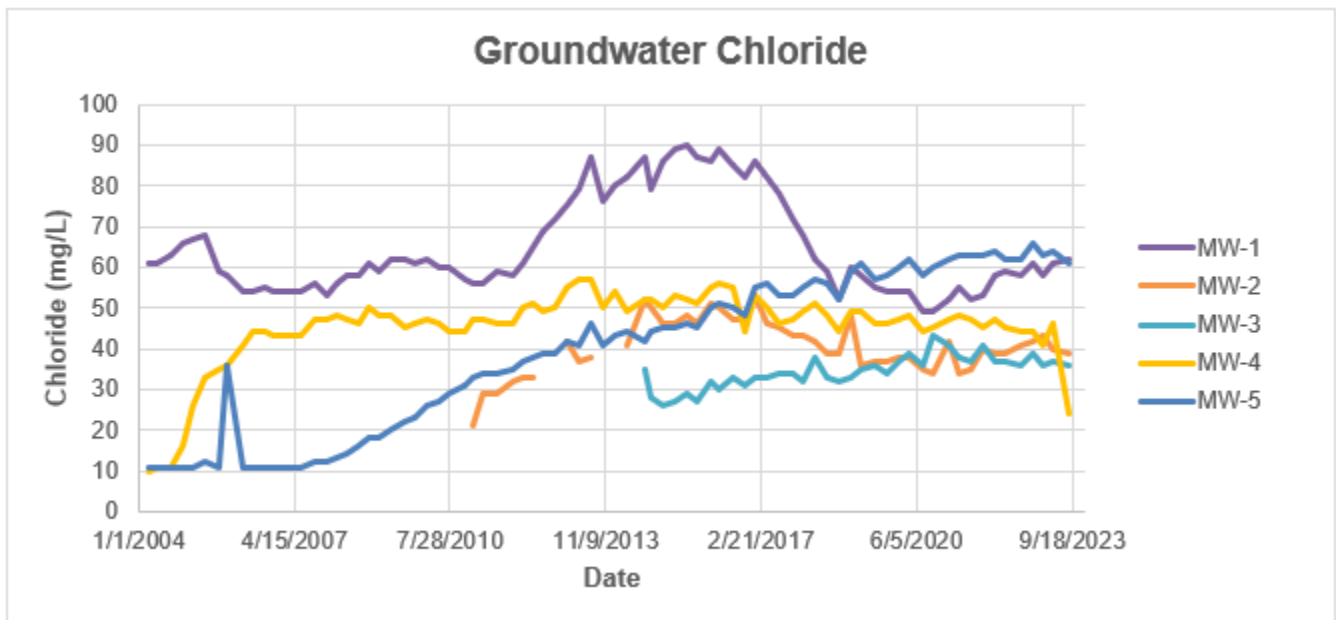


Figure F-3. Groundwater Nitrate Trends

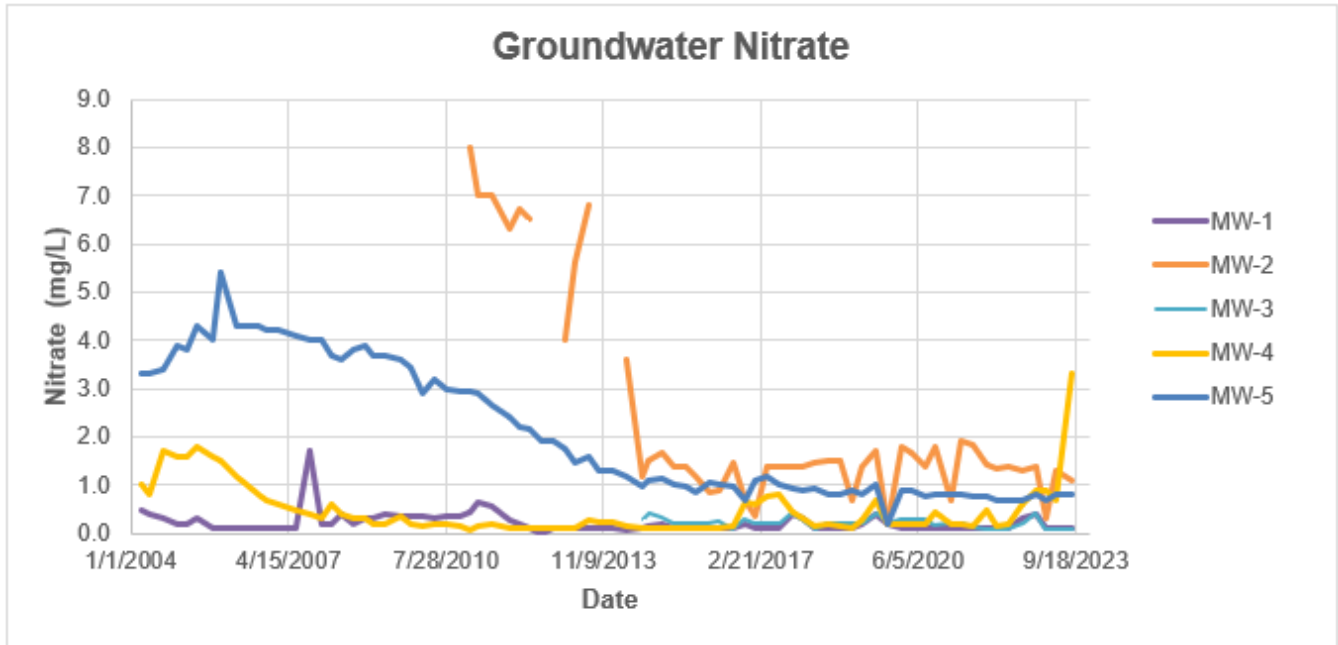


Figure F-4. Groundwater Total Coliform Organisms Trends

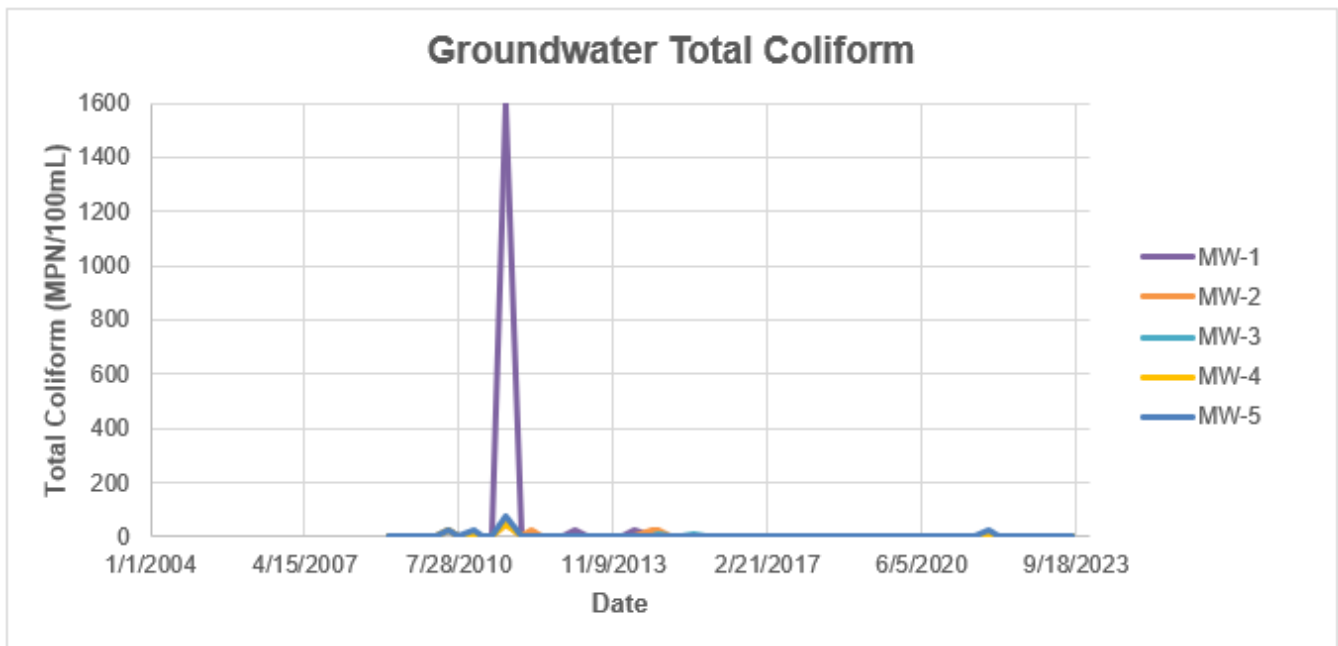


Figure F-5. Groundwater pH Trends

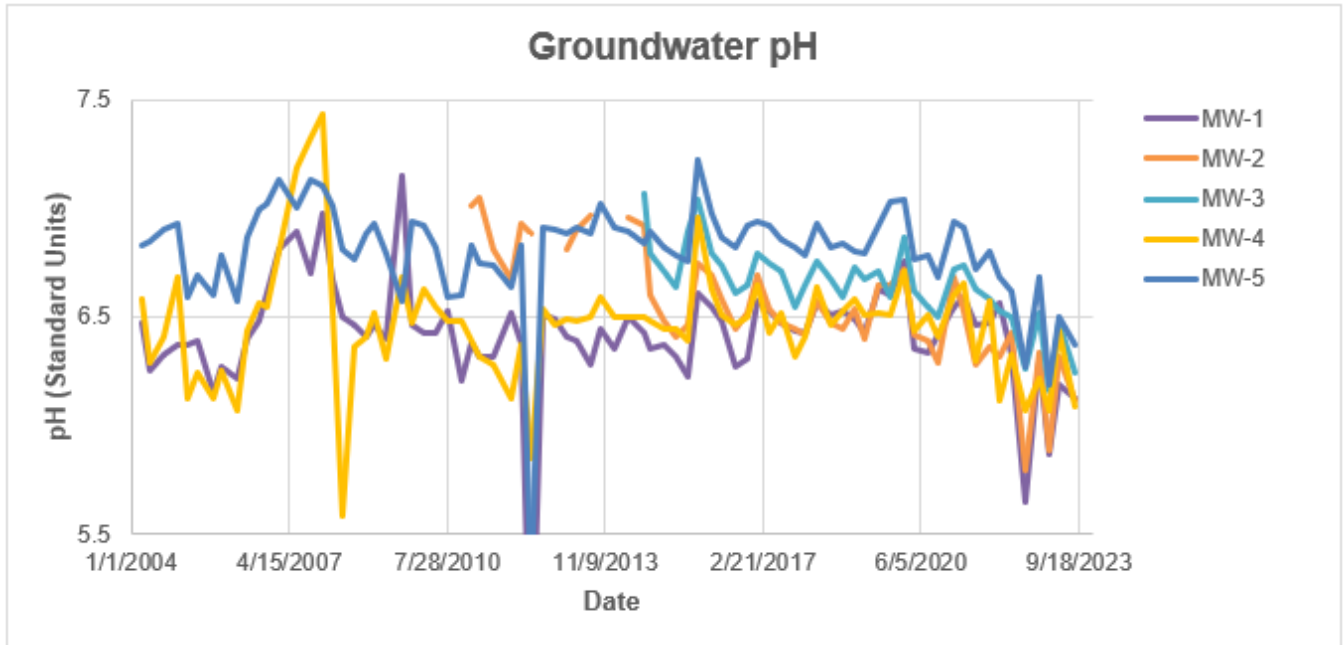


Figure F-6. Groundwater Iron Trends

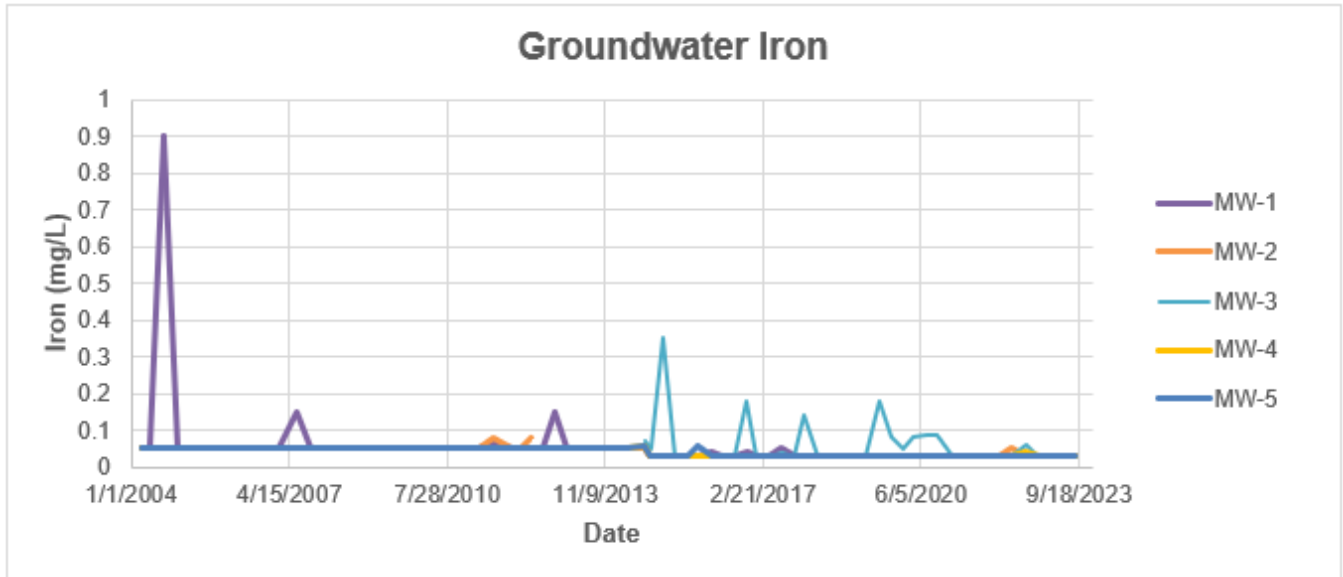
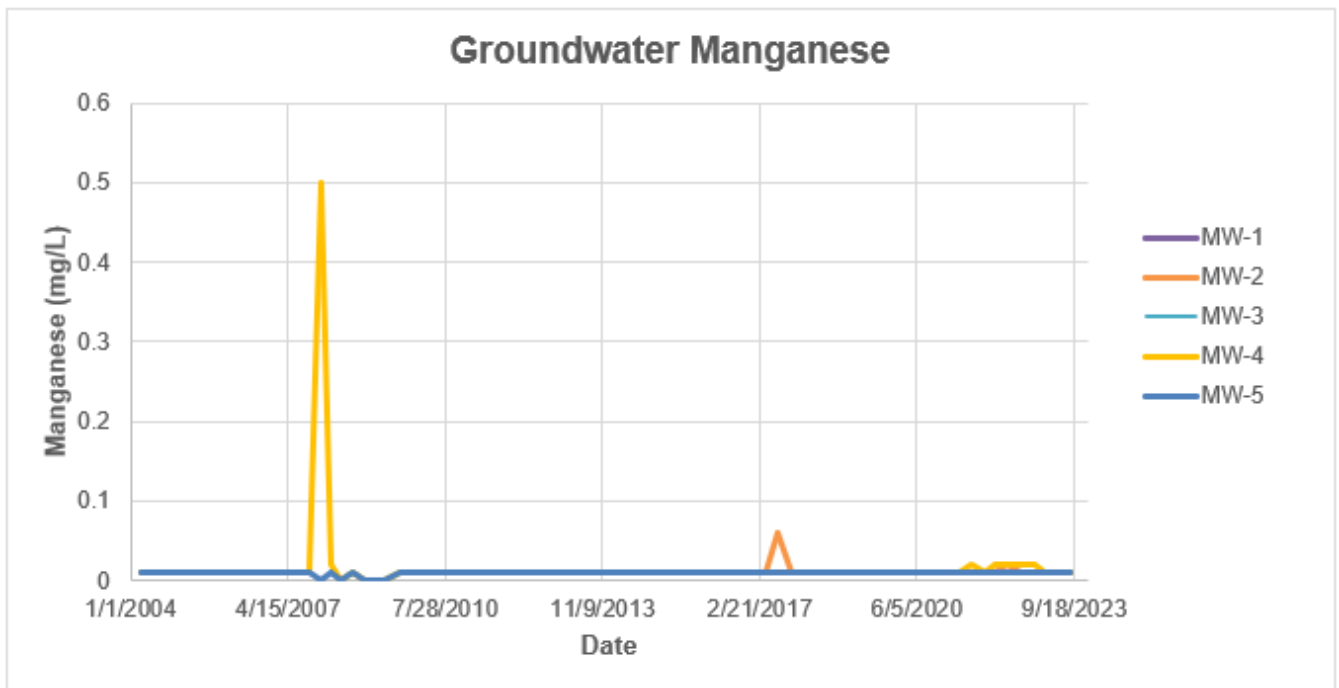


Figure F-7. Groundwater Manganese Trends



Over the past five years all five wells, including upgradient well MW-1, have had concentrations of pH less than 6.5. The trend for all five wells appears to increase pH concentrations around 2020 and then decreasing after this timeframe to where they are currently in 2023.

Electrical conductivity appears to be stable in all five wells and is less than 700 μ mhos/cm. The Discharger selected to participate in the Prioritization and

Optimization Study for the Salt Control Program. To help ensure that the Discharger continues to implement salinity reduction measures, this Order includes a trigger of 700 $\mu\text{mhos/cm}$ for electrical conductivity to update the Salinity Evaluation and Minimization Plan. Furthermore, this Order requires the Discharger to comply with the new Salinity Control Program (i.e., to participate in the P&O Study).

The data discussed above appear to demonstrate that the existing monitoring wells are in compliance with water quality objectives for nitrate. However, as mentioned previously, the monitoring wells were not installed to monitor groundwater compliance for Tertiary Storage Basins 1 and 2 or Maturation Ponds 1 and 2; therefore, the demonstration that the wells and effluent are in compliance with water quality objectives does not necessarily confirm that the groundwater downgradient of Tertiary Storage Basins 1 and 2 and Maturation Ponds 1 and 2 is in compliance with water quality objectives. Therefore, this Order requires a groundwater well network assessment to determine if any of the existing wells can be used to monitor groundwater compliance for discharges from Tertiary Storage Basins 1 and 2 and Maturation Ponds 1 and 2 or if new wells need to be installed for this purpose. If the Discharger determines that additional groundwater monitoring wells are needed to determine compliance, this Order specifies the information that is required to be provided to the Central Valley Water Board as part of the well construction and development and what sampling is required once the well installation is complete.

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 section 122.41(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. This prohibition ensures the Facility is operated within its treatment capacity and accounts for the permitted increase in the design average dry weather flow treatment capacity rating following Facility expansion and compliance with Special Provision VI.C.6.b of this Order. Previous Order R5 2018 0081-01 included average dry weather discharge flow limits at the Filter Clearwell Internal Waste Stream Compliance Point based on the Facility design flow. Flow is not a pollutant and, therefore, effluent limits for flow have been changed to a discharge prohibition in this Order, which is an equivalent level of regulation. This Order is not less stringent because compliance with flow as a discharge prohibition will be calculated the same way as the previous Order.
6. **Prohibition III.F (Maximum Hydraulic Capacity).** This prohibition is based on the design maximum hydraulic capacity of the outfall at Discharge Point 001 (Monitoring Location EFF-001B). Previous Order R5-2018-0081-01 included flow as an effluent limit at Discharge Point 001 based on the design capacity of the outfall. Flow is not a pollutant and therefore has been changed from an effluent limitation to a discharge prohibition in this Order, which is an equivalent level of regulation.

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 POTW's [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 biochemical oxygen demand (BOD₅), total suspended solids (TSS), and pH.

