CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

1685 “E” Street, Suite 100, Fresno CA 93706-2007
Phone (559) 455-5116 Ÿ Fax (559) 445-5910
http://www.waterboards.ca.gov/centralvalley

ORDER R5-2014-0127
NPDES NO. CA0080489

WASTE DISCHARGE REQUIREMENTS FOR THE STALLION SPRINGS COMMUNITY SERVICES DISTRICT WASTEWATER TREATMENT FACILITY KERN COUNTY

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

Table 1. Discharger Information

Discharger	Stallion Springs Community Services District
Name of Facility	Wastewater Treatment Facility
Facility Address	28500 Stallion Springs Drive
	Tehachapi, California 93561
	Kern County

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Disinfected Secondary-Treated Domestic Wastewater	35° 04’ 53”	118º 38’ 15”	Chanac Creek

Table 3. Administrative Information

This Order was adopted on:	**10 October 2014**
This Order shall become effective on:	**1 December 2014**
This Order shall expire on:	**30 November 2019**
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:	**3 June 2019**
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 Discharge**

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 the date indicated above.

Original signed by:

PAMELA C. CREEDON, Executive Officer

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I. FACILITY INFORMATION

Information describing the Stallion Springs Community Services District, Wastewater Treatment Facility (Facility) is summarized in Table F-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 are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

D. Monitoring and Reporting. 40 C.F.R. 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 or 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 that 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 Order R5-2008-0091 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the Central Valley Water Board from taking enforcement action for 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., in a manner different from that described in this Order is prohibited. An exception to this prohibition is for those discharges not described in the Fact Sheet, section II.B. that are otherwise authorized by valid WDRs adopted by the Central Valley Water Board or the State Water Resources Control Board (State Water Board).

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. Discharge of waste classified as 'hazardous' as defined in Title 23, California Code of Regulations (CCR), Section 2521(a), et seq., is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point 001

1. Final Effluent Limitations – Discharge Point 001

The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Locations EFF-001A and EFF-001C 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. Final Effluent Limitations – Discharge Point 001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants						
Biochemical Oxygen Demand 5-day @ 20°C [1]	mg/L	30	45	90	--	--
	lbs/day	25	38	75	--	--
Total Suspended Solids [1]	mg/L	30	45	90	--	--
	lbs/day	25	38	75	--	--
pH [1]	standard units	--	--	--	6.5	8.3
Priority Pollutants						
Copper, Total Recoverable [2]	µg/L	13	--	26	--	--
Non-Conventional Pollutants						
Ammonia, un-ionized (as N) [1]	mg/L	--	--	0.025	--	--
Boron [1]	mg/L	--	--	1.0	--	--
Chloride [1]	mg/L	--	--	175	--	--
Settleable Solids [1]	mL/L	0.1	--	--	--	--

[1] Compliance to be measured at Monitoring Location EFF-001A.
[2] Compliance to be measured at Monitoring Location EFF-001C.

b. **Percent Removal:** The average monthly percent removal of 5-day biochemical oxygen demand at 20°C (BOD_5) and total suspended solids (TSS) shall not be less than 85 percent. Compliance to be measured at Monitoring Location EFF-001A.

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

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

   Compliance to be measured at Monitoring Location EFF-001C.

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

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

   Compliance to be measured at Monitoring Location EFF-001A.

e. **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.
   ii. 90%, median for any three consecutive bioassays.

   Compliance to be measured at Monitoring Location EFF-001C.

f. **Monthly Average Daily Dry Weather Flow.** The monthly average daily dry weather discharge flow (May through October) shall not exceed 0.10 mgd**.** Compliance to be measured at Monitoring Location EFF-001A.

g. **Electrical Conductivity.** The calendar annual average electrical conductivity (@ 25°C) of the discharge shall not exceed the calendar annual average electrical conductivity (@ 25°C) of the source water plus 500 µmhos/cm, or a maximum of 1,000 µmhos/cm, whichever is more stringent. When source water is from more than one source, the electrical conductivity shall be a flow-weighted average of all sources. Compliance to be measured at Monitoring Location EFF-001A.

B. Land Discharge Specifications – Not Applicable

C. Recycling Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

The discharge shall not cause the following in Chanac Creek:

1. **Un-ionized Ammonia.** Un-ionized ammonia to be present in amounts that adversely affect beneficial uses nor to be present in excess of 0.025 mg/L (as N).
2. **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.
3. **Biostimulatory Substances.** Water to contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.
4. **Chemical Constituents.** Chemical constituents to be present in concentrations that adversely affect beneficial uses.
5. **Color.** Discoloration that causes nuisance or adversely affects beneficial uses.
6. **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 at centroid of flow;
   b. The 95 percentile dissolved oxygen concentration to fall below 75 percent of saturation; nor
   c. The dissolved oxygen concentration to be reduced below 5.0 mg/L at any time.
7. **Floating Material.** Floating material to be present in amounts that cause nuisance or adversely affect beneficial uses.
8. **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.
9. **pH.** The pH to be depressed below 6.5 nor raised above 8.3.
10. **Pesticides:**
    a. Pesticides to be present, individually or in combination, in concentrations that adversely affect beneficial uses; nor
    b. Pesticides to be present in bottom sediments or aquatic life in concentrations that adversely affect beneficial uses.

11. **Radioactivity:**

    a. Radionuclides to be present in concentrations that are deleterious 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.

12. **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.

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

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

15. **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 to domestic or municipal water supplies.

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

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

18. **Turbidity.** Turbidity to increase more than:

    a. 1 Nephelometric Turbidity Units (NTU) where natural turbidity is between 0 and 5 NTUs;

    b. 20 percent where natural turbidity is between 5 and 50 NTUs;

    c. 10 NTUs where natural turbidity is between 50 and 100 NTUs; nor

    d. 10 percent where natural turbidity is greater than 100 NTUs.

B. Groundwater Limitations

Neither the Facility nor the discharge shall cause underlying groundwater to contain waste constituents in concentrations greater than background water quality unaffected by waste sources.

VI. PROVISIONS

A. Standard Provisions

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

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 C.F.R. 122.62(a)(1), a change in the Discharger's sludge use or disposal practice is a cause for modification of the permit. It is cause for revocation and reissuance if the Discharger requests or agrees.

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

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

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

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

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

ii. Controls any pollutant limited in the Order.

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

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

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

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

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

i. Safeguard to electric power failure:

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

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

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

j. The Discharger, upon written request of the Central Valley Water Board, shall file with the Board a technical report on its preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. This report may be combined with that required under the Central Valley Water Board Standard Provision contained in section VI.A.2.i of this Order.

   The technical report shall:

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

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

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

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

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

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

m. The Central Valley Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13268, 13350, 13385, 13386, and 13387.

n. For publicly owned treatment works, 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, instantaneous minimum effluent limitation, instantaneous maximum effluent limitation, maximum daily effluent limitation, hourly average effluent limitation, acute toxicity effluent limitation, or receiving water limitation of this Order, the Discharger shall notify the Central Valley Water Board by telephone (559) 445-5116 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 of this Order.

C. Special Provisions

1. Reopener Provisions

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

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

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

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

requirements may be included in this Order as a result of the special condition monitoring data.

c. **Whole Effluent Toxicity.** As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a numeric chronic toxicity limitation, new acute toxicity limitations, 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.

d. **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. 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 for copper. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

e. **Site-Specific Ammonia Criteria.** If it is determined that the receiving water conditions warrant more stringent ammonia WQBELs to protect the beneficial uses applicable to Chanac Creek, this Order may be reopened and modified effluent limitations added for ammonia.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. **Chronic Whole Effluent Toxicity.** 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 (Attachment E, 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 work plan and includes procedures for accelerated chronic toxicity monitoring and TRE initiation.

i. **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.

ii. **Numeric Toxicity Monitoring Trigger.** The numeric toxicity monitoring trigger to initiate a TRE is **>1 TUc** (where TUc = 100/NOEC) (NOEC = No Observed

Effect Concentration). 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 when the effluent exhibits toxicity.

iii. **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 in a six-week period (i.e., once test 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 Facility upset), the Discharger shall make necessary corrections to the Facility and shall continue accelerated monitoring until four (4) 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 work plan for approval by the Executive Officer. The TRE work plan shall outline the procedures for identifying the source(s) of, and reducing or eliminating effluent toxicity. The TRE work plan must be developed in accordance with U.S. EPA guidance[1].

b. **Priority Pollutant Evaluation.** After completing the priority pollutant and other constituents of concern monitoring required in the Monitoring and Reporting

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

Program (Attachment E, section IX.C.), the Discharger shall prepare a monitoring plan for the constituents detected in the effluent and receiving water. The monitoring plan shall be submitted for Executive Officer approval **within 90 days** from when the priority pollutants and other constituents of concern samples are taken.

3. Best Management Practices and Pollution Prevention

a. **Salinity Evaluation and Minimization Plan.** The Discharger shall prepare and implement a salinity evaluation and minimization plan to identify and address sources of salinity from the Facility, including, but not limited to, 1) the chemicals used for drinking water and wastewater treatment, 2) the contribution of salinity from sewer users (e.g., the use of water softeners in the community), and 3) the source water (i.e., potable water supply wells). The plan shall be completed and submitted to the Central Valley Water Board by **1 June 2015** for the approval by the Executive Officer. The Discharger shall provide annual reports demonstrating reasonable progress in the reduction/minimization of salinity in its discharge to Chanac Creek. The annual reports shall be submitted in accordance with the Monitoring and Reporting Program (Attachment E, section X.D.1.)

4. Construction, Operation and Maintenance Specifications

a. **Storage Pond Operating Requirements.**

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

ii. Ponds shall be managed to prevent breeding of mosquitoes. In particular,

(a) Weeds shall be minimized.

(b) Dead algae, vegetation, and debris shall not accumulate on the water surface.

iii. The Discharger shall operate and maintain the storage pond sufficiently to protect the integrity of containment dams and berms and prevent overtopping and/or structural failure. Unless a California-registered civil engineer certifies (based on design, construction, and conditions of operation and maintenance) that less freeboard is adequate, the operating freeboard in the pond shall never be less than two feet (measured vertically from the lowest possible point of overflow).

iv. 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).

v. The dissolved oxygen content in the upper zone (1 foot) of wastewater in the effluent storage pond shall not be less than 1.0 mg/L for three consecutive sampling events. If the dissolved oxygen is below 1.0 mg/L for three consecutive sampling events, the Discharger shall report the findings to the Central Valley Water Board and propose a remedial approach to resolve the low dissolved oxygen results **within 30 days**.

5. Special Provisions for Municipal Facilities (POTW's Only)

a. **Sludge/Biosolids Treatment or Discharge Specifications.** Sludge in this document means the solid, semisolid, and liquid residues removed during primary,

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

i. Collected screenings, residual sludge, biosolids, and other solids removed from liquid wastes shall be disposed of in a manner 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 C.F.R. Part 503. If the State Water Board and the Central Valley Water Board are given the authority to implement regulations contained in 40 C.F.R. Part 503, this Order may be reopened to incorporate appropriate time schedules and technical standards. The Discharger must comply with the standards and time schedules contained in 40 C.F.R. Part 503 whether or not they have been incorporated into this Order.

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

iv. Any proposed change in biosolids use or disposal practice from a previously approved practice shall be reported to the Executive Officer and U.S. EPA Regional Administrator at least **90 days** in advance of the change.

v. **By 1 June 2015,** 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 and containment features.

(c) Plans for ultimate disposal. For landfill disposal, include the present classification of the landfill; and the name and location of the landfill. For land application or composting, identify the name and location of the facility/area to which the biosolids are hauled to.

b. **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 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.

6. Other Special Provisions – Not Applicable

7. Compliance Schedules – Not Applicable

VII. COMPLIANCE DETERMINATION

A. BOD_5 and TSS Effluent Limitations (Section IV.A.1.a and IV.A.1.b). 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 grab or 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. Mass Effluent Limitations. The mass effluent limitations contained in the Final Effluent Limitations IV.A.1.a. are based on the permitted average dry weather flow (0.10 mgd) and calculated as follows:

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

If the effluent flow exceeds the permitted average dry weather flow during wet-weather seasons, the effluent mass limitations contained in Final Effluent Limitations IV.A.1.a shall not apply. If the effluent flow is below the permitted average dry weather flow during wet-weather seasons, the effluent mass limitations do apply.

C. 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:

1. The Discharger 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).

2. The Discharger 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 (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 included in the permit in accordance with section 2.4.2 or 2.4.3 of the SIP, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organisms tissue sampling) 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).

3. When determining compliance with an average monthly effluent limitation (AMEL) and more than one sample result is available in a month, the discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of DNQ or ND. In those cases, the discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

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

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

4. If a sample result, or the arithmetic mean or median of multiple sample results, is below the RL, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation <u>and</u> the discharger conducts a PMP (as described in section 2.4.5.1), the discharger shall <u>not</u> be deemed out of compliance.

D. Total Residual Chlorine Effluent Limitations (Section IV.A.1.c). 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. Total Coliform Organisms Effluent Limitations (Section IV.A.1.d). 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 which analyses have been completed. 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.

F. Monthly Average Daily Dry Weather Flow Effluent Limitation (Section IV.A.1.f). The monthly average daily dry weather discharge flow represents the monthly average daily flow during the months of May through October. Compliance with the monthly average daily flow effluent limitation will be determined for each dry weather month (May through October).

G. Electrical Conductivity (Section IV.A.1.g). Compliance with the electrical conductivity effluent limitations shall be determined annually at Monitoring Location EFF-001A by comparing the calendar annual average of the effluent electrical conductivity data with 1,000 µmhos/cm and with the calendar annual average data submitted for the public water supply plus 500 µmhos/cm.

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (m)
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 = $m = Sx / n$ where: Sx 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.

Best Practicable Treatment or Control (BPTC)
BPTC is a requirement of State Water Resources Control Board (State Water Board) Resolution No. 68-16 – "Statement of Policy with Respect to Maintaining High Quality of Waters in California" (referred to as the "Antidegradation Policy"). BPTC is the treatment or control of a discharge necessary to ensure that *"(a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.*" Pollution is defined in California Water Code (Water Code) section 13050(l). In general, an exceedance of a water quality objective in the Basin Plan constitutes "pollution".

