CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

364 Knollcrest Drive, Suite 205, Redding, California 96002
Phone (530) 224-4845 • Fax (530) 224-4857
http://www.waterboards.ca.gov/centralvalley

ORDER R5-2015-XXXX

NPDES NO. CA0084069

WASTE DISCHARGE REQUIREMENTS FOR THE TEHAMA COUNTY SANITATION DISTRICT NO. 1 MINERAL WASTEWATER TREATMENT PLANT TEHAMA COUNTY

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

Table 1. Discharger Information

Discharger	Tehama County Sanitation District No. 1
Name of Facility	Mineral Wastewater Treatment Plant
Facility Address	37735 Highway 36E
	Mineral, CA 96063
	Tehama County

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
EFF-001	Treated Wastewater	40º 20' 54" N	121º 37' 25" W	South Fork Battle Creek

Table 3. Administrative Information

This Order was adopted on:	**<Adoption Date>**
This Order shall become effective on:	**<Effective Date>**
This Order shall expire on:	**<Expiration Date>**
The Discharger shall file a Report of Waste Discharge as an application for reissuance of WDR's in accordance with title 23, California Code of Regulations, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	**180 days prior to the Order expiration date**
The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, Central Valley Region have classified this discharge as follows:	**Minor**

I, Pamela Creedon, 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 **[DATE]**.

PAMELA C. CREEDON, Executive Officer

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I. FACILITY INFORMATION

Information describing the Mineral Wastewater Treatment Plant (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 WDR's 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. 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, IV.C, and V.B and VI.C of this Order 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 CFR 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 require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. The Monitoring and Reporting Program is provided in Attachment E.

The technical and monitoring reports in this Order are required in accordance with Water Code section 13267, which states the following in subsection (b)(1), *"In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional 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. In requiring those reports, the regional 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 Discharger owns and operates the Facility subject to this Order. The monitoring reports required by this Order are necessary to determine compliance with this Order. The need for the monitoring reports is discussed in the Fact Sheet.

E. Notification of Interested Parties. The Central Valley Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDR's 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 this Order supersedes Order R5-2007-0098 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 past 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, at a location or 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. The Discharger shall not allow pollutant-free wastewater to be discharged into the treatment or disposal system in amounts that significantly diminish the system's capability to comply with this Order. Pollutant-free wastewater means rainfall, groundwater, cooling waters, and condensates that are essentially free of pollutants.

E. The Discharge of effluent to surface waters from April 16 to November 14 and during periods when flow in South Fork Battle Creek, adjacent to the facility, is less than 35 cfs, is prohibited, unless approved by the Executive Officer in accordance with Standard Provisions VI.C.6.b.

F. The discharge of waste classified as hazardous as defined in Section 2521(a) of Title 23, CCR, Section 2510, et seq. (hereafter Chapter 15) or designated as defined in Section 13173 of the California Water Code, is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point No. D-001

1. Final Effluent Limitations – Discharge Point No. D-001

The Discharger shall maintain compliance with the following effluent limitations at Discharge Point D-001, with compliance measured at Monitoring Location EFF-001 as described in the Monitoring and Reporting Program, Attachment E:

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

Table 4. Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Average Dry Weather Effluent Flow	mgd	.070				
Daily Peak Wet Weather Effluent Flow	mgd			0.75		
Conventional Pollutants						
pH	standard units				6.0	9.0
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	10	15	30		
	lbs/day[1]	63	94	188		
Total Suspended Solids	mg/L	30	45	90		
	lbs/day[1]	188	281	563		

[1] Based on the daily peak wet weather flow of 0.75 mgd

b. **Percent Removal:** The average monthly percent removal of BOD 5-day 20°C (BOD_5) and total suspended solids (TSS) shall not be less than 85 percent.

c. **Acute Whole Effluent Toxicity.** Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

i. 70%, minimum for any one bioassay; and
ii. 90%, median for any three consecutive bioassays.

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

i. 0.011 mg/L, as a 4-day average; and
ii. 0.019 mg/L, as a 1-hour average.

e. **Total Coliform Organisms.** Effluent total coliform organisms shall not exceed:

i. 23 most probably number (MPN) per 100 mL, as a 7-day median; and
ii. 240 MPN/10 mL, more than once in any 30-day period.

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

i. Average Monthly Effluent Limitation

$$S_{AMEL} = \frac{C_{D-avg}}{0.079} + \frac{C_{C-avg}}{0.012} \leq 1.0$$

CD-avg = average monthly diazinon effluent concentration in µg/L
CC-avg = average monthly chlorpyrifos effluent concentration in µg/L

ii. Maximum Daily Effluent Limitation

$$S_{MDEL} = \frac{C_{D-max}}{0.16} + \frac{C_{C-max}}{0.025} \leq 1.0$$

CD-max = maximum daily diazinon effluent concentration in µg/L
CC-max = maximum daily chlorpyrifos effluent concentration in µg/L

2. Interim Effluent Limitations – Not Applicable

B. Land Discharge Specifications

a. No waste constituent shall be released, discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes violation of the Groundwater Limitations of this Order.

b. Wastewater treatment, storage, and disposal shall not cause pollution or a nuisance as defined by Water Code section 13050.

c. The discharge shall remain within the permitted waste treatment/containment structures at all times.

C. Recycling Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

The discharge shall not cause the following in South Fork Battle Creek:

1. **Bacteria.** The fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, to exceed a geometric mean of 200 MPN/100 mL, nor more than 10 percent of the total number of fecal coliform samples taken during any 30-day period to exceed 400 MPN/100 mL.
2. **Biostimulatory Substances.** Water to contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.
3. **Chemical Constituents.** Chemical constituents to be present in concentrations that adversely affect beneficial uses.
4. **Color.** Discoloration that causes nuisance or adversely affects beneficial uses.
5. **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.
6. **Floating Material.** Floating material to be present in amounts that cause nuisance or adversely affect beneficial uses.
7. **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.
8. **pH.** The pH to be depressed below 6.5 nor raised above 8.5**.**
9. **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 USEPA 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 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 set forth in CCR, Title 22, division 4, chapter 15; nor

g. Thiobencarb to be present in excess of 1.0 µg/L.

10. **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.

b. Radionuclides to be present in excess of the maximum contaminant levels (MCLs) specified in Table 64442 of section 64442 and Table 64443 of section 64443 of Title 22 of the California Code of Regulations.

11. **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.

12. **Settleable Substances.** Substances to be present in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.

13. **Suspended Material.** Suspended material to be present in concentrations that cause nuisance or adversely affect beneficial uses.

14. **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.

15. **Temperature.** The natural temperature to be increased by more than 5°F. Compliance to be determined based on the difference in temperature at RSW-001 and RSW-002.

16. **Toxicity.** Toxic substances to be present, individually or in combination, in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.

17. **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

Release of waste constituents from any portion of the Facility shall not cause groundwater to:

1. Contain any of the following constituents in concentrations greater than listed or greater than natural background quality, whichever is greater.

Table 5. Groundwater Limitations

Constituent	Units	Limitation
Total Coliform Organisms	MPN/100 mL	<2.2[1]

[1] Over any seven-day period

2. Except as specified in 1 above, contains constituents in concentrations that exceed either the Primary or Secondary MCL established in Title 22 of the California Code of Regulations. For TDS, the upper level Secondary MCL of 1,000 mg/L is applicable.

3. Exhibit a pH of less than 6.5 or greater than 8.4 pH units.

4. Impart taste, odor, chemical constituents, toxicity, or color that creates nuisance or impairs any beneficial use.

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 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 USEPA 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 USEPA 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. For any wastewater treatment plant, prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a permanent decrease of flow in any portion of a watercourse, the Discharger must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. (Water Code section 1211).

o. 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.

To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer 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. Failure to submit the request shall be considered a discharge without requirements, a violation of the Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

p. 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.

q. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, maximum daily effluent limitation, 1-hour average effluent limitation, or receiving water limitation of this Order, **the Discharger shall notify the Central Valley Water Board by telephone (530) 224-4845 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Central Valley Water Board waives confirmation.** The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.

B. Monitoring and Reporting Program (MRP) Requirements

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

C. Special Provisions

1. Reopener Provisions

a. Conditions that necessitate a major modification of a permit are described in 40 CFR 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. **Priority Pollutants.** This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.

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

d. **Whole Effluent Toxicity.** As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a numeric chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if the State Water Board revises the SIP's toxicity control provisions that would require the establishment of numeric chronic toxicity effluent limitations, this Order may be reopened to include a numeric chronic toxicity effluent limitation based on the new provisions.

e. **Water Effects Ratios (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating CTR criteria for applicable priority pollutant inorganic constituents. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

f. **Drinking Water Policy.** On 26 July 2013 the Central Valley Water Board adopted Resolution No. 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.

g. **Diazinon and Chlorpyrifos Basin Plan Amendment.** Central Valley Water Board staff is developing a Basin Plan Amendment to provide an implementation plan for NPDES-permitted domestic wastewater dischargers. This Order may be reopened to modify diazinon and chlorpyrifos effluent limitations, as appropriate, in accordance with an amendment to the Basin Plan.

h. **Title 27 Exemption Analysis Update.** Upon submittal of the Title 27 Exemption Analysis Update required by this Order, this Order may be reopened to add or modify Findings, limits, or other conditions as appropriate.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. **Toxicity Reduction Evaluation Requirements.** For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct chronic whole effluent toxicity (WET) testing, as specified in MRP section V. Furthermore, 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 numeric toxicity monitoring trigger during accelerated monitoring established 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. This Provision includes requirements for the Discharger to develop and submit a TRE Workplan and includes procedures for accelerated chronic toxicity monitoring and TRE initiation.

i. **Initial Investigative TRE Work Plan. Within 90 days of the effective date of this Order**, the Discharger shall submit to the Central Valley Water Board an Initial Investigative TRE Work Plan for approval by the Executive Officer. This should be a one to two page document including, at a minimum:

(a) A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of effluent toxicity, effluent variability, and treatment system efficiency;

(b) A description of the facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in operation of the facility; and

(c) A discussion of who will conduct the Toxicity Identification Evaluation (TIE), if necessary (e.g., an in-house expert or outside contractor).

ii. **Accelerated Monitoring and TRE Initiation.** When the numeric toxicity monitoring trigger is exceeded during regular chronic toxicity monitoring, and the testing meets all test acceptability criteria, the Discharger shall initiate accelerated monitoring as required in the Accelerated Monitoring Specifications. The Discharger shall initiate a TRE to address effluent toxicity if any WET testing results exceed the numeric toxicity monitoring trigger during accelerated monitoring.

iii. **Numeric Toxicity Monitoring Trigger.** The numeric toxicity monitoring trigger to initiate a TRE is > 1 TUc (where TUc = 100/NOEC). The monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Discharger is required to begin accelerated monitoring and initiate a TRE.

iv. **Accelerated Monitoring Specifications.** If the numeric toxicity monitoring trigger is exceeded during regular chronic toxicity testing, the Discharger shall initiate accelerated monitoring within 14-days of notification by the laboratory of the exceedance. Accelerated monitoring shall consist of four chronic toxicity

tests conducted once every two weeks using the species that exhibited toxicity. The following protocol shall be used for accelerated monitoring and TRE initiation:

(a) If the results of four consecutive accelerated monitoring tests do not exceed the monitoring trigger, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring. However, notwithstanding the accelerated monitoring results, if there is adequate evidence of a pattern of effluent toxicity, the Executive Officer may require that the Discharger initiate a TRE.

(b) If the source(s) of the toxicity is easily identified (e.g., temporary plant upset), the Discharger shall make necessary corrections to the facility and shall continue accelerated monitoring until four consecutive accelerated tests do not exceed the monitoring trigger. Upon confirmation that the effluent toxicity has been removed, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring.

(c) If the result of any accelerated toxicity test exceeds the monitoring trigger, the Discharger shall cease accelerated monitoring and begin a TRE to investigate the cause(s) of, and identify corrective actions to reduce or eliminate effluent toxicity. Within thirty (30) days of notification by the laboratory of any test result exceeding the monitoring trigger during accelerated monitoring, the Discharger shall submit a TRE Action Plan to the Central Valley Water Board including, at minimum:

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

(2) Specific actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and

(3) A schedule for these actions.

Within sixty (60) days of notification by the laboratory of the test results, the Discharger shall submit to the Central Valley Water Board a TRE Workplan for approval by the Executive Officer. The TRE Workplan shall outline the procedures for identifying the source(s) of, and reducing or eliminating effluent toxicity. The TRE Workplan must be developed in accordance with USEPA guidance[1].

b. **Title 27 Exemption Analysis Update. Within 36 months of the effective date of this Order**, the Discharger shall submit a Title 27 Exemption Analysis Update (Title 27 Analysis Update). The Title 27 Analysis Update shall present the results of the land discharge and groundwater monitoring to date, and an evaluation of whether the discharge to the evaporation/percolation ponds is in compliance with the Basin Plan, including the Basin Plan water quality objectives.

c. **Best Practical Treatment or Control (BPTC) Update.** If the groundwater monitoring results show that the discharge of waste is threatening to cause or has caused groundwater to contain waste constituents in concentrations statistically greater than background water quality, the Discharger shall submit, **within 36 months following adoption of this Order**, a BPTC Evaluation Work Plan that sets

[1] See the Fact Sheet (Attachment F section VII.B.2.a.) for a list of USEPA guidance documents that must be considered in development of the TRE Workplan.

forth a scope and schedule for a systematic and comprehensive technical evaluation of each component of the facilities' waste management system to determine best practicable treatment or control for each the waste constituents of concern. The work plan shall include a preliminary evaluation of each component of the waste management system and propose a time schedule for completing the comprehensive technical evaluation. The schedule to complete the evaluation shall be as short as practicable, and shall not exceed 1 year.

In accordance with California Business and Professions Code Sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. The technical report shall be prepared by or under the direction of appropriately qualified professional(s) and shall bear the professional's signature and stamp.

3. Best Management Practices and Pollution Prevention

a. **Pollutant Minimization Program**

The Discharger shall develop and conduct a Pollutant Minimization Program (PMP) as further described below when there is evidence (e.g., sample results reported as DNQ when the effluent limitation is less than the MDL, sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:

i. A sample result is reported as DNQ and the effluent limitation is less than the RL; or

ii. A sample result is reported as ND and the effluent limitation is less than the MDL, using definitions described in Attachment A and reporting protocols described in MRP section X.B.4.

The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Central Valley Water Board:

i. An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;

ii. Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system;

iii. Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;

iv. Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and

v. An annual status report that shall be sent to the Central Valley Water Board including:

(a) All PMP monitoring results for the previous year;

(b) A list of potential sources of the reportable priority pollutant(s);

(c) A summary of all actions undertaken pursuant to the control strategy; and

(d) A description of actions to be taken in the following year.

b. **Salinity Evaluation and Minimization Plan.** A Salinity Evaluation and Minimization Plan is required in this Order only if surface water discharge data or groundwater monitoring data become available that indicates receiving water quality objectives for salinity are threatened to be exceeded.

4. Construction, Operation and Maintenance Specifications

a. **Treatment Pond Operating Requirements.**

i. The treatment facilities 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 mosquitoes. 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.

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

vi. Prior to the onset of the rainy season of each year, available pond storage capacity shall at least equal the volume necessary to comply with the Land Discharge Specification at section IV.C.4.a.v., above.

vii. The discharge of waste classified as “hazardous” as defined in section 2521(a) of Title 23, California Code of Regulations (CCR), or “designated”, as defined in section 13173 of the Water Code, to the treatment ponds is prohibited.

viii. 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).

ix. As a means of discerning compliance with requirement viii. the dissolved oxygen content in the upper zone (1 foot) of wastewater in ponds shall not be less than 1.0 mg/L.

x. Ponds shall not have a pH less than 6.5 or greater than 8.5.

b. **Effluent Filtration.** During periods of discharge to the receiving water, the filtration system shall be operated to the maximum extent practicable.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. **Pretreatment Requirements**

i. The Discharger shall be responsible and liable for the performance of all Control Authority pretreatment requirements contained in 40 CFR Part 403, including any subsequent regulatory revisions to 40 CFR Part 403. Where 40 CFR 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 USEPA or other appropriate parties, as provided in the CWA. USEPA 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 CFR Part 403 including, but not limited to:

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

(b) Enforce the pretreatment requirements under 40 CFR 403.5 and 403.6;

(c) Implement the programmatic functions as provided in 40 CFR 403.8(f)(2); and

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

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 CFR Part 503.

i. Collected screenings, residual sludge, biosolids, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer, and 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 CFR Part 503. If the State Water Board and the Central Valley Water Board are given the authority to implement regulations contained in 40 CFR 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 CFR 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. Any proposed change in biosolids use or disposal practice from a previously approved practice shall be reported to the Executive Officer and USEPA Regional Administrator at least **90 days** in advance of the change.

v. **Within 180 days of the permit effective date,** the Discharger shall submit a biosolids use or disposal plan to the Central Valley Water Board. The plan shall describe at a minimum:

(a) Sources and amounts of biosolids generated annually.

(b) Location(s) of on-site storage and description of the containment area.

(c) Plans for ultimate disposal. For landfill disposal, include the present classification of the landfill; and the name and location of the landfill.

c. **Collection System.** On 2 May 2006, the State Water Board adopted State Water Resources Control Board Order No. 2006-0003-DWQ, Statewide General WDRs for Sanitary Sewer Systems. The Discharger shall be subject to the requirements of Order No. 2006-0003-DWQ and any future revisions thereto. Order No. 2006-0003-DWQ requires that all public agencies that currently own or operate sanitary sewer systems apply for coverage under the general WDRs. The Discharger has applied for and has been approved for coverage under Order 2006-0003-DWQ for operation and maintenance of its wastewater collection system.

d. **Electronic Notification.** This Order, and the Monitoring and Reporting Program which is a part of this Order, requires that certain parameters be monitored on a continuous basis. The wastewater treatment plant is not staffed on a full time basis. Permit violations or system upsets can go undetected during this period. The Discharger shall establish an electronic system for operator notification for continuous recording device alarms. For existing continuous monitoring systems, the electronic notification system shall be installed **within 6 months of adoption of this Order**. For systems installed following Order adoption, the notification system shall be installed simultaneously.

6. Other Special Provisions

a. **Annual Operation of the Filter System.** The filter and chlorination/dechlorination system **must be operated annually** prior to the wet season to assure that the filter system, as well as the chlorination/dechlorination system is operating properly in the event discharge from the Facility to South Fork Battle Creek is necessary.

b. **Prohibition III.E Exception.** Exceptions to Prohibition III.E, which prohibits discharge of effluent to South Fork Battle Creek from April 16 to November 14, may be granted by the Executive Officer provided all of the following conditions are satisfied:

i. The discharge is necessary due to circumstances that could not have reasonably been foreseen, such as an extended wet weather season;

ii. The Discharger demonstrates that the potential impacts of non-discharge would be greater than discharge, including any potential property damage, or interference with the wastewater treatment process. Impact of non-discharge to be analyzed must include as a minimum, damage to treatment processes or structures, and potential damage to nearby property, e.g. should a breach in any pond structure occur;

iii. The Discharger has previously taken all reasonable steps to prevent the discharge and all required maintenance has been performed in accordance with the manufacturer's recommendations and the Facility Operations and Maintenance Manual. Proof that all reasonable steps have been taken to prevent the discharge shall include a schedule for operation of the ponds that has been accepted by Central Valley Water Board staff;

iv. The discharge will not result in the exceedance of any water quality objective in South Fork Battle Creek.

7. Compliance Schedules – Not Applicable

VII. COMPLIANCE DETERMINATION

a. **BOD_5 and TSS Effluent Limitations (Section IV.A.1.a).** Compliance with the final effluent limitations for BOD_5 and TSS required in Limitations and Discharge Requirements section IV.A.1.a shall be ascertained by 8-hour composite samples. Compliance with effluent limitations required in Limitations and Discharge Requirements section IV.A.1.b for percent removal shall be calculated using the arithmetic mean of BOD_5 and TSS in effluent samples collected over a monthly period as a percentage of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period.

b. **Daily Peak Wet Weather Flow Effluent Limitation (Section IV.A.1.a).** The daily peak wet weather flow represents the maximum daily effluent flow permitted during the discharge season (e.g. November 15 – April 15).

c. **Total Coliform Organisms Effluent Limitations (Section IV.A.1.e).** For each day that an effluent sample is collected and analyzed for total coliform organisms, the 7-day median shall be determined by calculating the median concentration of total coliform bacteria in the effluent utilizing the bacteriological results of the last 7 days. For example, if a sample is collected on a Wednesday, the result from that sampling event and all results from the previous 6 days (i.e., Tuesday, Monday, Sunday, Saturday, Friday, and Thursday) are used to calculate the 7-day median. If the 7-day median of total coliform organisms exceeds a most probable number (MPN) of 23 per 100 milliliters, the Discharger will be considered out of compliance.

d. **Total Residual Chlorine Effluent Limitations (Section IV.A.1.d).** Continuous monitoring analyzers for chlorine residual or for dechlorination agent residual in the effluent are appropriate methods for compliance determination. A positive residual dechlorination agent in the effluent indicates that chlorine is not present in the discharge, which demonstrates compliance with the effluent limitations. This type of monitoring can also be used to prove that some chlorine residual exceedances are false positives. Continuous monitoring data showing either a positive dechlorination agent residual or a chlorine residual at or below the prescribed limit are sufficient to show compliance with the total residual chlorine effluent limitations, as long as the instruments are maintained and calibrated in accordance with the manufacturer's recommendations.