2. Applicable Technology-Based Effluent Limitations

- a. **BOD₅ 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 BOD₅ and TSS. As described in section IV.C.3 of this Fact Sheet, this Order requires WQBELs that are equal to or more stringent than the secondary technology-based treatment described in 40 C.F.R. part 133 (see section IV.C.3.b of the Fact Sheet for a discussion on pathogens, which includes WQBELs for BOD₅ and TSS.)

Section 122.45(h) of 40 C.F.R. specifies that effluent limitations may be applied to internal waste streams when standards imposed at the point of discharge are impractical or infeasible. After the equivalent of full tertiary treatment, including filtration and UV disinfection, tertiary treated wastewater may be discharged to Auburn Ravine Creek at Discharge Point 001 or may be diverted from the filter clearwell to the tertiary storage basins until conditions in Auburn Ravine Creek are appropriate for disposal. The tertiary storage basins allow the Discharger 1) to store wastewater for recycled water uses, 2) to store final effluent during downstream flood events, or 3) to store effluent that does not meet the requirements of this Order (e.g., receiving water temperature limitations).

For the Facility's treatment process, the tertiary treatment standards required by the State Water Board, Division of Drinking Water (DDW) for BOD₅ and TSS are met prior to discharge to the tertiary storage basins. When the tertiary treated wastewater, which has already achieved compliance with DDW standards, is removed from the storage basins for

discharge to Auburn Ravine Creek, the wastewater may no longer meet the tertiary definitions for BOD5, TSS, and total coliform organisms; however, the DDW standards have been met and no longer require confirmation. Under the CWA, only secondary treatment is required for surface water discharge and the 30-day average BOD5 and TSS limitations for secondary treatment are adequate. Therefore, it is not necessary to retreat the wastewater from the tertiary storage basins for BOD5 and TSS removal to meet tertiary standards at Discharge Point 001. Due to the retention time in the tertiary storage basins, storage in the tertiary storage basins may result in growth of algae, regrowth of microorganisms, and re-suspensions of silts and sediments. Therefore, in order to meet the secondary effluent limitations, before the wastewater from the tertiary storage basins is discharged, it may be necessary to remove algae and particulates by re-routing the wastewater through the DAF units. The wastewater may also require an increase in dissolved oxygen by re-routing the wastewater through the re-aeration basin. Thus, this Order contains tertiary effluent limitations for BOD5 and TSS before discharge to surface water or to the tertiary storage basins at the filter clearwell, with compliance measured at Monitoring Location INT-001 (see section IV.C.3.b of this Fact Sheet), and secondary effluent limitations for BOD5 and TSS at Discharge Point 001, with compliance measured at Monitoring Location EFF-001A.

Section 133.102 of 40 C.F.R., in describing the minimum level of effluent quality attainable by secondary treatment, states that the 30-day average BOD5 and TSS percent removal shall not be less than 85 percent. However, wastewater held in Tertiary Storage Basins 1 and 2 is no longer part of the treatment process, but may be held for a period longer than 30 days before discharge to Auburn Ravine Creek, making the 30-day average percent removal determination after treatment infeasible at times. Therefore, this Order contains a limitation requiring an average of 85 percent removal of BOD5 and TSS over each calendar month, applicable at internal monitoring location INT-001. Monitoring location INT-001 provides a feasible monitoring location to determine the 30-day average BOD5 and TSS percent removal following completion of the tertiary treatment process by comparing the influent BOD5 and TSS concentrations with the post tertiary treatment process BOD5 and TSS concentrations.