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
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 Reporting level RL, but greater than or equal to the laboratory's Method Detection Limit (MDL).

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).

Estimated Chemical Concentration
The estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value, but above the MDL. Same as Detected, but Not Quantified (DNQ).

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 effluent 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 effluent 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 40 C.F.R. part 136, Appendix B.

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

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

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

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

Pollutant Minimization Program (PMP)
Pollutant Minimization 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 PMP shall be prepared in accordance with section 2.4.5.1 of the SIP. 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 of the SIP.

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 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 Regional Water Board Basin Plan.

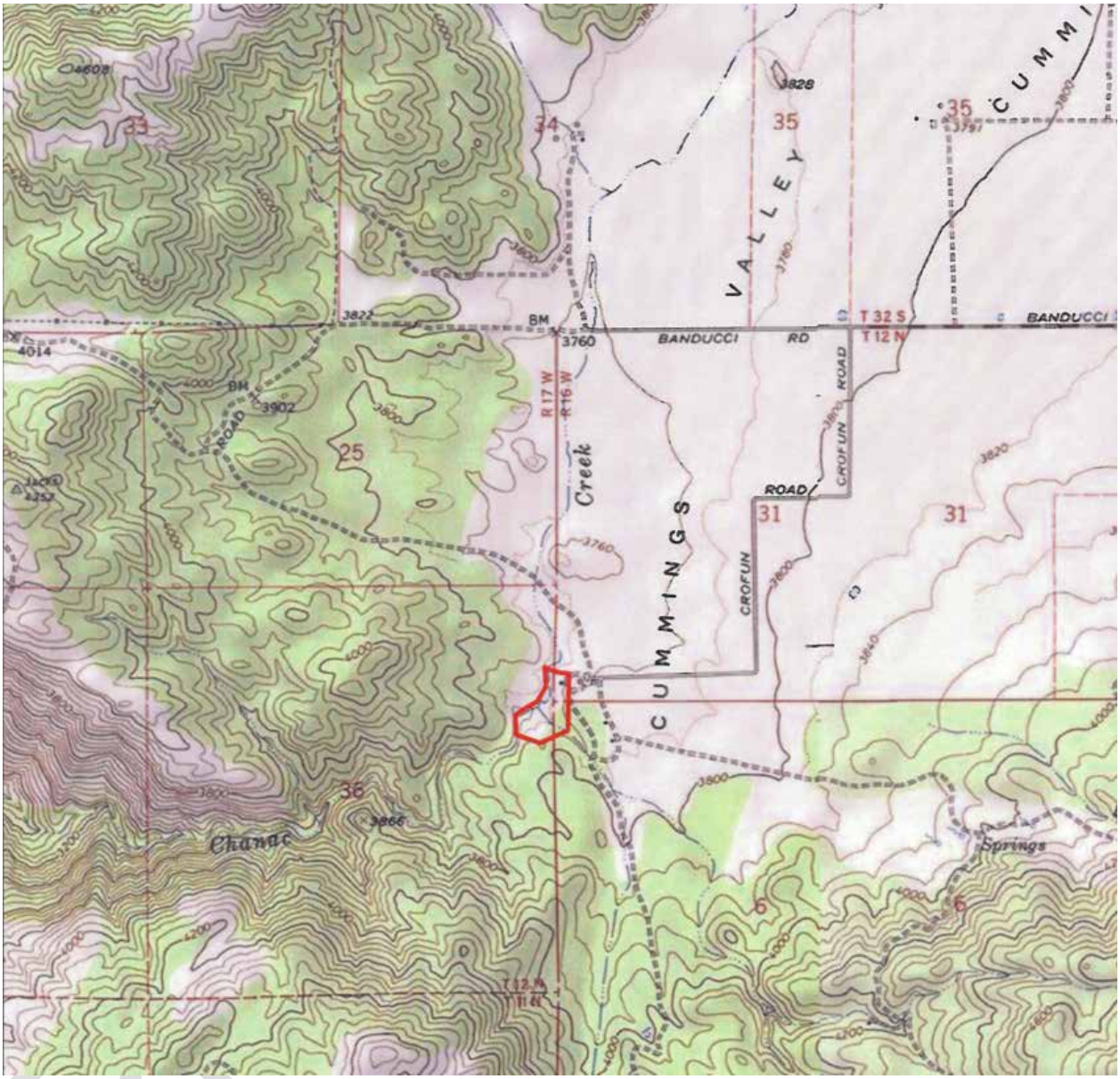
Standard Deviation (s)
Standard Deviation is a measure of variability that is calculated as follows:

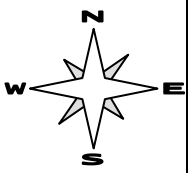
$$s = (\sum [(x - m)^2]/(n - 1))^{0.5}$$

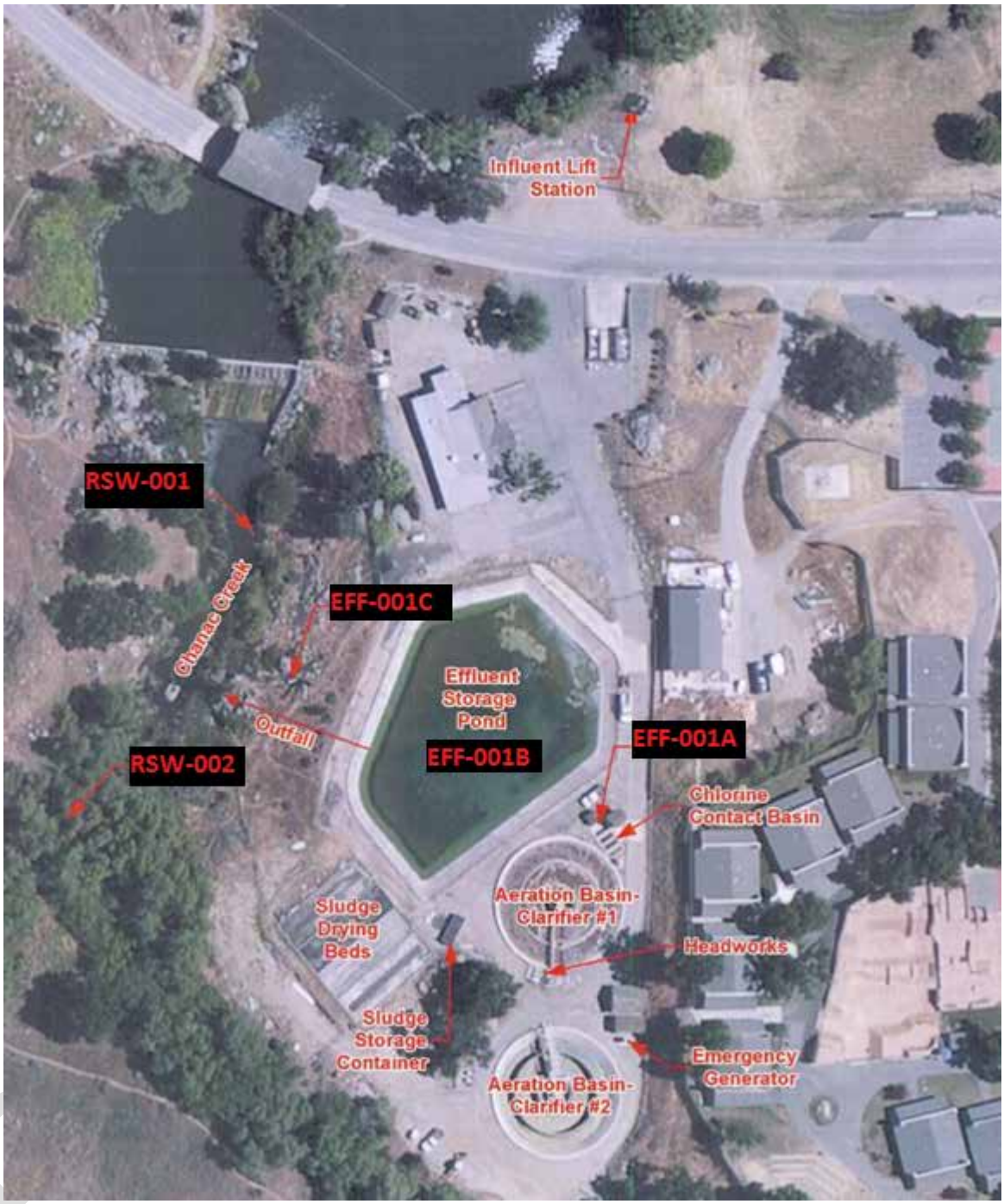
where:
x is the observed value;
m is the arithmetic mean of the observed values; and
n is the number of samples.

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

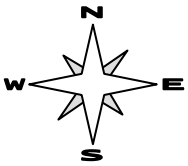


Drawing Reference: CUMMINGS MOUNTAIN U.S.G.S TOPOGRAPHIC MAP 7.5 MINUTE QUADRANGLE *Not to scale*	**SITE LOCATION MAP – 1** STALLION SPRINGS COMMUNITY SERVICES DISTRICT WASTEWATER TREATMENT FACILITY KERN COUNTY	

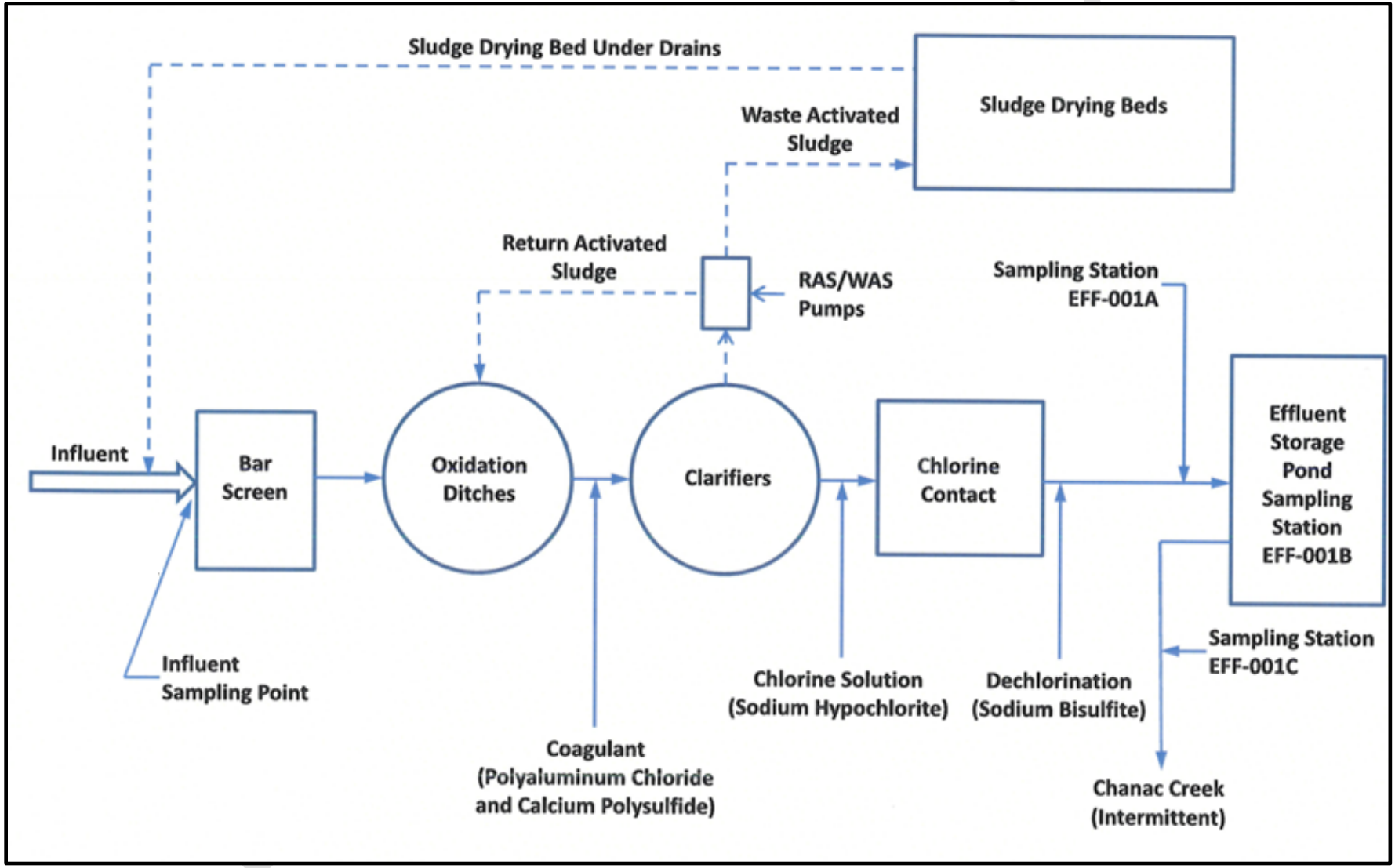


SITE LOCATION MAP – 2

STALLION SPRINGS COMMUNITY SERVICES DISTRICT
WASTEWATER TREATMENT FACILITY
KERN COUNTY



ATTACHMENT C – FLOW SCHEMATIC



ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 C.F.R. § 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, § 13267, 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (33 U.S.C § 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 Board as 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:

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

A. Publicly-Owned Treatment Works (POTW's)

All POTW's 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).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (40 C.F.R. § 122.48) requires that all NPDES permits specify monitoring and reporting requirements. California Water Code (Water Code) sections 13267 and 13383 also authorize the Regional Water Quality Control Board, Central Valley Region (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 California 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, dissolved oxygen, 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, dissolved oxygen, 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, State Water Resources Control Board (State Water Board) staff, United States Environmental Protection Agency (U.S. EPA) staff, and/or their authorized representatives. The Discharger must demonstrate sufficient capability (qualified and trained employees, properly calibrated and maintained field instruments, etc.) to adequately perform these field measurements. The Quality Assurance-Quality Control Program must conform to U.S. EPA guidelines or to procedures approved by the Central Valley Water Board.