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

e. **Mass Effluent Limitations.** The mass effluent limitations contained in the Final Effluent Limitations (section IV.A.1.a) are based on the daily peak wet weather flow rate and calculated as follows:

Mass (lbs/day) = Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor)

f. **Priority Pollutant Effluent Limitations.** Compliance with effluent limitations for priority pollutants shall be determined in accordance with Section 2.4.5 of the SIP, as follows:

i. Dischargers shall be deemed out of compliance with an effluent limitation, if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

ii. 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) A sample result is reported as detected, but not quantified (DNQ) and the effluent limitation is less than the RL; or

(b) A sample result is reported as non-detect (ND) and the effluent limitation is less than the method detection limit (MDL).

iii. 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.

iv. 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 <u>not</u> be deemed out of compliance.

ATTACHMENT A – DEFINITIONS

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

Arithmetic mean = $\mu = \Sigma x / n$ where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

Average Monthly Effluent Limitation (AMEL)
The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

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

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

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

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

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

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

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

Detected, but Not Quantified (DNQ)
DNQ are those sample results less than the RL, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

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

Effluent Concentration Allowance (ECA)
ECA is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in U.S. EPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Enclosed Bays
Enclosed Bays means indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

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).

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 concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in in 40 C.F.R. part 136, Attachment B, revised as of July 3, 1999.

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.

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.

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.

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.

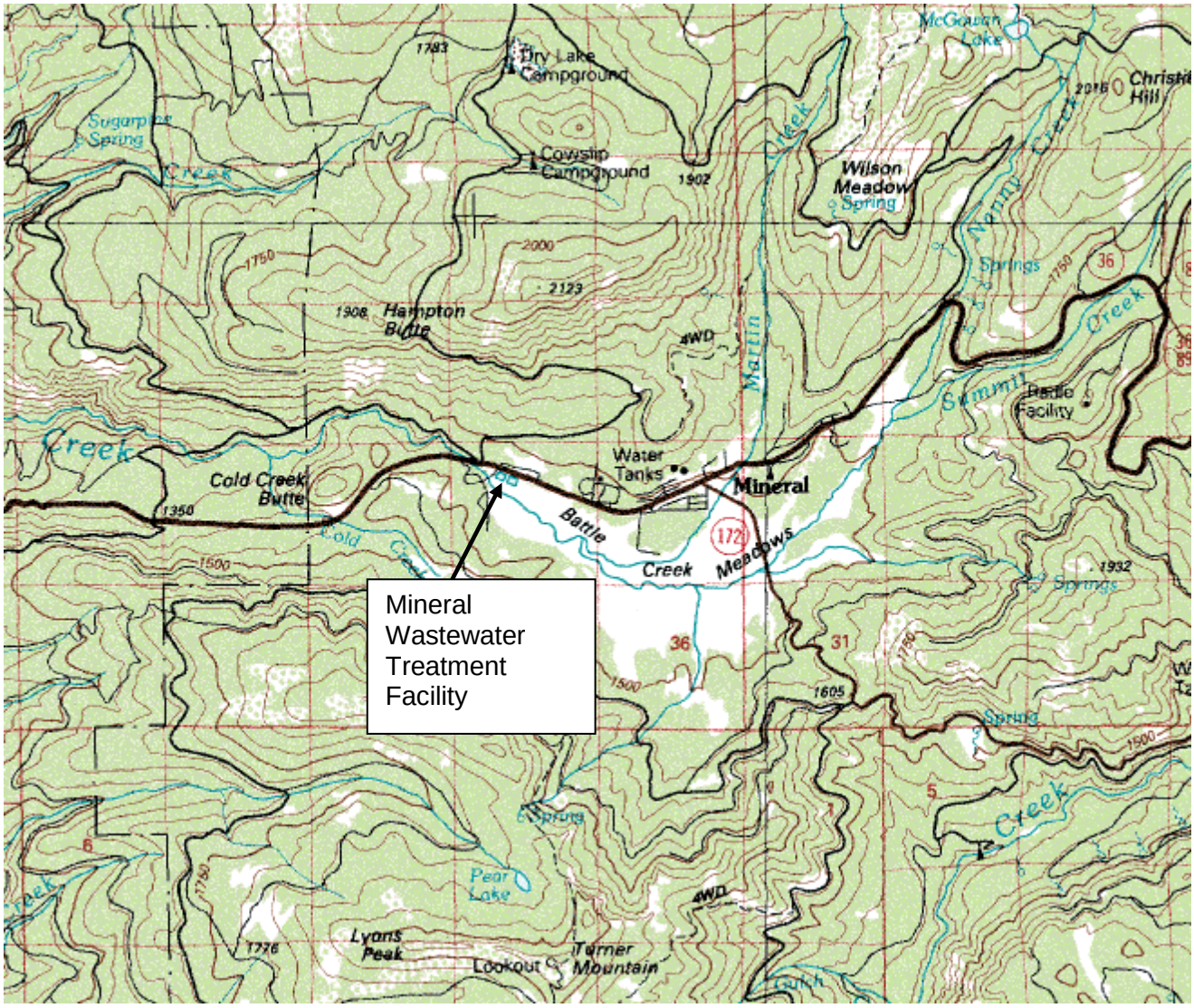
Standard Deviation (σ)
Standard Deviation is a measure of variability that is calculated as follows:

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

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

Toxicity Reduction Evaluation (TRE)
TRE is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

ATTACHMENT B – MAP

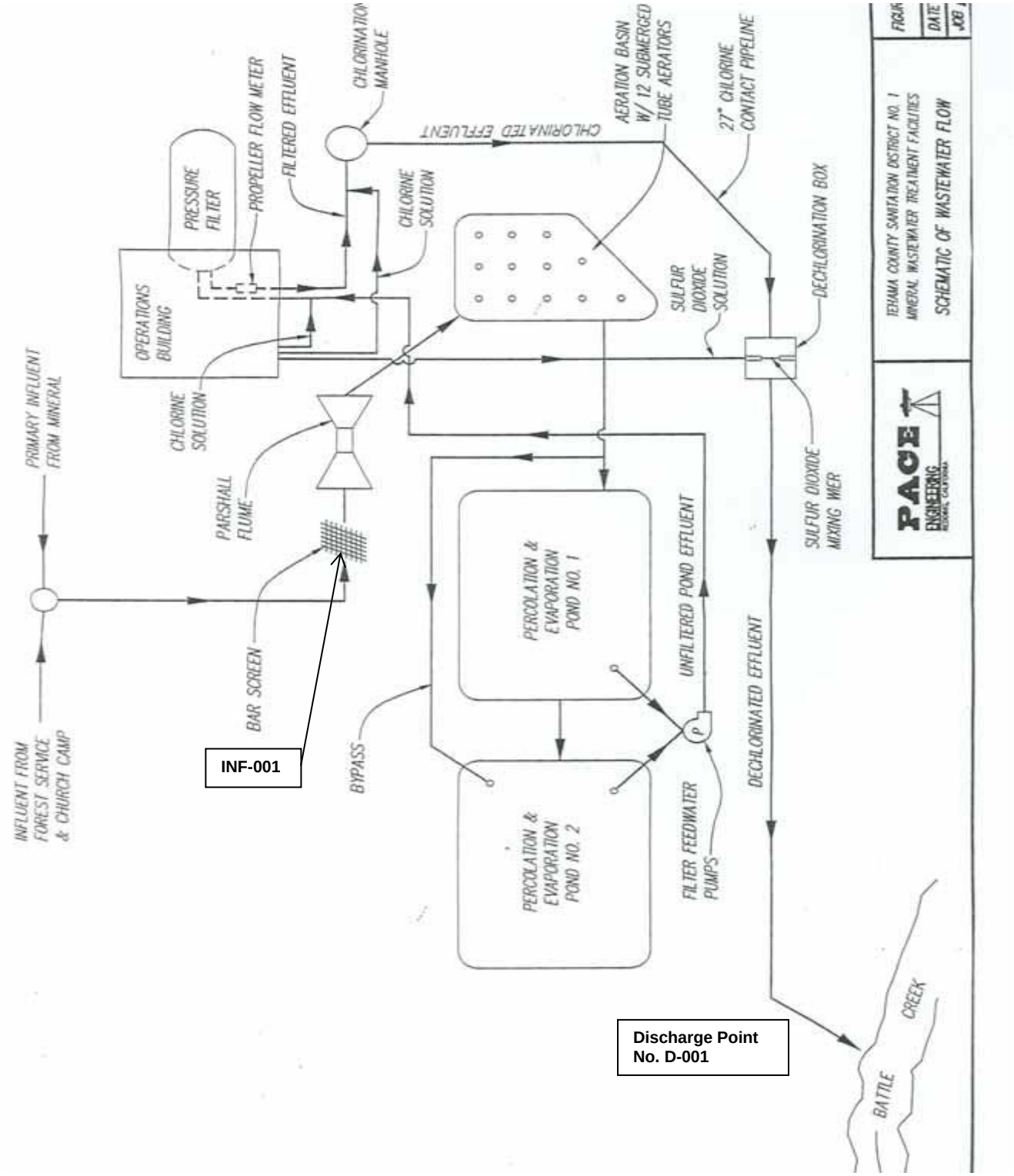


SITE LOCATION MAP

TEHAMA COUNTY SANITATION DISCTICT NO. 1
MINERAL WASTEWATER TREATMENT PLANT
TEHAMA COUNTY

Drawing Reference:
USGS TOPAGRAPHIC MAP
Mineral 7.5 Minute Quadrangle

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

2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

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

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 C.F.R. § 122.41(e).)

E. Property Rights

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

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

F. Inspection and Entry

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

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

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

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

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

G. Bypass

1. Definitions

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

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

2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)

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

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

   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. § 122.41(m)(4)(i)(B)); and

   c. The Discharger submitted notice to the Central Valley Water Boardas required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 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. § 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 a notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i).)

b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 C.F.R. § 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. § 122.41(n)(1).)

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

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

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

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

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

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

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

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

This Order is not transferable to any person except after notice to the 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. § 122.41(l)(3); 122.61.)

III. STANDARD PROVISIONS – MONITORING

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

B. Monitoring results 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. In the case of pollutants for which there are no approved methods under 40 C.F.R. part 136 or otherwise required under 40 C.F.R. subchapters N or O, monitoring must be conducted according to a test procedure-specified in this Order for such pollutants. (40 C.F.R. § 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. § 122.41(j)(2).)

B. Records of monitoring information shall include:

4. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));
5. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));
6. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));
7. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));
8. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and
9. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

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

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and
2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the 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. § 122.41(h); Wat. Code, § 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, and V.B.5 below. (40 C.F.R. § 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. § 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. § 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. § 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. § 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. § 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. § 122.22(d).)

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. § 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 results of monitoring of sludge use or disposal practices. (40 C.F.R. § 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. § 122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission 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. (40 C.F.R. § 122.41(l)(6)(i).)
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):
   a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)
   b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)
3. The Central Valley Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(iii).)

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. § 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. § 122.41(l)(1)(i)); or

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

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

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Central Valley Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with this Order's requirements. (40 C.F.R. § 122.41(l)(2).)

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. (40 C.F.R. § 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. § 122.41(l)(8).)

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

J. Publicly-Owned Treatment Works (POTWs)

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

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

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

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

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (40 C.F.R. § 122.48) requires that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Central Valley Water Board to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement federal and California regulations.

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. 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 certified for such analyses by the Department of Public Health (DPH). Laboratories that perform sample analyses must be identified in all monitoring reports submitted to the Central Valley Water Board. In the event a certified laboratory is not available to the Discharger for any onsite field measurements such as pH, DO, turbidity, temperature, and residual chlorine, such analyses performed by a noncertified 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 USEPA 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. Laboratories analyzing monitoring samples shall be certified by the Department of Public Health (DPH), in accordance with the provision of Water Code section 13176, and must include quality assurance/quality control data with their reports.

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:

State Water Resources Control Board Quality Assurance Program Officer

Office of Information Management and Analysis
State Water Resources Control Board
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.

I. The results of all monitoring required by this Order shall be reported to the Central Valley Water Board, and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order. Unless otherwise specified, discharge flows shall be reported in terms of the monthly average and the daily maximum discharge flows.

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	Influent to Facility Latitude: 40.34791° Longitude: -121.62079°
D-001	EFF-001	Effluent discharged through outfall to South Battle Creek Latitude: 40.3482° Longitude: -121.6245°
--	RSW-001	South Fork Battle Creek, approximately 50 feet upstream of Discharge Point D-001 Latitude: 40.3478° Longitude: -121.6249°
--	RSW-002	South Fork Battle Creek, Highway 36 bridge downstream of Discharge Point D-001 Latitude: 40.3483° Longitude: -121.6247°
--	PND-001	Evaporation/percolation Pond 1 (Eastern Pond) Latitude: 40.3480° Longitude: -121.6217°
--	PND-002	Evaporation/percolation Pond 2 (Western Pond) Latitude: 40.3484° Longitude: -121.6231°
--	BIO-001	Biosolids removed from the Facility
--	RGW-001	Up-gradient Monitoring Well
--	RGW-002	Monitoring Well between Evaporation Ponds 1 and 2
--	RGW-003	Down-gradient Monitoring Well
--	SPL-001	Municipal water supply

The North latitude and West longitude information in Table 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 as follows:

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Meter	Continuous	[1]
pH	Standard Units	Grab [2]	1/Week	[1]
BOD 5-day @ 20°C	mg/L	8-hr Composite [3]	[4]	[1]
Total Suspended Solids	mg/L	8-hr Composite [3]	[4]	[1]

[1] Pollutants 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.

[2] Grab samples shall not be collected at the same time each day to get a complete representation of variations in the influent.

[3] 8-hour flow proportional or time weighted composite.

[4] Samples shall be collected weekly concurrent with effluent samples during periods of discharge to South Fork Battle Creek or annual filter test. During periods of discharge to the evaporation/percolation ponds samples shall be collected once per month.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. The Discharger shall monitor treated wastewater discharged to South Fork Battle Creek at Monitoring Location EFF-001 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 Minimum Level:

Table E-3. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency[1]	Required Analytical Test Method
Flow	mgd	Meter	Continuous	[2]
Chlorine, Total Residual	mg/L	Grab	4/day or Continuous	[2, 3]
Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C)	mg/L	8-hr Composite [4]	1/Week	[2]
	lbs/day	Calculate	1/Week	[2]
Total Suspended Solids	mg/L	8-hr Composite [4]	1/Week	[2]
	lbs/day	Calculate	1/Week	[2]
pH	Standard Units	Grab	1/Week [5, 6]	[2]
Temperature	˚C	Grab	1/Week [5, 6]	[2]
Total Coliform Organisms	MPN/100 mL	Grab	1/Week	[2]
Electrical Conductivity @ 25˚C	µmhos/cm	Grab	1/Month	[2]
Chloride	mg/L	Grab	1/Month	[2]
Sulfate	mg/L	Grab	1/Month	[2]
Total Dissolved Solids	mg/L	Grab	1/Month	[2]
Hardness (as $CaCO_{3)}$	mg/L	Grab	1/Month [7]	[2]
Ammonia Nitrogen, Total (as N)		Grab	1/Month [5, 6, 8]	[2]
Nitrate Nitrogen, Total (as N)	mg/L	Grab	1/Month [9]	[2]
Nitrite Nitrogen, Total (as N)	mg/L	Grab	1/Month [9]	[2]
Chlorpyrifos	µg/L	Grab	1/Year	[14]
Diazinon	µg/L	Grab	1/Year	[14]
Priority Pollutant Metals	µg/L	Grab	1/Year	[2]

Standard Minerals [11]	mg/L	Grab	1/Year	[2]
Priority Pollutants and Other Constituents of Concern (see Attachment E)[15]	µg/L	8-hr Composite [4]	[12]	[2, 10, 13]
Acute Toxicity (see Section V. below)	% Survival	Grab	1/Discharge Season	--
Whole Effluent Toxicity (see Section V. below)	TU_c	Grab	1/Permit Term	--

[1] **Monitoring frequencies shall only apply during discharge to South Fork Battle Creek.**

[2] Pollutants 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.

[3] Total chlorine residual must be monitored with a method sensitive to and accurate at the permitted level of 0.01 mg/L.

[4] 8-hour flow or time proportional composite.

[5] pH and temperature shall be recorded at the time of ammonia sample collection.

[6] A hand-held field meter may be used, provided the meter utilizes a USEPA-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.

[7] Hardness samples shall be collected concurrently with metals samples.

[8] Concurrent with whole effluent toxicity monitoring.

[9] Monitoring for nitrite and nitrate shall be conducted concurrently.

[10] For priority pollutant constituents with effluent limitations, detection limits shall be below the effluent limitations. If the lowest minimum level (ML) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Plan or SIP) is not below the effluent limitation, the detection limit shall be the lowest ML. For priority pollutant constituents without effluent limitations, the detection limits shall be equal to or less than the lowest ML published in Appendix 4 of the SIP.

[11] 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).

[12] Priority pollutants shall be sampled three times during the permit term and shall be conducted concurrently with upstream receiving water monitoring for hardness (as $CaCO_3$) and pH. See *Effluent and Receiving Water Characterization Study,* Attachment E, Section IX.D for more detailed requirements related to performing the priority pollutant monitoring

[13] Volatile constituents shall be sampled in accordance with 40 CFR Part 136 or by methods approved by the Central Valley Water Board or the State Water Board.

[14] USEPA Method 625M, Method 8141, or equivalent. Minimum reporting limits: <100 ng/L diazinon; <15 ng/L chlorpyrifos.

[15] The maximum required Reporting Level is specified in Attachment E, Table E-11, Priority Pollutants and Other Constituents of Concern

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity Testing. The Discharger shall conduct acute toxicity testing to determine whether the effluent is contributing acute toxicity to the receiving water. The Discharger shall meet the following acute toxicity testing requirements:

1. *Monitoring Frequency* – If there has been a discharge to the receiving water, the Discharger shall perform acute toxicity testing once during the discharge season concurrent with effluent ammonia sampling.

2. *Sample Types* – The Discharger may use flow-through or static renewal testing. For static renewal testing, the samples shall be grab samples and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at the effluent monitoring location Monitoring Location EFF-001.

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

4. *Methods* – The acute toxicity testing samples shall be analyzed using EPA-821-R-02-012, Fifth Edition. Temperature, total residual chlorine, and pH shall be recorded at the time of sample collection. No pH adjustment may be made unless approved by the Executive Officer.

5. *Test Failure* – If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger must re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure.

B. Chronic Toxicity Testing. The Discharger shall conduct three species chronic toxicity testing to determine whether the effluent is contributing chronic toxicity to the receiving water. The Discharger shall meet the following chronic toxicity testing requirements:

1. *Monitoring Frequency –* If there has been a discharge to the receiving water, the Discharger shall perform three species chronic toxicity testing; once during the term of this Order and no later than 6 months prior to permit expiration.

2. *Sample Types* – Effluent samples shall be grab samples and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at the effluent monitoring location EFF-001. The receiving water control shall be a grab sample obtained Monitoring Location RSW-001, as identified in this Monitoring and Reporting Program.

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

4. *Test Species* – Chronic toxicity testing measures sublethal (e.g., reduced growth, reproduction) and/or lethal effects to test organisms exposed to an effluent compared to that of the control organisms. The Discharger shall conduct chronic toxicity tests with:

   a. The cladoceran, water flea, *Ceriodaphnia dubia* (survival and reproduction test);

   b. The fathead minnow, *Pimephales promelas* (larval survival and growth test); and

   c. The green alga, *Selenastrum capricornutum* (growth test).

5. Methods – The presence of chronic toxicity shall be estimated as specified in Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA/821-R-02-013, October 2002.

6. Reference Toxicant – As required by the SIP, all chronic toxicity tests shall be conducted with concurrent testing with a reference toxicant and shall be reported with the chronic toxicity test results.

7. *Dilutions* – For routine and accelerated chronic toxicity monitoring, it is not necessary to perform the test using a dilution series. The test may be performed using 100% effluent and one control. For TRE monitoring, the chronic toxicity testing shall be performed using the dilution series identified in Table E-4, below, unless an alternative dilution series is detailed in the submitted TRE Action Plan. A receiving water control or laboratory water control may be used as the diluent.

Table E-4. Chronic Toxicity Testing Dilution Series

Sample	Dilutions (%)					Control	
	100	75	50	25	12.5	Receiving Water	Laboratory Water
% Effluent	100	75	50	25	12.5	0	0
% Receiving Water	0	25	50	75	87.5	100	0
% Laboratory Water	0	0	0	0	0	0	100

8. *Test Failure* – The Discharger must re-sample and re-test as soon as possible, but no later than fourteen (14) days after receiving notification of a test failure. A test failure is defined as follows:

   a. The reference toxicant test or the effluent test does not meet all test acceptability criteria as specified in the Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA/821-R-02-013, October 2002 (Method Manual), and its subsequent amendments or revisions; or

   b. The percent minimum significant difference (PMSD) measured for the test exceeds the upper PMSD bound variability criterion in Table 6 on page 52 of the Method Manual. (A retest is only required in this case if the test results do not exceed the monitoring trigger specified in the Special Provision at section VI. 2.a.iii. of the Order.)