- 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-16. Summary of Technology-based Effluent Limitations

Parameter	Units	Effluent Limitations
Biochemical Oxygen Demand (5- day @ 20°C)	mg/L	AMEL 30 AWEL 45 MDEL --
Biochemical Oxygen Demand (5- day @ 20°C)	% Removal	AMEL 85 AWEL -- MDEL --
pH	Standard Units	Instantaneous Minimum 6.0 Instantaneous Maximum 9.0
Total Suspended Solids	mg/L	AMEL 30 AWEL 45 MDEL --
Total Suspended Solids	% Removal	AMEL 85 AWEL -- MDEL --

Table F-16 Notes:

- Note that more stringent WQBELs for BOD₅, pH, and TSS are applicable and are established as final effluent limitations in this Order (see section IV.C.3. 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 technology equivalence requirements, 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.3 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 October 2020 through March 2023, which includes effluent and ambient background data submitted in SMR's. Ambient background data collected from October 2020 through March 2023 was also considered for the purposes of the RPA, since the upstream receiving water was not influenced by any change in the effluent characterization due to regionalization.
- c. **Assimilative Capacity/Mixing Zone**

The Central Valley Water Board finds, based on the available information, that Auburn Ravine Creek, absent the discharge from the Facility, is a low-flow/intermittent stream and may go subsurface during dry months. The ephemeral nature of Auburn Ravine Creek means that the designated beneficial uses must be protected, but that no credit for receiving water dilution is available. Although the discharge, at times, maintains the aquatic habitat, constituents may not be discharged that may cause harm to aquatic life.

The Discharger has not submitted flow data or a mixing zone/dilution study requesting dilution credits. Thus, consistent with the assumptions used for Order R5-2018-0081-01, the worst-case dilution for Auburn Ravine Creek is assumed to be zero to provide protection of the receiving water beneficial uses. The impact of assuming zero assimilative capacity within the receiving water is that discharge limitations are applied end-of-pipe, with no allowance for dilution within the receiving water.
- d. **Conversion Factors.** The CTR contains aquatic life criteria for arsenic, cadmium, chromium III, chromium VI, copper, lead, nickel, silver, and zinc, which are presented in dissolved concentrations. U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. The default U.S. EPA conversion factors contained in Appendix 3 of the SIP were used to convert the applicable dissolved
- 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 Auburn Ravine Creek ranges from 38 mg/L to 96 mg/L based on collected ambient data from October 2020 through March 2023. 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 38 mg/L (minimum) up to 96 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-17 to conduct the reasonable potential analysis (RPA) and calculate WQBELs, protect beneficial uses under all ambient receiving water conditions and comply with the SIP, CTR, and Basin Plan.

Table F-17. 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	50	7.3	5.2
Chromium III	50	980	120
Cadmium	41 (acute) 50 (chronic)	2.1	1.4
Lead	41	34	1.3
Nickel	50	260	30
Silver	41	1.2	--
Zinc	50	70	70

Table F-17 Notes:

- 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)).
- Ambient hardness (mg/L).** Values in Table F-17 represent actual observed receiving water hardness measurements.
- Copper Water Effects Ratio (WER).** This Order allows a site-specific 6.34 for copper to calculate the criteria (see Section IV.C.2.d).

The Discharger submitted a 30 September 2020 *City of Lincoln Copper Water-Effect Ratio Verification Study* (WER Verification Study), which assessed whether the existing dissolved copper WER of remains applicable after the regionalization project with the Placer County SMD1 WWTP was completed, since the inflow from Placer County SMD1 WWTP constitutes up to 18.6 percent of the total inflow to the Facility. The WER Verification Study determined that the site-specific 6.34 WER for copper was still applicable after regionalization based on the following conclusions:

- A. Post-regionalization effluent water quality is within the range of the water quality during the 2010/2011 Copper WER Study and pre-regionalization;
- B. Most effluent water quality characteristics did not change materially from pre- to post regionalization. While EC did reduce from pre- to post-regionalization, the post-regionalization effluent EC values are similar to EC values that occurred during the 2010/2011 copper WER study, and as such, are not expected to impact the Facility copper WER value to where the respective chronic criterion would be less than the Facility's MEC for copper;
- C. From 2011 to regionalization, SMD1 effluent never exceeded acute or chronic toxicity testing limits;
- D. Facility effluent did not exceed acute or chronic toxicity testing limits in 2016 or 2017 following the May 2016 regionalization; and
- E. The potable water supplies for Lincoln and SMD1 are similar.

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 wasteload allocation for the discharge prepared by the State and approved by 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 Auburn Ravine Creek is subject to TMDLs for chlorpyrifos, and diazinon and wasteload allocations under those TMDLs are available in the Basin Plan. 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 for the Sacramento River and San Joaquin River Basins and amended the Basin Plan to include diazinon and chlorpyrifos waste load allocations and water quality objectives. The Basin Plan Amendment for the

Sacramento River and San Joaquin River Basins for Control of Diazinon and Chlorpyrifos Discharges was adopted by the Central Valley Water Board on 28 March 2014 and became effective on 16 August 2017.

The amendment modified Basin Plan Chapter 3 (Water Quality Objectives) to establish site-specific numeric objectives for diazinon and chlorpyrifos for waters with COLD and/or WARM beneficial uses below major dams 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:

$$S = C_d/WQO_d + C_c/WQO_c \leq 1.0$$

Where:

C_d = diazinon concentration in $\mu\text{g/L}$ of point source discharge

C_c = chlorpyrifos concentration in $\mu\text{g/L}$ of point source discharge

WQO_d = acute or chronic diazinon water quality objective in $\mu\text{g/L}$

WQO_c = acute or chronic chlorpyrifos water quality objective in $\mu\text{g/L}$

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.”

The WLAs apply to waterbodies that are downstream of the major dams in Table 3-5 of the Basin Plan, which includes Englebright Dam on the Yuba River. The Facility discharges to Auburn Ravine Creek, which drains to the Sacramento River between Knights Landing and the Delta.

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

(1). Average Monthly Effluent Limitation (AMEL)

$$S_{AMEL} = C_D M\text{-avg}/0.079 + C_C M\text{-avg}/0.012 \leq 1.0$$

$C_D M\text{-AVG}$ = average monthly diazinon effluent concentration in $\mu\text{g/L}$.

$C_C M\text{-AVG}$ = average monthly chlorpyrifos effluent concentration in $\mu\text{g/L}$

(2). Average Weekly Effluent Limitation (AWEL)

$$S_{AWEL} = C_D W\text{-avg}/0.14 + C_C W\text{-avg}/0.021 \leq 1.0$$

$C_D W\text{-AVG}$ = average weekly diazinon effluent concentration in $\mu\text{g/L}$.

$C_C W\text{-AVG}$ = average weekly chlorpyrifos effluent concentration in $\mu\text{g/L}$.

(c) **Plant Performance and Attainability.** Chlorpyrifos and diazinon were not required to be monitored in Order R5-2018-0081-01. 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.

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.

i. **Salinity**

(a) **WQO.** The Basin Plan contains a chemical constituent objective that incorporates state MCLs, contains a narrative objective, and contains numeric water quality objectives for certain specified water bodies for electrical conductivity, total dissolved solids, sulfate, 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 electrical conductivity, total dissolved solids, and 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 interpret the narrative chemical constituent Basin Plan objective. The Central Valley Water Board must determine the applicable numeric limit to implement the narrative objective for the protection of agricultural supply. Table F-18, below, contains various recommended levels for EC or TDS, sulfate, and chloride.

Table F-18 Salinity Water Quality Criteria/Objectives

Parameters	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 900 or TDS 500	EC 1,600 or TDS 1,000	EC 2,200 or TDS 1,500	N/A	436 or 304	516 or 540
Sulfate (mg/L)	250	500	600	N/A	33	35
Chloride (mg/L)	250	500	600	860 1-hour / 230 4-day	46	50

Table F-18 Notes:

- 1. Agricultural Water Quality Objectives.** Applicable agricultural water quality objectives vary. Procedures for establishing the applicable numeric limitation to implement the narrative chemical constituent objective can be found in the Policy for Application of Water Quality Objectives, section 4.2.2.1.9 of the Basin Plan. However, 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.
- 3. Chloride.** The Secondary MCL for chloride is 250 mg/L, as a recommended level, 500 mg/L as an upper level, and 600 mg/L as a short-term maximum.

4. **Electrical Conductivity or Total Dissolved Solids.** The Secondary MCL for EC is 900 $\mu\text{mhos/cm}$ as a recommended level, 1600 $\mu\text{mhos/cm}$ as an upper level, and 2200 $\mu\text{mhos/cm}$ as a short-term maximum, or when expressed as TDS is 500 mg/L as a recommended level, 1000 mg/L as an upper level, and 1500 mg/L as a short-term maximum.
5. **Sulfate.** The Secondary MCL for sulfate is 250 mg/L as a recommended level, 500 mg/L as an upper level, and 600 mg/L as a short-term maximum.

(b) **RPA Results.**

- (1) **Chloride.** Chloride concentrations in the effluent ranged from 23 mg/L to 68 mg/L, with a maximum annual average of 46 mg/L. The maximum observed receiving water chloride concentration was 12 mg/L. These levels do not exceed the Secondary MCL.
- (2) **Electrical Conductivity or Total Dissolved Solids.** A review of the Discharger' monitoring reports shows a maximum observed annual average electrical conductivity of 320 $\mu\text{mhos/cm}$, with a range from 315 $\mu\text{mhos/cm}$ to 510 $\mu\text{mhos/cm}$. The maximum observed receiving water electrical conductivity was 100 $\mu\text{mhos/cm}$. These levels do not exceed the Secondary MCL recommended level.

Total dissolved solids concentrations in the effluent ranged from 168 mg/L to 310 mg/L, with a maximum annual average of 180 mg/L. The maximum observed receiving water total dissolved solids concentration was 150 mg/L. These levels do not exceed the Secondary MCL recommended level.

- (3) **Sulfate.** Sulfate concentrations in the effluent ranged from 25 mg/L to 38 mg/L, with a maximum annual average of 30 mg/L. The maximum observed receiving water sulfate concentration was 10 mg/L. These levels do not exceed the Secondary MCL recommended level.

Based on the relatively low levels of salinity, the discharge does not have reasonable potential to cause or contribute to an in-stream excursion above applicable water quality objectives. However, since the Discharger discharges to Auburn Ravine Creek, a tributary of the Sacramento River and eventually the Sacramento-San Joaquin Delta, of additional concern is the salt contribution to Delta waters. Allowing the Discharger to increase its current salt loading may be contrary to the Region-wide effort to address salinity in the Central Valley. Therefore, in order to ensure the Discharger will continue to control the discharge of

salinity, this Order requires the Discharger to continue to implement a salinity evaluation and minimization plan. Also, water supply monitoring is required to evaluate the relative contribution of salinity from the source water to the effluent.

(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, 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) rather than the application of conservative discharge limits.