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

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

F. 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 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.

H. 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 and monitor the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	INF-001	A location where a representative sample of the influent into the Facility can be collected prior to any plant return flows or treatment processes
001	EFF-001A	Final secondary-treated disinfected effluent after dechlorination, prior to discharge to the storage pond
001	EFF-001B	Final secondary-treated disinfected effluent in the storage pond at a depth of one foot (opposite of the storage pond inlet)
001	EFF-001C	Final secondary-treated disinfected effluent after the storage pond, prior to discharge to Chanac Creek 35° 04’ 53” N, 118º 38’ 15” W
--	RSW-001	Chanac Creek, approximately 100 feet upstream of Discharge Point 001
--	RSW-002	Chanac Creek, approximately 100 feet downstream of Discharge Point 001
--	BIO-001	Representative of the biosolids shipped offsite for disposal and/or composting
--	SPL-001	Representative of water supply for the area served by the Facility

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
Biochemical Oxygen Demand (BOD) (5-day @ 20°C)	mg/L	Grab [2]	1/Week	[1]
Total Suspended Solids	mg/L	Grab [2]	1/Week	[1]
Settleable Solids	mL/L	Grab [2]	1/Week	[1]
Electrical Conductivity @ 25°C	µmhos/cm	Grab [2]	1/Week	[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method

[1] Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. Part 136; or by methods approved by the Central Valley Water Board or the State Water Board.
[2] Grab samples shall not be collected at the same time each day to get a complete representation of variations in the influent.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001A

1. The Discharger shall monitor secondary-treated disinfected effluent after dechlorination prior to storage in the storage pond at Monitoring Location EFF-001A as follows:

Table E-3. Effluent Monitoring – Monitoring Location EFF-001A

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow [4]	mgd	Meter	Continuous	[1]
Conventional Pollutants				
Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C)	mg/L	Grab	1/Week	[1]
	lbs/day	Calculate	1/Week	--
Total Suspended Solids	mg/L	Grab	1/Week	[1]
	lbs/day	Calculate	1/Week	--
pH [5]	standard units	Grab	1/Week [2]	[1, 3]
Non-Conventional Pollutants				
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Week [2]	[1]
Ammonia, Un-ionized (as N)	mg/L	Calculate	1/Week	--
Boron	mg/L	Grab	1/Quarter	[1]
Chloride	mg/L	Grab	1/Quarter	[1]
Electrical Conductivity @ 25°C	µmhos/cm	Grab	5/Week	[1, 3]
Settleable Solids	mL/L	Grab	1/Week	[1]
Standard Minerals [6]	mg/L	Grab	1/Year	[1]
Temperature	°C	Grab	1/Week [2]	[1, 3]
Total Coliform Organisms	MPN/100 mL	Grab	2/Week [7]	[1]
Turbidity	NTU	Grab	5/Week	[1, 3]

[1] Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. Part 136 or by methods approved by the Central Valley Water Board or the State Water Board.
[2] pH and temperature shall be recorded at the time of ammonia sample collection.
[3] A hand-held field meter may be used, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
[4] Compliance with the flow effluent limitation in Section IV.A.1.f. of this Order will be assessed at Monitoring Location EFF-001A.
[5] Compliance with the pH effluent limitation in Section IV.A.1.a., Table 4 of this Order, will be assessed at Monitoring Location EFF-001A.
[6] Standard minerals shall include the following: total dissolved solids, boron, calcium, iron, magnesium, potassium, sodium, chloride, manganese, nitrate (as N), phosphorus, sulfate, and total alkalinity (including alkalinity series), and include verification that the analysis is complete (i.e., cation/anion balance).
[7] Samples for total coliform organisms may be collected at any point following disinfection.

B. Monitoring Location EFF-001B

1. The Discharger shall monitor secondary-treated disinfected effluent in the storage pond at Monitoring Location EFF-001B as follows:

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

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Dissolved Oxygen	mg/L	Grab	1/Week [2]	[1, 3]
Freeboard	feet [4]	Observation	1/Week	--

[1] Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. Part 136 or by methods approved by the Central Valley Water Board or the State Water Board.
[2] If an offensive odor is detected by or brought to the attention of Facility personnel, the Discharger shall monitor the storage pond daily (1/day) until the dissolved oxygen is >1.0 mg/L.
[3] A hand-held field meter may be used, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
[4] Freeboard shall be measured to the nearest tenth of a foot.

C. Monitoring Location EFF-001C

1. The Discharger shall monitor secondary-treated disinfected effluent after the storage pond prior to discharge to Chanac Creek at Monitoring Location EFF-001C as follows:

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

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow [7]	mgd	Meter	Continuous	[1]
Conventional Pollutants				
pH [14]	standard units	Grab	1/Day [2]	[1, 3]
Priority Pollutants				
Copper, Total Recoverable	µg/L	Grab	1/Quarter [4]	[1, 6]
Priority Pollutants and Other Constituents of Concern [8]	vary	Grab [10]	1/Permit Term [9]	[1, 11, 12, 13]
Non-Conventional Pollutants				
Chlorine, Total Residual	mg/L	Grab	1/Day	[1, 5]
Hardness (as $CaCO_3$)	mg/L	Grab	1/Quarter [4]	[1]
Temperature	°C	Grab	1/Day [2]	[1, 3]
Whole Effluent Toxicity (see Section V. below)	--	--	--	--

[1] Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. Part 136 or by methods approved by the Central Valley Water Board or the State Water Board.
[2] pH and temperature shall be recorded at the same time.
[3] A hand-held field meter may be used, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
[4] Hardness samples shall be collected concurrently with copper samples.
[5] Total chlorine residual shall be monitored with a method sensitive to and accurate at the permitted level of

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method

0.01 mg/L.

[6] The reporting level shall be any of the minimum levels listed in Appendix 4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP) that are below the effluent limitations specified in Section IV.A.1.a, Table 4 of this Order. If the lowest minimum level published in Appendix 4 of the SIP is not less than the effluent limitation, the reporting level shall be the lowest minimum level specified in Appendix 4 of the SIP.

[7] Compliance with the flow effluent limitation in Section IV.A.1.f. of this Order will be assessed at Monitoring Location EFF-001A.

[8] See Table E-9 of this Monitoring and Reporting Program (Attachment E) for the complete list of priority pollutants and other constituents of concern.

[9] Priority pollutants shall be sampled once between **1 January 2017 and 30 June 2017**. Monitoring shall be conducted concurrently with upstream receiving water monitoring for priority pollutants and other constituents of concern.

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

[11] Reporting levels for priority pollutants shall be equal to the reporting levels specified in Table E-9 of this Monitoring and Reporting Program (Attachment E). If more than one analytical test method is listed for a given parameter in Table E-9, the Discharger must select from the listed methods and corresponding reporting level.

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

[13] Total mercury samples shall be taken using clean hands/dirty hands procedures, as described in U.S. EPA method 1669: *Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels, for collection of equipment blanks* (section 9.4.4.2), and shall be analyzed by U.S. EPA method 1631 (Revision E) with a reporting level of 0.5 ng/L.

[14] Compliance with the pH effluent limitation in Section IV.A.1.a., Table 4 of this Order will be assessed at Monitoring Location EFF-001A.

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* – The Discharger shall perform **annual (1/year)** acute toxicity testing.
2. *Sample Types* – 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 EFF-001C.
3. *Test Species* – Test species shall be fathead minnows (*Pimephales promelas*).
4. *Test Type and Duration* – Test type shall be static renewal or flow-through, and the test duration shall be 96 hours.
5. *Dilutions* – The acute toxicity testing shall be performed using undiluted effluent.
6. *Test Method* – The acute toxicity testing samples shall be analyzed using *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. Temperature, total residual chlorine, pH, and ammonia shall be recorded at the time of sample collection. No pH adjustment may be made unless approved by the Executive Officer.

7. *Test Failure* – If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger must 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 –* The Discharger shall perform **annual (1/Year)** three species chronic toxicity testing.
2. *Sample Types* – Effluent samples shall 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-001C.
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. Test Method – 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 (Method Manual).
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-6, below, unless an alternative dilution series is detailed in the submitted TRE Action Plan. Laboratory control water shall be used as the diluent.

Table E-6. Chronic Toxicity Testing Dilution Series

Sample	Dilutions (%)					Control
	100	75	50	25	12.5	
% Effluent	100	75	50	25	12.5	0
% Laboratory Water	0	25	50	75	87.5	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 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 Special Provision VI.C.2.a.ii. of this 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 an 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 receipt of the laboratory report, and shall contain, at minimum:

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

   b. 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 **within 30 days** following receipt of the laboratory report 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 Work Plan, 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

A. Monitoring Location RSW-001 and RSW-002

1. The Discharger shall monitor Chanac Creek at upstream Monitoring Location RSW-001 and at downstream Monitoring Location RSW-002 as follows when discharging to Chanac Creek:

Table E-7. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Conventional Pollutants				
pH	standard units	Grab	1/Week [2]	[1, 3]
Priority Pollutants				
Priority Pollutants and Other Constituents of Concern [5, 6]	Vary	Grab [8]	1/Permit Term [7]	[1, 9, 10, 11]
Non-Conventional Pollutants				
Ammonia, Total (as N)	mg/L	Grab	2/Month [2]	[1]
Ammonia, Unionized (as N)	mg/L	Calculate	2/Month	--
Dissolved Oxygen	mg/L	Grab	1/Week	[1, 3]
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Month	[1, 3]
Hardness (as $CaCO_3$) [5]	mg/L	Grab	1/Quarter	[1]
Fecal Coliform	MPN/100 mL	Grab	1/Week	[1]
Temperature	°C	Grab	1/Week [2]	[1, 3]
Turbidity	NTU	Grab	1/Week	[1, 3]

[1] Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. Part 136 or by methods approved by the Central Valley Water Board or the State Water Board.
[2] pH and temperature shall be recorded at the same time of ammonia sample collection.
[3] A hand-held field meter may be used, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
[4] Total chlorine residual shall be monitored with a method sensitive to and accurate at the permitted level of 0.01 mg/L.
[5] Monitoring is only required for upstream Monitoring Location RSW-001.
[6] See Table E-9 of this Monitoring and Reporting Program (Attachment E) for the complete list of priority pollutants and other constituents of concern.
[7] Priority pollutants shall be sampled once between **1 January 2017 and 30 June 2017**. Monitoring shall be conducted concurrently with the effluent monitoring for priority pollutants and other constituents of concern.
[8] Volatile constituents shall be sampled in accordance with 40 C.F.R. Part 136 or by methods approved by the Central Valley Water Board or the State Water Board.
[9] Reporting levels for priority pollutants shall be equal to the reporting levels specified in Table E-9 of this Monitoring and Reporting Program (Attachment E). If more than one analytical test method is listed for a given parameter in Table E-9, the Discharger must select from the listed methods and corresponding reporting level.
[10] In order to verify if bis (2-ethylhexyl) phthalate is truly present in the receiving water, the Discharger shall take steps to assure that sample containers, sampling apparatus, and analytical equipment are not sources of the detected contaminant.
[11] Total mercury samples shall be taken using clean hands/dirty hands procedures, as described in U.S. EPA method 1669: *Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels, for collection of equipment blanks* (section 9.4.4.2), and shall be analyzed by U.S. EPA method 1631 (Revision E) with a reporting level of 0.5 ng/L.

2. In conducting the receiving water sampling, a log shall be kept of the receiving water conditions 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
d. Aquatic life (including plants, fish, shellfish, birds);
e. Visible film, sheen, or coating;
f. Fungi, slime, or objectionable growth;
g. Potential nuisance conditions; and
h. Persons recreating in and around Chanac Creek.

Receiving water observations shall be summarized in the monthly self-monitoring report.

IX. OTHER MONITORING REQUIREMENTS

A. Biosolids

1. Monitoring Location BIO-001

a. A composite sample of the biosolids shall be collected **annually (1/year)** at Monitoring Location BIO-001 in accordance with EPA's *POTW Sludge Sampling and Analysis Guidance Document*, August 1989, and tested for priority pollutants listed in 40 C.F.R. 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 C.F.R. 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.

B. Public Water Supply

1. Monitoring Location SPL-001

a. The Discharger shall monitor the public water supply at Monitoring Location SPL-001 consistent with Table E-8. Sampling stations shall be established where representative samples of the public water supply can be obtained.

Table E-8. Public Water Supply Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Dissolved Solids [1]	mg/L	Grab	1/Year	[3]
Electrical Conductivity @ 25°C [1]	µmhos/cm	Grab	1/Quarter	[3]
Standard Minerals [2]	mg/L	Grab	1/Year	[3]

[1] If the water supply is from more than one source, the total dissolved solids and electrical conductivity shall be reported as a flow weighted average and include copies of supporting calculations.

[2] 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).

[3] Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. Part 136 or by methods approved by the Central Valley Water Board or the State Water Board.

C. Effluent and Receiving Water Characterization

1. Samples shall be collected from the effluent (Monitoring Location EFF-001C) and upstream receiving water (Monitoring Location RSW-001) once between **1 January 2017 and 30 June 2017** and analyzed for the constituents listed in Table E-9, below. The results of such monitoring be submitted to the Central Valley Water Board with the monthly self-monitoring reports in which the samples were taken.
2. **Concurrent Sampling**. Effluent and receiving water sampling shall be performed at approximately the same time, on the same date.
3. **Sample Type.** All effluent and receiving water samples shall be taken as grab samples.