C. WET Testing Notification Requirements. The Discharger shall notify the Central Valley Water Board within 24-hours after the receipt of test results exceeding the monitoring trigger during regular or accelerated monitoring, or an exceedance of the acute toxicity effluent limitation.

D. WET Testing Reporting Requirements. All toxicity test reports shall include the contracting laboratory's complete report provided to the Discharger and shall be in accordance with the appropriate "Report Preparation and Test Review" sections of the method manuals. At a minimum, whole effluent toxicity monitoring shall be reported as follows:

1. **Chronic WET Reporting.** Regular chronic toxicity monitoring results shall be reported to the Central Valley Water Board within 30 days following completion of the test, and shall contain, at minimum:

   a. The results expressed in TUc, measured as 100/NOEC, and also measured as 100/LC50, 100/EC25, 100/IC25, and 100/IC50, as appropriate.

   b. The statistical methods used to calculate endpoints;

   c. The statistical output page, which includes the calculation of the percent minimum significant difference (PMSD);

   d. The dates of sample collection and initiation of each toxicity test; and

e. The results compared to the numeric toxicity monitoring trigger.

Additionally, the monthly discharger self-monitoring reports shall contain an updated chronology of chronic toxicity test results expressed in TUc, and organized by test species, type of test (survival, growth or reproduction), and monitoring frequency, i.e., either quarterly, monthly, accelerated, or Toxicity Reduction Evaluation (TRE).

2. **Acute WET Reporting.** Acute toxicity test results shall be submitted with the monthly discharger self-monitoring reports and reported as percent survival.

3. **TRE Reporting.** Reports for TREs shall be submitted in accordance with the schedule contained in the Discharger's approved TRE Workplan, or as amended by the Discharger's TRE Action Plan.

4. **Quality Assurance (QA).** The Discharger must provide the following information for QA purposes:

   a. Results of the applicable reference toxicant data with the statistical output page giving the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD, and dates tested.

   b. The reference toxicant control charts for each endpoint, which include summaries of reference toxicant tests performed by the contracting laboratory.

   c. Any information on deviations or problems encountered and how they were dealt with.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECYCLING MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Monitoring Locations RSW-001 and RSW-002

1. The Discharger shall monitor South Fork Battle Creek at Monitoring Locations RSW-001 and RSW-002 as follows:

Table E-5. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency[1]	Required Analytical Test Method
South Fork Battle Creek Flow[2]	cfs	Staff Gauge	1/Day	
Dissolved Oxygen	mg/L	Grab	1/Week	[3]
pH	Standard Units	Grab	1/Week [4, 5]	[3]
Temperature	˚C	Grab	1/Week [4, 5]	[3]
Turbidity	NTU	Grab	1/Week	[3]
Electrical Conductivity @ 25˚C	µmhos/cm	Grab	1/Month	[3]
Total Dissolved Solids	mg/L	Grab	1/Month	[3]
Hardness (as $CaCO_3$)	mg/L	Grab	1/Month	[3]
Ammonia Nitrogen, Total (as N)		Grab	1/Month [6]	[3]
Standard Minerals [7]	mg/L	Grab	1/Year	[3]
Priority Pollutants and Other Constituents of Concern (see Attachment E, Table E-9) [2]	µg/L	Grab	[8]	[3, 9, 10]

[1] **Monitoring frequencies shall apply during discharge to South Fork Battle Creek.**
[2] Monitoring required at RSW-001 only.
[3] Pollutants 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.
[4] pH and temperature shall be recorded at the time of ammonia sample collection.
[5] A hand-held field meter may be used, provided the meter utilizes a USEPA-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.
[6] Concurrent with whole effluent toxicity monitoring.
[7] 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).
[8] Priority pollutants shall be sampled three times during the permit term and shall be conducted concurrently with upstream receiving water monitoring for hardness (as $CaCO_3$) and pH. See the *Effluent and Receiving Water Characterization Study,* Attachment E, Section IX.D, Table E-9 for more detailed requirements related to performing the priority pollutant monitoring.
[9] Volatile constituents shall be sampled in accordance with 40 CFR Part 136 or by methods approved by the Central Valley Water Board or the State Water Board.
[10] The maximum required Reporting Level is specified in Attachment E, Table E-9, Effluent and Receiving Water Characterization Study.

2. In conducting the 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. Attention shall be given to the presence or absence of:

   a. Floating or suspended matter;
   b. Discoloration;
   c. Bottom deposits, if visible;
   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 RGW-001, RGW-002, RGW-003

1. 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 for approval. Once installed, all new wells shall be added to the monitoring network (which currently consists of Monitoring Well Nos. RGW-001, RGW-002, and RGW-003) and shall be sampled and analyzed according to the schedule below. All samples shall be collected using approved EPA methods. Water table elevations shall be calculated to determine groundwater gradient and direction of flow.

2. 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. Depth to groundwater shall be measured to the nearest 0.01 feet. Groundwater monitoring at RGW-001, RGW-002, RGW-003, and any new groundwater monitoring wells shall include, at a minimum, the following:

Table E-6. Groundwater Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Depth to Groundwater	±0.01 feet	Measurement	1/Quarter[4]	--
Groundwater Elevation[1]	±0.01 feet	Calculated	1/Quarter[4]	--

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Gradient	feet/feet	Calculated	1/Quarter	--
Gradient Direction	degrees	Calculated	1/Quarter	--
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Quarter	[2]
Total Dissolved Solids	mg/L	Grab	1/Quarter	[2]
pH	standard units	Grab	1/Quarter	[2]
Total Coliform Organisms	MPN/100 mL	Grab	1/Quarter	[2]
Ammonia (as NH_4)	mg/L	Grab	1/Quarter	
Total Nitrogen	mg/L	Grab	1/Quarter	[2]
Nitrate Nitrogen, Total (as N)	mg/L	Grab	1/Quarter	
Total Kjeldahl Nitrogen	mg/L	Grab	1/Quarter	[2]
Standard Minerals [3]	µg/L	Grab	1/Quarter	[2]

[1] 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.

[2] Pollutants 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.

[3] 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).

IX. OTHER MONITORING REQUIREMENTS

A. Monitoring Location PND-001 and PND-002

1. The Discharger shall monitor the evaporation/percolation ponds at Monitoring Locations PND-001 and PND-002 as follows:

Table E-7. Pond Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Freeboard and Liquid Depth	Feet[1]	Visual	1/Month
Dissolved Oxygen	mg/L	Grab	1/Week
pH	Standard Units	Grab	1/Week
Observations[2]	--	--	1/Month
Biochemical Oxygen Demand (5-day @ 20°C)[3]	mg/L	Grab	1/Month[4]
Total Suspended Solids[3]	mg/L	Grab	1/Month[4]
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Month[4]
Nitrate (as N)	mg/L	Grab	1/Month[4]
Iron	mg/L	Grab	1/Year
Manganese	mg/L	Grab	1/Year

[1] Freeboard shall be monitored to the nearest tenth of a foot.

[2] Observations include: a) seepage through the dikes; b) excessive odors or other nuisances; and c) excessive weed growth in ponds.

[3] Sample shall be collected at the discharge to PND-001 only.
[4] During the first year of the permit term only.

B. Biosolids

1. Monitoring Location BIO-001

   a. A composite sample of sludge shall be collected at Monitoring Location BIO-001 prior to sludge removal from the ponds in accordance with EPA's *POTW Sludge Sampling and Analysis Guidance Document*, August 1989, and tested for priority pollutants listed in 40 CFR Part 122, Appendix D, Tables II and III (excluding total phenols).

   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 CFR 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."

   c. Sampling records shall be retained for a minimum of **5 years**. A log shall be maintained of sludge quantities generated and of handling and disposal activities. The frequency of entries is discretionary; however, the log must be complete enough to serve as a basis for part of the annual report.

C. Municipal Water Supply

1. Monitoring Location SPL-001

   a. The Discharger shall monitor the municipal water supply at SPL-001 as follows. A sampling station shall be established where a representative sample of the municipal water supply can be obtained. Municipal water supply samples shall be collected at approximately the same time as effluent samples.

Table E-8. Municipal Water Supply Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Total Dissolved Solids[1]	mg/L	Grab	1/year
Electrical Conductivity @ 25°C[1]	µmhos/cm	Grab	1/year
Standard Minerals[2]	mg/L	Grab	1/year

[1] If the water supply is from more than one source, the total dissolved solids and electrical conductivity shall be reported as a weighted average and include copies of supporting calculations.
[2] Standard minerals shall include all major cations and anions and include verification that the analysis is complete (i.e., cation/anion balance).

D. Effluent and Receiving Water Characterization

1. **Monitoring.** Priority pollutant samples shall be collected from the effluent and upstream receiving water (EFF-001 and RSW-001) during periods of discharge and analyzed for the constituents listed in Table E-9, below. Monitoring shall be conducted **three times during the permit term**, including at least one monitoring event during the first discharge of the permit term. The results of such monitoring shall be submitted to the Central Valley Water Board with the self-monitoring reports. The monitoring event shall provide representative sample results for the effluent and upstream receiving water. (Note: Duplicative monitoring for priority pollutants is not required. If monitoring and

reporting for a priority pollutant listed in Table E-3 or Table E-5 is already required in this Order, the Discharger is not required to perform additional, duplicative monitoring and reporting as specified in this section.)

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

3. **Sample type.** All receiving water samples shall be taken as grab samples. Effluent samples shall be taken as described in **Table E-9**, below.

Table E-9. Effluent and Receiving Water Characterization Monitoring

Parameter	Units	Effluent Sample Type	Maximum Reporting Level[1]
2- Chloroethyl vinyl ether	µg/L	Grab	1
Acrolein	µg/L	Grab	2
Acrylonitrile	µg/L	Grab	2
Benzene	µg/L	Grab	0.5
Bromoform	µg/L	Grab	0.5
Carbon Tetrachloride	µg/L	Grab	0.5
Chlorobenzene	µg/L	Grab	0.5
Chloroethane	µg/L	Grab	0.5
Chloroform	µg/L	Grab	2
Chloromethane	µg/L	Grab	2
Dibromochloromethane	µg/L	Grab	0.5
Dichlorobromomethane	µg/L	Grab	0.5
Dichloromethane	µg/L	Grab	2
Ethylbenzene	µg/L	Grab	2
Hexachlorobenzene	µg/L	Grab	1
Hexachlorobutadiene	µg/L	Grab	1
Hexachloroethane	µg/L	Grab	1
Methyl bromide (Bromomethane)	µg/L	Grab	1
Naphthalene	µg/L	Grab	10
Parachlorometa cresol	µg/L	Grab	
Tetrachloroethene	µg/L	Grab	0.5
Toluene	µg/L	Grab	2
trans-1,2-Dichloroethylene	µg/L	Grab	1
Trichloroethene	µg/L	Grab	2
Vinyl chloride	µg/L	Grab	0.5
Methyl-tert-butyl ether (MTBE)	µg/L	Grab	
Trichlorofluoromethane	µg/L	Grab	
1,1,1-Trichloroethane	µg/L	Grab	0.5
1,1-dichloroethane	µg/L	Grab	0.5
1,1-dichloroethylene	µg/L	Grab	0.5
1,2-dichloropropane	µg/L	Grab	0.5
1,3-dichloropropylene	µg/L	Grab	0.5
1,1,2,2-tetrachloroethane	µg/L	Grab	0.5
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	Grab	0.5
1,2,4-trichlorobenzene	µg/L	Grab	1
1,2-dichoroethane	µg/L	Grab	0.5
1,2-dichlorobenzene	µg/L	Grab	0.5
1,3-dichlorobenzene	µg/L	Grab	0.5
1,4-dichlorobenzene	µg/L	Grab	0.5
Styrene	µg/L	Grab	
Xylenes	µg/L	Grab	
1,2-Benzanthracene	µg/L	Grab	5

Parameter	Units	Effluent Sample Type	Maximum Reporting Level[1]
1,2-Diphenylhydrazine	µg/L	Grab	1
2-Chlorophenol	µg/L	Grab	5
2,4-Dichlorophenol	µg/L	Grab	5
2,4-Dimethylphenol	µg/L	Grab	2
2,4-Dinitrophenol	µg/L	Grab	5
2,4-Dinitrotoluene	µg/L	Grab	5
2,4,6-Trichlorophenol	µg/L	Grab	10
2,6-Dinitrotoluene	µg/L	Grab	5
2-Nitrophenol	µg/L	Grab	10
2-Chloronaphthalene	µg/L	Grab	10
3,3'-Dichlorobenzidine	µg/L	Grab	5
3,4-Benzofluoranthene	µg/L	Grab	10
4-Chloro-3-methylphenol	µg/L	Grab	5
4,6-Dinitro-2-methylphenol	µg/L	Grab	10
4-Nitrophenol	µg/L	Grab	10
4-Bromophenyl phenyl ether	µg/L	Grab	10
4-Chlorophenyl phenyl ether	µg/L	Grab	5
Acenaphthene	µg/L	Grab	1
Acenaphthylene	µg/L	Grab	10
Anthracene	µg/L	Grab	10
Benzidine	µg/L	Grab	5
Benzo(a)pyrene (3,4-Benzopyrene)	µg/L	Grab	2
Benzo(g,h,i)perylene	µg/L	Grab	5
Benzo(k)fluoranthene	µg/L	Grab	2
Bis(2-chloroethoxy) methane	µg/L	Grab	5
Bis(2-chloroethyl) ether	µg/L	Grab	1
Bis(2-chloroisopropyl) ether	µg/L	Grab	10
Bis(2-ethylhexyl) phthalate	µg/L	Grab	5
Butyl benzyl phthalate	µg/L	Grab	10
Chrysene	µg/L	Grab	5
Di-n-butylphthalate	µg/L	Grab	10
Di-n-octylphthalate	µg/L	Grab	10
Dibenzo(a,h)-anthracene	µg/L	Grab	0.1
Diethyl phthalate	µg/L	Grab	10
Dimethyl phthalate	µg/L	Grab	10
Fluoranthene	µg/L	Grab	10
Fluorene	µg/L	Grab	10
Hexachlorocyclopentadiene	µg/L	Grab	5
Indeno(1,2,3-c,d)pyrene	µg/L	Grab	0.05
Isophorone	µg/L	Grab	1
N-Nitrosodiphenylamine	µg/L	Grab	1
N-Nitrosodimethylamine	µg/L	Grab	5
N-Nitrosodi-n-propylamine	µg/L	Grab	5
Nitrobenzene	µg/L	Grab	10
Pentachlorophenol	µg/L	Grab	1
Phenanthrene	µg/L	Grab	5
Phenol	µg/L	Grab	1
Pyrene	µg/L	Grab	10
Aluminum	µg/L	Grab	
Antimony	µg/L	Grab	5
Arsenic	µg/L	Grab	10
Asbestos	µg/L	Grab	

Parameter	Units	Effluent Sample Type	Maximum Reporting Level[1]
Barium	µg/L	Grab	
Beryllium	µg/L	Grab	2
Cadmium	µg/L	Grab	0.5
Chromium (III)	µg/L	Grab	50
Chromium (VI)	µg/L	Grab	10
Copper	µg/L	Grab	0.5
Cyanide	µg/L	Grab	5
Fluoride	µg/L	Grab	
Iron	µg/L	Grab	
Lead	µg/L	Grab	0.5
Mercury	µg/L	Grab	0.5
Manganese	µg/L	Grab	
Molybdenum	µg/L	Grab	
Nickel	µg/L	Grab	20
Selenium	µg/L	Grab	5
Silver	µg/L	Grab	0.25
Thallium	µg/L	Grab	1
Tributyltin	µg/L	Grab	
Zinc	µg/L	Grab	20
4,4'-DDD	µg/L	Grab	0.05
4,4'-DDE	µg/L	Grab	0.05
4,4'-DDT	µg/L	Grab	0.01
alpha-Endosulfan	µg/L	Grab	0.02
alpha-Hexachlorocyclohexane (BHC)	µg/L	Grab	0.01
Alachlor	µg/L	Grab	
Aldrin	µg/L	Grab	0.005
beta-Endosulfan	µg/L	Grab	0.01
beta-Hexachlorocyclohexane	µg/L	Grab	0.005
Chlordane	µg/L	Grab	0.1
delta-Hexachlorocyclohexane	µg/L	Grab	0.005
Dieldrin	µg/L	Grab	0.01
Endosulfan sulfate	µg/L	Grab	0.01
Endrin	µg/L	Grab	0.01
Endrin Aldehyde	µg/L	Grab	0.01
Heptachlor	µg/L	Grab	0.01
Heptachlor Epoxide	µg/L	Grab	0.02
Lindane (gamma-Hexachlorocyclohexane)	µg/L	Grab	0.5
PCB-1016	µg/L	Grab	0.5
PCB-1221	µg/L	Grab	0.5
PCB-1232	µg/L	Grab	0.5
PCB-1242	µg/L	Grab	0.5
PCB-1248	µg/L	Grab	0.5
PCB-1254	µg/L	Grab	0.5
PCB-1260	µg/L	Grab	0.5
Toxaphene	µg/L	Grab	
Atrazine	µg/L	Grab	
Bentazon	µg/L	Grab	
Carbofuran	µg/L	Grab	
2,4-D	µg/L	Grab	
Dalapon	µg/L	Grab	

Parameter	Units	Effluent Sample Type	Maximum Reporting Level[1]
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	Grab	
Di(2-ethylhexyl)adipate	µg/L	Grab	
Dinoseb	µg/L	Grab	
Diquat	µg/L	Grab	
Endothal	µg/L	Grab	
Ethylene Dibromide	µg/L	Grab	
Methoxychlor	µg/L	Grab	
Molinate (Ordram)	µg/L	Grab	
Oxamyl	µg/L	Grab	
Picloram	µg/L	Grab	
Simazine (Princep)	µg/L	Grab	
Thiobencarb	µg/L	Grab	
2,3,7,8-TCDD (Dioxin)	µg/L	Grab	
2,4,5-TP (Silvex)	µg/L	Grab	
Diazinon	µg/L	Grab	
Chlorpyrifos	µg/L	Grab	
Ammonia (as N)	mg/L	Grab	
Boron	µg/L	Grab	
Chloride	mg/L	Grab	
Flow	MGD	Meter	
Hardness (as $CaCO_3$)	mg/L	Grab	
Foaming Agents (MBAS)	µg/L	Grab	
Mercury, Methyl	ng/L	Grab	
Nitrate (as N)	mg/L	Grab	
Nitrite (as N)	mg/L	Grab	
pH	Std Units	Grab	
Phosphorus, Total (as P)	mg/L	Grab	
Specific conductance (EC)	µmhos/cm	Grab	
Sulfate	mg/L	Grab	
Sulfide (as S)	mg/L	Grab	
Sulfite (as SO_3)	mg/L	Grab	
Temperature	^{o}C	Grab	
Total Dissolved Solids (TDS)	mg/L	Grab	

[1] The reporting levels required in this table for priority pollutant constituents are established based on Section 2.4.2 and Appendix 4 of the SIP.

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 continue to electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). The CIWQS Web site 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, semiannual, 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.
3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-10. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Continuous	**Permit effective date**	Continuous	Submit with monthly SMR
1/Day	**Permit effective date**	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with **monthly** SMR
1/Week	**Permit effective date**	Sunday through Saturday	Submit with **monthly** SMR
1/Month	**Permit effective date**	First day of calendar month through last day of calendar month	First day of second calendar

			month following month of sampling
1/Quarter	**Permit effective date**	1 January through 31 March 1 April through 30 June 1 July through 30 September 1 October through 31 December	1 May 1 August 1 November 1 February of following year
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 (± 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 WDR's; 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 laboratory analysis sheets, 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. **Calendar Annual Average Limitations**. For constituents with effluent limitations specified as "calendar annual average" (aluminum, electrical conductivity, iron, and manganese) the Discharger shall report the calendar annual average in the December SMR. The annual average shall be calculated as the average of the samples gathered for the calendar year.

   b. **Mass Loading Limitations**. For BOD5, TSS, and ammonia, the Discharger shall calculate and report the mass loading (lbs/day) in the SMRs. The mass loading shall be calculated as follows:

      Mass Loading (lbs/day) = Flow (MGD) x Concentration (mg/L) x 8.34

      When calculating daily mass loading, the daily average flow and constituent concentration shall be used. For weekly average mass loading, the weekly average flow and constituent concentration shall be used. For monthly average mass loading, the monthly average flow and constituent concentration shall be used.

   c. **Removal Efficiency (BOD_5 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 Limitations and Discharge Requirements.

   d. **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 the Limitations and Discharge Requirements.

   e. **Dissolved Oxygen Receiving Water Limitations**. The Discharger shall calculate and report monthly in the self-monitoring report: i) the dissolved oxygen concentration, ii) the percent of saturation in the main water mass, and iii) the 95th percentile dissolved oxygen concentration.

f. **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.17.a-e. of the Limitations and Discharge Requirements.

g. **Temperature Receiving Water Limitations**. The Discharger shall calculate and report the temperature increase in the receiving water based on the difference in temperature at RSW-001 and RSW-002.