The Discharger submitted a Notice of Intent for the Salinity Control Program on 08 July 2021 indicating its intent to meet the Alternative Salinity Permitting Approach. 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 consistent with the Alternative Salinity Permitting Approach. This performance-based trigger is based on the maximum annual average effluent EC concentration for a calendar year using data from October 2020 through March 2023, adjusted to account for possible drought, water conservation, and water recycling efforts.

ii. **Mercury**

- (a) **WQO.** The current NAWQC for protection of freshwater aquatic life, continuous concentration, for mercury is 0.77 µg/L (30-day

average, chronic criteria). The CTR contains a human health criterion (based on a threshold dose level causing neurological effects in infants) of 0.050 µg/L for waters from which both water and aquatic organisms are consumed. Both values are controversial and subject to change. 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 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-5, the beneficial uses of Auburn Ravine Creek includes WILD therefore, the Sport Fish Water Quality Objective is applicable and is the most stringent objective.

- (b) **RPA Results.** The Statewide Mercury Provisions specify that the RPA shall be conducted using the maximum annual average effluent and background mercury concentrations for comparison with the Sport Fish Water Quality Objective. The maximum observed effluent mercury concentration was 0.85 ng/L, with a maximum annual average of 0.54 ng/L, based on nine samples collected from October 2020 through March 2023. No ambient mercury samples were taken during the last permit cycle.

Therefore, the discharge does not exhibit reasonable potential to cause or contribute to an exceedance of the Sport Fish Water Quality Objective or the Statewide Mercury Provisions in the receiving water.

Previous Order R5-2018-0081-01 contained performance-based mass limitations for mercury due to concerns that the existing water quality objectives did not consider the effects of

bioaccumulation and the 303(d) listing in the Natomas Cross Canal and the Sacramento River. The intent was to ensure the effluent mercury loading would be maintained at the current levels. The Statewide Mercury Provisions provide water quality objectives that account for bioaccumulation. The discharge does not have reasonable potential to exceed the new objectives, therefore the performance-based mass effluent limitations and routine monitoring for mercury contained in previous Order R5-2018-0081-01 have not been carried forward in this Order.

- 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, pH, and total coliform organisms. 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 Auburn Ravine Creek. 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 Auburn Ravine Creek 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 Auburn Ravine Creek has a beneficial use of cold freshwater habitat and the presence of salmonids in the Feather 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 October 2020 and March 2023. The most stringent CMC of 5.6 mg/L (ammonia as N) calculated has been implemented in this Order.

The chronic (30-day average) criterion or CCC was calculated using paired effluent pH and temperature data, collected during the period from October 2020 and March 2023. The most stringent 30-day rolling average CCC of 1.4 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 3.4 mg/L (ammonia as N), the 4-day average concentration that should not be exceeded is 8.5 mg/L.

- (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 1.2 mg/L and 2.8 mg/L, respectively, based on the site-specific ammonia criteria for Auburn Ravine Creek.
- (d) **Plant Performance and Attainability.** Based on the available effluent data, the Central Valley Water Board concludes that immediate compliance with these effluent limitations is feasible.

ii. **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 nitrification/denitrification to remove ammonia, nitrite, and 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 AMEL and AWEL for nitrate plus nitrite of 10 mg/L and 17 mg/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 MUN beneficial use.
- (d) **Plant Performance and Attainability.** The maximum observed concentration for nitrate plus nitrite in the effluent was 8.1 mg/L based on twenty-two samples collected from October 2020 through March 2023, which is below the WQBELs. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

iii. 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 Auburn Ravine Creek include MUN, 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 2 NTU as a daily average; 5 NTU, not to be exceeded more than 5 percent of the time within a 24-hour period; and 10 NTU as an instantaneous maximum.

Final WQBELs for BOD₅ and TSS are also required based on the technical capability of the tertiary process. The tertiary treatment standards for BOD₅ and TSS are indicators of the effectiveness of the tertiary treatment process. The principal design parameter for wastewater treatment plants is the daily BOD₅ 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 BOD₅

and TSS than the technology-based secondary standards. Therefore, this Order requires AMELs for BOD₅ and TSS of 10 mg/L, which is technically based on the capability of a tertiary system.

Section 122.45(h) of 40 C.F.R. specifies that effluent limitations may be applied to internal waste streams when standards imposed at the point of discharge are impractical or infeasible. As described further in sections II.A and IV.B.2 of this Fact Sheet, this Order requires the Discharger to comply with tertiary effluent limitations for BOD₅ and TSS prior to discharge to surface water or to the tertiary storage basins at the filter clearwell, with compliance measured at Monitoring Location INT-001, and secondary effluent limitations for BOD₅ and TSS at Discharge Point 001, with compliance measured at Monitoring Location EFF-001A. Additionally, compliance with the effluent limitations for total coliform organisms shall be assessed at Monitoring Location UVS-001.

- (d) **Plant Performance and Attainability.** The Facility provides tertiary treatment and utilizes a UV 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.

iv. 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.** Effluent pH ranged from 6.9 to 8.0. Therefore, the Central Valley Water Board concludes that immediate compliance with the effluent limitations is feasible.

4. WQBEL Calculations

- a. This Order includes WQBELs for ammonia, BOD5, nitrate plus nitrite, pH, total coliform organisms, and TSS. 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:

$$\text{ECA} = C + D(C - B) \text{ where } C > B, \text{ and}$$
$$\text{ECA} = C \text{ where } C \leq B$$

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.

$$\begin{aligned}
 AMEL &= mult_{AMEL} \left[\min \left(\overbrace{M_A ECA_{acute}}^{LTA_{acute}}, M_C ECA_{chronic} \right) \right] \\
 MDEL &= mult_{MDEL} \left[\min \left(M_A ECA_{acute}, \underbrace{M_C ECA_{chronic}}_{LTA_{chronic}} \right) \right] \\
 MDEL_{HH} &= \left(\frac{mult_{MDEL}}{mult_{AMEL}} \right) AMEL_{HH}
 \end{aligned}$$

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
 Filter Clearwell and Discharge Point 001**

**Table F-19 Summary of Water Quality-Based Effluent Limitations - Filter Clearwell
 Internal Waste Stream Compliance Point (Monitoring Location INT-001)**

Parameter	Units	Average Monthly Effluent Limitations	Average Weekly Effluent Limitations
Biochemical Oxygen Demand, 5-day @ 20°Celsius (BOD ₅) (see table note 1)	milligrams per liter (mg/L)	10	15
Total Suspended Solids (TSS) (see table note 1)	mg/L	10	15
Total Coliform Organisms (see table note 4 and 5 below)	MPN/100 mL	23 (see table note 2 below)	2.2 (see table note 3 below)

Table F-19 Notes:

1. **Percent Removal:** The average monthly percent removal of 5-day biochemical oxygen demand (BOD5) and total suspended solids (TSS) shall not be less than 85 percent.
2. Not to be exceeded more than once in any 30-day period.
3. Applied as a 7-day median effluent limitation.
4. Instantaneous limit is 240 MPN/100mL, at any time.
5. Compliance for total coliform organism limitations for INT-001 are measured at UVS-001.

Table F-20 Summary of Water Quality-Based Effluent Limitations - Discharge Point 001 (Monitoring Location EFF-001A)

Parameter	Units	Average Monthly Effluent Limitations	Average Weekly Effluent Limitations
Biochemical Oxygen Demand, 5-day @ 20°Celsius (BOD5)	milligrams per liter (mg/L)	30	45
Total Suspended Solids (TSS)	mg/L	30	45
Ammonia (as N)	mg/L	1.2	2.8
Nitrate Plus Nitrite (as N)	mg/L	10	17
Diazinon and Chlorpyrifos	µg/L	(see table note 1 below)	(see table note 2 below)
pH	standard units	(see table note 3 below)	--

Table F-20 Notes:

1. Diazinon and Chlorpyrifos AMEL

$$S_{AMEL} = C_D M\text{-avg} / 0.079 + C_C M\text{-avg} / 0.012 \leq 1.0$$

$C_D M\text{-AVG}$ = average monthly diazinon effluent concentration (µg/L).

$C_C M\text{-AVG}$ = average monthly chlorpyrifos effluent concentration (µg/L)

2. Diazinon and Chlorpyrifos AWEL

$$S_{AWEL} = C_D W\text{-avg} / 0.14 + C_C W\text{-avg} / 0.021 \leq 1.0$$

C_D W-AVG = average weekly diazinon effluent concentration ($\mu\text{g/L}$).

C_C W-AVG = average weekly chlorpyrifos effluent concentration ($\mu\text{g/L}$).

3. **pH.** Instantaneous minimum of 6.5 and instantaneous maximum of 8.5.

5. Whole Effluent Toxicity (WET)

The Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California (ISWEBE Plan) contains toxicity provisions, including numeric objectives for acute and chronic aquatic toxicity, that are applicable to this discharge and are hereafter referred to as the Toxicity Provisions.

- a. **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, H_0 , shall be used:

H_0 : Mean response (ambient water) $\leq 0.80 \cdot$ mean response (control)

And where the following alternative hypothesis, H_a , shall be used:

H_a : Mean response (ambient water) $> 0.80 \cdot$ 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.

- b. **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, H_0 , shall be used

H_0 : Mean response (ambient water) $\leq 0.75 \cdot$ mean response (control)

And where the following alternative hypothesis, H_a , shall be used:

H_a : Mean response (ambient water) $> 0.75 \cdot$ 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.

The Basin Plan contains a narrative toxicity objective that states, “All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.” (Basin Plan at page section 3.1.) To evaluate compliance with the Statewide Toxicity Provisions aquatic toxicity numeric objectives and Basin Plan’s narrative toxicity objective, acute and chronic whole effluent toxicity testing data has been evaluated in the development of this Order.

- c. **Chronic Toxicity Reasonable Potential Analysis.** The table below is chronic WET testing performed by the Discharger from October 2020 through March 2023.

Table F-21 Chronic Whole Effluent Toxicity Testing Results – Test of Significant Toxicity at the IWC (100 Percent Effluent)

Date	Water Flea (<i>Ceriodaphnia dubia</i>) Survival		Water Flea (<i>Ceriodaphnia dubia</i>) Reproduction		Fathead Minnow (<i>Pimephales promelas</i>) Survival		Fathead Minnow (<i>Pimephales promelas</i>) Growth		Green Alga (<i>Pseudokirchneriella subcapitata</i>) Growth	
	Pass/Fail	Percent Effect	Pass/Fail	Percent Effect	Pass/Fail	Percent Effect	Pass/Fail	Percent Effect	Pass/Fail	Percent Effect
10/12/2020	Pass	0	Pass	7.8	--	--		--	--	--
1/11/2021	Pass	0	Pass	10.2	--	--		--	--	--
4/12/2021	Pass	0	Pass	0.96	--	--		--	--	--
10/11/2021	Pass	0	Pass	18.03	--	--		--	--	--
2/28/2022	Pass	0	Pass	-3.9	Pass	-2.6	Pass	0.9	Pass	-40
4/11/2022	Pass	0	Fail	48.3	Pass	5.1	Pass	19	Pass	-23
5/2/2022	Pass	0	Pass	22.5	--	--		--	--	--
5/25/2022	Pass	0	Pass	24.8	--	--		--	--	--
10/24/2022	Pass	-11.1	Pass	10.6	--	--		--	--	--
2/13/2023	Pass	0	Fail	39.15	--	--		--	--	--
3/6/2023	Pass	0	Pass	-1.67	--	--		--	--	--
3/13/2023	Pass	0	Pass	16.96	--	--		--	--	--

- i. **RPA.** For priority pollutants, the SIP dictates the procedures for conducting the RPA. Chronic toxicity 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 has used professional judgment in determining the appropriate method for conducting the RPA. 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).” The Facility is a POTW with a permitted ADWF of greater than or equal to 5 MGD that treats domestic wastewater containing ammonia and other toxic pollutants and is required to have a pretreatment program by the terms of 40 C.F.R. § 403.8(a). Therefore, the discharge has a reasonable potential to cause or contribute to an instream exceedance of the Basin Plan’s narrative toxicity objective and water quality-based effluent limits for chronic toxicity are included in this Order.