Table E-9. Effluent and Receiving Water Characterization Monitoring

CTR #	Constituent	CAS #	Reporting Level [2]	Method Type [1]
1	Antimony	74440360	5	GFAA
			10	FAA
			0.5	ICPMS
			50	ICP
			5	SPGFAA
			0.5	HYDRIDE
			1000	DCP
2	Arsenic	7440382	2	GFAA
			10	ICP
			2	ICPMS
			2	SPGFAA
			1	HYDRIDE
			20	COLOR
3	Beryllium	7440417	0.5	GFAA
			2	ICP
			0.5	ICPMS
			1	SFGFAA
			20	FAA
4	Cadmium	7440439	0.5	GFAA
			0.25	ICPMS
			0.5	SPGFAA
5A	Chromium (III)	7440473	--	--
5B	Chromium (VI)	18540299	5	FAA
			10	COLOR
6	Copper [6]	7440508	0.5	ICPMS
			5	GFAA
			10	ICP
			2	SPGFAA
7	Lead	7439921	0.5	ICPMS
			5	GFAA
			5	ICP
			2	SPGFAA
8	Mercury [3]	7439976	0.2 (ng/L)	CVAFS

CTR #	Constituent	CAS #	Reporting Level [2]	Method Type [1]
9	Nickel	7440020	5	GFAA
			1	ICPMS
			5	SPGFAA
			20	ICP
			50	FAA
10	Selenium	7782492	5	GFAA
			2	ICPMS
			5	SPGFAA
			1	HYDRIDE
11	Silver	7440224	0.25	ICPMS
			1	GFAA
			2	SPGFAA
12	Thallium	7440280	1	ICPMS
			2	GFAA
			5	SPGFAA
13	Zinc	7440666	1	ICPMS
			20	ICP
			20	FAA
			10	SPGFAA
14	Cyanide	57125	5	COLOR
15	Asbestos	1332214	-- (MFL)	--
16	2,3,7,8-TCDD (Dioxin)	1746016	--	--
17	Acrolein	107028	2	GC
			5	GCMS
18	Acrylonitrile	107131	2	GC
			2	GCMS
19	Benzene	71432	0.5	GC
			2	GCMS
20	Bromoform	75252	0.5	GC
			2	GCMS
21	Carbon tetrachloride	56235	0.5	GC
22	Chlorobenzene (mono chlorobenzene)	108907	0.5	GC
			2	GCMS
23	Dibromochloromethane	124481	0.5	GC
			2	GCMS
24	Chloroethane	75003	0.5	GC
			2	GCMS
25	2- Chloroethyl vinyl ether	110758	1	GC
			1	GCMS
26	Chloroform	67663	0.5	GC
			2	GCMS
27	Dichlorobromomethane	75274	0.5	GC
			2	GCMS
28	1,1-Dichloroethane	75343	0.5	GC
			1	GCMS
29	1,2-Dichloroethane	107062	0.5	GC
			2	GCMS
30	1,1-Dichloroethylene	75354	0.5	GC
			2	GCMS
31	1,2-Dichloropropane	78875	0.5	GC
			1	GCMS
32	1,3-Dichloropropylene	542756	0.5	GC
			2	GCMS

CTR #	Constituent	CAS #	Reporting Level [2]	Method Type [1]
33	Ethylbenzene	100414	0.5	GC
			2	GCMS
34	Bromomethane	74839	1	GC
			2	GCMS
35	Chloromethane	74873	0.5	GC
			2	GCMS
36	Dichloromethane	75092	0.5	GC
			2	GCMS
37	1,1,2,2-Tetrachloroethane	79345	0.5	GC
			1	GCMS
38	Tetrachloroethene	127184	0.5	GC
			2	GCMS
39	Toluene	108883	0.5	GC
			2	GCMS
40	trans-1,2-Dichloroethylene	156605	0.5	GC
			1	GCMS
41	1,1,1-Trichloroethane	71556	0.5	GC
			2	GCMS
42	1,1,2-Trichloroethane	79005	0.5	GC
			2	GCMS
43	Trichloroethylene	79016	0.5	GC
			2	GCMS
44	Vinyl chloride	75014	0.5	GC
			2	GCMS
45	2-Chlorophenol	95578	2	GC
			5	GCMS
46	2,4-Dichlorophenol	120832	1	GC
			5	GCMS
47	2,4-Dimethylphenol	105679	1	GC
			2	GCMS
48	4,6-Dinitro-2-methylphenol	534521	10	GC
			5	GCMS
49	2,4-Dinitrophenol	51285	5	GC
			5	GCMS
50	2-Nitrophenol	25154557	10	GCMS
51	4-Nitrophenol	100027	5	GC
			10	GCMS
52	4-Chloro-3-methylphenol	59507	5	GC
			1	GCMS
53	Pentachlorophenol	87865	1	GC
			5	GCMS
54	Phenol	108952	1	GC
			1	GCMS
55	2,4,6-Trichlorophenol	88062	10	GC
			10	GCMS
56	Acenaphthene	83329	1	GC
			1	GCMS
			0.5	LC
57	Acenaphthylene	208968	10	GCMS
			0.2	LC
58	Anthracene	120127	10	GCMS
			2	LC
59	Benzidine	92875	5	GCMS
60	1,2-Benzanthracene	56553	5	GCMS

CTR #	Constituent	CAS #	Reporting Level [2]	Method Type [1]
61	Benzo(a)pyrene (3,4-Benzopyrene)	50328	2	LC
62	3,4-Benzofluoranthene	205992	10	GCMS
			10	LC
63	Benzo(g,h,i)perylene	191242	5	GCMS
			0.1	LC
64	Benzo(k)fluoranthene	207089	2	LC
65	Bis(2-chloroethoxy) methane	111911	5	GCMS
66	Bis(2-chloroethyl) ether	111444	1	GCMS
67	Bis(2-chloroisopropyl) ether	39638329	10	GC
			2	GCMS
68	Bis(2-ethylhexyl) phthalate [4]	117817	5	GCMS
69	4-Bromophenyl phenyl ether	101553	10	GC
			5	GCMS
70	Butyl benzyl phthalate	85687	10	GC
			10	GCMS
71	2-Chloronaphthalene	91587	10	GCMS
72	4-Chlorophenyl phenyl ether	7005723	5	GCMS
73	Chrysene	218019	5	LC
74	Dibenzo(a,h)-anthracene	53703	0.1	LC
75	1,2-Dichlorobenzene	95501	2	GC
			2	GCMS
76	1,3-Dichlorobenzene	541731	2	GC
			1	GCMS
77	1,4-Dichlorobenzene	106467	2	GC
			1	GCMS
78	3,3'-Dichlorobenzidine	91941	5	GCMS
79	Diethyl phthalate	84662	10	GC
			2	GCMS
80	Dimethyl phthalate	131113	10	GC
			2	GCMS
81	Di-n-butylphthalate	84742	10	GCMS
82	2,4-Dinitrotoluene	121142	5	GCMS
83	2,6-Dinitrotoluene	606202	5	GCMS
84	Di-n-octylphthalate	117840	10	GCMS
85	1,2-Diphenylhydrazine	122667	1	GCMS
86	Fluoranthene	206440	10	GC
			1	GCMS
			0.05	LC
87	Fluorene	86737	10	GCMS
			0.1	LC
88	Hexachlorobenzene	118741	1	GCMS
89	Hexachlorobutadiene	87683	5	GC
			1	GCMS
90	Hexachlorocyclopentadiene	77474	5	GC
			5	GCMS
91	Hexachloroethane	67721	5	GC
			1	GCMS
92	Indeno(1,2,3-c,d)pyrene	193395	0.05	LC
93	Isophorone	78591	10	GC
			1	GCMS
94	Naphthalene	91203	10	GC
			1	GCMS
			0.2	LC

CTR #	Constituent	CAS #	Reporting Level [2]	Method Type [1]
95	Nitrobenzene	98953	10	GC
			1	GCMS
96	N-Nitrosodimethylamine	62759	5	GCMS
97	N-Nitrosodi-n-propylamine	621647	5	GCMS
98	N-Nitrosodiphenylamine	86306	10	GC
			1	GCMS
99	Phenanthrene	85018	5	GCMS
			0.05	LC
100	Pyrene	129000	10	GCMS
			0.05	LC
101	1,2,4-Trichlorobenzene	120821	1	GC
			5	GCMS
102	Aldrin	309002	0.005	GC
103	alpha-Hexachlorocyclohexane (BHC)	319846	0.01	GC
104	beta-Hexachlorocyclohexane	319857	0.005	GC
105	Lindane (gamma-Hexachlorocyclohexane)	58899	0.02	GC
106	delta-Hexachlorocyclohexane	319868	0.005	GC
107	Chlordane	57749	0.1	GC
108	4,4'-DDT	50293	0.01	GC
109	4,4'-DDE	72559	0.05	GC
110	4,4'-DDD	72548	0.05	GC
111	Dieldrin	60571	0.01	GC
112	alpha-Endosulfan	959988	0.02	GC
113	beta-Endosulfan	33213659	0.01	GC
114	Endosulfan sulfate	1031078	0.05	GC
115	Endrin	72208	0.01	GC
116	Endrin Aldehyde	7421934	0.01	GC
117	Heptachlor	76448	0.01	GC
118	Heptachlor Epoxide	1024573	0.01	GC
119	PCB-1016	12674112	0.5	GC
120	PCB-1221	11104282	0.5	GC
121	PCB-1232	11141165	0.5	GC
122	PCB-1242	53469219	0.5	GC
123	PCB-1248	12672296	0.5	GC
124	PCB-1254	11097691	0.5	GC
125	PCB-1260	11096825	0.5	GC
126	Toxaphene	8001352	0.5	GC
	cis-1,2-Dichloroethylene	156592	--	--
	Methyl-tert-butyl ether (MTBE)	1634044	--	--
	Trichlorofluoromethane	75694	--	--
	Tributyltin	688733	--	--
	Alachlor	15972608	--	--
	Atrazine	1912249	--	--
	Bentazon	25057890	--	--
	2,4-D	94757	--	--
	Glyphosate	1071836	--	--
	Methoxychlor	72435	--	--
	Diazinon	333415	--	--
	Chlorpyrifos	2921882	--	--

CTR #	Constituent	CAS #	Reporting Level [2]	Method Type [1]
	Foaming Agents (MBAS)		--	--
	Aluminum [7]	7429905	--	--
	Barium	7440393	--	--
	Iron [5]	7439896	--	--
	Manganese [5]	7439965	--	--
	Chloride [5]	16887006	--	--
	Hardness (as $CaCO_3$)		--	--
	Nitrate (as N)	14797558	--	--
	Nitrite (as N)	14797650	--	--
	Phosphorus, Total (as P) [5]	7723140	--	--
	Sulfate		--	--

[1] **GC** = Gas Chromatography
GCMS = Gas Chromatography/Mass Spectrometry
LC = High Pressure Liquid Chromatography
FAA = Flame Atomic Absorption
GFAA = Graphite Furnace Atomic Absorption
Hydride = Gaseous Hydride Atomic Absorption
CVAA = Cold Vapor Atomic Absorption
ICP = Inductively Coupled Plasma
ICPMS = Inductively Coupled Plasma/Mass Spectrometry
SPGFAA = Stabilized Platform Graphite Furnace Atomic Absorption (i.e., EPA 200.9)
DCP = Direct Current Plasma
COLOR = Colorimetric
CVAFS = Clean Vapor Atomic Absorption Fluorescence Spectrometry (i.e., EPA 1630/1631)

[2] µg/L or otherwise noted

[3] Total mercury samples shall be taken using clean hands/dirty hands procedures, as described in U.S. EPA method 1669: *Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels, for collection of equipment blanks* (section 9.4.4.2), and shall be analyzed by U.S. EPA method 1631 (Revision E) with a reporting level of 0.5 ng/L.

[4] In order to verify if bis (2-ethylhexyl) phthalate is truly present in the effluent discharge and receiving water, the Discharger shall take steps to assure that sample containers, sampling apparatus, and analytical equipment are not sources of the detected contaminant.

[5] Monitoring is only required for the upstream receiving water (Monitoring Location RSW-001)

[6] The effluent copper monitoring performed to satisfy the priority pollutant effluent monitoring requirements will also satisfy the quarterly effluent monitoring requirement in which the sample was taken.

[7] Samples can be analyzed by using either total or acid-soluble (inductively coupled plasma/atomic emission spectrometry or inductively coupled plasma/mass spectrometry) analysis methods, as supported by U.S. EPA's Ambient Water Quality Criteria for Aluminum document (EPA 440/5-86-008), or other standard methods that exclude aluminum silicate particles as approved by the Executive Officer.

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 – Not Applicable**

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 submit electronic SMRs (eSMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site

(http://www.waterboards.ca.gov/ciwqs/index.html). The Discharger shall maintain sufficient staffing and resources to ensure it submits eSMRs during the effective duration of this Order. This includes provision of training and supervision of individuals (e.g., Discharger personnel or consultant) on how to prepare and submit eSMRs. 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 eSMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit monthly SMRs including the results of all required monitoring using U.S. EPA-approved test methods or other test methods specified in this Order. eSMRs are to include all new monitoring results obtained since the last eSMR 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 the 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 the monthly SMR
1/Week 2/Week 5/Week	Permit effective date	Sunday through Saturday	Submit with the monthly SMR
1/Month 2/Month	Permit effective date	1st day of calendar month through last day of calendar month	First day of the second calendar month following month of sampling
1/Quarter	Closest of 1 January, 1 April, 1 July, or 1 October following (or on) permit effective date	1 January through 31 March 1 April through 30 June 1 July through 30 September 1 October through 31 December	Submit with the monthly SMR in which sample was taken (e.g., if a sample is taken in May, the result must be included in the May SMR)
1/Year	1 January following (or on) the permit effective date	January 1 through December 31	Submit with the monthly SMR in which sample was taken (e.g., if a sample is taken in May, the result must be included in the May SMR)
1/Permit Term	1 January 2017	Once between 1 January 2017 and 30 June 2017	Submit with the monthly SMR in which sample was taken (e.g., if a sample is taken in May, the result must be included in the May SMR)
1/Year (Acute and Chronic WET Tests)	1 January following the permit effective date	1 January through 31 December	Within 30 days following receipt of the laboratory reports

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 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. **Reporting Requirements.** 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 all laboratory analysis sheets, including quality assurance/quality control information, with all its eSMRs for which sample analyses were performed.

c. Violations must be entered in to CIWQS under the Violations tab for the reporting period in which the violation occurred.

d. The Discharger shall attach or enter a cover letter with each eSMR. The cover letter shall include any information the Discharger would like to convey to Central Valley Water Board staff. If violations have been entered with complete entries on corrective actions and time frames, that information does not need to be repeated in the cover letter.

e. With the exception of flow and ultraviolet light dose, all parameters monitored on a continuous basis (metered) shall be reported as daily maximums, daily minimums, and daily averages; flow shall be reported as the total volume discharged per day for each day of discharge.

f. eSMRs must be submitted to the Central Valley Water Board, signed and certified as required by the Standard Provisions (Attachment D), through the CIWQS web site.

g. Reports must clearly show when discharging to Chanac Creek (Discharge Point 001). Reports must show the date and time that the discharge started and stopped.

h. The highest daily maximum for the month and monthly averages shall be determined and recorded as needed to demonstrate compliance.