C. Discharge Monitoring Reports (DMRs)

1. As described in section X.B.1 above, at any time during the term of this permit, the State Water Board or Central Valley Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs).

D. Other Reports

1. The Discharger shall report the results of any special studies, acute and chronic toxicity testing, TRE/TIE, or PMP required by Special Provisions – VI.C. The Discharger shall submit reports with the first monthly SMR scheduled to be submitted on or immediately following the report due date.

2. **Within 60 days of permit adoption**, the Discharger shall submit a report outlining reporting levels (RLs), method detection limits, and analytical methods for approval. The Discharger shall comply with the monitoring and reporting requirements for CTR constituents as outlined in section 2.3 and 2.4 of the SIP. The maximum required reporting levels for priority pollutant constituents shall be based on the Minimum Levels (MLs) contained in Appendix 4 of the SIP, determined in accordance with Section 2.4.2 and Section 2.4.3 of the SIP. In accordance with Section 2.4.2 of the SIP, when there is more than one ML value for a given substance, the Central Valley Water Board shall include as RLs, in the permit, all ML values, and their associated analytical methods, listed in Appendix 4 that are below the calculated effluent limitation. The Discharger may select any one of those cited analytical methods for compliance determination. If no ML value is below the effluent limitation, then the Central Valley Water Board shall select as the RL, the lowest ML value, and its associated analytical method, listed in Appendix 4 for inclusion in the permit. Table E-9 (Attachment E) provides required maximum reporting levels in accordance with the SIP.

3. **Annual Operations Report.** By 1 February of each year, the Discharger shall submit a written report to the Executive Officer containing the following:

   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.

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

As described in section II.B 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 includes 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

WDID	5A520102001
Discharger	Tehama County Sanitation District No. 1
Name of Facility	Mineral Wastewater Treatment Plant
Facility Address	37735 Highway 36E
	Mineral, CA 96063
	Tehama County
Facility Contact, Title and Phone	Gary Antone, Executive Director, (530) 385-1462
Authorized Person to Sign and Submit Reports	Gary Antone, Executive Director, (530) 385-1462
Mailing Address	9380 San Benito Avenue, Gerber, CA 96035
Billing Address	SAME
Type of Facility	POTW
Major or Minor Facility	Minor
Threat to Water Quality	2
Complexity	B
Pretreatment Program	N
Recycling Requirements	NA
Facility Permitted Flow	0.070 mgd (ADWF), 0.75 mgd (PWWF)
Facility Design Flow	0.070 mgd (ADWF), 0.75 mgd (PWWF)
Watershed	Battle Creek
Receiving Water	South Fork Battle Creek
Receiving Water Type	Inland surface water

A. Tehama County Sanitation District No. 1 (hereinafter Discharger) is the owner and operator of the Mineral Wastewater Treatment Plant (hereinafter Facility), a secondary wastewater treatment plant.

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 South Fork Battle Creek, a water of the United States, and was regulated by Order R5-2007-0098 which was adopted on 2 August 2007 and expired on 1 September 2012. The terms and conditions of Order No. R5-2007-0098 were automatically continued and remained in effect until new Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit were adopted pursuant to this Order. Attachment B provides a map of the area around the Facility.

Attachment C provides a flow schematic of the Facility.

Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Discharger must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. The State Water Board retains the jurisdictional authority to enforce such requirements under Water Code section 1211.

C. The Discharger filed a report of waste discharge and submitted an application for reissuance of its WDR's and NPDES permit on 15 August 2012. A site visit was conducted on 1 May 2012 to observe operations and collect additional data to develop permit limitations and conditions.

II. FACILITY DESCRIPTION

The Discharger provides sewerage service for the community of Mineral, State of California Department of Transportation Mineral Maintenance Facility, the Lassen National Park Service (NPS) Headquarters, and seasonal campgrounds. The estimated population of the community of Mineral is 123; however, the summer cabin, campground, and second home use increase the population seasonally. According to the Discharger's records, the Facility currently has 199 paying connections and is designed for a total of 350 connections. There are 17 commercial connections, all discharging domestic wastewater. The design average dry weather flow capacity of the Facility is 0.070 million gallons per day (mgd).

A. Description of Wastewater and Biosolids Treatment and Controls

The treatment system at the Facility consists of a preliminary influent bar screen, aeration basin, two evaporation/percolation ponds, pressure filter, chlorine disinfection and dechlorination unit. The design average dry weather flow capacity is 0.070 mgd and the wet weather hydraulic design treatment capacity is 0.75 mgd. During periods of discharge to South Fork of Battle Creek, wastewater is additionally treated by filtration (multi-media pressure filter), disinfected (chlorine disinfection unit), and de-chlorinated (sulfur dioxide gas) prior to discharge to surface waters. The design filter loading rate is 0.576 mgd (400 gallons per minute). No chemicals are added to aid filtration. The multi-media filtration, chlorination, and dechlorination units only operate during periods of discharge to the South Fork of Battle Creek.

Inflow to the Facility follows the precipitation signature of the hydrologic basin as a result of inflow and infiltration (I&I) into the collection system. A significant portion of the I&I to the Facility occurs during the spring months as a result of snowmelt. Average annual precipitation is approximately 50 inches. The annual average daily influent flow to the Facility in 2011 was 0.059 mgd, with a minimum daily influent flow of 0.016 mgd and a maximum of 0.19 mgd. The peak flow for 2011 was 0.33 mgd on March 15, 2011. The Discharger expects inflow volumes to Facility to remain constant due to little or no proposed growth in the service area. Inflow and infiltration is expected to decrease as a result of the proposed collection system replacement/rehabilitation of the entire NPS Headquarters collection system (50 acre area), scheduled for 2016.

Discharge to the South Fork Battle Creek has been infrequent. Typically, large snowmelt runoff in the spring is associated with discharge events. Discharge events occur at the same time the flow in South Fork Battle Creek is high from snowmelt in the hydrologic basin. Between 1997 and 2006, the Facility has only discharged a total of 11 days (10 days between 1997 and 2002, and only one day (December 30, 2005) between 2002 and 2006). Based on information submitted by the Discharger dilution was approximately 131:1 for the December 30, 2005 discharge. The Facility has not discharged to South Fork Battle Creek during the term of the previous Order No. R5 2007-0098.

The Discharger constructed a concrete lined storm water interceptor channel around the Facility in 1998 which intercepts offsite storm water from Highway 36 and contributing areas. The channel directs storm water around the Facility and has been effective in reducing discharge events by preventing storm water runoff from entering the evaporation/percolation ponds.

The Discharger measured the depth of sludge in the evaporation/percolation ponds in 2010 and reported that the measurement indicated an insignificant buildup of sludge. The Discharger intended to assess the sludge buildup in the aeration basin in 2013 but as of the date of this Order has yet to do so. There has not been a need for sludge removal at the Facility to date.

B. Discharge Points and Receiving Waters

1. The Facility is located in Section 26, T28N R3E, MDB&M, as shown in Attachment B, a part of this Order.
2. Treated municipal wastewater is discharged at Discharge Point No. D-001 to South Fork Battle Creek, a water of the United States, a tributary to Battle Creek at a point latitude 40° 20' 54" N and longitude 121° 37' 25" W. Between November 15 and April 15, treated wastewater may be discharged to South Fork Battle Creek. Additionally, discharge to South Fork Battle Creek is prohibited from April 16 to November 14, unless approved by the Executive Officer in accordance with Standard Provisions VI.C.6.b.

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

Effluent limitations contained in Order No. R5-2007-0098 for discharges from Discharge Point No. D-001 and representative monitoring data from the term of Order No. R5-2007-0098 are presented in Table F-2 below. The Facility did not discharge during the term of Order No. R5-2007-0098.

Table F-2. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation			Monitoring Data (From 6/1/2011 – To 8/1/2014)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Average Dry Weather Influent Flow	mgd	0.070	--	--	0.080[1]	--	0.28[2]
Daily Peak Wet Weather Flow	mgd	0.75	--	--	No Discharge		
BOD 5-day @20˚C	mg/L	10	15	30	No Discharge		
Total Suspended Solids	mg/L	30	45	90	No Discharge		
Total Residual Chlorine	mg/L	--	0.01[3]	0.02[4]	No Discharge		
Total Coliform Organisms	MPN/100 mL	--	23[5]	240[6]	No Discharge		

Parameter	Units	Effluent Limitation			Monitoring Data (From 6/1/2011 – To 8/1/2014)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Electrical Conductivity	µmhos/cm	900	--	--	No Discharge		
pH	Standard Units	--	--	6.0-9.0	No Discharge		

[1] Annual Average (2012).
[2] Maximum daily influent flow (2012).
[3] Applied as a 1-hour-day average effluent limitation.
[4] Applied as a 4-day average effluent limitation.
[5] Applied as a 7-day median effluent limitation.
[6] Total coliform organisms shall not exceed 240 more than once in any 30-day period.

D. Compliance Summary

Facility did not discharge to surface water during the term of the previous Order No. R5-2007-0098.

E. Planned Changes – Not Applicable

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 WDR's 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.

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 the Water Quality Control Plan, Fourth Edition (Revised October 2011), for the Sacramento and San Joaquin River Basins (hereinafter Basin Plan) on 22 April 2010 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. In addition, the Basin Plan implements State Water Board Resolution 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to South Fork Battle Creek are as follows:

Table F-3. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
EFF-001	South Fork Battle Creek	Municipal and domestic supply (MUN); Agricultural supply, including irrigation and stock watering (AGR); Hydropower generation (POW); Water contact recreation, including canoeing and rafting (REC-1); Non-contact water recreation (REC-2); Warm freshwater habitat (WARM); Cold freshwater habitat (COLD); Migration of aquatic organisms, cold (MIGR); Spawning, reproduction, and/or early development, warm and cold (SPWN); Wildlife habitat (WILD); and <u>Groundwater:</u> Municipal and domestic water supply (MUN), Industrial service supply (IND), Industrial process supply (PRO), and Agricultural supply (AGR)

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"). Resolution 68-16 is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The 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 State Water Board Resolution 68-16.

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 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.** USEPA promulgated federal regulations for storm water on 16 November 1990 in 40 CFR Parts 122, 123, and 124. The NPDES Industrial Storm Water Program regulates storm water discharges from wastewater treatment facilities. Wastewater treatment plants are applicable industries under the storm water program and are obligated to comply with the federal regulations. The State Water Board does not require wastewater treatment facilities with design flows less than 1 MGD to obtain coverage under the Industrial Storm water General Order. Therefore, this Order does not regulate storm water.

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 11 October 2011 USEPA gave final approval to California's 2008-2010 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 CFR 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*." Battle Creek or South Fork Battle Creek is not listed on a 303(d) list of impaired water bodies.

2. **Total Maximum Daily Loads (TMDLs).** USEPA requires the Central Valley Water Board to develop TMDLs for each 303(d) listed pollutant and water body combination. The South Fork of Battle Creek is not listed as a WQLS in the 303(d) list of impaired water bodies, therefore no TMDLs are scheduled for development on this water body.

E. Other Plans, Polices and Regulations

1. **Title 27.** Title 27 of the California Code of Regulations (hereafter Title 27) contains regulatory requirements for the treatment, storage, processing, and disposal of solid waste. However, Title 27 exempts certain activities from its provisions. Discharges regulated by this Order are exempt from Title 27 pursuant to provisions that exempt domestic sewage, wastewater, and reuse. Title 27, section 20090 states in part:

> The following activities shall be exempt from the SWRCB-promulgated provisions of this subdivision, so long as the activity meets, and continues to meet, all preconditions listed:
>
> b. Wastewater – Discharges of wastewater to land, including but not limited to evaporation ponds, percolation ponds, or subsurface leachfields if the following conditions are met:
>
> **i.** the applicable RWQCB has issued WDRs, reclamation requirements, or waived such issuance;
>
> **ii.** the discharge is in compliance with the applicable water quality control plan; and;

iii. the wastewater does not need to be managed according to Chapter 11, Division 4.5, Title 22 of this code as a hazardous waste.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

Effluent limitations and toxic and pretreatment effluent standards established pursuant to sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 304 (Information and Guidelines), and 307 (Toxic and Pretreatment Effluent Standards) of the CWA and amendments thereto are applicable to the discharge.

The CWA mandates the implementation of effluent limitations that are as stringent as necessary to meet water quality standards established pursuant to state or federal law [33 U.S.C., §1311(b)(1)(C); 40 CFR 122.44(d)(1)]. NPDES permits must incorporate discharge limits necessary to ensure that water quality standards are met. This requirement applies to narrative criteria as well as to criteria specifying maximum amounts of particular pollutants. Pursuant to federal regulations, 40 CFR 122.44(d)(1)(i), NPDES permits must contain limits that control all pollutants that "are or may be discharged at a level which 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." Federal regulations, 40 CFR 122.44(d)(1)(vi), further provide that "[w]here a state has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits."

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 CFR 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR 122.44(d) requires that permits include WQBELs to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where numeric water quality objectives have not been established. The Basin Plan at page IV-17.00, contains an implementation policy, "Policy for Application of Water Quality Objectives," that specifies that the Central Valley Water Board "will, on a case-by-case basis, adopt numerical limitations in orders which will implement the narrative objectives." This Policy complies with 40 CFR 122.44(d)(1). With respect to narrative objectives, the Central Valley Water Board must establish effluent limitations using one or more of three specified sources, including: (1) USEPA's published water quality criteria, (2) a proposed state criterion (i.e., water quality objective) or an explicit state policy interpreting its narrative water quality criteria (i.e., the Central Valley Water Board's "Policy for Application of Water Quality Objectives")(40 CFR 122.44(d)(1)(vi)(A), (B) or (C)), or (3) an indicator parameter.

The Basin Plan includes numeric site-specific water quality objectives and narrative objectives for toxicity, chemical constituents, discoloration, radionuclides, and tastes and odors. The narrative toxicity objective 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 III-8.00) The Basin Plan states that material and relevant information, including numeric criteria, and recommendations from other agencies and scientific literature will be utilized in evaluating compliance with the narrative toxicity objective. The narrative chemical constituents objective states that waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. At minimum, "…water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs)" in Title 22 of CCR. The Basin Plan further states that, to protect all beneficial uses, the Central Valley Water Board may apply limits more stringent than MCLs. The narrative tastes and odors objective states: "Water shall not contain taste- or odor-

producing substances in concentrations that impart undesirable tastes or odors to domestic or municipal water supplies or to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses."

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 report of waste discharge (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 Part 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 CFR 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 CFR 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 CFR 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 inclusion of pollutant free wastewater shall cause improper operation of the Facility's systems).** This prohibition is based on CFR Part 122.41 et seq. that requires the proper design and operation of treatment facilities

5. **Prohibition III.E (No discharge of wastewater to South Fork Battle Creek from April 16 through November 14 nor during periods when flow in South Fork Battle Creek, adjacent to the facility, is less than 35 cfs).** Order No. R5-2007-0098 included the discharge prohibition of no discharge during the recreation season (April 16 through November 14) and when flow in South Fork Battle Creek is less than 35 cfs. The minimum receiving water flow requirement ensures a minimum receiving water to effluent flow ratio of 30:1.

B. Technology-Based Effluent Limitations

1. Scope and Authority

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

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

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

meet effluent limitations based on secondary treatment as defined by the U.S. EPA Administrator.

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

2. Applicable Technology-Based Effluent Limitations

a. **BOD_5 and TSS.** Federal regulations, 40 CFR Part 133, establish the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for BOD_5 and TSS. This Order requires Water Quality Based Effluent Limitations (WQBELs) that are equal to or more stringent than the secondary technology-based treatment described in 40 CFR Part 133. (See section IV.C.3.d of this Attachment for the discussion on Pathogens which includes WQBELs for BOD_5 and TSS.) In addition, 40 CFR 133.102, in describing the minimum level of effluent quality attainable by secondary treatment, states that the 30-day average percent removal shall not be less than 85 percent. This Order contains a limitation requiring an average of 85 percent removal of BOD_5 and TSS over each calendar month.

b. **Flow.** The Facility was designed to provide a secondary level of treatment for up to a design influent flow of 0.07 mgd. The filter system is designed for a maximum filter loading rate of 400 gpm (0.576 mgd) whereas the total daily peak wet weather design flow of the Facility is 0.75 mgd. Therefore, this Order contains an average dry weather influent flow limit of 0.070 mgd and a daily peak wet weather discharge flow limit of 0.75 mgd for Discharge Point No. D-001.

c. **pH.** The secondary treatment regulations at 40 CFR Part 133 also require that pH be maintained between 6.0 and 9.0 standard units.

Summary of Technology-based Effluent Limitations
Discharge Point No. D-001

Table F-4. Summary of Technology-Based Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	standard units	--	--	--	6.0	9.0
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	30	45	--	--	--
	lbs/day[2]	188	281	--	--	--
	% Removal	85	--	--	--	--
Total Suspended Solids	mg/L	30	45	--	--	--
	lbs/day[2]	188	281	--	--	--
	% Removal	85	--	--	--	--
Flow[1]	mgd	--	--	0.75	--	--

[1] Daily peak wet weather design flow.
[2] Based on a daily peak wet weather design flow of 0.75 mgd.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

CWA Section 301(b) and 40 C.F.R. section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements that are necessary to meet applicable water quality standards. The rationale for these requirements, which consist of tertiary treatment or equivalent requirements or other provisions, is discussed in the following sections 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, water quality-based effluent limitations (WQBELs) must be established using: (1) U.S. EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting 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 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.

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 II-1.00 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, shell fish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation. Section 131.3(e), 40 CFR, 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 CFR 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.** Data was collected as described in section IV.C.3 of this Fact Sheet, and was based on sampling events from June 2011 through May 2013, which includes effluent and ambient background data submitted in SMRs and the Report of Waste Discharge (ROWD). The Discharger did not discharge to surface waters during the term of the previous Order (Order No. R5-2007-0098); however, the Discharger made modifications to the plant and conducted a simulated discharge that allowed wastewater to be routed through the entire process (filtration, chlorination, dechlorination) without discharging to the receiving waters by returning the treated wastewater to the ponds. The Discharger operated the filtration and disinfection system for a short period each year from 2008 through 2011 and also in 2013, and collected priority pollutant samples (effluent and receiving water) each year. The data is not representative of the effluent quality that would exist under a real (not simulated) discharge event. Therefore, the data was not appropriate to use for a Reasonable Potential Analysis.

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

For non-Priority Pollutant constituents the allowance of mixing zones by the Central Valley Water Board is discussed in the Basin Plan, *Policy for Application of Water Quality Objectives*, which states in part, "*In conjunction with the issuance of NPDES and storm water permits, the Regional Board may designate mixing zones within which water quality objectives will not apply provided the discharger has demonstrated to the satisfaction of the Regional Board that the mixing zone will not adversely impact beneficial uses. If allowed, different mixing zones may be designated for different types of objectives, including, but not limited to, acute aquatic life objectives, chronic aquatic life objectives, human health objectives, and acute and chronic whole effluent toxicity objectives, depending in part on the averaging period over which the objectives apply. In determining the size of such mixing zones, the Regional Board will consider the applicable procedures and guidelines in the EPA's Water Quality Standards Handbook and the [TSD]. Pursuant to EPA guidelines, mixing zones designated for acute aquatic life objectives will generally be limited to a small zone of initial dilution in the immediate vicinity of the discharge.*"

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

consider allowing mixing zones and dilution credits only for discharges with a physically identifiable point of discharge that is regulated through an NPDES permit issued by the Regional Board." [emphasis added]

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

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

A: A mixing zone shall not:

1. compromise the integrity of the entire water body;

2. cause acutely toxic conditions to aquatic life passing through the mixing zone;

3. restrict the passage of aquatic life;

4. adversely impact biologically sensitive or critical habitats, including, but not limited to, habitat of species listed under federal or State endangered species laws;

5. produce undesirable or nuisance aquatic life;

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

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

8. cause objectionable bottom deposits;

9. cause nuisance;

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

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

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

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

The previous Order No. R5-2007-0098 contained a prohibition for discharge when receiving water flow was less than 35 cfs. Therefore, at the minimum flow of 35 cfs and effluent discharge at the maximum wet weather design discharge flow of 0.75 mgd (flow limit in Order No. R5-2007-0098), a minimum dilution of 30:1 would be expected in the South Fork of Battle Creek. Order No. R5-2007-0098 provided the Discharger with the option of conducting a Mixing Zone/Dilution Study, which could be used by the Central Valley Water Board in calculating effluent limitations based on priority pollutant sample results. The Discharger has not discharged to South Fork Battle Creek since 2005. If a discharge becomes necessary it will most likely occur during a period of significant rainfall or snow melt, at which time the flow in

South Fork Battle Creek would provide for dilution, although, site-specific mixing conditions are unknown.