- ii. **WQBELs.** The following effluent limitations have been established for chronic whole effluent toxicity:
 - (a) **Chronic Whole Effluent Toxicity Median Monthly Effluent Limitation (MMEL).** No more than one chronic aquatic toxicity test initiated in a calendar month shall result in a “Fail” at the IWC for any endpoint.
 - (b) **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.

D. Final Effluent Limitation Considerations

1. Mass-based Effluent Limitations – Not Applicable

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 pH and total coliform organisms, average weekly effluent limitations have been replaced with maximum daily effluent limitations in accordance with section 1.4 of the SIP. Furthermore, for pH and total coliform organisms, weekly average effluent limitations have been replaced or supplemented with effluent limitations utilizing shorter averaging periods. The rationale for using shorter averaging periods for these constituents is discussed in section IV.C.3 of this Fact Sheet.

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 ammonia and total mercury and the removal of mass-based effluent limitations for ammonia. The effluent limitations for these pollutants are less stringent than those in Order R5-2018-0081-01. This relaxation and 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 Auburn Ravine Creek is considered an attainment water for ammonia and total mercury because the receiving water is not listed as impaired on the 303(d) list for this constituent. 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.

- 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.c of this Fact Sheet, updated information that was not available at the time Order R5-2018-0081-01 was issued indicates that removal of the effluent limitation for mercury and less stringent effluent limitations for ammonia based on updated data satisfy requirements in CWA section 402(o)(2). The updated information that

supports the relaxation of effluent limitations for these constituents includes the following:

- i. **Ammonia.** Effluent pH and temperature monitoring data collected between October 2020 through March 2023 calculates to less stringent effluent limitations for ammonia.
- ii. **Total Mercury.** Effluent monitoring data collected between October 2020 through March 2023 for total mercury indicates that the discharge does not exhibit reasonable potential to cause or contribute to an exceedance of the Sport Fish Water Quality Objective or the Statewide Mercury Provisions.

Thus, removal (total mercury) or relaxation (ammonia) of the effluent limitations from Order R5-2018-0081-01 is in accordance with CWA section 402(o)(2)(B)(i), which allows for the removal of effluent limitations based on information that was not available at the time of permit issuance.

4. Antidegradation Policies

- a. **Surface Water.** This Order does not authorize lowering water quality as compared to the level of discharge authorized in the previous order, which is the baseline by which to measure whether degradation will occur. This Order does not allow for an increase in flow or mass of pollutants to the receiving water. The Order requires compliance with applicable federal technology-based standards and with WQBELs where the discharge could have the reasonable potential to cause or contribute to an exceedance of water quality standards. Accordingly, the permitted discharge is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and the State Anti-Degradation Policy.

Accordingly, a complete antidegradation analysis is not required. Any change in water quality that is expected to occur as a result of the issuance of this order will be consistent with the maximum benefit to the people of the state and will not unreasonably affect present and anticipated beneficial uses. Furthermore, compliance with these requirements in this order will result in the use of BPTC of the discharge.

This Order removes effluent limitations for total mercury based on updated monitoring data demonstrating that the effluent does not cause or contribute to an exceedance of the applicable water quality criteria or objectives in the receiving water. This Order relaxes effluent limitations for ammonia based on updated data that was not available during the issuance of previous Order R5-2018-0081-01. The removal and relaxation of WQBEL's for these parameters will not result in an increase in pollutants concentration or loading, a decrease in the level of treatment or control, or a reduction of water quality. Therefore, the Central Valley Water Board finds that the removal and relaxation of the effluent limitations does not result in an increase in pollutants or any additional degradation of the

receiving water. Thus, the removal and relaxation of effluent limitations is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16.

This Order removes the mass-based effluent limitations for ammonia based on 40 CFR parts 122.45 (d) and (f). The removal of the mass-based effluent limitations for ammonia will not result in a decrease in the level of treatment or control or a reduction in water quality.

Furthermore, both concentration-based AMELs and AWELs remain for ammonia as well as an average dry weather flow prohibition that limits the amount of flow that can be discharged to the receiving water during dry weather months. The combination of concentration-based effluent limits and a flow prohibition in this Order are equivalent to mass-based effluent limitations, which were redundant limits contained in previous Orders by multiplying the concentration-based effluent limits and permitted average dry weather flow by a conversion factor to determine the mass-based effluent limitations. The Central Valley Water Board finds that the removal of the mass-based effluent limits for ammonia does not result in an allowed increase in pollutants or any additional degradation of the receiving water. Thus, the removal of the mass-based effluent limits for ammonia is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and the State Antidegradation Policy.

- b. **Groundwater.** The Discharger utilizes a partially lined maturation pond and a fully lined maturation pond and a partially lined tertiary wastewater storage pond and a fully lined tertiary wastewater storage pond. The partially lined and fully lined tertiary wastewater storage ponds (Tertiary Storage Basin 1 and 2, respectively) are designed to store tertiary treated wastewater before discharge to Auburn Ravine creek or the reclamation system. However, because Tertiary Storage Basin 1 is not completely lined and both Tertiary Storage Basin 1 and 2 liners were designed for pond maintenance and levee integrity, not leak prevention, discharge to the groundwater beneath the ponds may occur. The partially lined and lined maturation ponds (Maturation Pond 1 and 2, respectively) are designed to equalize flow within the Facility, to equalize effluent temperatures with receiving water temperatures, and to equalize constituent concentrations in the process water. However, because Maturation Pond 1 is not completely lined and both Maturation Pond 1 and 2 liners were designed for pond maintenance and levee integrity, not leak prevention, discharge to the groundwater beneath the ponds may occur. Domestic wastewater contains constituents such as total dissolved solids, specific conductivity, pathogens, nitrates, organics, metals, and oxygen demanding substances. Percolation from Tertiary Storage Basins 1 and 2 or Maturation Ponds 1 and 2 may result in an increase in the concentration of these constituents in groundwater. The State Anti-Degradation Policy generally prohibits the Central Valley Water Board

from authorizing activities that will result in the degradation of high-quality waters unless it has been shown that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water, and will not result in water quality less than that prescribed in applicable policies; and that any activity which produces or may produce a waste or increased volume or concentration of waste will implement 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 Facility is designed and constructed to provide tertiary level treatment and disinfection to treat municipal domestic wastewater prior to discharge. This level of treatment may result in limited groundwater degradation not exceeding water quality objectives. Providing wastewater treatment to the community is in the best interest of the people of the State. The Discharger's treatment constitutes best practicable treatment or control and complies with the State Anti-Degradation Policy.

This Order does not authorize an increase in flow or mass of pollutants to groundwater beyond the levels authorized in Order R5-2018-0081-01. As discussed in section III.E.1 of the Fact Sheet, existing groundwater monitoring results do not indicate degradation of groundwater quality when compared to background; however, the well monitoring network was not designed to monitor the groundwater discharges from Tertiary Storage Basins 1 or 2 or Maturation Ponds 1 or 2. Therefore, until the Discharger is able to complete the Groundwater Monitoring Well Network Evaluation Report and collected additional data from any newly constructed wells to determine compliance for the discharges from Tertiary Storage Basins 1 and 2 and Maturation Ponds 1 and 2, a determination on whether or not degradation is occurring in the groundwater beneath these discharge points cannot be determined.

Electrical conductivity meets all applicable water quality objectives for salinity in the existing groundwater monitoring well network. The technology, energy, water recycling, and waste management advantages of municipal utility service far exceed any benefits derived from a community otherwise reliant on numerous concentrated individual wastewater systems, and the impacts on water quality will be substantially less. The Discharger selected to participate in the Prioritization and Optimization Study for the Salt Control Program. To help ensure that the Discharger continues to implement salinity reduction measures, this Order includes an electrical conductivity trigger of 700 $\mu\text{mhos/cm}$ (annual average). Furthermore, this Order requires the Discharger to comply with the new Salinity Control Program (i.e., to participate in the P&O Study and implement the SEMP).

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 these constituents 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. For pH, both technology-based effluent limitations and WQBEL’s are applicable. The more stringent of the effluent limitations for pH are implemented by this Order. These limitations are not 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

Filter Clearwell Internal Waste Stream Compliance Point and Discharge Point 001

Table F-22 Summary of Final Effluent Limitations – Filter Clearwell Internal Waste Stream Compliance Point (Monitoring Location INT-001)

Parameter	Units	Effluent Limitations	Basis ¹
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	AMEL 10 AWEL 15	TTC
Total Suspended Solids	mg/L	AMEL 10 AWEL 15	TTC
Total Coliform Organisms (UVS-001)	MPN/100 ml	AMEL 23 AWEL 2.2 MDEL 240	Title 22

Table F-22 Notes:

TTC – Based on tertiary treatment capability. These effluent limitations reflect the capability of a properly operated tertiary treatment plant.

Title 22 – Based on State Water Board Division of Drinking Water Reclamation Criteria, CCR, Division 4, Chapter 3 (Title 22).

**Summary of Final Effluent Limitations
 Discharge Point 001 (Monitoring Location EFF-001A)**

Table F-23 Summary of Final Effluent Limitations - Discharge Point 001 (Monitoring Location EFF-001A)

Parameter	Units	Effluent Limitations	Basis¹
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	AMEL 30 AWEL 45	CFR
Total Suspended Solids	mg/L	AMEL 30 AWEL 45	CFR
pH	Standard Units	Instantaneous Minimum 6.5 Instantaneous Maximum 8.5	BP
Ammonia	mg/L	AMEL 1.2 AWEL 2.8	NAWQC
Nitrate Plus Nitrite (as N)	mg/L	AMEL 10 AWEL 17	MCL
Diazinon and Chlorpyrifos	µg/L	AMEL 1 AWEL 1	BP

Table F-23 Notes:

- CFR** – Based on secondary treatment standards contained in 40 CFR part 133.
- BP** – Based on water quality objectives contained in the Basin Plan.
- NAWQC** – Based on U.S. EPA’s National Ambient Water Quality Criteria for the protection of freshwater aquatic life.
- MCL** – Based on the Primary Maximum Contaminant Level.

E. Interim Effluent Limitations – Not Applicable

F. Land Discharge Specifications

1. The Land Discharge Specifications are necessary to protect the beneficial uses of the groundwater.
2. The Discharger shall maintain compliance with the effluent limitations for discharge to Tertiary Storage Basin 1 and 2, with compliance measured at LND-001 and Maturation Ponds 1 and 2, with compliance measured at LND-002, as described in the attached MRP.

G. Recycling Specifications

Recycling specifications for the Facility are included in separate Master Reclamation Permit R5-2005-0040-01 (as amended by Order R5-2012-0052).

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

1. CWA section 303(a-c), requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The Central Valley Water Board adopted water quality criteria as water quality objectives in the Basin Plan. The Basin Plan states that “[t]he numerical and narrative water quality objectives define the least stringent standards that the Regional Water Board will apply to regional waters in order to protect the beneficial uses.” The Basin Plan includes numeric and narrative water quality objectives for various beneficial uses and water bodies. This Order contains receiving surface water limitations based on the Basin Plan numerical and narrative water quality objectives for bacteria, biostimulatory substances, color, chemical constituents, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, suspended sediment, settleable substances, suspended material, tastes and odors, temperature, and toxicity.

a. **Turbidity.** The Discharger proposed an averaging period for turbidity where natural turbidity is between 0 and 5 NTU in the 2 May 2001 City of Lincoln Wastewater Treatment and Reclamation Facility Addendum to the Report of Waste Discharge (Addendum). The Basin Plan allows for the application of appropriate averaging periods in determining compliance with turbidity limitations provided that beneficial uses are protected. The proposed site-specific receiving water limitations were established in previous Order 5-01-242 and retained in previous Order R5 2008 0156.