7. **Calculation Requirements.** 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” (i.e., electrical conductivity), the Discharger shall report the calendar annual average in the December SMR. The annual average shall be calculated as the average of the samples gathered for the calendar year.

b. **Mass Loading Limitations**. For BOD_5 and TSS, 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 Section VII.E. of the Limitations and Discharge Requirements.

e. **Monthly Average Daily Dry Weather Flow Effluent Limitation**. The Discharger shall calculate and report the monthly average daily dry weather flow for the effluent at Monitoring Location EFF-001A as specified in Section VII.F. of this Order and reported in the monthly SMRs.

f. **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 at centroid of flow, and iii) the 95th percentile dissolved oxygen concentration.

g. **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.18.a-d. of the Limitations and Discharge Requirements.

h. **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) – Not Applicable

D. Other Reports

1. **Special Study Reports and Progress Reports.** As specified in the Provisions contained in section VI of the Order, special study and progress reports shall be submitted in accordance with the following reporting requirements.

Table E-11. Reporting Requirements for Special Provisions Reports

Special Provision	Reporting Requirements
Salinity Evaluation and Minimization Plan, Submit Plan (Special Provision VI.C.3.a.)	**1 June 2015**
Salinity Evaluation and Minimization Plan, Progress Reports (Special Provision VI.C.3.a.)	**1 February**, annually
Priority Pollutant Evaluation Monitoring Plan (Special Provision VI.C.2.b.)	**90 days** from when the priority pollutants and other constituents of concern samples are taken

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

3. **Reporting Levels Report.** By **30 January 2015**, the Discharger shall submit a report outlining reporting levels (RLs), method detection limits (MDLs), 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 RLs 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.

4. **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 Facility 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. of this Order, the Central Valley Regional Water Quality Control Board (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	5D150118002
Discharger	Stallion Springs Community Services District
Name of Facility	Wastewater Treatment Facility
Facility Address	28500 Stallion Springs Drive
	Tehachapi, California 93561
	Kern County
Facility Contact, Title and Phone	Mary Beth Garrison, General Manager (661) 822-3268
Authorized Person to Sign and Submit Reports	Mary Beth Garrison, General Manager (661) 822-3268
Mailing Address	27800 Stallion Springs Drive, Tehachapi, CA 93561
Billing Address	Same as Mailing Address
Type of Facility	POTW
Major or Minor Facility	Minor
Threat to Water Quality	2
Complexity	B
Pretreatment Program	No
Recycling Requirements	None
Facility Permitted Flow	0.1 million gallons per day (mgd)
Facility Design Flow	0.5 mgd
Watershed	Tulare Lake Basin
Receiving Water	Chanac Creek, a tributary of Tejon Creek
Receiving Water Type	Inland Surface Water

A. The Stallion Springs Community Services District (hereinafter Discharger) is the owner and operator of Stallion Springs Wastewater Treatment Facility (hereinafter Facility), a Publicly-Owned Treatment Works (POTW).

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 Chanac Creek, a water of the United States and tributary to Tejon Creek within the Tejon Creek Hydrologic Area. The Discharger was previously regulated by Order R5-2008-0091 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0080489 adopted on 12 June 2008 and expired on 12 June 2013. Attachment B provides maps 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 12 December 2012.

II. FACILITY DESCRIPTION

The Discharger provides sewerage service for the unincorporated community of Stallion Springs and serves a population of approximately 1,300. The design daily average flow capacity of the Facility is 0.5 mgd.

A. Description of Wastewater and Biosolids Treatment and Controls

The treatment system at the Facility consists of bar screening; two oxidation ditch/clarifier units, and chlorine disinfection with a dechlorination agent feed system. Secondary-treated wastewater is stored in a 1.5 million gallon concrete-lined storage pond prior to discharge to Chanac Creek. Sludge is dried on four concrete-lined sludge drying beds.

B. Discharge Points and Receiving Waters

1. Discharge Point 001 is located in Section 6, T11N, R16W, SBB&M, as shown in Attachment B, a part of this Order.
2. Treated municipal wastewater is discharged at Discharge Point 001 to Chanac Creek, a water of the United States and a tributary to Tejon Creek, at a point latitude 35° 04' 53" N and longitude 118° 38' 15" W.

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

Effluent limitations contained in Order R5-2008-0091 for discharges from Discharge Point 001 and representative monitoring data (at Monitoring Locations EFF-001A unless otherwise noted) from June 2008 to December 2013 are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation			Monitoring Data (From June 2008 – December 2013)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Flow [1]	mgd	0.10	--	--	0.06	--	--
Biochemical Oxygen Demand (5-Day @ 20°C)	mg/L	30	45	90	14.1	25	25
	% removal	85	--	--	NR	--	--
Total Suspended Solids	mg/L	30	45	90	10.8	18	18
	% removal	85	--	--	NR	--	--
pH	s.u.	--	--	6.5 – 8.3 (range)	--	--	6.3 – 8.4 (range)
Copper, Total Recoverable [14]	µg/L	--	--	62.2	--	--	28
Copper, Total Recoverable [15]	µg/L	47	--	47	10.6	--	13
Copper, Total Recoverable [16]	µg/L	10.3	--	20.6	17	--	18
Ammonia, Total (as N) (April 1 – October 31) [2]	mg/L	--	--	1.5	--	--	7
Ammonia, Total (as N) (April 1 – October 31) [3]	mg/L	0.60	--	1.5	0.42		1.1
Settleable Solids	mg/L	0.1	--	--	< 0.1	--	--
Total Residual Chlorine	mg/L	--	0.01 [4]	0.02 [5]	--	--	0.024 [6]
Total Coliform Organisms	MPN/ 100 mL	--	23 [7]	240 [8]	--	--	>1,600
Acute WET	% survival	--	--	70 [11]/ 90 [12]	--	--	100 [13]
Electrical Conductivity @ 25 °C	µmhos/cm	1,000 [9]	--	--	1,065 [10]	--	--

NR = Not Reported

1 May through October.
2 Interim ammonia effluent limitation effective until 12 June 2013.
3 Final ammonia effluent limitations became effective on 13 June 2013.
4 4-day average.
5 1-hour average.
6 Compliance determined at Monitoring Location EFF-001C.
7 7-day median.
8 More than once in any 30-day period.
9 The average annual electrical conductivity of the effluent shall not exceed the average annual electrical conductivity of the source water plus 500 µmhos/cm, or a maximum of 1,000 µmhos/cm, whichever more stringent.
10 Highest annual average discharge.
11 Minimum for any one bioassay.

Parameter	Units	Effluent Limitation			Monitoring Data (From June 2008 – December 2013)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge

[12] Median for any three consecutive bioassays.
[13] Minimum observed bioassay.
[14] Interim copper effluent limitation from 12 June 2008 until 17 May 2010. Monitoring data from 12 June 2008 to 17 May 2010.
[15] Interim copper effluent limitations, in accordance with TSO R5-2011-0904, effective from 20 June 2011 to 31 December 2011. Monitoring data from 20 June 2011 to 31 December 2011.
[16] Final copper effluent limitations, monitoring data from 18 May 2010 to 19 June 2011 and from January 2012 to December 2013.

D. Compliance Summary

The following compliance summary applies to the Facility during the term of Order R5-2008-0091 up to June 2014:

1. Based on the data contained in self-monitoring reports from June 2008 to December 2013, the Facility exceeded effluent limitations for pH, copper, ammonia, total residual chlorine, total coliform organisms, and electrical conductivity.
2. A compliance inspection of the Facility was conducted on 16 May 2012. The major findings from the inspection report are as follows:
   a. Incorrect monitoring location for a variety of constituents.
   b. The MDL and RL was not reported for all parameters in the eSMRs reviewed.
   c. The 2011 Annual Operations Report had not been submitted to the Central Valley Water Board at the time of inspection.
   d. The effluent flow measurement device was not calibrated annually as required by Order R5-2008-0091.
   e. A QA/QC program for on-site monitoring was not in place at the Facility and the onsite analysis bench sheets did not contain the necessary information to determine compliance with 40 C.F.R. 136.
   f. The sludge was only sampled for metals when removed and not for all the priority pollutants (excluding total phenols) as required by Order R5-2008-0091.
3. A Notice of Violation and Pending Assessment of Mandatory Minimum Penalties (MMPs) was sent to the Discharger on 21 January 2014. The MMPs proposed in the Notice include violations for ammonia and copper.

E. Planned Changes

The Discharger states in the 12 December 2012 Report of Waste Discharge the anticipated growth in Stallion Springs Community will result in approximately five new residential connections to the Facility per year and, therefore, the 0.1 mgd flow effluent limitation is sufficient. The Discharger states the following upgrades/modifications are anticipated to occur during the next five to seven years:

1. Installation of a new lift station with variable speed drive pumps to equalize influent flows to the Facility;
2. Provide influent flow metering and flow pacing for chemicals used at the Facility; and

3. Installation of new sludge dewatering equipment (e.g., mechanical dewatering equipment and/or covering existing sludge beds).

The Discharger also indicated through correspondence with Central Valley Water Board staff it is currently evaluating possible reuse options for the Facility's effluent.

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 (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 a *Water Quality Control Plan for the Tulare Lake Basin*, Second Edition, revised January 2004 (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements in this Order implement the Basin Plan. Table II-1 of the Basin Plan identifies the beneficial uses of certain specific water bodies. Chanac Creek is not specifically listed but is considered a West Side Stream, for which beneficial uses are listed in Table II-1 of the Basin Plan. Beneficial uses applicable to Chanac Creek are as follows:

Table F-3. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Chanac Creek	Existing: Agricultural supply (AGR); Industrial service supply (IND); Industrial process Supply (PRO); Water contact recreation (REC-1); Non-contact water recreation (REC-2); Warm freshwater habitat (WARM); Wildlife habitat (WILD): Preservation of rare, threatened or endangered species (RARE); and Groundwater recharge (GWR)

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 40 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. **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, including protecting rare, threatened, or endangered species. The discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

7. **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.

8. **Storm Water Requirements.** U.S. EPA promulgated federal regulations for storm water on 16 November 1990 in 40 C.F.R. Parts 122, 123, and 124. The NPDES Industrial Storm Water Program regulates storm water discharges from wastewater treatment facilities. Wastewater treatment plants are applicable industries under the storm water program and are obligated to comply with the federal regulations. However, 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.

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 U.S. EPA 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 C.F.R. Part 130, et seq.)." The Basin Plan also states, "*Additional treatment beyond minimum federal standards will be imposed on dischargers to a WQLSs. Point source dischargers will be assigned or allocated a maximum allowable load of critical pollutants*." Chanac Creek is not listed as a WQLS on the 303(d) list of impaired water bodies.

2. **Total Maximum Daily Loads (TMDLs).** U.S. EPA requires the Central Valley Water Board to develop TMDLs for each 303(d) listed pollutant and water body combination. TMDLs have not been developed for the Chanac Creek.

E. Other Plans, Polices and Regulations

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

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

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

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

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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 C.F.R. 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 C.F.R. 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 C.F.R. 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 C.F.R. 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 C.F.R. 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-21 contains an implementation policy, "*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 C.F.R. 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) U.S. EPA'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 C.F.R. 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-6) 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 (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 cause nuisance, adversely affect beneficial uses, or impart undesirable taste or odors to fish flesh or other edible products of aquatic origin or to domestic or municipal water supplies.*"

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 C.F.R. 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 C.F.R. 122.41(m), define "bypass" as the intentional diversion of waste streams from any portion of a treatment facility. This section of the federal regulations, 40 C.F.R. 122.41(m)(4), prohibits bypass unless it is unavoidable to prevent loss of life, personal injury, or severe property damage. In considering the Central Valley Water Board's prohibition of bypasses, the State Water Board adopted a precedential decision, Order No. WQO 2002-0015, which cites the federal regulations, 40 C.F.R. 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, which 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 C.F.R. Part 122.41 et seq., which requires the proper design and operation of treatment facilities.

5. **Prohibition III.E (No discharge of "hazardous wastes").** This prohibition concerns a category of waste that is subject to full containment as prescribed by Title 23 and Title 27 of the CCR and, if discharged, has a high potential for creating a condition that would violate Prohibition III.C. as well.

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 5-day biochemical oxygen demand (BOD_5), total suspended solids (TSS), and pH.

2. Applicable Technology-Based Effluent Limitations

a. **BOD_5 and TSS** Federal regulations at 40 C.F.R. Part 133, establish the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for BOD_5 and TSS. A daily maximum effluent limitation for BOD_5 and TSS is also included in the Order to ensure that the treatment works are not organically overloaded and operate in accordance with design capabilities. In addition, 40 C.F.R. 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. **pH.** The secondary treatment regulations at 40 C.F.R. Part 133 also require that pH be maintained between 6.0 and 9.0 standard units.

Summary of Technology-based Effluent Limitations
Discharge Point 001

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

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	30	45	90	--	--
	lbs/day	25	38	75	--	--
Total Suspended Solids	mg/L	30	45	90	--	--
	lbs/day	25	38	75	--	--
pH [1]	standard units	--	--	--	6.0	9.0

[1] Note that more stringent WQBELs for pH are applicable and are established as final effluent limitations in this Order (see section IV.C.3. of this Fact Sheet).

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

CWA Section 301(b) and 40 C.F.R. section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) of 40 C.F.R. requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric

and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using: (1) U.S. EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated 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 identifies beneficial uses for West Side Streams, which does not include municipal and domestic supply. Therefore, the municipal and domestic supply beneficial use does not apply to Chanac Creek.

The Basin Plan on page II-1 states: *"Protection and enhancement of beneficial uses of water against quality degradation is a basic requirement of water quality planning under the Porter-Cologne Water Quality Control Act. In setting water quality objectives, the Regional Water Board must consider past, present, and probable future beneficial uses of water."* and with respect to disposal of wastewaters states that "...*use of waters for disposal of wastewaters is not included as a beneficial use…and are subject to regulation as activities that may harm protected 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 provides 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 C.F.R. sections 131.2 and 131.10, require that all waters of the State be 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 C.F.R., defines existing beneficial uses as those uses actually attained after 28 November 1975, whether or not they are included in the water quality standards. Federal Regulation, 40 C.F.R. section 131.10 requires that uses be obtained by implementing effluent limitations, requires that all downstream uses be protected and states that in no case shall a state adopt waste transport or waste assimilation as a beneficial use for any waters of the United States.