There was not sufficient data to determine reasonable potential or to establish numerical effluent limitations for SIP constituents for the previous Order No. R5-2007-0098. The Discharger has not provided an approved Dilution/Mixing Zone Study during the term of the previous Order which meets the requirements of Section 1.4.2.2 of the SIP. Therefore, based on the available information, the worst-case dilution in this Order is assumed to be zero to provide protection for receiving water beneficial uses. The impact of assuming zero assimilative capacity within the receiving water is that discharge limitations are end-of-pipe limits 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. USEPA recommends conversion factors to translate dissolved concentrations to total concentrations. The default USEPA conversion factors contained in Appendix 3 of the SIP were used to convert the applicable dissolved criteria to total recoverable criteria.

e. **Hardness-Dependent CTR Metals Criteria.** The *California Toxics Rule* and the *National Toxics Rule* 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 reasonable worst-case ambient hardness as required by the SIP[1] and the CTR[2]. The SIP and the CTR require the use of "receiving water" or "actual ambient" hardness, respectively, to determine effluent limitations for these metals. (SIP, § 1.2; 40 CFR § 131.38(c)(4)) The CTR requires that the hardness values used shall be consistent with the design discharge conditions for design flows and mixing zones.[3] Where design flows for aquatic life criteria include the lowest one-day flow with an average reoccurrence frequency of once in ten years (1Q10) and the lowest average seven consecutive day flow with an average reoccurrence frequency of once in ten years (7Q10).[4] The CTR also requires that when mixing zones are allowed the CTR criteria apply at the edge of the mixing zone, otherwise the criteria apply throughout the water body including at the point of discharge.[5] The CTR does not define whether the term "ambient," as applied in the regulations, necessarily requires the consideration of upstream as opposed to downstream hardness conditions.

The State Water Board provided direction regarding the selection of hardness in two precedential water quality orders; WQO 2008-0008 for the City of Davis Wastewater Treatment Plant and WQO 2004-0013 for the Yuba City Wastewater Treatment Plant. The State Water Board recognized that the SIP and the CTR do not discuss

[1] The SIP does not address how to determine the hardness for application to the equations for the protection of aquatic life when using hardness-dependent metals criteria. It simply states, in Section 1.2, that the criteria shall be properly adjusted for hardness using the hardness of the receiving water.

[2] The CTR requires that, for waters with a hardness of 400 mg/L (as $CaCO_3$), or less, the actual ambient hardness of the surface water must be used.

[3] 40 C.F.R. 131.38 § (c)(4)(ii)

[4] 40 C.F.R. 131.38 § (c)(4)(iii) Table 4

[5] 40 C.F.R. 131.38 § (c)(2)(i)

the manner in which hardness is to be ascertained, thus regional water boards have considerable discretion in determining ambient hardness. (Davis Order, p.10). The State Water Board explained that it is necessary that, "The [hardness] value selected should provide protection for all times of discharge under varying hardness conditions." (Yuba City Order, p. 8). The Davis Order also provides that, "Regardless of the hardness used, the resulting limits must always be protective of water quality criteria under all flow conditions." (Davis Order, p. 11)

i. Conducting the Reasonable Potential Analysis (RPA). The SIP in Section 1.3 states, "The RWQCB shall…determine whether a discharge may: (1) cause, (2) have a reasonable potential to cause, or (3) contribute to an excursion above any applicable priority pollutant criterion or objective." Section 1.3 provides a step-by-step procedure for conducting the RPA. The procedure requires the comparison of the Maximum Effluent Concentration (MEC) and Maximum Ambient Background Concentration to the applicable criterion that has been properly adjusted for hardness. Unless otherwise noted, for the hardness-dependent CTR metals criteria the following procedures were followed for properly adjusting the criterion for hardness when conducting the RPA.

(a) The SIP requires water quality-based effluent limitations (WQBELs) if the MEC is equal to or exceeds the applicable criterion, adjusted for hardness. For comparing the MEC to the applicable criterion, the "fully mixed" reasonable worst-case downstream ambient hardness was used to adjust the criterion. In this evaluation the portion of the receiving water affected by the discharge is analyzed. For hardness-dependent criteria, the hardness of the effluent has an impact on the determination of the applicable criterion in areas of the receiving water affected by the discharge. Therefore, for comparing the MEC to the applicable criterion, the reasonable worst-case downstream ambient hardness was used to adjust the criterion. For this situation it is necessary to consider the hardness of the effluent in determining the applicable hardness to adjust the criterion. The procedures for determining the applicable criterion after proper adjustment using the reasonable worst-case downstream ambient hardness is outlined in subsection ii, below.

(b) The SIP requires WQBELs if the receiving water is impaired upstream (outside the influence) of the discharge, i.e., if the Maximum Ambient Background Concentration of a pollutant exceeds the applicable criterion, adjusted for hardness[1]. For comparing the Maximum Ambient Background Concentration to the applicable criterion, the reasonable worst-case upstream ambient hardness was used to adjust the criteria. This is appropriate, because this area is outside the influence of the discharge. Since the discharge does not impact the upstream hardness, the effect of the effluent hardness was not included in this evaluation.

ii. Calculating Water Quality-Based Effluent Limitations. The remaining discussion in this section relates to the development of WQBELs when it has been determined that the discharge has reasonable potential to cause or contribute to an exceedance of the CTR hardness-dependent metals criteria in the receiving water.

[1] The pollutant must also be detected in the effluent.

The equation describing the total recoverable regulatory criterion, as established in the CTR[1], is as follows:

$$\text{CTR Criterion} = \text{WER} \times (e^{m[\ln(H)]+b}) \qquad \text{(Equation 1)}$$

Where:

H = hardness (as $CaCO_3$)[2]

WER = water-effect ratio

m, b = metal- and criterion-specific constants

In accordance with the CTR, the default value for the WER is 1. A WER study must be conducted to use a value other than 1. The constants "m" and "b" are specific to both the metal under consideration, and the type of total recoverable criterion (i.e., acute or chronic). The metal-specific values for these constants are provided in the CTR at paragraph (b)(2), Table 1.

The upstream receiving water hardness was measured as 15 mg/L and 18 mg/L for two samples collected in June 2011 and May 2013, respectively. No downstream receiving water data was available. For calculating the CTR criteria, the downstream ambient hardness has been used. The SIP, CTR, and State Water Board do not require use of the minimum observed ambient hardness in the CTR equations. The hardness used must be consistent with design conditions and protective of water quality criteria under all flow conditions.

South Fork Battle Creek is not effluent dominated and there is not sufficient data available to determine whether the receiving water hardness demonstrates a clear relationship between flow and hardness. Additionally, because there is no downstream receiving water hardness data available, the average upstream receiving water hardness was considered for use in the CTR equations. Using the upstream receiving water hardness is reasonable considering that discharge to South Fork Battle Creek is very infrequent, and when discharge is occurring, receiving water flows are very high, hydraulic dilution ratio is correspondingly high, and most likely upstream and downstream receiving water hardness is more or less equivalent. Therefore, the average upstream receiving water hardness, which represents typical conditions in the receiving water, was considered for use in the CTR equations. In this Order a design ambient hardness of 16.5 mg/L has been selected to calculate the CTR criteria.

The Facility discharges both hardness and metals, which must be considered in the downstream ambient receiving water to ensure the criteria are protective under all flow conditions. The tables below examine how the downstream ambient conditions change with varying mixtures of effluent and upstream receiving water. The calculations determine whether or not toxicity could result from one or more metals using the selected design ambient hardness to calculate the CTR criteria.

A simple mass balance (Equation 2) is used to model the ambient concentrations of hardness and metals in the receiving water downstream of

[1] 40 CFR § 131.38(b)(2).
[2] For this discussion, all hardness values are in mg/L as $CaCO_3$.

the discharge for all possible mixtures of effluent and upstream receiving water under all flow conditions.

$$C_{downstream} = C_{upstream} \times (1\text{-}MIX) + C_{effluent} \times (MIX) \qquad \text{(Equation 2)}$$

Where:

$C_{downstream}$ = Downstream receiving water concentration

$C_{upstream}$ = Upstream receiving water concentration

$C_{effluent}$ = Effluent concentration

MIX = Fraction of effluent in downstream ambient receiving water

For each of several downstream ambient mixtures of upstream receiving water and effluent, the potential for toxicity is examined. The hardness of the mixture is calculated, and the resultant water quality criterion is calculated from the CTR equation. The metals concentration is also calculated for the mixture of upstream receiving water and effluent. If the metals concentration complies with the CTR criterion for that mixture, the ambient mixture is not toxic, and "Yes" is indicated in the far right column. If the metals concentration exceeds the CTR criterion for that mixture, the ambient concentration is toxic, and "No" is indicated in the far right column. The results of these evaluations are summarized in Table F-12.

For this evaluation the following conservative assumptions have been made:

- Upstream receiving water at the lowest observed upstream receiving water hardness (i.e., 15 mg/L)
- No assimilative capacity for each metal in the upstream receiving water (i.e., metals concentration equal to CTR criteria calculated using a hardness of 15 mg/L).
- Effluent hardness at the lowest observed effluent hardness of 28 mg/L

Table F-5. Cadmium Evaluation (Design Ambient Hardness = 16.5 mg/L)

Assumed Upstream Receiving Water Cadmium Concentration[1]					**0.56**
			Cadmium Chronic Criterion[2]		**0.60**
Mix[6]		**Mixed Downstream Ambient Concentration**			**Complies with CTR Criteria**
		Hardness [3] (mg/L)	**CTR Criteria [4] (µg/L)**	**Cadmium [5] (µg/L)**	
High Flow	1%	15	0.56	0.56	**Yes**
↓	5%	16	0.57	0.56	**Yes**
	15%	17	0.61	0.56	**Yes**
	25%	18	0.65	0.57	**Yes**
	50%	22	0.74	0.58	**Yes**
	75%	25	0.82	0.59	**Yes**
Low Flow	100%	28	0.91	0.60	**Yes**

Table F-6. Copper Evaluation (Design Ambient Hardness = 16.5 mg/L)

Assumed Upstream Receiving Water Copper Concentration[1]					1.8
Copper Chronic Criterion[2]					2.0
Mix[6]		Mixed Downstream Ambient Concentration			Complies with CTR Criteria
		Hardness [3] (mg/L)	CTR Criteria [4] (µg/L)	Copper [5] (µg/L)	
High Flow	1%	15	1.9	1.8	Yes
	5%	16	1.9	1.9	Yes
	15%	17	2.0	1.9	Yes
	25%	18	2.2	1.9	Yes
	50%	22	2.5	1.9	Yes
	75%	25	2.8	2.0	Yes
Low Flow	100%	28	3.1	2.0	Yes

Table F-7. Chromium III Evaluation (Design Ambient Hardness = 16.5 mg/L)

Assumed Upstream Receiving Water Chromium III Concentration[1]					43.8
Chromium III Chronic Criterion[2]					47.3
Mix[6]		Mixed Downstream Ambient Concentration			Complies with CTR Criteria
		Hardness [3] (mg/L)	CTR Criteria [4] (µg/L)	Chromium III [5] (µg/L)	
High Flow	1%	15	44.1	43.8	Yes
	5%	16	45.3	43.9	Yes
	15%	17	48.4	44.3	Yes
	25%	18	51.4	44.7	Yes
	50%	22	58.8	45.5	Yes
	75%	25	66.0	46.4	Yes
Low Flow	100%	28	73.0	47.3	Yes

Table F-8. Lead Evaluation (Design Ambient Hardness = 16.5 mg/L)

Assumed Upstream Receiving Water Lead Concentration[1]					0.28
Lead Chronic Criterion[2]					0.32
Mix[6]		Mixed Downstream Ambient Concentration			Complies with CTR Criteria
		Hardness [3] (mg/L)	CTR Criteria [4] (µg/L)	Lead[5] (µg/L)	
High Flow	1%	15	0.29	0.3	Yes
	5%	16	0.30	0.3	Yes
	15%	17	0.33	0.3	Yes

	25%	18	0.36	0.3	**Yes**
	50%	22	0.45	0.3	**Yes**
	75%	25	0.54	0.3	**Yes**
Low Flow	100%	28	0.63	0.3	**Yes**

Table F-9. Nickel Evaluation (Design Ambient Hardness = 16.5 mg/L)

Assumed Upstream Receiving Water Nickel Concentration[1]					**10.48**
Nickel Chronic Criterion[2]					**11.36**
Mix[6]		**Mixed Downstream Ambient Concentration**			**Complies with CTR Criteria**
		Hardness [3] (mg/L)	**CTR Criteria [4] (µg/L)**	**Nickel [5] (µg/L)**	
High Flow	1%	15	10.56	10.5	**Yes**
	5%	16	10.86	10.5	**Yes**
	15%	17	11.62	10.6	**Yes**
	25%	18	12.37	10.7	**Yes**
	50%	22	14.21	10.9	**Yes**
	75%	25	16.01	11.1	**Yes**
Low Flow	100%	28	17.77	11.4	**Yes**

Table F-10. Silver Evaluation (Design Ambient Hardness = 16.5 mg/L)

Assumed Upstream Receiving Water Silver Concentration[1]					**0.16**
Silver Acute Criterion[2]					**0.18**
Mix[6]		**Mixed Downstream Ambient Concentration**			**Complies with CTR Criteria**
		Hardness [3] (mg/L)	**CTR Criteria [4] (µg/L)**	**Silver [5] (µg/L)**	
High Flow	1%	15	0.16	0.2	**Yes**
	5%	16	0.17	0.2	**Yes**
	15%	17	0.19	0.2	**Yes**
	25%	18	0.22	0.2	**Yes**
	50%	22	0.29	0.2	**Yes**
	75%	25	0.37	0.2	**Yes**
Low Flow	100%	28	0.45	0.2	**Yes**

Table F-11. Zinc Evaluation (Design Ambient Hardness = 16.5 mg/L)

Assumed Upstream Receiving Water Zinc Concentration[1]					**24.01**
Zinc Chronic Criterion[2]					**26.03**
Mix[6]		**Mixed Downstream Ambient Concentration**			**Complies with CTR Criteria**
		Hardness [3]	**CTR Criteria [4]**	**Zinc [5]**	

		(mg/L)	(µg/L)	(µg/L)	
High Flow	1%	15	24.19	24.0	**Yes**
	5%	16	24.89	24.1	**Yes**
	15%	17	26.63	24.3	**Yes**
	25%	18	28.35	24.5	**Yes**
	50%	22	32.58	25.0	**Yes**
	75%	25	36.70	25.5	**Yes**
Low Flow	100%	28	40.75	26.0	**Yes**

Footnotes for CTR Hardness-dependent Metals Tables (F-1 through F-9)

[1] Highest assumed upstream receiving water metals concentration calculated using CTR equation (Equation 1) for chronic/ acute criterion at a hardness of **15 mg/L**.

[2] CTR Criteria calculated using CTR equation (Equation 1) for chronic/acute criterion at the design ambient hardness for the particular metal.

[3] Mixed downstream ambient hardness is the mixture of the receiving water and effluent hardness at the applicable mixture using Equation 2.

[4] Mixed downstream ambient criteria are the chronic/acute criteria calculated using the CTR equation (Equation 1) at the mixed hardness.

[5] Mixed downstream ambient metals concentration is the mixture of the receiving water and effluent metals concentrations at the applicable mixture using Equation 2.

[6] The mixture percentage represents the fraction of effluent in the downstream ambient receiving water. The mixture ranges from 1% at the high receiving water flow condition, to 100% at the lowest receiving water flow condition (i.e., effluent dominated).

Table F-12. Summary of Design Ambient Hardness and CTR Criteria for Hardness-dependent Metals

CTR Metals	Design Ambient Hardness (mg/L)	ECA (µg/L, total recoverable)[1]	
		acute	chronic
Cadmium	16.5	[2]	0.6
Copper	16.5	[2]	2.0
Chromium III	16.5	397.0	47.3
Lead	16.5	8.2	0.3
Nickel	16.5	102.2	11.4
Acute Silver	16.5	0.2	--
Zinc	16.5	[2]	26.0

[1] Metal criteria rounded to two significant figures in accordance with the CTR.

[2] Per Footnote x for the acute criterion for cadmium, copper, and zinc in the CTR at 40 CFR 131.38(b)(1), the site-specific objectives for the Sacramento River above Hamilton City in Table III-1 of the Basin Plan applies in lieu of the acute CTR criterion.

3. WQBELs Calculations

a. The Central Valley Water Board conducted the RPA in accordance with section 1.3 of the SIP. Although the SIP applies directly to the control of CTR priority pollutants, the State Water Board has held that the Regional Water Boards may use the SIP as guidance for water quality-based toxics control.[1] The SIP states in the introduction "*The goal of this Policy is to establish a standardized approach for permitting discharges of toxic pollutants to non-ocean surface waters in a manner that promotes statewide consistency*." Therefore, in this Order the RPA procedures from the SIP were used to evaluate reasonable potential for both CTR and non-CTR constituents based on information submitted as part of the application, in studies, and as directed by monitoring and reporting programs.

b. **Constituents with No Reasonable Potential.** As was discussed previously in the Fact Sheet, section IV.C.2.b, priority pollutant sampling was conducted during "simulated discharge" events. The samples were collected during the period when wastewater was routed through the entire process (filtration, chlorination/dechlorination) without discharging to the receiving waters. The simulated discharge was not representative of the expected effluent quality during an actual discharge event and therefore reasonable potential is not being established based on these sampling results. Due to more dilute influent concentrations, effluent (not simulated) concentrations would be less than the simulated concentrations. The sampling results for constituents that were detected, however, are summarized below for reference.

i. Lead

(a) **WQO.** The CTR includes hardness dependent criteria for the protection of freshwater aquatic life for lead. Using the default conversion factors and reasonable worst-case measured hardness, as described in section IV.C.2.e of this Fact Sheet, the applicable CTR acute (1-hour average) criterion is 12.0 µg/L and the applicable CTR chronic (4-day average) criterion is 0.46 µg/L, as total recoverable.

(b) **RPA Results.** The maximum effluent concentration (MEC) for lead was non-detect (<1.4 µg/L) (as total recoverable) while the maximum observed upstream receiving water concentration was also non-detect (<1.4 µg/L) (as total recoverable) as shown in the table below. During these sampling events the MDL was 1.4 µg/L, which is above the chronic aquatic life criteria.

Lead Effluent and Receiving Water Data (2011-2013):

Date	Effluent (ug/L)	Receiving Water (µg/L)	SIP Minimum Level (µg/L)	Acute Criteria (µg/L)	Chronic Criteria (µg/L)
6/28/2011	<1.4	<1.4	0.5	12.0	0.46
5/01/2013	<1.4	<1.4	0.5	12.0	0.46

The samples were collected during the period when wastewater was routed through the entire process (filtration, chlorination/dechlorination) without discharging to the receiving waters. The simulated discharge was not representative of the expected effluent quality during an actual discharge event and therefore reasonable potential is not being established for lead.

ii. Mercury

[1] See Order WQO 2001-16 (Napa) and Order WQO 2004-0013 (Yuba City).

(a) **WQO.** The CTR includes hardness dependent criteria for the protection of freshwater aquatic life for mercury. Using the default conversion factors and reasonable worst-case measured hardness, as described in section IV.C.2.e of this Fact Sheet, the applicable CTR acute (1-hour average) criterion is1.4 µg/L and the applicable CTR chronic (4-day average) criterion is 0.77µg/L., as total recoverable. The 30-day average human health protection criteria is 0.05 µg/L.

(b) **RPA Results.** On 28 June 2011, Mercury was detected at a concentration below the laboratory reporting limit, and was therefore estimated at a concentration of 0.14 µg/L, which is above the human health criteria of 0.05 µg/L. Estimated concentrations are also reported with a note as detected but not quantified. On 1 May 2013 Mercury was reported as non-detect (<.062). The MDL for samples collected on 28 June 2011 and 1 May 2013 is lower than the SIP ML, less than the CTR acute and chronic criteria, but greater than the human health criteria.

Mercury Effluent and Receiving Water Data (2011-2013):

Date	Effluent (ug/L)	Receiving Water (µg/L)	SIP Minimum Level (µg/L)	Acute Criteria (µg/L)	Chronic Criteria (µg/L)	Human Health Criteria (µg/L)
6/28/2011	0.14 J	0.08 J	0.5	1.4	0.77	0.05
5/01/2013	<.062	<.062	0.5	1.4	0.77	0.05

The samples were collected during the period when wastewater was routed through the entire process (filtration, chlorination/dechlorination) without discharging to the receiving waters. The simulated discharge was not representative of the expected effluent quality during an actual discharge event and therefore reasonable potential is not being established for mercury.

iii. Silver

(a) **WQO.** The CTR includes hardness dependent criteria for the protection of freshwater aquatic life for silver. Using the default conversion factors and reasonable worst-case measured hardness, as described in section IV.C.2.e of this Fact Sheet, the applicable CTR acute (1-hour average) criterion is 0.3 µg/L.

(b) **RPA Results.** The maximum effluent concentration (MEC) for silver was non-detect (<1.1 µg/L) while the maximum observed upstream receiving water concentration was also non-detect (<1.1 µg/L) (as total recoverable), as shown in the table below.