The Central Valley Water Board’s 2000 Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for pH and Turbidity at Deer Creek El Dorado & Sacramento Counties, Staff Report, Volume II, Supporting Technical Information provided the basis for annual averaging periods for turbidity. In the Addendum, the Discharger stated that normal turbidity measurements have been observed to range from 10-50 NTU under normal Auburn Ravine Creek stream flow conditions. California Department of Fish and Wildlife staff contributed to the turbidity studies in the Amendments. As such, the Discharger concluded that an increase in turbidity from 0.2 to 2 NTU would be a violation if the averaging period does not reflect the normal range and variability of ambient turbidity in Auburn Ravine Creek. Central Valley Water Board staff prepared previous Orders 5-01-242 and R5-2008-0156 to require annual averaging from 0 to 0.5 NTU and monitoring for specified increases over natural turbidity for higher ranges.

The Central Valley Water Board adopted Resolution R5-2007-0136 on 25 October 2007, amending the Basin Plan to limit turbidity to 2 NTU when the

natural turbidity is less than 1 NTU. The Basin Plan amendment has been approved by the State Water Board, the Office of Administrative Law, and U.S. EPA. Consistent with the revised water quality objective in the Basin Plan, Order R5-2014-0007 included requirements to limit turbidity to 2 NTU when the natural turbidity is less than 1 NTU, but retained the annual averaging period for natural turbidity ranges between 0 and 1 NTU and 1 and 5 NTU. This Order retains the receiving water limitations and averaging periods for turbidity established in Order R5-2014-0007.

- b. **Temperature.** In the late 1990's during the Environmental Impact Report (EIR) process for the first NPDES permit for the City, there were concerns that the temperature of the discharge could impact salmon and steelhead. The California Department of Fish and Game (DFG), now known as the California Department of Fish and Wildlife (DFW) commented on the Final EIR regarding the mitigation measures for temperature impacts to Auburn Ravine Creek. Site-specific receiving water temperature limits were proposed by Stantec on behalf of the City to the Regional Board as a way to comply with Department of Fish and Wildlife comments and meet the mitigation measures in the Final EIR. The DFW comment is as follows,

“ ... [DFW] recommends mitigation measure 7.2(a) be modified to utilize 58°F as the recommended temperature for halting plant discharges to Auburn Ravine Creek. This figure will protect Chinook Salmon and steelhead trout.”

DFW further commented that:

“It is unclear from the described mitigation criteria, what plant operations would be proposed in a year when ambient water temperatures in Auburn Ravine Creek were relatively warm over an extended period of time. Regardless of monthly or seasonal fluctuations, the [DFW] recommends that the 58°F water temperature criteria be utilized for the October through May 31 time period every year”.

Based on consultation with DFW, the following receiving water temperature limitation was proposed by the City to mitigate impacts of the discharge:

Temperature. The annual average temperature to increase more than 5°F compared to the ambient stream temperature and shall not cause the receiving stream temperature to rise above:

- a. 58°F on a monthly average and weekly median basis from 1 October through 31 May.
- b. 64°F at any time from 1 October through 31 May.
- c. 5°F over the ambient background temperature as a daily average for the period from 1 June through 30 September.

To be able to comply with the site-specific receiving water limitations the City constructed two 90 million gallon Tertiary Storage Basins for a total of 180 million gallons of storage for when the discharge will not meet the site-specific receiving water temperature limitations, in particular during the months of October and May.

The City's 2013 Draft EIR for construction of the regional pipeline to connect Auburn and SMD-1 (Midwestern Placer Regional Sewer Project) states that increased receiving water temperature increases are less than significant and no mitigation is needed because the NPDES permit includes the receiving water limits described above.

Review of receiving water temperature data post adoption of Order R5-2014-0007 with the delta 5°F receiving water limit demonstrates that while being able to comply with that limit the discharge did not comply with the 58°F monthly and weekly and 64°F daily maximum site-specific limits, particularly in October and May. This demonstrates the delta 5°F receiving water limitation is less stringent and may not be protective of salmon and steelhead, and current discharge practices do not meet the mitigation measures provided in the EIRs. Furthermore, Board staff contacted National Oceanic and Atmospheric Administration (NOAA) Fisheries and they suggested that 64°F was an upper limit that would produce a thermal barrier to the passage of steelhead.

The Discharger had concerns that the Facility did not have sufficient storage capacity to cease discharging, which would not allow the Facility to consistently comply with temperature receiving water limits implemented in Order R5-2018-0081-01. Therefore, before moving forward with facility upgrades, the Discharger conducted a site-specific temperature study in consultation with NMFS and DFW, to determine the appropriate temperature receiving water limitations. To allow the Discharger to conduct this study and provide the results to the Central Valley Water Board, Time Schedule Order (TSO) R5-2019-1003 was issued by the Central Valley Water Board on 22 May 2019.

The Discharger submitted a site-specific study Final Temperature Study (Study) on 21 December 2021 to determine the appropriate site-specific receiving water temperature limitations because of the concern that the receiving water temperature limitations included in Order R5-2018-0081 were overly conservative. These receiving water temperature limitations were based on the assumption that Chinook salmon and steelhead trout were spawning and rearing downstream of the Facility's outfall. The results of the Study determined that Chinook salmon and steelhead trout spawning and rearing was not occurring below the Facility's outfall and the reach only functioned as a migration corridor for adults and juveniles. This is primarily because the reach does not contain suitable spawning habitat, and summer stream temperatures routinely exceed thermal preferences for both species. DFW and NMFS concurred that Chinook salmon and steelhead spawning was not occurring below the Facility's outfall and the temperature objectives

will not likely impact salmonids in Auburn Ravine Creek as a result of discharges from the Facility. Therefore, revised receiving water temperature limits proposed in the Study are appropriate for protecting Chinook salmon and steelhead trout migration in Auburn Ravine Creek. DFW and NMFS concurred with the revised receiving water temperature limitations based on protection of the migration corridor.

B. Groundwater

1. The beneficial uses of the underlying groundwater are MUN, industrial service supply, industrial process supply, and agricultural supply.
2. Basin Plan water quality objectives include narrative objectives for chemical constituents, tastes and odors, and toxicity of groundwater. The toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants, animals, or aquatic life. The chemical constituent objective states groundwater shall not contain chemical constituents in concentrations that adversely affect any beneficial use. The tastes and odors objective prohibit taste or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan also establishes numerical water quality objectives for chemical constituents and radioactivity in groundwaters designated as municipal supply. These include, at a minimum, compliance with MCLs in Title 22 of the CCR. The bacteria objective prohibits coliform organisms at or above 2.2 MPN/100 mL. The Basin Plan requires the application of the most stringent objective necessary to ensure that waters do not contain chemical constituents, toxic substances, radionuclides, taste- or odor-producing substances, or bacteria in concentrations that adversely affect municipal or domestic supply, agricultural supply, industrial supply or some other beneficial use.
3. Groundwater limitations are required to protect the beneficial uses of the underlying groundwater.

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, with the exception of copper, which utilizes a site-specific WER of 6.34. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable. If the Discharger performs studies to determine site-specific WER's 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. **Ultraviolet Light (UV) Disinfection Operating Specifications.** UV system operating specifications are required to ensure that the UV system is operated to achieve the required pathogen removal. UV disinfection system specifications and monitoring and reporting requirements are required to ensure that adequate UV dosage is applied to the wastewater to inactivate pathogens (e.g., viruses) in the wastewater. UV dosage is dependent on several factors such as UV transmittance, UV power setting, wastewater turbidity, and wastewater flow through the UV disinfection system. The UV specifications in this Order are based on the National Water Research Institute (NWRI) and American Water Works Association Research Foundation (AWWRF) "Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse" first published in December 2000 and revised as a Third Edition dated August 2012 (NWRI guidelines). If the Discharger conducts a site-specific UV engineering study that identifies site-specific UV operating specifications that will achieve the virus inactivation required by Title 22 for disinfected tertiary recycled water, this Order may be reopened to modify the UV specifications, in accordance with Reopener Provision VI.C.1.e.
- d. **Drinking Water Policy.** On 26 July 2013, the Central Valley Water Board adopted Resolution R5-2013-0098, amending the Basin Plan and

establishing a Drinking Water Policy. The State Water Board approved the Drinking Water Policy on 3 December 2013. This Order may be reopened to incorporate monitoring of drinking water constituents to implement the Drinking Water Policy.

- e. **Facility Expansion.** The Discharger may request an expansion of allowable influent flows to the Facility once the Discharger has completed construction of their expansion project(s). This Order may be reopened to revise the applicable average dry weather flow prohibition (determined annually at Monitoring Location INF-001) in increments or in whole, up to 8.4 MGD.

2. **Special Studies and Additional Monitoring Requirements**

- a. **Groundwater Monitoring Well Network Evaluation Report.** The study is to assess the monitoring well network and propose additional wells or replacement wells that would better assess compliance with groundwater limitations and determining groundwater gradients around Tertiary Storage Basins 1 and 2 and Maturation Ponds 1 and 2.

3. **Best Management Practices and Pollution Prevention**

- a. **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 (P&O) 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 on 8 July 2021 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 P&O Study. The Discharger's NOI demonstrated adequate participation in the P&O 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 at Discharge Points 001, 002, or 003. 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.

- b. **Pyrethroid Management Plan.** On 8 June 2017, the Central Valley Water Board adopted Resolution R5-2017-0057, which adopted the Basin Plan Amendment (BPA) for the Control of Pyrethroid Pesticide Discharges. Per the Basin Plan, section 4.2.2.4.12), if concentrations of pyrethroids are found to exceed the acute and/or chronic pyrethroid triggers (Table 4.2 of the Basin Plan), the Discharger must submit a draft Pyrethroid Management Plan for approval by the Executive Officer within one year from the date that an exceedance is identified by either the Discharger or Central Valley Water Board staff and comply with progress reporting requirements.

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 tertiary treatment process utilized at this Facility is capable of reliably meeting a turbidity limitation of 2 NTU as a daily average. 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 and could impact UV dosage. 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 2 NTU as a daily average; 5 NTU, more than 5 percent of the time within a 24-hour period, and an instantaneous maximum of 10 NTU.
- b. **UV Disinfection System Operating Specifications.** This Order requires that wastewater shall be oxidized, coagulated, filtered, and adequately disinfected pursuant to the DDW reclamation criteria, CCR, Title 22, division 4, chapter 3, (Title 22), or equivalent. To ensure that the UV disinfection system is operated to achieve the required pathogen removal, this Order includes effluent limits for total coliform organisms, filtration system operating specifications, and UV disinfection system operating specifications. Compliance with total coliform effluent limits alone does not ensure that pathogens in the municipal wastewater have been deactivated by the UV disinfection system. Compliance with the effluent limits and the filtration system and UV disinfection operating specifications demonstrates compliance with the equivalency to Title 22 disinfection requirement.

The NWRI guidelines include UV operating specifications for compliance with Title 22. For water recycling in accordance with Title 22, the UV system shall be an approved system included in the Treatment Technology Report for Recycled Water, December 2009 (or a later version, as applicable) published by the DDW. The UV system shall also conform to all requirements and operating specifications of the NWRI guidelines. A memorandum dated 1 November 2004 issued by DDW to Regional Water Board executive offices recommended that provisions be

included in permits for water recycling treatment plants employing UV disinfection requiring dischargers to establish fixed cleaning frequency of lamp sleeves, as well as, include provisions that specify minimum delivered UV dose that must be maintained (per the NWRI Guidelines).