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

b. **Effluent and Ambient Background Data.** The reasonable potential analysis (RPA), as described in section IV.C.3 of this Fact Sheet, was based on data from

June 2008 through December 2013, unless otherwise noted in Section IV.C.3. of this Fact Sheet, which includes effluent and ambient background data submitted in SMRs. Additional data outside of this range were also analyzed where there were inadequate data to perform an analysis.

c. **Assimilative Capacity/Mixing Zone.** Based on the available information, the worst-case dilution for Chanac Creek is assumed to be zero at the point of discharge to provide protection for the receiving water beneficial uses. The impact of assuming zero dilution/assimilative capacity within the receiving water is that the effluent limitations are end-of-pipe limitations with no allowance for dilution within the receiving water.

d. **Conversion Factors.** The CTR contains aquatic life criteria for arsenic, cadmium, chromium III, chromium VI, copper, lead, nickel, silver, and zinc which are presented in dissolved concentrations. U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. The default U.S. EPA conversion factors contained in Appendix 3 of the SIP were used to convert the applicable dissolved criteria to total recoverable criteria.

e. **Hardness-Dependent CTR Metals Criteria.** The CTR and NTR contain water quality criteria for seven metals that vary as a function of hardness. The lower the hardness the lower the water quality criteria. The metals with hardness-dependent criteria include cadmium, copper, chromium III, lead, nickel, silver, and zinc.

This Order has established the criteria for hardness-dependent metals based on the reasonable worst-case ambient hardness as required by the SIP[1], the CTR[2] and State Water Board Order No. WQ 2008-0008 (City of Davis). 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 C.F.R. § 131.38(c)(4)) 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. Therefore, where reliable, representative data are available, the hardness value for calculating criteria can be the downstream receiving water hardness, after mixing with the effluent (Order WQ 2008-0008, p. 11). The Central Valley Water Board thus has considerable discretion in determining ambient hardness (*Id.*, p.10).

As discussed below, scientific literature provides a reliable method for calculating protective hardness-dependent CTR criteria, considering all discharge conditions. This methodology produces hardness-dependent CTR criteria based on the reasonable worst-case downstream ambient hardness that ensure these metals do not cause receiving water toxicity under any downstream receiving water condition. Under this methodology, the Central Valley Water Board considers all hardness conditions that could occur in the ambient downstream receiving water after the effluent has mixed with the water body. This ensures that effluent limitations are fully protective of aquatic life in all areas of the receiving water affected by the

[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. It further requires that the hardness values used must be consistent with the design discharge conditions for design flows and mixing zones.

discharge under all flow conditions, at the fully mixed location, and throughout the water body including at the point of discharge into the water body.

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 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 are 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.

A 2006 Study[1] developed procedures for calculating the effluent concentration allowance (ECA)[2] for CTR hardness-dependent metals. The 2006 Study demonstrated that it is necessary to evaluate all discharge conditions (e.g. high and low flow conditions) and the hardness and metals concentrations of the effluent and receiving water when determining the appropriate ECA for these hardness-dependent metals. This method is superior to relying on downstream receiving water samples alone because it captures all possible mixed conditions in the receiving water. Both receiving water and effluent hardness vary based on flow and other factors, but the variability of receiving water and effluent hardness is sometimes independent. Using a calculated hardness value ensures that the Central Valley Water Board considers all possible mixed downstream values that may result from these two independent variables. Relying on receiving water sampling alone is less likely to capture all possible mixed downstream conditions.

The equation describing the total recoverable regulatory criterion, as established in the CTR[3], is as follows:

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

Where:

H = hardness (as $CaCO_3$)[4]
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 equation for the ECA is defined in Section 1.4, Step 2, of the SIP and is as follows:

$$\text{ECA} = C \quad (\text{when } C \leq B)^{5} \quad \text{(Equation 2)}$$

Where:

C = the priority pollutant criterion/objective, adjusted for hardness (see Equation 1, above)
B = the ambient background concentration

The 2006 Study demonstrated that the relationship between hardness and the calculated criteria is the same for some metals, so the same procedure for calculating the ECA may be used for these metals. The same procedure can be used for cadmium (chronic), chromium III, copper, nickel, and zinc. These

[1] Emerick, R.W.; Borroum, Y.; & Pedri, J.E., 2006. California and National Toxics Rule Implementation and Development of Protective Hardness Based Metal Effluent Limitations. WEFTEC, Chicago, Ill.
[2] The ECA is defined in Appendix 1 of the SIP (page Appendix 1-2). The ECA is used to calculate WQBELs in accordance with Section 1.4 of the SIP.
[3] 40 C.F.R. section 131.38(b)(2).
[4] For this discussion, all hardness values are in mg/L as $CaCO_3$.
[5] The 2006 Study assumes the ambient background metals concentration is equal to the CTR criterion (i.e. C ≤ B)

metals are hereinafter referred to as "Concave Down Metals". "Concave Down" refers to the shape of the curve represented by the relationship between hardness and the CTR criteria in Equation 1. Another similar procedure can be used for determining the ECA for cadmium (acute), lead, and silver (acute), which are referred to hereafter as "Concave Up Metals".

ECA for Cadmium (Chronic), Chromium III, Copper, Nickel, and Zinc – For Concave Down Metals (i.e., cadmium (chronic), chromium III, copper, nickel, and zinc) the 2006 Study demonstrates that when the effluent is in compliance with the CTR criteria and the upstream receiving water is in compliance with the CTR criteria, any mixture of the effluent and receiving water will always be in compliance with the CTR criteria[1]. The 2006 Study proves that regardless of whether the effluent hardness is lower or greater than the upstream hardness, the reasonable worst-case flow condition is the effluent dominated condition (i.e., no receiving water flow)[2]. Consequently, for Concave Down Metals, the CTR criteria have been calculated using the downstream ambient hardness under this condition.

The effluent hardness ranged from 190 mg/L to 320 mg/L, based on 17 samples from July 2008 to October 2013. The upstream receiving water hardness varied from 200 mg/L to 390 mg/L, based on 14 samples from July 2008 to February 2013, and the downstream receiving water hardness varied from 260 mg/L to 410 mg/L, during the same period. Under the effluent dominated condition, the reasonable worst-case downstream ambient hardness is 190 mg/L. As demonstrated in the example shown in Table F-5, below, using this hardness to calculate the ECA for all Concave Down Metals will result in WQBELs that are protective under all flow conditions, from the effluent dominated condition to high flow condition. This example for copper assumes the following conservative conditions for the upstream receiving water:

Upstream receiving water <u>always</u> at the lowest observed upstream receiving water hardness (i.e., 200 mg/L)

Upstream receiving water copper concentration <u>always</u> at the CTR criteria (i.e., no assimilative capacity).

Using these reasonable worst-case receiving water conditions, a simple mass balance (as shown in Equation 3, below) accounts for all possible mixtures of effluent and receiving water under all flow conditions.

$$C_{MIX} = C_{RW} \times (1-EF) + C_{Eff} \times (EF) \quad \text{(Equation 3)}$$

Where:

C_{MIX} = Mixed concentration (e.g. metals or hardness)
C_{RW} = Upstream receiving water concentration
C_{Eff} = Effluent concentration
EF = Effluent fraction

[1] 2006 Study, p. 5700

[2] There are two typographical errors in the 2006 Study in the discussion of Concave Down Metals when the effluent hardness is less than the receiving water hardness. The effluent and receiving water hardness were transposed in the discussion, but the correct hardness values were used in the calculations. The typographical errors were confirmed by the author of the 2006 Study, by email dated 1 April 2011, from Dr. Robert Emerick to Mr. James Marshall, Central Valley Water Board.

In this example, for copper, for any receiving water flow condition (high flow to low flow), the fully-mixed downstream ambient copper concentration is in compliance with the CTR criteria.[1].

Table F-5. Copper ECA Evaluation

Lowest Observed Effluent Hardness	**190 mg/L (as $CaCO_3$)**
Lowest Observed Upstream Receiving Water Hardness	**200 mg/L (as $CaCO_3$)**
Highest Assumed Upstream Receiving Water Copper Concentration	**16.9 µg/L [1]**
Copper $ECA_{chronic}$ [2]	**16.1 µg/L**

Effluent Fraction[6]		**Fully Mixed Downstream Ambient Concentration**			
		Hardness [3] (mg/L)	**CTR Criteria [4] (µg/L)**	**Copper [5] (µg/L)**	**Complies with CTR Criteria?**
High Flow	1%	200	16.9	16.9	**Yes**
	5%	199.5	16.8	16.8	**Yes**
	15%	198.5	16.8	16.8	**Yes**
	25%	197.5	16.7	16.7	**Yes**
	50%	195	16.5	16.5	**Yes**
	75%	192.5	16.3	16.3	**Yes**
Low Flow	100%	190	16.1	16.1	**Yes**

1 Highest assumed upstream receiving water copper concentration calculated using Equation 1 for chronic criterion at a hardness of 200 mg/L.

2 ECA calculated using Equation 1 for chronic criterion at a hardness of 190 mg/L.

3 Fully mixed downstream ambient hardness is the mixture of the receiving water and effluent hardness at the applicable effluent fraction using Equation 3.

4 Fully mixed downstream ambient criteria are the chronic criteria calculated using Equation 1 at the mixed hardness.

5 Fully mixed downstream ambient copper concentration is the mixture of the receiving water and effluent copper concentrations at the applicable effluent fraction using Equation 3.

6 The effluent fraction ranges from 1% at the high receiving water flow condition, to 100% at the lowest receiving water flow condition (i.e., effluent dominated).

ECA for Cadmium (Acute), Lead, and Silver (Acute) – For Concave Up Metals (i.e., cadmium (acute), lead, and silver (acute)), the relationship between hardness and the metals criteria is different than for Concave Down Metals. The 2006 Study demonstrates that for Concave Up Metals, the effluent and upstream receiving water can be in compliance with the CTR criteria, but the resulting mixture may contain metals concentrations that exceed the CTR criteria and could cause toxicity. For these metals, the 2006 Study provides a mathematical approach to calculate the ECA that is protective of aquatic life, in all areas of the receiving water affected by the discharge, under all discharge and receiving water flow conditions (see Equation 4, below).

[1] This method considers the actual lowest observed upstream hardness and actual lowest observed effluent hardness to determine the reasonable worst-case ambient downstream hardness under all possible receiving water flow conditions. Table F-5 demonstrates that the receiving water is always in compliance with the CTR criteria at the fully-mixed location in the receiving water. It also demonstrates that the receiving water is in compliance with the CTR criteria for all mixtures from the point of discharge to the fully-mixed location. Therefore, a mixing zone is not used for compliance.

The ECA, as calculated using Equation 4, is based on the reasonable worst-case upstream receiving water hardness, the lowest observed effluent hardness, and assuming no receiving water assimilative capacity for metals (i.e., ambient background metals concentrations are at their respective CTR criterion). Equation 4 is not used in place of the CTR equation (Equation 1). Rather, Equation 4, which is derived using the CTR equation, is used as a direct approach for calculating the ECA. This replaces an iterative approach for calculating the ECA. The CTR equation has been used to evaluate the receiving water downstream of the discharge at all discharge and flow conditions to ensure the ECA is protective (e.g., see Table F-6).

$$ECA = \left(\frac{m(H_e - H_{rw})\left(e^{m\{\ln(H_{rw})\}+b}\right)}{H_{rw}} + e^{m\{\ln(H_{rw})\}+b} \right) \quad \text{(Equation 4)}$$

Where:

m, b = criterion specific constants (from CTR)
H_e = lowest observed effluent hardness
H_{rw} = reasonable worst-case upstream receiving water hardness

An example similar to the Concave Down Metals is shown for lead**,** a Concave Up Metal, in Table F-6, below. As previously mentioned, the lowest effluent hardness is 190 mg/L, while the upstream receiving water hardness ranged from 200 mg/L to 390 mg/L, and the downstream receiving water hardness ranged from 260 mg/L to 410 mg/L. In this case, the reasonable worst-case upstream receiving water hardness to use in Equation 4 to calculate the ECA is 390 mg/L.

In this case for lead, the lowest possible fully-mixed downstream hardness is 190 mg/L (see last row of Table F-6), which corresponds to a total recoverable chronic ECA of 7.2 µg/L, using Equations 1 and 2. However, a lower chronic ECA is required to ensure the discharge does not cause toxicity at any location in the receiving water, at or downstream of the discharge, which would be a violation the Basin Plan's narrative toxicity objective[1]. This is because for concave up metals, mixing two waters with different hardness with metals concentrations at their respective CTR criteria will always result in CTR criterion exceedances[2]. As shown in Table F-6, a chronic ECA of 6.2 µg/L is necessary to be protective under all discharge conditions. In this example for lead, for any receiving water flow condition (high flow to low flow), the fully-mixed downstream ambient lead concentration is in compliance with the CTR criteria.

Using the procedures discussed above to calculate the ECA for all Concave Up Metals will result in WQBELs that are protective under all potential effluent/receiving water flow conditions (high flow to low flow) and under all known hardness conditions, as demonstrated in Table F-6, for lead.

[1] "*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, p. III-6.)

[2] Emerick, R.W.; Borroum, Y.; & Pedri, J.E., 2006. California and National Toxics Rule Implementation and Development of Protective Hardness Based Metal Effluent Limitations. WEFTEC, Chicago, Ill. (p. 5702)

Table F-6. Lead ECA Evaluation

Lowest Observed Effluent Hardness					**190 mg/L**
Reasonable Worst-case Upstream Receiving Water Hardness					**390 mg/L**
Reasonable Worst-case Upstream Receiving Water Lead Concentration					**18 µg/L[1]**
Lead $ECA_{chronic}$[2]					**6.2 µg/L**
Effluent Fraction[6]		**Fully Mixed Downstream Ambient Concentration**			
		Hardness[3] (mg/L) (as $CaCO_3$)	**CTR Criteria[4] (µg/L)**	**Lead[5] (µg/L)**	**Complies with CTR Criteria?**
High Flow	1%	388	17.9	17.9	**Yes**
	5%	380	17.4	17.4	**Yes**
	15%	360	16.2	16.2	**Yes**
	25%	340	15.1	15.1	**Yes**
	50%	290	12.3	12.1	**Yes**
	75%	240	9.7	9.2	**Yes**
Low Flow	100%	190	7.2	6.2	**Yes**

1 Reasonable worst-case upstream receiving water lead concentration calculated using Equation 1 for chronic criterion at a hardness of 390 mg/L.