Silver Effluent and Receiving Water Data (2011-2013):

Date	Effluent (ug/L)	Receiving Water (µg/L)	SIP Minimum Level (µg/L)	Acute Criteria (µg/L)
6/28/2011	<1.1	<1.1	0.25	0.3
5/01/2013	<1.1	<1.1	0.25	0.3

The samples were collected during the period when wastewater was routed through the entire process (filtration, chlorination/dechlorination) without discharging to the receiving waters. The simulated discharge was

not representative of the expected effluent quality during an actual discharge event and therefore reasonable potential is not being established for silver.

iv. Ammonia

(a) **WQO.** The 1999 USEPA National Ambient Water Quality Criteria (NAWQC) for the protection of freshwater aquatic life for total ammonia (the "1999 Criteria"), recommends acute (1-hour average; criteria maximum concentration or CMC) standards based on pH and chronic (30-day average; criteria continuous concentration or CCC) standards based on pH and temperature. USEPA also recommends that no 4-day average concentration should exceed 2.5 times the 30-day CCC. USEPA found that as pH increased, both the acute and chronic toxicity of ammonia increased. Salmonids were more sensitive to acute toxicity effects than other species. However, while the acute toxicity of ammonia was not influenced by temperature, it was found that invertebrates and young fish experienced increasing chronic toxicity effects with increasing temperature.

The USEPA recently published national recommended water quality criteria for the protection of aquatic life from the toxic effects of ammonia in freshwater (the "2013 Criteria")[1] The 2013 criteria is an update to USEPA's 1999 Criteria, and varies based on pH and temperature. Although the 2013 Criteria reflects the latest scientific knowledge on the toxicity of ammonia to certain freshwater aquatic life, including new toxicity data on sensitive freshwater mussels in the Family Unionidae, the species tested for development of the 2013 Criteria may not be present in some Central Valley waterways. The 2013 Criteria document therefore states that, "unionid mussel species are not prevalent in some waters, such as the arid west …" and provides that, "In the case of ammonia, where a state demonstrates that mussels are not present on a site-specific basis, the recalculation procedure may be used to remove the mussel species from the national criteria dataset to better represent the species present at the site.

The Central Valley Water Board issued a 3 April 2014 *California Water Code Section 13267 Order for Information: 2013 Final Ammonia Criteria for Protection of Freshwater Aquatic Life* (13267 Order) requiring the Discharger to either participate in an individual or group study to determine the presence of mussels or submit a method of compliance for complying with effluent limitations calculated assuming mussels present using the 2013 Criteria. The Discharger has chosen to participate in the Central Valley Clean Water Association (CVCWA) Freshwater Collaborative Mussel Study. Studies are currently underway to determine how the latest scientific knowledge on the toxicity of ammonia reflected in the 2013 Criteria can be implemented in the Central Valley Region as part of a Basin Planning effort to adopt nutrient and ammonia objectives. Until the Basin Planning process is completed, the Central Valley Water Board will continue to implement the 1999 Criteria to interpret the Basin Plan's narrative toxicity objective.

[1] Aquatic Life Ambient Water Quality Criteria for Ammonia – Freshwater, published August 2013 [EPA 822-R-13-001]

The maximum permitted effluent pH is 9.0, in order to protect against the worst-case short-term exposure of an organism, a pH value of 9.0 was used to derive the acute criterion. The resulting acute criterion is 0.88 mg/L.

(b) **RPA Results.** The maximum effluent concentration (MEC) for ammonia was 1.38 mg/L while the maximum observed upstream receiving water concentration was 0.40 mg/L as shown in the table below.

Ammonia Effluent and Receiving Water Data (2011-2013):

Date	Effluent (mg/L)	Receiving Water (mg/L)	Acute Criteria (mg/L)
6/28/2011	<0.48	<0.48	0.88
5/01/2013	1.38	0.40	0.88

The samples were collected during the period when wastewater was routed through the entire process (filtration, chlorination/dechlorination) without discharging to the receiving waters. The simulated discharge was not representative of the expected effluent quality during an actual discharge event and therefore reasonable potential is not being established for ammonia.

v. Nitrate and Nitrite

(a) **WQO.** DPH 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. DPH has also adopted a primary MCL of 10 mg/L for the sum of nitrate and nitrite, measured as nitrogen.

USEPA has developed a primary MCL and an MCL goal of 1 mg/L for nitrite (as nitrogen). For nitrate, USEPA 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.** One sample was collected and analyzed for nitrite and nitrate on 1 May 2013. Nitrite was measured as non-detect (<0.15 mg/L) and nitrate was measured as 0.16 mg/L.

The samples were collected during the period when wastewater was routed through the entire process (filtration, chlorination/dechlorination) without discharging to the receiving waters. The simulated discharge was not representative of the expected effluent quality during an actual discharge event and therefore reasonable potential is not being established for nitrate and nitrite.

vi. Thallium

(a) **WQO.** The most stringent criterion for thallium is the current CTR Inland Surface Waters Criteria for the Protection of Human Health for the consumption of Aquatic Organisms, 30-day Average of 1.7 µg/L.

(b) **RPA Results.** In one of two samples of the effluent and receiving water, the MEC for thallium was detected at 2.4 µg/L and the receiving water concentration was detected at 3.0 µg/L; however, the MDL was reported as 2.4 µg/L and the results were not quantifiable by the laboratory that performed the analysis and are considered an estimated concentration

(i.e., j-flagged). In one other sample at the same MDL of 2.4 µg/L, thallium was not detected in the effluent or upstream receiving water.

Effluent and receiving water thallium data is summarized in the table below:

Table F-13. Effluent and Receiving Water Thallium Data

Date	Thallium Concentrations				
	Effluent (µg/L)	Receiving Water (µg/L)	SIP Minimum Level	Reported MDL	Criteria
6/28/2011	2.4J	3.0J	1	2.4	1.7
5/01/2013	<2.4	<2.4	1	2.4	1.7

The samples were collected during the period when wastewater was routed through the entire process (filtration, chlorination/dechlorination) without discharging to the receiving waters. The simulated discharge was not representative of the expected effluent quality during an actual discharge event and therefore reasonable potential is not being established for thallium.

vii. Copper

(a) **WQO.** The CTR includes hardness dependent criteria for the protection of freshwater aquatic life for copper. The Basin Plan (Table III-1) also includes a hardness dependent water quality objective for copper in the Sacramento River and its tributaries above the State Hwy 32 bridge at Hamilton City, which is applicable to this discharge. Using the default conversion factors and a design ambient hardness of 16.5 mg/L, the applicable CTR acute (1-hour average) criterion is 2.56 µg/L and the applicable CTR chronic (4-day average) criterion is 2.0 µg/L. The Basin Plan instantaneous maximum objective for copper is 2.62 ug/L. Pursuant to Footnote x in the California Toxics Rule, this WQO applies in lieu of the acute CTR criterion; however, the chronic CTR criterion is still applicable.

(b) **RPA Results.** Copper was sampled in June 2011 and May 2013. The MEC for copper was 57.3 µg/L. The maximum concentration in upstream samples collected in South Fork Battle Creek concurrently with the effluent samples was an estimated value of 4.5 µg/L.

Effluent and receiving water copper data is summarized in the table below:

Table F-14. Effluent and Receiving Water Copper Data

Date	Copper Concentrations			
	Effluent (µg/L)	Receiving Water (µg/L)	SIP Minimum Level	Reported MDL
6/28/2011	8.5	4.5J	0.5	0.95
5/01/2013	57.3	<.95	0.5	0.95

The samples were collected during the period when wastewater was routed through the entire process (filtration, chlorination/dechlorination) without discharging to the receiving waters. The simulated discharge was not representative of the expected effluent quality during an actual

discharge event and therefore reasonable potential is not being established for copper.

viii. Zinc

(a) **WQO.** The CTR includes hardness dependent criteria for the protection of freshwater aquatic life for zinc. The Basin Plan (Table III-1) also includes a hardness dependent water quality objective for zinc in the Sacramento River and its tributaries above the State Hwy 32 bridge at Hamilton City, which is applicable to this discharge. Using the default conversion factors and a design ambient hardness of 16.5 mg/L, the applicable CTR acute (1-hour average) criterion is 26 µg/L and the applicable CTR chronic (4-day average) criterion is 26 µg/L. The Basin Plan instantaneous maximum objective for zinc is 7.85 ug/L. Pursuant to Footnote x in the California Toxics Rule, this WQO applies in lieu of the acute CTR criterion; however, the chronic CTR criterion is still applicable.

RPA Results. Priority pollutant sampling was performed in June 2011 and May 2013. The MEC for zinc was 11.6 µg/L.

Effluent and receiving water zinc data is summarized in the table below:

Table F-15. Effluent and Receiving Water Zinc Data

Date	Zinc Concentrations			
	Effluent (µg/L)	Receiving Water (µg/L)	SIP Minimum Level	Reported MDL
6/11/2011	6.8	<0.8	0.5	0.8
5/01/2013	11.6	<0.8	0.5	0.8

The samples were collected during the period when wastewater was routed through the entire process (filtration, chlorination/dechlorination) without discharging to the receiving waters. The simulated discharge was not representative of the expected effluent quality during an actual discharge event and therefore reasonable potential is not being established for zinc.

ix. Dichlorobromomethane

(a) **WQO.** The CTR includes a criterion of 0.56 µg/L for dichlorobromomethane for the protection of human health for waters for both water and organisms are consumed.

(b) **RPA Results.** Priority pollutant sampling was performed in June 2011 and May 2013. The MEC for dichlorobromomethane was 1.5 µg/L.

Effluent and receiving water chloroform data is summarized in the table below:

Table F-16. Effluent and Receiving Water Dichlorobromomethane Data

Date	Dichlorobromomethane Concentrations			
	Effluent (µg/L)	Receiving Water (µg/L)	SIP Minimum Level	Reported MDL
6/11/2011	1.5	<0.13	0.5	0.13
5/01/2013	<0.13	<0.13	0.5	0.13

The samples were collected during the period when wastewater was routed through the entire process (filtration, chlorination/dechlorination) without discharging to the receiving waters. The simulated discharge was not representative of the expected effluent quality during an actual discharge event and therefore reasonable potential is not being established for dichlorobromomethane.

x. 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 USEPA Ambient Water Quality Criteria for Chloride recommends acute and chronic criteria for the protection of aquatic life. There are no USEPA water quality criteria for the protection of aquatic life for electrical conductivity, total dissolved solids, and sulfate. Additionally, there are no USEPA 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. The Central Valley Water Board is currently implementing the CV-SALTS initiative to develop a Basin Plan Amendment that will establish a salt and nitrate Management Plan for the Central Valley. Through this effort the Basin Plan will be amended to define how the narrative water quality objective is to be interpreted for the protection of agricultural use. All studies conducted through this Order to establish an agricultural limit to implement the narrative objective will be reviewed by and consistent with the efforts currently underway by CV-SALTS.

Table F-17. Salinity Water Quality Criteria/Objectives

Parameter	Agricultural WQ Objective[1]	Secondary MCL[3]	USEPA NAWQC	Effluent	
				Average	Maximum
EC (µmhos/cm)	Varies[2]	900, 1600, 2200	N/A	--	88
TDS (mg/L)	Varies	500, 1000, 1500	N/A	N/A	N/A
Sulfate (mg/L)	Varies	250, 500, 600	N/A	N/A	N/A
Chloride (mg/L)	Varies	250, 500, 600	860 1-hr 230 4-day	N/A	N/A

[1] Narrative chemical constituent objective of the Basin Plan. Procedures for establishing the applicable numeric limitation to implement the narrative objective can be found in the Policy for Application of Water Quality, Chapter IV, Section 8 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] Maximum calendar annual average.

[3] The secondary MCLs are stated as a recommended level, upper level, and a short-term maximum level.

(1) **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.

The Central Valley Water Board is currently implementing the CV-SALTS initiative to develop a Basin Plan Amendment that will establish a salt and nitrate Management Plan for the Central Valley. Through this effort the Basin Plan will be amended to define how the narrative water quality objective is to be interpreted for the protection of agricultural use. All studies conducted through this Order to establish an agricultural limit to implement the narrative objective will be reviewed by and consistent with the efforts currently underway by CV-SALTS.

(2) **Electrical Conductivity.** The Secondary MCL for EC is 900 µmhos/cm as a recommended level, 1600 µmhos/cm as an upper level, and 2200 µmhos/cm as a short-term maximum.

The Central Valley Water Board is currently implementing the CV-SALTS initiative to develop a Basin Plan Amendment that will establish a salt and nitrate Management Plan for the Central Valley. Through this effort the Basin Plan will be amended to define how the narrative water quality objective is to be interpreted for the protection of agricultural use. All studies conducted through this Order to establish an agricultural limit to implement the narrative objective will be reviewed by and consistent with the efforts currently underway by CV-SALTS.

(3) **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.

(4) **Total Dissolved Solids.** The Secondary MCL for 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.

The Central Valley Water Board is currently implementing the CV-SALTS initiative to develop a Basin Plan Amendment that will establish a salt and nitrate Management Plan for the Central Valley. Through this effort the Basin Plan will be amended to define how the narrative water quality objective is to be interpreted for the protection of agricultural use. All studies conducted through this Order to establish an agricultural limit to implement the narrative objective will be reviewed by and consistent with the efforts currently underway by CV-SALTS.

(b) **RPA Results.**

(1) **Chloride.** Effluent and receiving water data for chloride is not available.

(2) **Electrical Conductivity.** Effluent and receiving water data for electrical conductivity was collected during the period when wastewater was routed through the entire process (filtration, chlorination/dechlorination) without discharging to the receiving waters. The simulated discharge was not representative of the expected effluent quality during an actual discharge event and therefore reasonable potential is not being established for electrical conductivity.

(3) **Sulfate.** Effluent and receiving water data for sulfate is not available.

(4) **Total Dissolved Solids.** Effluent and receiving water data for total dissolved solids is not available.

c. **Constituents with Reasonable Potential.** The Central Valley Water Board finds that the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for pH, total residual chlorine, diazinon, chlorpyrifos, 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. Chlorine Residual

(a) **WQO.** USEPA developed NAWQC for protection of freshwater aquatic life for chlorine residual. The recommended 4-day average (chronic) and 1-hour average (acute) criteria for chlorine residual are 0.011 mg/L and 0.019 mg/L, respectively. These criteria are protective of the Basin Plan's narrative toxicity objective.

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

Federal regulations at 40 C.F.R. §122.44(d)(1)(i) requires that, "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 which 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." For priority pollutants, the SIP dictates the procedures for conducting the RPA. Chlorine 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 its judgment in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent.

USEPA'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)." USEPA'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, USEPA recommends that, "POTWs should also be characterized for the possibility of chlorine and ammonia problems." (TSD, p. 50)

The Discharger uses chlorine for disinfection, which is extremely toxic to aquatic organisms. Although the Discharger uses a sulfur dioxide process to de-chlorinate the effluent prior to discharge to Old River, the existing chlorine use and the potential for chlorine to be discharged provides the basis for the discharge to have a reasonable potential to cause or contribute to an in-stream excursion above the NAWQC.

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

(d) **Plant Performance and Attainability.** The Discharger has not discharged to the South Fork of Battle Creek during the term on the previous permit. The chlorination/dechlorination system is only operated during discharge to surface waters and no monitoring data exists to determine a history of compliance. However, the Central Valley Water Board believes immediate compliance with these effluent limitations is feasible.

ii. Pathogens

(a) **WQO.** In a letter to the Central Valley Water Board dated 8 April 1999, DPH indicated it would consider wastewater discharged to water bodies with identified beneficial uses of irrigation or contact recreation and where the wastewater receives dilution of more than 20:1 to be adequately disinfected if the effluent coliform concentration does not exceed 23 MPN/100 mL as a 7-day median and if the effluent coliform concentration does not exceed 240 MPN/100 mL more than once in any 30 day period.

(b) **RPA Results.** Municipal and domestic supply, agricultural irrigation, and body contact water recreation are beneficial uses of South Fork Battle Creek. Discharge to South Fork Battle Creek is prohibited during the recreation season (April 16 to November 14). Discharge during the wet season would only be necessary during periods of prolonged heavy

rainfall or snow melt when the corresponding receiving water flow would also be high. The Facility did not discharge during the term of the previous Order No. R5-2007-0098. Prior to the adoption of Order No. R5-2007-0098 discharge from the Facility occurred only once, December 30, 2005 during the prior five years (2002 to 2006). Based on information submitted by the Discharger a review of the flow data for the USGS flow monitoring of the South Fork of Battle Creek, the minimum dilution was approximately 131:1.

(c) **WQBELs.** Pursuant to guidance from DPH, this Order includes effluent limitations for total coliform organisms of 23 MPN/100 mL as a 7-day median and 240 MPN/100 mL, not to be exceeded more than once in a 30-day period. These coliform limits are imposed to protect the beneficial uses of the receiving water, including public health through contact recreation and drinking water pathways.

The tertiary treatment standards for BOD_5 and TSS are indicators of the effectiveness of the tertiary treatment process. One of the principal design parameters for wastewater treatment plants is the daily BOD_5 and TSS loading rate and the corresponding removal rate of the system. The application of tertiary treatment processes results in the ability to achieve lower levels for BOD_5 and TSS than the secondary standards currently prescribed. Final WQBELs for BOD_5 are based on the technical capability of the tertiary treatment process, which is necessary to protect the beneficial uses of the receiving water. However, because the Facility is a pond system and higher concentrations of TSS are expected in the effluent, final WQBELs for maximum daily TSS are based on best professional judgment and interpretation of the secondary treatment standards found in 40 CFR 133.102.

Therefore, this Order requires an AMEL for BOD_5 10 mg/L, which is technically based on the capability of a tertiary system. In addition to the average weekly and average monthly effluent limitations, a daily maximum effluent limitation for BOD_5 is included in the Order to ensure that the treatment works are not organically overloaded and operate in accordance with design capabilities.

(d) **Plant Performance and Attainability.** As discussed in this Fact Sheet, the Discharger has not discharged to South Fork Battle Creek since 2005, and is not expected to discharge in the future. If discharge is necessary it would occur during periods when runoff and flow in South Fork Battle Creek would provide for greater than 20:1 dilution.

iii. 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.

Federal regulations at 40 C.F.R. §122.44(d)(1)(i) requires that, "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 which 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." For priority pollutants, the SIP dictates the procedures for conducting the RPA. pH 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 for this non-priority pollutant constituent.

USEPA'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)." USEPA'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." (TSD, p. 50)

The Facility is a POTW that treats domestic wastewater. Because the Facility did not discharge during the previous permit term, no effluent pH data is available. The pH for the Facility's influent varies due to the nature of municipal sewage, which provides the basis for the discharge to have a reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan's numeric objective for pH in the receiving water. Therefore, WQBELs for pH are required in this Order.

(c) **WQBELs.** Effluent limitations for pH of 6.0 as an instantaneous minimum and 9.0 as an instantaneous maximum are included in this Order, as significant dilution is available in the receiving water as a result of Discharge Prohibition III.E, which results in protection of the Basin Plan objectives for pH.

(d) **Plant Performance and Attainability.** Based upon typical plant performances, the treatment plant is likely capable of meeting effluent limitations for pH.

iv. Diazinon and Chlorpyrifos

(a) **WQO.** The Central Valley Water Board recently completed a TMDL for diazinon and chlorpyrifos in the Sacramento and Feather Rivers and amended the Basin Plan to include diazinon and chlorpyrifos waste load allocations and water quality objectives. The Basin Plan Amendment for the Control of Diazinon and Chlorpyrifos was adopted by the Central Valley Water Board on 21 October 2005 and was approved by the State Water Board on 2 May 2006. The Basin Plan amendment was approved by the Office of Administrative Law on 30 June 2006 and is now State law.

The amendment was approved by USEPA and went into effect on 20 December 2006.

The amendment modifies the Basin Plan Chapter III (Water Quality Objectives) to establish site specific numeric objectives for chlorpyrifos and diazinon in the Sacramento and Feather Rivers. The amendment also "…identifies the requirements to meet the additive formula already in Basin Plan Chapter IV (implementation), for the additive toxicity of diazinon and chlorpyrifos."

The amendment provides that: *"The Waste Load Allocations (WLA) for all NPDES-permitted dischargers… shall not exceed the sum (S) of one (1) ad defined below.*

$$S = \frac{CD}{WQOD} + \frac{Cc}{WQOc} \leq 1.0$$

where:

CD = diazinon concentration in µg/L of the point source discharge…
CC = chlorpyrifos concentration in µg/L of the point source discharge…
WQOD = acute or chronic diazinon water quality objective in µg/L.
WQOC = acute or chronic chlorpyrifos water quality objective in µg/L.

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

(b) **RPA Results.** Effluent and receiving water data for the Facility is not available. However, the waste load allocation applies to all NPDES discharges. As stated above, chlorpyrifos and diazinon have been identified as constituents of concern in the Sacramento River, to which the discharge is hydraulically connected.

(c) **WQBELs.** An AMEL and MDEL have been calculated using the procedures in Section 1.4 of the SIP and consistent with the TMDL waste load allocation resulting in the following effluent limits for chlorpyrifos and Diazinon.