For facilities utilizing granular media filtration as part of the treatment process train upstream of UV disinfection, the NWRI Guidelines recommend a minimum hourly average UV dose of 100 mJ/cm². Therefore, this Order includes UV operating specifications requiring a minimum hourly average UV dose of 100 mJ/cm² and a minimum hourly average UV transmittance of 55 percent, per the NWRI Guidelines. If the Discharger conducts a site-specific UV engineering study that demonstrates a lower UV dose meets a Title 22 equivalent virus removal, this Order may be reopened to revise the UV operating specifications accordingly.

- c. **Treatment Pond Operating Requirements.** Consistent with Order R5-2014-0007, this Order includes operating requirements to prevent inundation or washout due to floods with a 100-year return frequency, preclude public contact with wastewater, and prevent breeding of mosquitos.

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. 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.

- c. Limited portions of the Facility's collection system may be outside the service area of the Discharger. In order to assure compliance with Discharge Prohibitions against overflows and bypasses, and to assure protection of the entire collection system and treatment works from industrial discharges, it is necessary that the Discharger control discharges into the entire collection system. To control discharges into the entire collection system, this Order requires the Discharger to establish interagency agreements with the collection system users. The interagency agreements shall contain, at a minimum, requirements for reporting of unauthorized releases of wastewater, maintenance of the collection system, backup power or adequate wet well capacity at all pump stations to prevent overflows during power outages and pump failures, and pump station high water alarm notification systems. The agreements shall also require implementation of an industrial pretreatment program that meets the minimum requirements of this Order.

6. Other Special Provisions

- a. Consistent with Order R5-2018-0081-01, this Order requires the discharge to be oxidized, filtered, and adequately disinfected pursuant to DDW reclamation criteria, Title 22, or equivalent.
- b. **Facility Expansion.** The Discharger is in the process of completing a phased expansion project to increase the Facility's treatment capacity incrementally from an average dry weather flow of 5.9 MGD to an average dry weather flow of up to 8.4 MGD in order to accommodate planned growth. The phases will incrementally include new grit removal, oxidation ditch(es), secondary clarifier(s), a recycled activated sludge (RAS) pump station, a maturation pond outlet pump station, a dissolved air flotation thickener (DAFT), new filter(s) and hydraulic improvements to achieve an equivalent ADWF capacity up to 8.4 MGD.

Prior to the adoption of previous Order R5-2008-0156 (and as documented in section IV.D.4 of Order R5-2008-0156), the Discharger completed an antidegradation analysis consistent with an increase in regulated capacity up to an average dry weather flow capacity of 8.4 MGD and peak discharge flow of 37.8 MGD. Subsequent to completion of all additional Facility upgrades necessary to develop such tertiary treatment

capacity and certification by a registered and licensed Civil Engineer, the Discharger is authorized to discharge at a certified average dry weather flow capacity not to exceed of 8.4 MGD.

7. Compliance Schedules – Not Applicable

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.

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., BOD5 and TSS reduction requirements). The monitoring frequency for flow (continuous) has been retained from Order R5-2018-0081-01.

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 and groundwater.
2. The effluent monitoring frequency and sample type for flow (continuous) has been retained from Order R5-2018-0081-01 at Monitoring Location INF-001 to determine compliance with the applicable discharge prohibition and characterize the effluent for this parameter.
3. Order R5-2018-0081-01 required monitoring for total coliform organisms once per day at Monitoring Location UVS-001. The Central Valley Water Board finds that total coliform monitoring at Monitoring Location UVS-001 is sufficient for determining compliance following the disinfection process.
4. Effluent monitoring frequencies and sample types for flow (continuous at EFF-001B), pH (daily), dissolved oxygen (daily), temperature (daily), and total dissolved solids (monthly) have been retained from Order R5-2018-0081-01 at

Monitoring Location EFF-001A to determine compliance with effluent limitations and discharge prohibitions, where applicable, and characterize the effluent for these parameters.

5. Order R5-2018-0081-01 requires effluent monitoring for BOD5 and TSS three times per week at Monitoring Location INT-001 and reduced the BOD5 and TSS effluent monitoring at EFF-001A to once per week. This Order retains once per week effluent monitoring for ammonia at Monitoring Location EFF-001A. The Central Valley Water Board finds that these frequencies are sufficient for determining compliance with effluent limitations for BOD5, TSS, and ammonia established in this Order.
6. Order R5-2018-0081-01 required monthly effluent monitoring for electrical conductivity at Monitoring Location EFF-001A. This Order retains the monthly monitoring frequency at EFF-001A for electrical conductivity. Monthly monitoring frequency at INT-001 for electrical conductivity is included in this Order. The Central Valley Water Board finds that this frequency is sufficient for characterizing the effluent for this parameter.
7. Order R5-2018-0081-01 required effluent monitoring for hardness monthly at Monitoring Location EFF-001A. This Order reduces the monitoring frequency at EFF-001A for hardness to quarterly. The Central Valley Water Board finds that this frequency is sufficient for characterizing the effluent for this parameter.
8. As discussed in section IV.C.3 of this Fact Sheet, this Order establishes effluent limitations for nitrate plus nitrite as a single parameter, applicable to discharges from Discharge Point 001. Therefore, this Order establishes monthly monitoring requirements for nitrate and nitrite at Monitoring Location EFF-001A to determine compliance with the applicable effluent limitations for nitrate plus nitrite as a single parameter.
9. 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 effluent monitoring for priority pollutants and other constituents of concern in the third and fourth quarters of the year 2025 and the first and second quarters of 2026, at Monitoring Location EFF-001A. This monitoring frequency has been retained from Order R5-2018-0081-01. See section IX.D of the MRP (Attachment E) for more detailed requirements related to performing priority pollutant monitoring.
10. **Pyrethroid Pesticides Monitoring.** A Basin Plan Amendment and TMDL for the Control of Pyrethroid Pesticide Discharges in the Sacramento and San Joaquin River basins (Resolution R5-2017-0057) was approved by the Central Valley Water Board on 8 June 2017 and is now effective. The Pyrethroids Control Program, Section 5.1.16 of the Basin Plan, requires monitoring by domestic and municipal wastewater dischargers discharging at least 1 MGD for the concentrations of pyrethroid pesticides, total and dissolved organic carbon in the water column, and water column toxicity testing. Monitoring is required to

evaluate the potential impacts of discharges of pyrethroid pesticides to receiving waters.

11. Chlorpyrifos and Diazinon. The WLAs in the Chlorpyrifos and Diazinon TMDL apply to waterbodies that are downstream of the major dams in Table 3-5 of the Basin Plan, which includes Englebright Dam on the Yuba River. The Facility discharges to Auburn Ravine Creek, which drains to the Sacramento River between Knights Landing and the Delta. Chlorpyrifos and diazinon were not required to be monitored in Order R5-2018-0081-01. This Order required annual monitoring for chlorpyrifos and diazinon at EFF-001A.

12. Total Organic Carbon. Monitoring at EFF-001A required to calculate site-specific freshwater aluminum criteria in accordance with the 2018 U.S. EPANAWQC for aluminum in freshwater for the next permit renewal.

C. Receiving Water Monitoring

1. Surface Water

- a. Receiving water monitoring is necessary to assess compliance with receiving water limitations and to assess the impacts of the discharge on the receiving stream.
- b. Order R5-2018-0081-01 required monthly receiving water monitoring for hardness at RSW-001 and RSW-002, this Order reduces the frequency to quarterly. This is sufficient to characterize the receiving water for this parameter.
- c. Order R5-2018-0081-01 required weekly receiving water monitoring for pH, dissolved oxygen, temperature, and turbidity at Monitoring Locations RSW-001 and RSW-002. This Order retains the monitoring frequencies for these parameters at Monitoring Locations RSW-001 and RSW-002. The Central Valley Water Board finds that this frequency is sufficient for determining compliance with applicable receiving water limitations and characterizing the receiving water for these parameters.
- d. 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 upstream receiving water monitoring for priority pollutants and other pollutants of concern during the third and fourth quarters of the year 2025 and the first and second quarters of 2026, at Monitoring Location RWS-001, concurrent with effluent monitoring, in order to collect data to conduct an RPA for the next permit renewal. See section IX.D of the MRP (Attachment E) for more detailed requirements related to performing priority pollutant monitoring.

2. Groundwater

- a. Water Code section 13267 states, in part, “(a) A Regional Water Board, in establishing waste discharge requirements may investigate the quality of any waters of the state within its region” and “(b)(1) In conducting an investigation, the Regional Water Board may require that any person who discharges waste that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the Regional Water Board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports.” The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, a Regional Water Board shall provide the person with a written explanation with regard to the need for the reports and shall identify the evidence that supports requiring that person to provide the reports. The Monitoring and Reporting Program is issued pursuant to Water Code section 13267. The groundwater monitoring and reporting program required by this Order and the Monitoring and Reporting Program are necessary to assure compliance with these waste discharge requirements. The Discharger is responsible for the discharges of waste at the facility subject to this Order.
- b. Monitoring of the groundwater must be conducted to determine if the discharge has caused an increase in constituent concentrations, when compared to background. The monitoring must, at a minimum, require a complete assessment of groundwater impacts including the vertical and lateral extent of degradation, an assessment of all wastewater-related constituents which may have migrated to groundwater, an analysis of whether additional or different methods of treatment or control of the discharge are necessary to provide BPTC to comply with the State Anti-Degradation Policy. Economic analysis is only one of many factors considered in determining BPTC. If monitoring indicates that the discharge has incrementally increased constituent concentrations in groundwater above background, this permit may be reopened and modified. Until groundwater monitoring is sufficient, this Order contains Groundwater Limitations that allow groundwater quality to be degraded for certain constituents when compared to background groundwater quality, but not to exceed water quality objectives. If groundwater quality has been degraded by the discharge, the incremental change in pollutant concentration (when compared with background) may not be increased. If groundwater quality has been or may be degraded by the discharge, this Order may be reopened, and specific numeric limitations established consistent with the State Anti-Degradation Policy and the Basin Plan.
- c. This Order requires the Discharger to establish groundwater monitoring specifically for the discharge from Tertiary Storage Basins 1 and 2 and Maturation Ponds 1 and 2; therefore, establishing a regular schedule of

groundwater monitoring in the attached Monitoring and Reporting Program. The groundwater monitoring reports are necessary to evaluate impacts to waters of the State to assure protection of beneficial uses and compliance with Central Valley Water Board plans and policies, including the State Anti-Degradation Policy. Evidence in the record includes effluent monitoring data that indicates the presence of constituents that may degrade groundwater and surface water.

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 toxicity receiving water limitation and 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.

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

Mean discharge IWC response \leq 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.

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 or receiving water concentration differs from the control, the test result is “Pass” or “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.

4. **Sensitive Species Screening.** Under the Toxicity Provisions, dischargers shall perform subsequent species sensitivity screening to re-evaluate the most sensitive species if the effluent used in the 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.E of the MRP, the Discharger is required to perform species sensitivity screening at least once every fifteen years or if the effluent used in the last species sensitivity screening is no longer representative of the effluent and submit the results with the Report of Waste Discharge.