2 ECA calculated using Equation 4 for chronic criteria.

3 Fully mixed downstream ambient hardness is the mixture of the receiving water and effluent hardness at the applicable effluent fraction.

4 Fully mixed downstream ambient criteria are the chronic criteria calculated using Equation 1 at the mixed hardness.

5 Fully mixed downstream ambient lead concentration is the mixture of the receiving water and effluent lead concentrations at the applicable effluent fraction.

6 The effluent fraction ranges from 1% at the high receiving water flow condition, to 100% at the lowest receiving water flow condition (i.e., effluent dominated).

Based on the procedures discussed above, Table F-7 lists all the CTR hardness-dependent metals and the associated ECAs used in this Order.

Table F-7. Summary of ECA Evaluations for CTR Hardness-dependent Metals

CTR Metals	**ECA (µg/L, total recoverable)[1]**	
	acute	**chronic**
Copper	26	16
Chromium III	2900	350
Cadmium	8.8	4.1
Lead	160	6.2
Nickel	810	90
Silver	5.0	--
Zinc	210	210

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

3. Determining the Need for WQBELs

a. **Constituents with No Reasonable Potential.** WQBELs are not included in this Order for constituents that do not demonstrate reasonable potential (i.e., constituents were not detected in the effluent or receiving water); however, monitoring for those pollutants is established in this Order as required by the SIP. If the results of effluent monitoring demonstrate reasonable potential, this Order may be reopened and modified by adding an appropriate effluent limitation.

Most constituents with no reasonable potential are not discussed in this Order. However, the following constituents were found to have no reasonable potential after assessment of the data:

i. **Cyanide**

(a) **WQO.** The CTR includes maximum 1-hour average and 4-day average criteria of 22 µg/L and 5.2 µg/L, respectively, for cyanide for the protection of freshwater aquatic life.

(b) **RPA Results.** The highest reported effluent concentration for cyanide was 280 µg/L, as total recoverable. The effluent value of 280 µg/L was the only reported quantifiable effluent detection over the 4-day average criterion of 5.2 µg/L. The highest observed upstream receiving water cyanide monitoring result was 15 µg/L. The Discharger reported 19 effluent and 3 upstream receiving water cyanide monitoring results. Effluent and receiving water cyanide data are summarized in Table F-8 below.

Table F-8. Cyanide Monitoring Results

Sample Date	Location	Parameter	Qualifier	Results (µg/L)	MDL (µg/L)	RL (µg/L)	Criteria (µg/L)
3/9/2009	Effluent	Cyanide, Total	ND	ND	3.2	5	5.2
4/20/2009	Effluent	Cyanide, Total	ND	ND	3.2	5	5.2
7/7/2009	Effluent	Cyanide, Total	**DNQ**	**55**	2.8	250	5.2
10/19/2009	Effluent	Cyanide, Total	**DNQ**	**4.4**	2.8	5	5.2
1/12/2010	Effluent	Cyanide, Total	ND	ND	2.8	5	5.2
4/5/2010	Effluent	Cyanide, Total	ND	ND	2.8	5	5.2
7/20/2010	Effluent	Cyanide, Total	ND	ND	2.8	5	5.2
10/11/2010	Effluent	Cyanide, Total	**DNQ**	**2.4**	0.61	5	5.2
1/11/2011	Effluent	Cyanide, Total	ND	ND	1.6	5	5.2
4/27/2011	Effluent	Cyanide, Total	ND	ND	1.6	5	5.2
12/28/2011	Effluent	Cyanide, Total	**DNQ**	**4.7**	1.6	5	5.2
5/7/2012	Effluent	Cyanide, Total	ND	ND	1.6	5	5.2
7/31/2012	Effluent	Cyanide, Total	ND	ND	1.6	5	5.2
10/2/2012	Effluent	Cyanide, Total	ND	ND	1.6	5	5.2
11/5/2012	Effluent	Cyanide, Total	**=**	**280**	1.6	5	5.2
12/19/2012	Effluent	Cyanide, Total	ND	ND	2.4	5	5.2
2/11/2013	Effluent	Cyanide, Total	**DNQ**	**3.6**	2.4	5	5.2
9/16/13	Effluent	Cyanide, Total	ND	ND	2.6	5	5.2
12/22/13	Effluent	Cyanide, Total	ND	ND	2.6	5	5.2
7/31/2012	Chanac Creek	Cyanide, Total	**=**	**15**	1.6	5	5.2
10/2/2012	Chanac Creek	Cyanide, Total	**=**	**6.3**	1.6	5	5.2

12/19/2012	Chanac Creek	Cyanide, Total	ND	ND	2.4	5	5.2

Staff conducted a statistical test of the cyanide effluent data to evaluate the highest reported effluent cyanide result of 280 mg/L. The 99.9th percentile of the data set (i.e., 3.3 standard deviations + the mean) is 233 µg/L. Using the Shapiro-Wilk W test, staff found the cyanide effluent data to be log-normally distributed at a 90% confidence level ($\alpha = 0.10$) when staff used a regression on order statistics method for lognormal distribution to extrapolate and estimate the 13 non-detect results. Therefore, staff logarithmically transformed the data set. Staff then used the Dixon's Test (Extreme Value Test) on the logarithmic transformed data to determine if the 280 µg/L cyanide detection was a statistical outlier. When a 99% confidence level ($\alpha = 0.01$) is used, the test value (0.729) is greater than the crucial value (0.561), indicating the 280 µg/L detection is a potential outlier.

The 280 µg/L cyanide detection could be the result of sample contamination. The Discharger sampled cyanide using U.S. EPA approved sampling and test method, which includes preserving samples with sodium hydroxide. There has been several studies documenting analytical errors when sodium hydroxide is used[1]. Research indicates that other constituents in wastewater may have the potential to form cyanide during sample collection when sodium hydroxide is added to the sample. Therefore, 40 CFR 136 includes the following footnote regarding cyanide sample preservation(Table II, Footnote 6): "*Sampling, preservation and mitigating interferences in water samples for analysis of cyanide are described in ASTM D7365-09a. There may be interferences that are not mitigated by the analytical test methods or D7365-09a."* Furthermore, Central Valley Water Board staff is unaware of any commercial or industrial users within Stallion Springs Community Services District that would discharge cyanide into the Facility's collection system. Therefore, the Central Valley Water Board concludes that the 5 November 2012 cyanide effluent detection of 280 µg/L is a statistical outlier and unrepresentative of the Facility's discharge and inappropriate for use in the RPA.

The remaining cyanide effluent results were either non-detect or estimated concentrations. The highest reported effluent concentration was 55 µg/L (estimated value) which exceeds the CTR 4-day average criterion.

Section 2.4.2 of the SIP states that the Minimum Level (ML) is the lowest quantifiable concentration in a sample based on the proper application of all method-based analytical procedures and the absence of any matrix interferences.

[1] Los Angeles County Sanitation Districts, Factors Affecting Cyanide Generation in Chlorinated Wastewater Effluent, Pandit et. al, 2006.
Water Environment Research Foundation, Cyanide Formation and Fate in Complex Effluents and its Relation to Water Quality Criteria, Kavanaugh, et. al, 2003.
Water Environment Research Foundation, *Insights to False Positive Total Cyanide Measurements in Wastewater Plant Effluents*, Weingberg et. al, 2005.

a) Required MLs are listed in Appendix 4 of the SIP. Where more than one ML is listed in Appendix 4, the discharger may select any one of the cited analytical methods for compliance determination. The selected ML used for compliance determination is referred to as the Reported Level (RL).

b) A RL can be lower than the ML in Appendix 4 only when the discharger agrees to use a RL that is lower than the ML listed in Appendix 4. The Regional Board and the discharger have no agreement to use a RL lower than the listed ML for cyanide.

c) Section 1.2 of the SIP requires that the Central Valley Water Board to use all available, valid, relevant, representative data and information, as determined by the Central Valley Water Board, to implement the SIP. Section 1.2 further states that the Central Valley Water Board has the discretion to consider if any data are inappropriate or insufficient for use in implementing the SIP.

d) Data reported below the ML indicates the data may not be valid due to possible matrix interferences during the analytical procedure.

e) Further, Section 2.4.5 of the SIP (Compliance Determination) supports the insufficiency of data reported below the ML or RL. In part it states, "*Dischargers shall be deemed out of compliance with an effluent limitation, for reporting and administrative enforcement purposes, if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the RL.*" Thus, if submitted data are below the RL, that data cannot be used to determine compliance with effluent limitations.

f) Data reported below the ML are not considered valid data for use in determining Reasonable Potential. Therefore, in accordance with Section 1.2 of the SIP, the Board has determined that data reported below the ML are inappropriate and insufficient to be used to determine Reasonable Potential.

g) In implementing its discretion, the Board is not finding that Reasonable Potential does not exist; rather the Board cannot make such a determination given the invalid data. Therefore, the Board will require additional monitoring for such constituents until such time a determination can be made in accordance with the SIP.

Appendix 4 of the SIP cites 5 µg/L as the ML for cyanide. As shown in Table F-8, all the reported effluent cyanide detections (5), excluding the 280 µg/L outlier, were estimated values. In addition, four of the reported estimated effluent cyanide detections were below the required ML.

The maximum upstream receiving water concentration (15 µg/L) exceeds the applicable CTR 4-day average criterion. Section 1.3, Step 6 of the SIP states that if the receiving water concentration exceeds the criteria and the pollutant is detected in the effluent, an effluent limitation is required. However, as stated above, all the effluent cyanide monitoring results were estimated concentrations, excluding the 280 µg/L outlier. Furthermore, there are documented interferences with cyanide samples when preserved with sodium hydroxide and there are no known industries

within Stallion Springs Community Services District that would discharge cyanide into the Facility's collection system. Therefore, in accordance with Section 1.2 of the SIP, the Central Valley Water Board finds that the reported cyanide effluent detections are unrepresentative and/or insufficient for use in a reasonable potential analysis.

ii. **Zinc**

(a) **WQO.** The CTR includes hardness dependent criteria for the protection of freshwater aquatic life for zinc. These criteria for zinc are presented in dissolved concentrations, as 1-hour criteria and 4-day chronic criteria. U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. Default U.S. EPA translators were used for the receiving water and effluent.

Using a reasonable worst-case measured hardness as described in section IV.C.2. of this Fact Sheet, the applicable acute (1-hour average) and chronic (4-day) average criteria for the effluent are both 210 µg/L as total recoverable. Using a reasonable worst-case measured hardness as described in section IV.C.2. of this Fact Sheet, the applicable acute (1-hour average) and chronic (4-day average) criteria for the receiving water are both 220 µg/L as total recoverable.

(b) **RPA Results.** Section IV.C.2. of this Fact Sheet includes procedures for conducting the RPA for hardness-dependent CTR metals, such as zinc. The Discharger reported six effluent and six upstream receiving water monitoring results for zinc. The MEC was 180 µg/L and the maximum reported upstream receiving water detection was 23 µg/L. Therefore, the discharge does not demonstrate reasonable potential to cause or contribute to an in-stream excursion above the criteria for zinc.

b. **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 ammonia, copper, flow, pH, settleable solids, total coliform, and total residual chlorine. WQBELs for these constituents are included in this Order. A summary of the RPA is provided in Attachment G, and a detailed discussion of the RPA for each constituent is provided below.

i. **Ammonia**

(a) **WQO.**

(1) **Total Ammonia (as N).** In August 2013, U.S. EPA updated its National Ambient Water Quality Criteria (NAWQC) for the protection of freshwater aquatic life for total ammonia[1]. The 2013 NAWQC for ammonia recommends acute (1-hour average; criteria maximum concentration or CMC) and chronic (30-day average; criteria continuous concentration or CCC) standards that vary based on pH and temperature. U.S. EPA also recommends that no 4-day average concentration should exceed 2.5 times the 30-day CCC. The 2013 NAWQC for ammonia takes into account data for several sensitive

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

freshwater mussel species and non-pulmonate snails that had not previously been tested.

U.S. EPA found that as pH and temperature increased, both the acute and chronic toxicity of ammonia increased for invertebrates. However, U.S. EPA found that only pH significantly influenced acute and chronic ammonia toxicity for fish. Therefore, the 2013 acute NAWQC for ammonia is primarily based on the ammonia effects on species in the genus *Oncorhyncus* (salmonids) at lower temperatures and invertebrates at higher temperatures. However, due to the significant sensitivity unionid mussels have to the chronic toxicity effects of ammonia, the 2013 chronic NAWQC for ammonia is determined primarily by the effects of mussels.

The 2013 ammonia NAWQC document states that "*unionid mussel species are not prevalent in some waters, such as the arid west.*" The 2013 ammonia NAWQC also states 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 2013 ammonia NAWQC document, therefore, includes a recalculation procedure for acute and chronic criteria for waters where mussels are not present. The 2013 ammonia NAWQC also provides criteria for waters where *Oncorhynchus* species are not present and where protection of early life stages of fish genera is unnecessary.

A report prepared by The Nature Conservancy, *Sensitive Freshwater Mussel Surveys in the Pacific Southwest Region: Assessment of Conservation Status (*published August 2010), demonstrates the results of a strategic mussel study and survey conducted during 2008-2009 for California. The study does not contain any survey information for Chanac Creek in the vicinity of the Facility discharge. However, the study surveyed two sites within Kern County and both reported no mussels present.

On 3 April 2014, the Central Valley Water Board issued a Water Code Section 13267 Order to the Discharger which requires additional information from the Discharger to evaluate the presence of mussels in Chanac Creek. Depending on the results of the information submitted, this Order may be reopened to modify the effluent limitations for ammonia. However, since the Central Valley Water Board is not aware of any documentation available recording the presence of mussels in Chanac Creek, the site-specific ammonia criteria for waters where mussels are <u>absent</u> were used.

Chanac Creek does not contain the beneficial uses of cold freshwater habitat (COLD) or spawning, reproduction, and/or early development (SPWN). In addition, the Central Valley Water Board is not aware of any documentation available indicating the presence of salmonids or early fish life stages in Chanac Creek downstream of the Facility's

discharge point. Therefore, the recommended ammonia criteria for waters were salmonids and early life stages are absent were used.