<u>Average Monthly Effluent Limitation</u>

$$S_{AMEL} = \frac{CD-avg}{0.079} + \frac{Cc-avg}{0.012} \leq 1.0$$

CD-avg = average monthly diazinon effluent concentration in µg/L
CC-avg = average monthly chlorpyrifos effluent concentration in µg/L

<u>Maximum Daily Effluent Limitation</u>

$$S_{MDEL} = \frac{CD-max}{0.079} + \frac{Cc-max}{0.012} \leq 1.0$$

CD-max = maximum daily diazinon effluent concentration in µg/L
CC-max = maximum daily chlorpyrifos effluent concentration in µg/L

(d) **Plant Performance and Attainability.** No data is available from the Facility to indicate the presence or absence of chlorpyrifos and diazinon. It is unlikely that chlorpyrifos and diazinon will be detected at concentrations exceeding applicable water quality objectives as sales of all non-

agricultural uses of diazinon were banned on 31 December 2004 and sales of the majority of non-agricultural uses of chlorpyrifos were banned in December 2001. The Discharger does not add chlorpyrifos or diazinon to the treatment process. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

4. WQBEL Calculations

a. The general methodology for calculating WQBELs based on the different criteria/objectives is described in subsections IV.C.5.b through e, below.

b. **Effluent Concentration Allowance.** For each water quality criterion/objective, the ECA is calculated using the following steady-state mass balance equation from Section 1.4 of the SIP:

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

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. For ECAs based on MCLs, which implement the Basin Plan's chemical constituents objective and are applied as annual averages, an arithmetic mean is also used for B due to the long-term basis of the criteria.

c. **Basin Plan Objectives and MCLs.** For WQBELs based on site-specific numeric Basin Plan objectives or MCLs, the effluent limitations are applied directly as the ECA as either an MDEL, AMEL, or average annual effluent limitations, depending on the averaging period of the objective.

d. **Aquatic Toxicity Criteria.** WQBELs based on acute and chronic aquatic toxicity criteria 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.

e. **Human Health Criteria.** WQBELs based on human health criteria, are also calculated in accordance with Section 1.4 of the SIP. The ECAs are set equal to the AMEL and a statistical multiplier was used to calculate the MDEL.

$$AMEL = mult_{AMEL}\left[\min\left(\overbrace{M_A ECA_{acute}}^{LTA_{acute}}, M_C ECA_{chronic}\right)\right]$$

$$MDEL = mult_{MDEL}\left[\min\left(M_A ECA_{acute}, \underbrace{M_C ECA_{chronic}}_{LTA_{chronic}}\right)\right]$$

$$MDEL_{HH} = \left(\frac{mult_{MDEL}}{mult_{AMEL}}\right) AMEL_{HH}$$

where:

$mult_{AMEL}$ = statistical multiplier converting minimum LTA to AMEL
$mult_{MDEL}$ = statistical multiplier converting minimum LTA to MDEL
M_A = statistical multiplier converting acute ECA to LTA_{acute}
M_C = statistical multiplier converting chronic ECA to $LTA_{chronic}$

Summary of Water Quality-Based Effluent Limitations
Discharge Point No. D-001

Table F-18. Summary of Water Quality-Based Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants						
pH	standard units	--	--	--	6.0	9.0
Electrical Conductivity (25˚C)	µmhos/cm	900[1]				
Chlorine, Total Residual	mg/L		0.011[2]	0.019[3]		
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	10	15	30	--	--
	lbs/day[4]	63	94	188	--	--
	mg/L	--	--	90	--	--
	lbs/day[4]	--	--	563	--	--
Priority Pollutants						
Diazinon	µg/L	WLA calculation[7]		WLA calculation[7]		
Chlorpyrifos	µg/L	WLA calculation[7]		WLA calculation[7]		
Non-Conventional Pollutants						
Total Coliform Organisms	MPN/100 mL	--	23[5]	240[6]	--	--

1 Applied as an annual average effluent limitation.
2 Applied as a 4-day average effluent limitation.
3 Applied as a 1-hour average effluent limitation.
4 Based on the daily peak wet weather flow of 0.75mgd.
5 Applied as a 7-day median effluent limitation.
6 Total coliform organisms shall not exceed 240 more than once in any 30-day period.
7 See Equation 6, Fact Sheet, Section IV.C.3.e.i.a.

5. Whole Effluent Toxicity (WET)

For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct whole effluent toxicity testing for acute and chronic toxicity, as specified in the Monitoring and Reporting Program (Attachment E section V.). This Order also contains effluent limitations for acute toxicity and requires the Discharger to implement best management practices to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity.

a. **Acute Aquatic Toxicity.** 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 III-8.00) The Basin Plan also states that, "…effluent limits based upon acute biotoxicity tests of effluents will be prescribed where appropriate…".

For priority pollutants, the SIP dictates the procedures for conducting the RPA. Acute toxicity is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Acute whole effluent toxicity is not a priority pollutant. Therefore, 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 . USEPA'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)." Although the discharge has been consistently in compliance with the acute effluent limitations, the Facility is a POTW that treats domestic wastewater containing ammonia and other acutely toxic pollutants. Acute toxicity effluent limits are required to ensure compliance with the Basin Plan's narrative toxicity objective.

USEPA Region 9 provided guidance for the development of acute toxicity effluent limitations in the absence of numeric water quality objectives for toxicity in its document titled "Guidance for NPDES Permit Issuance", dated February 1994. In section B.2. "Toxicity Requirements" (pgs. 14-15) it states that, "In the absence of specific numeric water quality objectives for acute and chronic toxicity, the narrative criterion 'no toxics in toxic amounts' applies. Achievement of the narrative criterion, as applied herein, means that ambient waters shall not demonstrate for acute toxicity: 1) less than 90% survival, 50% of the time, based on the monthly median, or 2) less than 70% survival, 10% of the time, based on any monthly median. For chronic toxicity, ambient waters shall not demonstrate a test result of greater than 1 TUc." Accordingly, effluent limitations for acute toxicity have been included in this Order as follows:

Acute Toxicity. Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

Minimum for any one bioassay ---------- 70%
Median for any three consecutive bioassays ---------- 90%

b. **Chronic Aquatic Toxicity.** 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 III-8.00**)** Adequate chronic WET data is not available to determine if the discharge has reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan's narrative toxicity objective. As discussed in this Fact Sheet, the Discharger did not discharge to South Fork Battle Creek during the term of the previous permit and did not conduct chronic toxicity testing.

The Monitoring and Reporting Program of this Order requires annual chronic WET monitoring for demonstration of compliance with the narrative toxicity objective. In

addition to WET monitoring, the Special Provision in section VI.C.2.a of the Order requires the Discharger to submit to the Central Valley Water Board an Initial Investigative TRE Workplan for approval by the Executive Officer, to ensure the Discharger has a plan to immediately move forward with the initial tiers of a TRE, in the event effluent toxicity is encountered in the future. The provision also includes a numeric toxicity monitoring trigger, requirements for accelerated monitoring, and requirements for TRE initiation if toxicity is demonstrated.

Numeric chronic WET effluent limitations have not been included in this Order. The SIP contains implementation gaps regarding the appropriate form and implementation of chronic toxicity limits. This has resulted in the petitioning of a NPDES permit in the Los Angeles Region[1] that contained numeric chronic toxicity effluent limitations. To address the petition, the State Water Board adopted WQO 2003-012 directing its staff to revise the toxicity control provisions in the SIP. The State Water Board states the following in WQO 2003-012, "*In reviewing this petition and receiving comments from numerous interested persons on the propriety of including numeric effluent limitations for chronic toxicity in NPDES permits for publicly-owned treatment works that discharge to inland waters, we have determined that this issue should be considered in a regulatory setting, in order to allow for full public discussion and deliberation. We intend to modify the SIP to specifically address the issue. We anticipate that review will occur within the next year. We therefore decline to make a determination here regarding the propriety of the final numeric effluent limitations for chronic toxicity contained in these permits."* The process to revise the SIP is currently underway. Proposed changes include clarifying the appropriate form of effluent toxicity limits in NPDES permits and general expansion and standardization of toxicity control implementation related to the NPDES permitting process. Since the toxicity control provisions in the SIP are under revision it is infeasible to develop numeric effluent limitations for chronic toxicity. Therefore, this Order requires that the Discharger meet best management practices for compliance with the Basin Plan's narrative toxicity objective, as allowed under 40 CFR 122.44(k).

To ensure compliance with the Basin Plan's narrative toxicity objective, the Discharger is required to conduct chronic WET testing, as specified in the Monitoring and Reporting Program (Attachment E section V.). Furthermore, the Special Provision contained at VI.C.2.a. of this Order requires the Discharger to investigate the causes of, and identify and implement corrective actions to reduce or eliminate effluent toxicity. If the discharge demonstrates toxicity exceeding the numeric toxicity monitoring trigger, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE) in accordance with an approved TRE workplan. The numeric toxicity monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Discharger is required to perform accelerated chronic toxicity monitoring, as well as, the threshold to initiate a TRE if effluent toxicity has been demonstrated.

D. Final Effluent Limitation Considerations

1. Mass-based Effluent Limitations

[1] In the Matter of the Review of Own Motion of Waste Discharge Requirements Order Nos. R4-2002-0121 [NPDES No. CA0054011] and R4-2002-0123 [NPDES NO. CA0055119] and Time Schedule Order Nos. R4-2002-0122 and R4-2002-0124 for Los Coyotes and Long Beach Wastewater Reclamation Plants Issued by the California Regional Water Quality Control Board, Los Angeles Region SWRCB/OCC FILES A-1496 AND 1496(a)

40 CFR 122.45(f)(1) requires effluent limitations be expressed in terms of mass, with some exceptions, and 40 CFR 122.45(f)(2) allows pollutants that are limited in terms of mass to additionally be limited in terms of other units of measurement. This Order includes effluent limitations expressed in terms of mass and concentration. In addition, pursuant to the exceptions to mass limitations provided in 40 CFR 122.45(f)(1), some effluent limitations are not expressed in terms of mass, such as pH, and when the applicable standards are expressed in terms of concentration (e.g., CTR criteria and MCLs) and mass limitations are not necessary to protect the beneficial uses of the receiving water.

Mass-based effluent limitations were calculated based upon the design flow (peak wet weather design flow) permitted in section IV.A.1. of this Order.

2. Averaging Periods for Effluent Limitations

40 CFR 122.45 (d) requires average weekly and average monthly discharge limitations for publicly owned treatment works (POTWs) unless impracticable. However, for toxic pollutants and pollutant parameters in water quality permitting, USEPA recommends the use of a maximum daily effluent limitation in lieu of average weekly effluent limitations for two reasons. "*First, the basis for the 7-day average for POTWs derives from the secondary treatment requirements. This basis is not related to the need for assuring achievement of water quality standards. Second, a 7-day average, which could comprise up to seven or more daily samples, could average out peak toxic concentrations and therefore the discharge's potential for causing acute toxic effects would be missed.*" (TSD, pg. 96) BOD_5, total chlorine residual, pH, total coliform organisms, and TSS, 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.

For effluent limitations based on Primary and Secondary MCLs, except nitrate and nitrite, this Order includes annual average effluent limitations. The Primary and Secondary MCLs are drinking water standards contained in Title 22 of the California Code of Regulations. Title 22 requires compliance with these standards on an annual average basis (except for nitrate and nitrite), when sampling at least quarterly. Since it is necessary to determine compliance on an annual average basis, it is impracticable to calculate average weekly and average monthly effluent limitations.

3. Satisfaction of Anti-Backsliding Requirements

The Clean Water Act 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 Clean Water Act sections 402(o) or 303(d)(4), or, where applicable, 40 CFR 122.44(l).

The effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order R5-2007-0098, with the exception of effluent limitations for temperature and electrical conductivity; these effluent limitations have been removed and are not included in this Order. This elimination 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 304(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 TMDL's 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 South Fork of Battle Creek is considered an attainment water for temperature and electrical conductivity because the receiving water is not listed as impaired on the 303(d) list for these constituents.[1] As discussed in section IV.D.4, below, removal of the effluent limits complies with federal and state antidegradation requirements. Thus, removal of the effluent limitations for temperature and electrical conductivity from Order R5-2007-0098 meets the exception in CWA section 303(d)(4)(B).

b. **CWA section 402(o)(2).** CWA section 402(o)(2) provides several exceptions to the anti-backsliding regulations. CWA 402(o)(2)(B)(i) allows a renewed, reissued, or modified permit to contain a less stringent effluent limitation for a pollutant if information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance.

As described further in section IV.C.3.b of this Fact Sheet, updated information that was not available at the time Order R5-2007-009 was issued indicates that temperature and electrical conductivity do not exhibit reasonable potential to cause or contribute to an exceedance of water quality objectives in the receiving water. The updated information that supports the relaxation of effluent limitations for these constituents includes the following:

i. Temperature. Order R5-2007-0098 contained an effluent limitation for temperature. This limitation has been removed as it is not necessary because receiving water limitations are included in this Order to prevent the discharge from altering the receiving water temperature by more than 5°F. Monitoring is required at RSW-001 and RSW-002 in this order to ensure compliance with the receiving water temperature limitation.

ii. Electrical Conductivity. Order R5-2007-0098 contained an effluent limitation for electrical conductivity even though there was not reasonable potential for electrical conductivity as discussed in the Fact Sheet of Order R5-2007-0098. Sampling for electrical conductivity during the term of Order R5-2007-0098 was collected during the period when wastewater was routed through the entire process (filtration, chlorination/dechlorination) without discharging to the receiving waters. The simulated discharge was not representative of the expected effluent quality during an actual discharge event and therefore reasonable potential is not being established for electrical conductivity in this Order. Accordingly, the effluent limitation for electrical conductivity is being removed in this Order, however monitoring for electrical conductivity in the

[1] "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." State Water Board Order WQ 2008-0006, Berry Petroleum Company, Poso Creek/McVan Facility.

receiving water and the effluent is included in this Order for the purposes of determining reasonable potential in future permits.

4. Antidegradation Policies

This Order does not allow for an increase in flow or mass of pollutants to the receiving water. Therefore, a complete antidegradation analysis is not necessary. 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. The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.

This Order contains a Provision that requires the Discharger to operate the sand filter system during periods of discharge to the maximum extent practicable. The Provision is necessary to satisfy the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16 and ensure the use of best practicable treatment or control of the discharge.

a. **Surface Water.** The permitted surface water discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.

b. **Groundwater.** The Discharger utilizes aeration lagoons and oxidation ponds. Domestic wastewater contains constituents such as total dissolved solids (TDS), specific conductivity, pathogens, nitrates, organics, metals and oxygen demanding substances (BOD). Percolation from the lagoons and ponds may result in an increase in the concentration of these constituents in groundwater. The increase in the concentration of these constituents in groundwater must be consistent with Resolution No. 68-16. Any increase in pollutant concentrations in groundwater must be shown to be necessary to allow wastewater utility service necessary to accommodate housing and economic expansion in the area and must be consistent with maximum benefit to the people of the State of California. Some degradation of groundwater by the Discharger is consistent with Resolution No. 68-16 provided that:

   i. the degradation is limited in extent;

   ii. the degradation after effective source control, treatment, and control is limited to waste constituents typically encountered in municipal wastewater as specified in the groundwater limitations in this Order;

   iii. the Discharger minimizes the degradation by fully implementing, regularly maintaining, and optimally operating best practicable treatment and control (BPTC) measures; and

   iv. the degradation does not result in water quality less than that prescribed in the Basin Plan.

   Groundwater limitations for total coliform organisms, nitrate (as N) and pH has been included in this Order for protection of the MUN beneficial use of groundwater.

5. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on flow and TSS. The WQBELs consist of restrictions on pH, BOD, TSS (maximum daily), total residual chlorine, diazinon, chlorpyrifos, and total coliform organisms. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

WQBELs have been scientifically 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 CFR 131.38. The scientific procedures for calculating the individual WQBELs for priority pollutants are based on the CTR-SIP, which was approved by USEPA on 18 May 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to 30 May 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to 30 May 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

Summary of Final Effluent Limitations
Discharge Point No. D-001

Table F-19. Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations					Basis[1]
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Peak Wet Weather Discharge Flow	mgd	--	--	0.75	--	--	DC
pH	Standard Units	--	--	--	6.0	9.0	BP
Electrical Conductivity (20˚C)	--	900 Annual Average	--	--	--	--	SEC MCL
Total Chlorine Residual	mg/L	--	0.011[2]	0.019[3]	--	--	NAWQC
Biochemical Oxygen Demand 5-day @20˚C	mg/L	10	15	30	--	--	TTC
	lbs/day[4]	63	94	188	--	--	
	% Removal	85%	--	--	--	--	CFR
Total Suspended Solids	mg/L	30	45	90	--	--	CFR
	lbs/day[4]	188	281	563	--	--	
	% Removal	85%	--	--	--	--	CFR
Total Coliform Organisms	MPN/100 mL	--	23[5]	240[6]	--	--	DPH
Diazinon	µg/L	WLA calculation[7]	--	WLA calculation[7]	--	--	BP
Chlorpyrifos	µg/L	WLA calculation[7]	--	WLA calculation[7]	--	--	BP

[1] DC – Based on the design capacity of the Facility.
TTC – Based on treatment capability.
CFR – Based on secondary treatment standards contained in 40 CFR Part 133.
BP – Based on water quality objectives contained in the Basin Plan.
CTR – Based on water quality criteria contained in the California Toxics Rule and applied as specified in the SIP.
NAWQC – Based on USEPA's National Ambient Water Quality Criteria for the protection of freshwater aquatic life.
SEC MCL – Based on the Secondary Maximum Contaminant Level.
MCL – Based on the Primary Maximum Containment Level.
DPH- Department of Public Health

[2] Applied as a 4-day average effluent limitation.

[3] Applied as a 1-hour average effluent limitation.

[4] Mass-based effluent limitations are based on a permitted peak daily wet weather flow of 0.75 mgd.

[5] Applied as a 7-day median effluent limitation.

[6] Not to be exceeded more than once in any 30-day period.

[7] See Equation 6, Fact Sheet, Section IV.C.3.e.i.a.

a. **Acute Whole Effluent Toxicity.** Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

i. 70%, minimum for any one bioassay; and
ii. 90%, median for any three consecutive bioassays.

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.

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, toxicity, and turbidity.

a. **Turbidity.** Order No. R5-2007-0098 established a receiving water limitation for turbidity specifying that discharges from the Facility shall not cause the turbidity to increase more than 1 NTU where natural turbidity is between 0 and 5 NTU based on the water quality objective for turbidity in the Basin Plan. 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 USEPA. Consistent with the revised water quality objective in the Basin Plan, this Order limits turbidity to 2 NTU when the natural turbidity is less than 1 NTU.

In Finding No. 14 of Resolution R5-2007-0136 the Central Valley Water Board found that the change in the turbidity receiving water objective is consistent with the State Water Board Resolution No. 68-16, in that the changes to water quality objectives (i) consider maximum benefit to the people of the State, (ii) will not unreasonably affect present and anticipated beneficial use of waters, and (iii) will not result in water quality less than that prescribed in policies, and is consistent with the federal Antidegradation Policy (40 CFR 131.12).

The revised receiving water limitation for turbidity, which is based on the amendment to the Basin Plan's turbidity water quality objective, reflects current scientifically supported turbidity requirements for the protection of aquatic life and other beneficial uses and, therefore, will be fully protective of aquatic life and the other beneficial uses listed in the Basin Plan. Changes in turbidity allowed by the revised receiving water limitation, when ambient turbidity is below 1 NTU, would not adversely affect beneficial uses and would maintain water quality at a level higher than necessary to protect beneficial uses. Restricting low-level turbidity changes further may require costly upgrades, which would not provide any additional protection of beneficial uses. Thus, any changes in turbidity that would occur under the amended turbidity receiving water limitation would not only be protective of beneficial uses, but also would be consistent with maximum benefit to people of the State. Therefore, the relaxed receiving water limitations for turbidity will not violate antidegradation policies.

a. **pH.** Order No. R5-2007-0098 established a receiving water limitation for pH specifying that discharges from the Facility shall not cause the ambient pH to change by more than 0.5 units based on the water quality objective for pH in the Basin Plan, and allowed a 1-month averaging period for calculating pH change. The Central Valley Water Board adopted Resolution R5-2007-0136 on 25 October 2007, amending the Basin Plan to delete the portion of the pH water quality objective that limits the change in pH to 0.5 units and the allowance of averaging periods for pH. The Basin Plan amendment has been approved by the State Water Board, the Office of Administrative Law, and USEPA. Consistent with the revised water quality objective in the Basin Plan, this Order does not require a receiving water limitation for pH change.

In Finding No. 14 of Resolution R5-2007-0136 the Central Valley Water Board found that the change in the pH receiving water objective is consistent with the State Water Board Resolution No. 68-16, in that the changes to water quality objectives (i) consider maximum benefit to the people of the State, (ii) will not unreasonably affect present and anticipated beneficial use of waters, and (iii) will not result in water quality less than that prescribed in policies, and is consistent with the federal Antidegradation Policy (40 CFR 131.12).

The revised receiving water limitation for pH, which is based on the amendment to the Basin Plan's pH water quality objective, reflects current scientifically supported pH requirements for the protection of aquatic life and other beneficial uses. The revised receiving water limitation for pH is more consistent with the current USEPA recommended criteria and is fully protective of aquatic life and the other beneficial uses listed in the Basin Plan. Changes in pH when pH is maintained within the range of 6.5 to 8.5 are neither beneficial nor adverse and, therefore, are not considered to be degradation in water quality. Attempting to restrict pH changes to 0.5 pH units would incur substantial costs without demonstrable benefits to beneficial uses. Thus, any changes in pH that would occur under the revised pH limitation would not only be protective of beneficial uses, but also would be consistent with maximum benefit

to people of the State. Therefore the proposed amendment will not violate antidegradation policies.