Species sensitivity screening for chronic toxicity shall include, at a minimum, chronic WET testing four consecutive calendar quarters, except for any quarter where there is expected to be less than 15 days of discharge, using the water flea (*Ceriodaphnia dubia*), fathead minnow (*Pimephales promelas*), and green alga (*Pseudokirchneriella subcapitata*). The tests shall be performed at an IWC of no less than 100 percent effluent and one control.

The most sensitive species to be used for chronic toxicity testing was determined in accordance with the process outlined in the MRP section V.E. The species that exhibited the highest percent effect was the water flea (*Ceriodaphnia dubia*). Consequently, *Ceriodaphnia dubia* has been established as the most sensitive species for chronic WET testing.

5. **Toxicity Reduction Evaluation (TRE).**

The Toxicity Provisions require dischargers to conduct a TRE in accordance with a TRE Work Plan, as approved by the Board. The Monitoring and Reporting Program of this Order requires preparation and implementation of a TRE Action Plan in accordance with the Discharger's approved TRE Work Plan. Within 30 days of the requirement to initiate a TRE, the Discharger shall submit to the Executive Officer a TRE Action Plan including the components identified in Section V.F of the Monitoring and Reporting Program.

E. Other Monitoring Requirements

1. **Biosolids Monitoring**

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) (<https://www.epa.gov/biosolids/compliance-and-annual-reporting-guidance-about-clean-water-act-laws>)

2. **UV Disinfection System Monitoring**

UV system monitoring and reporting are required to ensure that the UV system is operated to adequately inactivate pathogens in the wastewater. UV disinfection system monitoring is imposed to achieve equivalency to requirements established by the DDW, and the NWRI, Guidelines.

3. **Pond Monitoring**

Pond monitoring is required to ensure proper operation of the Maturation Ponds and Tertiary Storage Basins per the Facility Pond Operating Requirements in section VI.C.4.c of this Order. Weekly monitoring for presence of water, discharge to storage pond, freeboard, dissolved oxygen, and pond conditions are included in this Order. Chloride is a stable tracer for municipal wastewater effluent, therefore to monitor the potential discharge to groundwater from the Facility's Ponds, this Order requires quarterly monitoring for chloride at the Tertiary Storage Basins and Maturation Ponds.

4. **Land Discharge Monitoring**

Land discharge monitoring is required to ensure that the discharge to Maturation Ponds 1 and 2 and Tertiary Storage Basins 1 and 2 complies with the Land Discharge Specifications in section VI.B.1 of this Order. This Order includes monitoring for flow (daily), BOD5 (weekly), pH (weekly), nitrate (as N) (weekly), electrical conductivity (weekly), total nitrogen (monthly), chloride (quarterly), and standard minerals (annual).

5. **Pyrethroid Pesticides Monitoring**

On 8 June 2017, the Central Valley Water Board adopted Resolution R5-2017-0057, which adopted the Basin Plan Amendment (BPA) for the Control of Pyrethroid Pesticide Discharges. Pyrethroid pesticides and toxicity monitoring has been included in this Order in accordance with the Pyrethroids Pesticides BPA, which is required for POTWs with design average dry weather flow greater than or equal to 1 million gallons per day.

6. **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 Lincoln-SMD1 Wastewater Authority Wastewater Treatment and Reclamation 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. Notification was provided through posting on the Central Valley Water Board's website on 31 January 2024 and through posting by the Discharger at the City of Lincoln City Hall and the Facility entrance on 1 February 2024.

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/) (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 **1 March 2024**.

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: **19 April 2024**
Time: **8:30 a.m.**

Location: Online **and**
1685 E. Street
Fresno, CA 93706

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_instructions.shtml)

(http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instructions.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 Will Chen at (916) 464-4816, or Will.Chen@waterboards.ca.gov.

ATTACHMENT G – SUMMARY OF REASONABLE POTENTIAL ANALYSIS

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	RP
Ammonia (as N)	mg/L	2.10	--	1.36	5.62	1.36	--	--	--	--	Yes
Chloride	mg/L	68	12	230	860 ¹	230	--	--	--	250	No
Electrical Conductivity @ 25°C	µmhos/cm	510	300	900	--	--	--	--	--	900	No
Mercury, Total Recoverable	µg/L	0.00022	0.021	0.012	--	0.77	0.050	0.051	--	--	No
Nitrate (as N)	mg/L	8.1	1.1	10	--	--	--	--	--	10	Yes
Nitrite (as N)	mg/L	0.5	<0.014	1.0	--	--	--	--	--	1.0	No
Sulfate	mg/L	38	14	250	--	--	--	--	--	250	No
Total Dissolved Solids	mg/L	310	150	500	--	--	--	--	--	500	No

Attachment G Table Notes:

1. All inorganic concentrations are given as a total concentration.

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 & Org = Human Health Criterion for Consumption of Water & 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
- RP = Reasonable Potential

ATTACHMENT H – CALCULATION OF WQBELS

HUMAN HEALTH WQBELS CALCULATIONS

Parameter	Units	Criteria	Mean Background Concentration	Effluent CV	Dilution Factor	MDEL/AMEL Multiplier	AMEL Multiplier	AMEL	MDEL	AWEL
Nitrate (as N)	mg/L	10	1.0	0.60	--	1.73	1.55	10	--	17

Table Notes:

- 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 – 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 (as N)	mg/L	5.62	1.36	--	--	--	--	0.32	1.80	0.78	1.06	1.19	2.7	--	1.2	2.8	--

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.

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

ATTACHMENT I – STANDARD REQUIREMENTS FOR MONITORING WELL INSTALLATION WORK PLANS AND MONITORING WELL INSTALLATION REPORTS

Prior to installation of groundwater monitoring wells, the Discharger shall submit a work plan containing, at a minimum, the information listed in Section I, below. Upon installation, the Discharger shall submit a well installation report that includes the information contained in Section II, below. All work plans and reports must be prepared under the direction of, and certified by, a California registered geologist or civil engineer.

I. MONITORING WELL INSTALLATION WORK PLAN AND GROUNDWATER SAMPLING AND ANALYSIS PLAN

The monitoring well installation work plan shall contain, at a minimum, the following information:

A. General Information

1. Purpose of the well installation project.
2. Brief description of local geologic and hydrogeologic conditions.
3. Proposed monitoring well locations and rationale for well locations.
4. Topographic map showing facility location, roads, and surface water bodies.
5. Large-scaled site map showing all existing on-site wells, proposed wells, surface water bodies and drainage courses, buildings, waste handling facilities, utilities, and major physical and man-made features.

B. Drilling Details

1. On-site supervision of drilling and well installation activities.
2. Description of drilling equipment and techniques.
3. Equipment decontamination procedures.
4. Cutting disposal methods.
5. Soil sampling intervals (if appropriate); logging methods; number and location of soil samples and rationale; and sample collection, preservation, and analytical methods.

C. Monitoring Well Design (in graphic form with rationale provided in narrative form):

1. Borehole diameter.
2. Casing and screen material, diameter, and centralizer spacing (if needed).
3. Type of well caps (bottom cap either screw on or secured with stainless steel screws)
4. Anticipated depth of well, length of well casing, and length and position of perforated interval.
5. Thickness, position and composition of surface seal, sanitary seal, and sand pack.
6. Anticipated screen slot size and filter pack

D. Well Development (not to be performed until at least 48 hours after sanitary seal placement):

1. Method of development to be used (i.e., surge, bail, pump, etc.)
2. Parameters to be monitored using development and record keeping technique.
3. Method of determining when development is complete.
4. Disposal of development water.

E. Well Survey (precision of vertical survey data shall be at least 0.01 foot):

1. Identify the Licensed Land Surveyor or Civil Engineer that will perform the survey.
2. Datum for survey measurements.
3. List well features to be surveyed (i.e., top of casing, horizontal and vertical coordinates, etc.)

F. Schedule for Completion of Work

G. Appendix: Groundwater Sampling and Analysis Plan (SAP)

The Groundwater SAP, a guidance document that is referred to by individuals responsible for conducting groundwater monitoring and sampling activities, shall contain, at a minimum, a detailed written description of standard operating procedure for:

1. Equipment to be used during sampling.
2. Equipment decontamination procedures.
3. Water level measurement procedures.
4. Well purging (include a discussion of procedures to follow if three casing volumes cannot be purged).
5. Monitoring and record keeping during water level measurement and well purging (including copies of record keeping logs to be used).
6. Purge water disposal.
7. Analytical methods and required reporting limits.
8. Sample containers and preservatives.
9. Sampling:
 - a. General sampling techniques
 - b. Record keeping during sampling (include copies of record keeping logs to be used)
 - c. QA/QC samples
10. Chain of Custody
11. Sample handling and transport

II. MONITORING WELL INSTALLATION REPORT

The monitoring well installation report shall contain the information listed below. In addition, the report shall also clearly identify, describe, and justify any deviations from the approved work plan.

A. General Information:

1. Purpose of the well installation project.
2. Number of monitoring wells installed and identifying labels(s) for each.
3. Brief description of geologic and hydrogeologic conditions encountered during well installation.
4. Topographic map showing facility location, roads, surface water bodies.
5. Large-scale site map showing all previously existing wells, newly installed wells, surface water bodies and drainage courses, buildings, waste handling facilities, utilities, and other major physical and man-made features.

B. Drilling Details (in narrative and/or graphic form):

1. On-site supervision of drilling and well installation activities.
2. Drilling contractor and driller's name.
3. Description of drilling equipment and techniques.
4. Equipment decontamination procedures.
5. Well boring log (provide for each well)
 - a. Well boring number and date drilled.
 - b. Borehole diameter and total depth.
 - c. Total depth of open hole (i.e., total depth drilled if no caving or back-grouting occurs).
 - d. Depth to first encountered groundwater and stabilized groundwater depth.
 - e. Detailed description of soils encountered, using the Unified Soil Classification System.

C. Well Construction Diagram (required for each well):

1. Monitoring well number and date constructed.
2. Casing and screen material, diameter, and centralizer spacing (if needed).
3. Length of well casing.
4. Length and position of slotted casing and size of perforations.
5. Thickness, position and composition of surface seal, sanitary seal, and sand pack.
6. Type of well caps (bottom cap either screw on or secured with stainless steel screws).

D. Well Development (required for each well):

1. Date(s) and method of development.
2. How well development completion was determined.
3. Volume of water purged from well and method of development water disposal.

E. Well Survey (required for each well):

1. Reference elevation at the top rim of the well casing with the cap removed (feet above mean sea level to within 0.01 foot).
2. Ground surface elevation (feet above mean sea level to within 0.01 foot).
3. Horizontal geodetic location, where the point of beginning shall be described by the California State Plane Coordinate System, 1983 datum, or acceptable alternative (provide rationale).
4. Present the well survey report data in a table.

F. Water Sampling:

1. Date(s) of sampling
2. Sample identification
3. How well was purged
4. How many well volume purged
5. Levels of temperature, EC, and pH at stabilization
6. Sample collection, handling, and preservation methods
7. Analytical methods used
8. Laboratory analytical data sheets
9. Water level elevation(s)
10. Groundwater contour map

G. Soil sampling (if applicable):

1. Date(s) of sampling
2. Sample collection, handling, and preservation methods
3. Sample identification
4. Analytical methods used
5. Laboratory analytical data sheets
6. Present soil sampling data in a table

H. Well Completion Report(s)

As defined in California Water Code section 13751. Blank forms are available from California Department of Water Resources' website. Section shall be submitted under separate cover.

I. Appendix

Shall include at a minimum, copies of the following:

1. County-issued well construction permits.
2. Registered engineer or license surveyor's report and field notes.
3. Field notes from well development.