B. Groundwater

1. The beneficial uses of the underlying groundwater are municipal and domestic supply, 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 prohibits 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 groundwater 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. **Whole Effluent Toxicity.** This Order requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity through a Toxicity Reduction Evaluation (TRE). This Order may be reopened to include a numeric chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if a numeric chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened to include a numeric chronic toxicity limitation based on that objective.

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

d. **Title 27 Exemption Analysis Update.** Upon submittal of the Title 27 Exemption Analysis Update required by this Order, this Order may be reopened to add or modify Findings, limits, or other conditions as appropriate.

2. Special Studies and Additional Monitoring Requirements

a. **Chronic Whole Effluent Toxicity Requirements.** 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 III-8.00).

The Monitoring and Reporting Program of this Order requires chronic WET monitoring for demonstration of compliance with the narrative toxicity objective. In addition to WET monitoring, this provision requires the Discharger to submit to the Central Valley Water Board an Initial Investigative TRE Workplan for approval by the Executive Officer, to ensure the Discharger has a plan to immediately move forward with the initial tiers of a TRE, in the event effluent toxicity is encountered in the future. The provision also includes a numeric toxicity monitoring trigger, requirements for accelerated monitoring, and requirements for TRE initiation if toxicity is demonstrated.

Monitoring Trigger. A numeric toxicity monitoring trigger of > 1 TUc (where TUc = 100/NOEC) is applied in the provision, because this Order does not allow any dilution for the chronic condition. Therefore, a TRE is triggered when the effluent exhibits toxicity at 100% effluent.

Accelerated Monitoring. The provision requires accelerated WET testing when a regular WET test result exceeds the monitoring trigger. The purpose of accelerated monitoring is to determine, in an expedient manner, whether there is toxicity before requiring the implementation of a TRE. Due to possible seasonality of the toxicity, the accelerated monitoring should be performed in a timely manner, preferably taking no more than 2 to 3 months to complete.

The provision requires accelerated monitoring consisting of four chronic toxicity tests in a six-week period (i.e., one test every two weeks) using the species that exhibited toxicity. Guidance regarding accelerated monitoring and TRE initiation is provided in the *Technical Support Document for Water Quality-based Toxics Control,* EPA/505/2-90-001, March 1991 (TSD). The TSD at page 118 states, "*EPA*

recommends if toxicity is repeatedly or periodically present at levels above effluent limits more than 20 percent of the time, a TRE should be required." Therefore, four accelerated monitoring tests are required in this provision. If no toxicity is demonstrated in the four accelerated tests, then it demonstrates that toxicity is not present at levels above the monitoring trigger more than 20 percent of the time (only 1 of 5 tests are toxic, including the initial test). However, notwithstanding the accelerated monitoring results, if there is adequate evidence of effluent toxicity (i.e. toxicity present exceeding the monitoring trigger more than 20 percent of the time), the Executive Officer may require that the Discharger initiate a TRE.

See the WET Accelerated Monitoring Flow Chart (Figure F-1), below, for further clarification of the accelerated monitoring requirements and for the decision points for determining the need for TRE initiation.

TRE Guidance. The Discharger is required to prepare a TRE Workplan in accordance with USEPA guidance. Numerous guidance documents are available, as identified below:

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

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

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

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

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

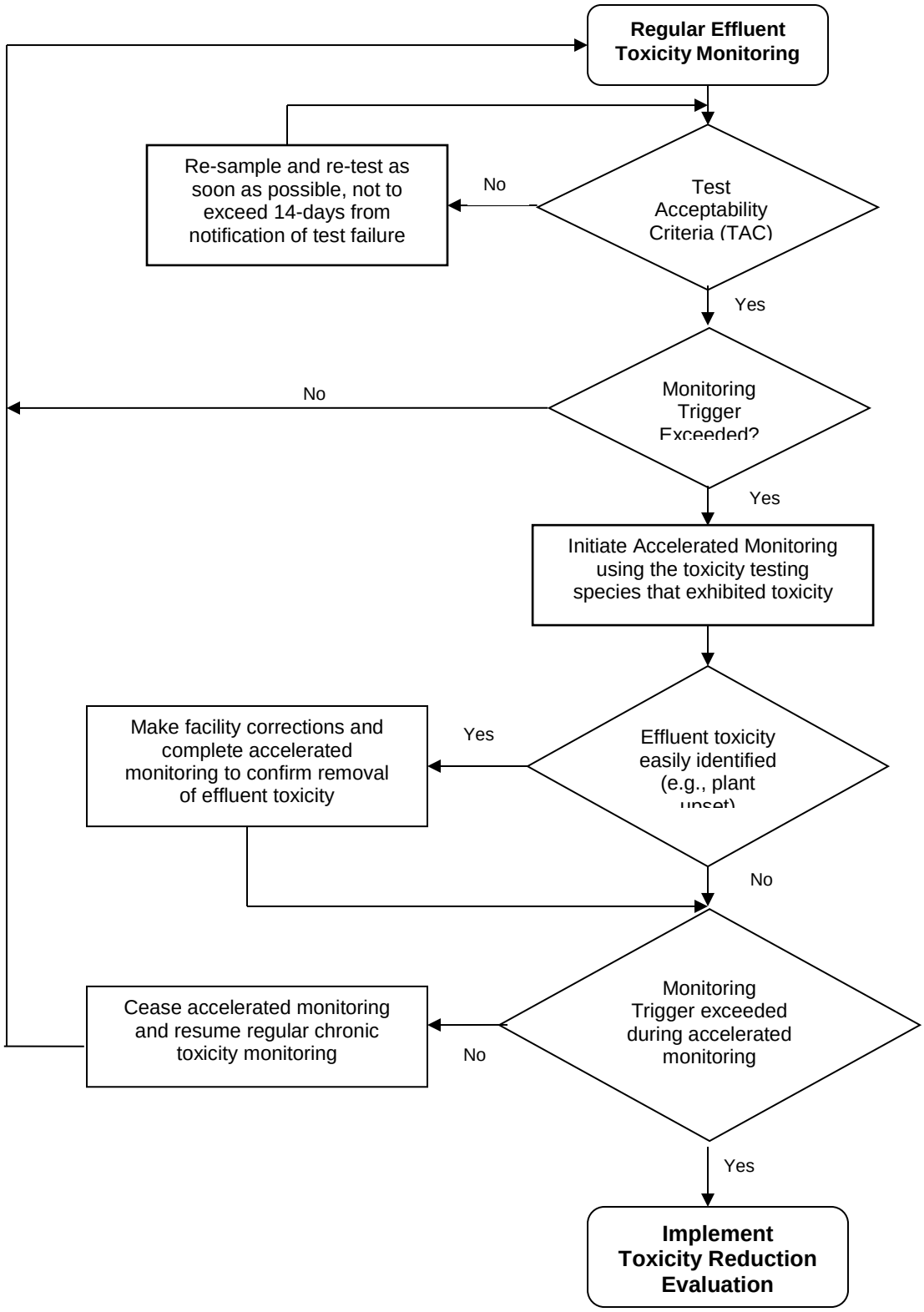
vi. Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity, Second Edition, EPA 600/R-92/081, September 1993.

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

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

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

WET Accelerated Monitoring Flow Chart


Regular Effluent Toxicity Monitoring
Test Acceptability Criteria (TAC)
No
Re-sample and re-test as soon as possible, not to exceed 14-days from notification of test failure
Yes
Monitoring Trigger Exceeded?
No
Yes
Initiate Accelerated Monitoring using the toxicity testing species that exhibited toxicity
Effluent toxicity easily identified (e.g., plant upset)
Yes
Make facility corrections and complete accelerated monitoring to confirm removal of effluent toxicity
No
Monitoring Trigger exceeded during accelerated monitoring
No
Cease accelerated monitoring and resume regular chronic toxicity monitoring
Yes
Implement Toxicity Reduction Evaluation

b. **Title 27 Exemption Analysis Update.** To evaluate potential groundwater impacts from the discharge to the evaporation/percolation ponds and to evaluate compliance with the Basin Plan, the Discharger is required to submit, within 36 months of the effective date of this Order, a Title 27 Exemption Analysis Update (Title 27 Analysis Update). The Title 27 Analysis Update shall present the results of the land discharge and groundwater monitoring to date, and an evaluation of whether the discharge to the evaporation/percolation ponds is in compliance with the Basin Plan, including the Basin Plan water quality objectives. Having the discharge to the evaporation/percolation ponds maintain compliance with the Basin Plan water quality objectives is necessary for the Discharger to maintain the Title 27 exemption per Title 27 20090(b); see Section III.E of this Fact Sheet.

c. **Best Practical Treatment or Control (BPTC) Update.** If the groundwater monitoring results show that the discharge of waste is threatening to cause or has caused groundwater to contain waste constituents in concentrations statistically greater than background water quality, the Discharger shall submit, **within 36 months following adoption of this Order**, a BPTC Evaluation Work Plan that sets forth a scope and schedule for a systematic and comprehensive technical evaluation of each component of the facilities' waste management system to determine best practicable treatment or control for each the waste constituents of concern. The work plan shall include a preliminary evaluation of each component of the waste management system and propose a time schedule for completing the comprehensive technical evaluation. The schedule to complete the evaluation shall be as short as practicable, and shall not exceed 1 year.

In accordance with California Business and Professions Code Sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. The technical report shall be prepared by or under the direction of appropriately qualified professional(s) and shall bear the professional's signature and stamp.

3. Best Management Practices and Pollution Prevention

a. **Water Code Section 13263.3(d)(3) Pollution Prevention Plans.** Pollution prevention plans, shall, at a minimum, meet the requirements outlined in Water Code section 13263.3(d)(3). The minimum requirements for the pollution prevention plans include the following:

i. An estimate of all of the sources of a pollutant contributing, or potentially contributing, to the loadings of a pollutant in the treatment plant influent.

ii. An analysis of the methods that could be used to prevent the discharge of the pollutants into the Facility, including application of local limits to industrial or commercial dischargers regarding pollution prevention techniques, public education and outreach, or other innovative and alternative approaches to reduce discharges of the pollutant to the Facility. The analysis also shall identify sources, or potential sources, not within the ability or authority of the Discharger to control, such as pollutants in the potable water supply, airborne pollutants, pharmaceuticals, or pesticides, and estimate the magnitude of those sources, to the extent feasible.

iii. An estimate of load reductions that may be attained through the methods identified in subparagraph ii.

iv. A plan for monitoring the results of the pollution prevention program.

v. A description of the tasks, cost, and time required to investigate and implement various elements in the pollution prevention plan.

vi. A statement of the Discharger's pollution prevention goals and strategies, including priorities for short-term and long-term action, and a description of the Discharger's intended pollution prevention activities for the immediate future.

vii. A description of the Discharger's existing pollution prevention programs.

viii. An analysis, to the extent feasible, of any adverse environmental impacts, including cross-media impacts or substitute chemicals that may result from the implementation of the pollution prevention program.

ix. An analysis, to the extent feasible, of the costs and benefits that may be incurred to implement the pollution prevention program.

b. **Salinity Evaluation and Minimization Plan.** An Evaluation and Minimization Plan for salinity is required in this Order only if surface water discharge data or groundwater monitoring data become available that indicates receiving water quality objectives for salinity are threatened to be exceeded. The Salinity Evaluation and Minimization Plan is not required at this time because the Discharger is a small, economically-disadvantaged community with infrequent discharges to surface water. Existing groundwater data for salinity is limited, but will be further investigated as required by the Monitoring and Reporting Program contained in this Order.

4. Construction, Operation, and Maintenance Specifications

a. **Pond Operating Requirements.** The operation and maintenance specifications for the treatment pond and evaporation/percolation ponds are necessary to protect the beneficial uses of the groundwater. The specifications included in this Order are retained from Order No. R5-2007-0098. In addition, reporting requirements related to use of the evaporation/percolation ponds are required to monitor their use and the potential impact on groundwater.

b. **Effluent Filtration.** The pressure sand filters have a hydraulic capacity of 400 gpm (0.576 mgd) whereas the hydraulic design flow of the Facility is 0.75 mgd. Therefore, when the pressure sand filters are being used to the maximum extent practicable, additional flow which bypasses the sand filters (to increase total flow to 0.75 mgd) will not be considered a violation of prohibition III.B. Additionally, in order to allow for complete effluent filtration of solids and to minimize solids loading to the receiving water and to satisfy antidegradation policies (as discussed in Section IV.D.4), the effluent filtration system shall be operated during periods of discharge to the maximum extent practicable.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. Pretreatment Requirements – Not Applicable

b. The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order 2006-0003-DWQ (General Order) on May 2, 2006. The Monitoring and Reporting Requirements for the General Order were amended by Water Quality Order WQ 2008-0002-EXEC on February 20, 2008. The General Order requires public agencies that own or operate sanitary sewer systems with greater than one mile of pipes or sewer lines to enroll for coverage 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.

   Furthermore, the General Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. The Discharger is enrolled under the General Order.

6. Other Special Provisions

a. **Annual Operation of the Filter System.** Due to the historic infrequency of effluent discharge to surface water the filter and chlorination/dechlorination systems are rarely utilized. The filter and chlorination/dechlorination system must be operated annually prior to the wet season to assure that the filter system, as well as the chlorination/dechlorination system is operating properly in the event discharge from the Facility to South Fork Battle Creek is necessary. The operation of the filter and chlorination/dechlorination shall recycle the discharge back to the ponds and not result in a discharge to the receiving water.

b. **Prohibition Exception.** Prohibition III.E prohibits discharge of effluent to South Fork Battle Creek from April 16 to November 14. Exceptions may be granted by the Executive Officer provided (a) the discharge is necessary due to circumstances that could not have reasonably been foreseen; (b) the Discharger demonstrates that the potential impacts of non-discharge would be greater than discharge; (c) the Discharger has previously taken all reasonable steps to prevent the discharge and all required maintenance has been performed; and (d) the discharge will not result in the exceedance of any water quality objective in South Fork Battle Creek.

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~~s~~ that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also 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 following provides the 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. flow, BOD_5 and TSS reduction requirements). The monitoring frequencies for BOD and TSS of once per week have been retained from Order No. R5-2007-0098 during discharge to South Fork Battle Creek. Since effluent monitoring at EFF-001 are not required during periods of no

discharge, the influent monitoring frequency for BOD_5 and TSS has been reduced to once per month during periods when the filter is not operated and no discharge to surface water is occurring.

B. Effluent Monitoring

1. Pursuant to the requirements of 40 CFR 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. Effluent monitoring frequencies and sample types for flow, chlorine residual, BOD, TSS, electrical conductivity, total coliform organisms, ammonia, and chronic toxicity have been retained from Order No. R5-2007-0098 to determine compliance with effluent limitations for these parameters and/or to ensure that adequate data is available to determine RP for future permit renewals.

3. This Order establishes monthly monitoring for hardness to ensure that adequate data is available to properly adjust water quality criteria for hardness-based metals.

4. This Order establishes monthly monitoring for, chloride, sulfate, and TDS, to ensure that adequate data is available to determine RP for salinity.

5. In accordance with Section 1.3 of the SIP, effluent monitoring for priority pollutants for which criteria or objectives apply and for which no effluent limitations have been established has been changed from annually to once during the term of this Order. See Attachment E for more detailed requirements related to performing priority pollutant monitoring.

6. California Water Code section 13176, subdivision (a), states: "The analysis of any material required by [Water Code sections 13000-16104] shall be performed by a laboratory that has accreditation or certification pursuant to Article 3 (commencing with Section 100825) of Chapter 4 of Part 1 of Division 101 of the Health and Safety Code." The Department of Public Health certifies laboratories through its Environmental Laboratory Accreditation Program (ELAP).

   Section 13176 cannot be interpreted in a manner that would violate federal holding time requirements that apply to NPDES permits pursuant to the Clean Water Act. (Wat. Code §§ 13370, subd. (c), 13372, 13377.) Section 13176 is inapplicable to NPDES permits to the extent it is inconsistent with Clean Water Act requirements. (Wat. Code § 13372, subd. (a).) The holding time requirements are 15 minutes for chlorine residual, dissolved oxygen, and pH, and immediate analysis is required for temperature. (40 C.F.R. § 136.3(e), Table II).

C. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity.** Annual 96-hour bioassay testing is required to demonstrate compliance with the effluent limitation for acute toxicity.

2. **Chronic Toxicity.** Chronic whole effluent toxicity testing is required once during the term of this Order to demonstrate compliance with the Basin Plan's narrative toxicity objective.

D. 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.

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 best practicable treatment or control to comply with Resolution No. 68-16. Economic analysis is only one of many factors considered in determining best practicable treatment or control. 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 Resolution No. 68-16 and the Basin Plan.

c. This Order requires the Discharger to continue groundwater monitoring and includes 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 Resolution No. 68-16. Evidence in the record includes effluent monitoring data that indicates the presence of constituents that may degrade groundwater and surface water.

E. Other Monitoring Requirements

1. Biosolids Monitoring

Biosolids monitoring is required to ensure compliance with the biosolids disposal requirements contained in the Special Provision contained in section VI.C.6.a. of this Order. Biosolids disposal requirements are imposed pursuant to 40 CFR Part 503 to protect public health and prevent groundwater degradation.

2. **Water Supply Monitoring**

Water supply monitoring is required to evaluate the source of constituents in the wastewater.

3. **Evaporation/Percolation Pond Monitoring**

Treatment pond monitoring is required to characterize the quality of the wastewater that will percolate to groundwater and to ensure no nuisance conditions.

4. **Effluent and Receiving Water Characterization Study**

An effluent and receiving water monitoring study is required to ensure adequate information is available for the next permit renewal. During the permit term, the Discharger is required to conduct three monitoring events of the effluent at Monitoring Location EFF-001 and of the receiving water at Monitoring Location RSW-001 for all priority pollutants and other constituents of concern as described in Attachment E.

VIII. PUBLIC PARTICIPATION

The Central Valley Water Board has considered the issuance of WDR's that will serve as an NPDES permit for the Facility. As a step in the WDR adoption process, the Central Valley Water Board staff has developed tentative WDR's and has encouraged public participation in the WDR adoption process.

A. Notification of Interested Parties

The Central Valley Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDR's for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through physical posting, mailing, and internet posting.

B. Written Comments

The staff determinations are tentative. Interested persons were invited to submit written comments concerning tentative WDR's as provided through the notification process. Comments must be submitted either in person or by mail to the Executive Office at the Central Valley Water Board at the address above 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 **20 April 2015**.

C. Public Hearing

The Central Valley Water Board will hold a public hearing on the tentative WDR's during its regular Board meeting on the following date and time and at the following location:

Date:	4,5 June 2015
Time:	8:30 a.m.
Location:	Regional Water Quality Control Board, Central Valley Region 11020 Sun Center Dr., Suite #200 Rancho Cordova, CA 95670

Interested persons were invited to attend. At the public hearing, the Central Valley Water Board heard testimony pertinent to the discharge, WDR's, and permit. For accuracy of the record, important testimony was requested in writing.

D. Reconsideration of Waste Discharge Requirements

Any aggrieved person may petition the State Water Board to review the decision of the Central Valley Water Board regarding the final WDR's. The petition must be received by the State Water Board at the following address within 30 calendar days of the Central Valley Water Board's action:

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

For instructions on how to file a petition for review, see
http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml

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 (530) 224-4845.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDR's 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 Jeremy Pagan at (530) 224-4850.

ATTACHMENT G – SUMMARY OF REASONABLE POTENTIAL ANALYSIS FOR CONSTITUENTS OF CONCERN

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential
Ammonia Nitrogen Total (as N)	mg/L	1.38	<0.48	2.14	2.14	4.81	--	--	--	--	No
Copper, Total Recoverable	µg/L	57.3	4.5	2.0	2.56[4]	2.0[4]	1300	NA	2.62[4]	1000[2]	No[5]
Dichlorobromomethane	µg/L	1.5	<0.1	0.56	--	--	0.56	46	--	80[1]	No[5]
Nitrate (as N)	mg/L	0.16	<0.11	--	--	--	--	--	--	10[1]	No
Thallium, Total Recoverable	µg/L	2.4	3	1.7	--	--	1.7	6.3	--	2[1]	No
Zinc, Total Recoverable	µg/L	11.6	<0.8	7.8	26[4]	26[4]	--	--	7.8[4]	5000[2]	No[5]
Lead	µg/L	0.2 J	<1.4	0.45	11.5	0.45	--	--	--	15[1]	No
Silver	µg/L	<1.1	<1.1	0.27	0.27	--	--	--	10.0	100[2]	No
Nickel	µg/L	1.6	1.2 J	14	130	14	610	4,600	--	100[1]	No
Mercury	µg/L	0.0114	0.00129	0.05	1.4	0.77	0.05	0.051	--	2[1]	No

General Note: All inorganic concentrations are given as a total recoverable.
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

Footnotes:
(1) Primary MCL
(2) Secondary MCL
(3) NAWQC-Most stringent, potentially applicable chronic aquatic life objective
(4) Based on downstream ambient receiving water hardness of 16.5 mg/L.
(5) While the MEC does exceed the applicable criteria, sampling results from the simulated discharge events are not representative and therefore reasonable potential cannot be established. See Fact Sheet IV.C.3.b.

ATTACHMENT H – CALCULATION OF WQBELS – NOT APPLICABLE