The maximum permitted effluent pH is 8.3, as the Basin Plan objective for pH in the receiving stream is the range of 6.5 to 8.3. In order to protect against the worst-case short-term exposure of an organism, a pH value of 8.3 was used to derive the acute criterion. The maximum observed effluent temperature (99.9th percentile) was 25.8 °C. Based on the maximum permitted pH and maximum observed effluent temperature, the resulting acute criterion is 3.6 mg/L.

In accordance with U.S. EPA's 2013 Ammonia Criteria Document, the 30-day CCC was determined by using the paired 30-day running average effluent pH and temperature that resulted in the most stringent CCC. The resulting 30-day CCC is 3.2 mg/L. The 4-day average concentration is derived in accordance with the U.S. EPA criterion as 2.5 times the 30-day CCC. Based on the 30-day CCC of 3.2 mg/L, the 4-day average concentration that should not be exceeded is 8.0 mg/L.

(2) **Un-ionized Ammonia (as N).** The Basin Plan includes a water quality objective that states "*[w]aters shall not contain un-ionized ammonia in amounts which adversely affect beneficial uses. In no case shall the discharge of wastes cause concentrations of un-ionized ammonia (NH_3) to exceed 0.025 mg/L (as N) in receiving waters*."

(b) **RPA Results**

The Facility is a POTW that treats domestic wastewater. Untreated domestic wastewater contains ammonia in concentrations that, without treatment, would be harmful to fish and would violate the Basin Plan narrative toxicity objective and the Basin Plan water quality objective if discharged to the receiving water. Reasonable potential therefore exists and effluent limitations are required as explained in more detail below.

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. Ammonia 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.

U.S. EPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states, "*State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available…A permitting authority might also determine that WQBELs are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBELs for pathogens in all permits for POTWs discharging to contact recreational waters).*" U.S. EPA's *Technical Support Document for Water Quality-based Toxics Control*, EPA/505/2-90-001, March 1991 (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 POTW's, U.S. EPA recommends that, "*POTW's should also be characterized for the possibility of chlorine and ammonia problems*." (TSD, p. 50)

Nitrification is a biological process that converts ammonia to nitrite and nitrite to nitrate. Denitrification is a process that converts nitrate to nitrite or nitric oxide and then to nitrous oxide or nitrogen gas, which is then released to the atmosphere. The Discharger currently uses nitrification to remove ammonia from the waste stream. Inadequate or incomplete nitrification may result in the discharge of ammonia to the receiving stream. Ammonia is known to cause toxicity to aquatic organisms in surface waters. Discharges of ammonia in concentrations that produce detrimental physiological responses to human, plant, animal, or aquatic life would violate the Basin Plan narrative toxicity objective. Although the Discharger nitrifies the discharge, inadequate or incomplete nitrification creates the potential for ammonia to be discharged in concentrations that would cause or contribute to an exceedance of the Basin Plan's narrative toxicity objective. Therefore, the Central Valley Water Board finds the discharge has reasonable potential for ammonia and WQBELs are required.

(c) **WQBELs.**

(1) **Total Ammonia (as N).** This Order contains an effluent limitation for un-ionized ammonia (as N), which is more stringent than effluent limitations for total ammonia (as N).

(2) **Un-ionized Ammonia (as N).** This Order includes a final maximum daily effluent limitation (MDEL) of 0.025 mg/L for un-ionized ammonia (as N) based on the Basin Plan water quality objective.

(d) **Plant Performance and Attainability.** Prior to May 2011, the Discharger was shutting off the aeration system in the oxidation ditch to increase settling due to occasional high influent flows. This resulted in a reduction

in the dissolved oxygen in the oxidation ditch and, thus reduced the nitrification process in the oxidation ditches. The Discharger ceased this practice after April 2011 and instead began wasting solids more frequently to maintain a steady mixed liquor suspended solids concentration. The Discharger did not report unionized ammonia during the previous Permit term. However, based on staff calculations from submitted effluent ammonia, temperature, and pH data the Discharger only exceeded a 0.025 mg/L un-ionized ammonia (as N) twice since April 2011. Therefore, the Central Valley Water Board concludes that immediate compliance with this un-ionized ammonia effluent limitation is feasible.

ii. **Copper**

(a) **WQO.** The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for total recoverable copper. These criteria for copper are presented in dissolved concentrations, as 1-hour acute criteria and 4-day chronic criteria. U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. Default U.S. EPA translators were used for the receiving water and effluent.

(b) **RPA Results.** Section IV.C.2. of this Fact Sheet includes procedures for conducting the RPA for hardness-dependent CTR metals, such as copper. The MEC for total recoverable copper was 28 µg/L based on 43 effluent samples collected between June 2009 and October 2013 The maximum observed upstream receiving water copper total recoverable concentration was 8.5 µg/L, based on 6 samples collected between July 2008 and December 2012. The RPA was conducted using the upstream receiving water hardness to calculate the criteria for comparison to the maximum ambient background concentration, and likewise using the reasonable worst-case downstream hardness to compare the maximum effluent concentration. The table below shows the specific criteria used for the RPA.

	CTR Chronic Criterion (Total Recoverable)	Maximum Concentration (Total Recoverable)	Reasonable Potential? (Y/N)
Receiving Water	17 µg/L[1]	8.5 µg/L	No [3]
Effluent	16 µg/L[2]	28 µg/L	Yes [4]

[1] Based on lowest observed upstream hardness of 200 mg/L (as $CaCO_3$)
[2] Based on reasonable worst-case downstream hardness of 190 mg/L (as $CaCO_3$)
[3] Per Section 1.3, step 6 of the SIP.
[4] Per Section 1.3, step 4 of the SIP.

Based on the available data, copper in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for the protection of freshwater aquatic life.

(c) **WQBELs.** Due to no assimilative capacity, dilution credits are not allowed for development of the WQBELs for copper. This Order contains a final average monthly effluent limitation (AMEL) and maximum daily effluent limitation (MDEL) for total recoverable copper of 13 µg/L and 26 µg/L,

respectively, based on the CTR criterion for the protection of freshwater aquatic life.

(d) **Plant Performance and Attainability.** Order R5-2008-0091 included new effluent limitations for copper as well as an interim copper effluent limitation effective until 17 May 2010. In addition, Time Schedule Order R5-2011-0904 was adopted on 20 June 2011 which included interim copper effluent limitations effective from 20 June 2011 to 31 December 2011 to allow the Discharger time to come into compliance with the final copper effluent limitations.

From January 2012 to December 2013, the Discharger reported 10 copper effluent results. The highest reported copper effluent result was 9.7 µg/L. In addition, this Order moves the copper effluent limitation compliance point from Monitoring Location EFF-001A (after treatment prior to the storage pond) to Monitoring Location EFF-001C (after the storage pond prior to discharge to Chanac Creek). Monitoring for copper at Monitoring Location EFF-001C will be more representative of the copper discharged to Chanac Creek. Therefore, the Central Valley Water Board concludes that immediate compliance with the final copper effluent limitations is feasible.

iii. **Chlorine Residual**

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

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

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.

U.S. EPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states, "*State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available…A permitting authority might also determine that WQBELs are required for specific*

pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBELs for pathogens in all permits for POTW's discharging to contact recreational waters)." U.S. EPA's TSD also recommends that factors other than effluent data should be considered in the RPA, "*When determining whether or not a discharge causes, has the reasonable potential to cause, or contributes to an excursion of a numeric or narrative water quality criterion for individual toxicants or for toxicity, the regulatory authority can use a variety of factors and information where facility-specific effluent monitoring data are unavailable. These factors also should be considered with available effluent monitoring data*." With regard to POTW's, U.S. EPA 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 sodium bisulfite to dechlorinate the effluent prior to discharge to Chanac Creek, 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 TSD 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, an average 1-hour limitation is considered more appropriate than a maximum daily limitation. This Order contains a 4-day average effluent limitation and 1-hour average effluent limitation for chlorine residual of 0.011 mg/L and 0.019 mg/L, respectively, based on U.S. EPA's NAWQC, which implements the Basin Plan's narrative toxicity objective for protection of aquatic life.

(d) **Plant Performance and Attainability.** The Facility discharges treated wastewater to a 1.5 million gallon concrete-lined effluent storage pond prior to discharging to Chanac Creek. The storage pond allows the Discharger to only discharge to Chanac Creek when the residual chlorine is below the applicable effluent limitations (i.e., non-detect). In addition, the Discharger uses sodium bisulfite to dechlorinate. Therefore, the Central Valley Water Board concludes that immediate compliance with the final chlorine effluent limitations is feasible.

iv. **Flow.** The Facility was designed to provide a secondary level of treatment for up to 0.50 mgd. However, Order R5-2008-0091 contained an average monthly dry weather flow limit of 0.10 mgd (May through October). Based on flow data submitted from June 2008 to October 2013, the average discharge flow from the Facility at Monitoring Location EFF-001A during the months of May through October is 0.04 mgd. Therefore, this Order carries over the discharge flow limit from Order R5-2008-0091 as a WQBEL.

v. **pH**

(a) **WQO.** The Basin Plan includes a water quality objective for surface waters that "*[t]he pH of water shall not be depressed below 6.5, raised above 8.3...*"

(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.

U.S. EPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states, "*State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available…A permitting authority might also determine that WQBELs are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBELs for pathogens in all permits for POTWs discharging to contact recreational waters).*" U.S. EPA's TSD also recommends that factors other than effluent data should be considered in the RPA, "*When determining whether or not a discharge causes, has the reasonable potential to cause, or contributes to an excursion of a numeric or narrative water quality criterion for individual toxicants or for toxicity, the regulatory authority can use a variety of factors and information where facility-specific effluent monitoring data are unavailable. These factors also should be considered with available effluent monitoring data.*" (TSD, p. 50)

The Facility is a POTW that treats domestic wastewater. Order R5-2008-0091 stated that compliance with the pH effluent limitation was to be assessed at Monitoring Location EFF-001A (treated effluent after dechlorination prior to discharge to the storage pond). The effluent pH at Monitoring Location EFF-001A ranged from 6.3 to 8.4 based on 1,651 monitoring results reported between June 2008 and December 2013. The Discharger also reported the pH at Monitoring Location EFF-001C (treated effluent at the outlet of the storage pond to Chanac Creek). The pH reported at Monitoring Location EFF-001C ranged from 6.4 to 10.0. The pH in the discharge exceeds the Basin Plan water quality objective,

therefore the effluent has a reasonable potential to cause or contribute to an in-stream excursion above the numeric objective.

(c) **WQBELs.** Effluent limitations for pH of 6.5 as an instantaneous minimum and 8.3 as an instantaneous maximum are included in this Order based on protection of the Basin Plan objectives for pH. Compliance the effluent limitations will be determined at Monitoring Location EFF-001A, prior to storage in the storage pond.

(d) **Plant Performance and Attainability.** The Discharger reported 1,651 pH monitoring results at Monitoring Location EFF-001A between June 2008 and December 2013. Only five results were not within the 6.5 to 8.3 pH range. Therefore, the Central Valley Water Board concludes that immediate compliance with these effluent limitations, when assessed at Monitoring Location EFF-001A, is feasible.

Central Valley Water Board staff is aware there is a significant increase in the effluent pH while stored in the storage pond. The Discharger has indicated, through conversations with Central Valley Water Board staff, that no chemicals are added in the storage pond and that the algae is likely the cause of the increase in pH. Chanac Creek upstream of Discharge Point 001 is dammed by a wooden weir to form a small man-made lake. Based on observations from Central Valley Water Board staff and monitoring data submitted by the Discharger, Central Valley Water Board staff suspect the lake conditions (i.e., significant algae in the lake and minimal flow released at the weir) likely result in the high pH levels reported in Chanac Creek *upstream* of Discharge Point 001. Central Valley Water Board staff will continue addressing the increased effluent pH levels with the Discharger outside the permitting process.

vi. **Pathogens**

(a) **WQO.** The California Department of Public Health (DPH) has developed reclamation criteria, CCR, Division 4, Chapter 3 (Title 22), for the reuse of wastewater. Title 22 criteria do not apply directly to waters of the State. DPH drafted *Uniform Guidelines for Wastewater Disinfection* (retyped in November 2000) (Guidelines) that recommend treatment and disinfection levels of discharges to waters of the State. The Guidelines recommend treated wastewater have a median coliform bacteria most probably number (MPN) not exceeding 23 MPN/100 mL when:

i. Discharges are to ephemeral streams that have little or no natural flow all or part of the year,

ii. There is no nearby habitation,

iii. There is limited use of the discharge area, and

iv. Contact with the effluent is not encouraged.

(b) **RPA Results.** The Discharger submitted a report on 31 January 2011 evaluating the recreational use of Chanac Creek and the potential of human contact with the water body downstream of the Facility's discharge point. The Discharger stated in the report that Chanac Creek's southern boundary is blocked by private property with heavy vegetation and steep

terrain. The creek's northern boundary has equestrian trials with a hiking trail about 0.5 miles downstream of the Facility's discharge point. According to the report, the trail is used very little and mostly by equestrians due to the steep terrain making it difficult for people to walk through. The Discharger also mentions in the report that fishing is restricted downstream of the lake and fences and signage are placed along the Creek to deter public contact with the water body.

Central Valley Water Board staff inspected the Facility and Chanac Creek downstream of Discharge Point 001 on 15 January 2008. Central Valley Water Board staff noted the following items regarding Chanac Creek downstream of Discharge Point 001 in the inspection report:

- "No trespassing" signs mounted on property fences nearest the creek.
- A hiking and equestrian trail system that crosses Chanac Creek in a few locations and parallels the creek for approximately one mile.
- Approximately 0.6 miles downstream of Discharge Point 001, an old dam comprised of what appeared to be sacks of cements, but no observable clear access to the pooled water upstream of the dam.
- Downstream of the dam, Chanac Creek is primarily a rocky streambed traversing steep and rough terrain that is inaccessible by road, supports little recreational use, and is not near any human habitation.
- No significant use of Chanac Creek was observed during the inspection.
- Based on the findings, there appears to be little potential for significant water-contact public use of Chanac Creek downstream of Discharge Point 001 for the following reasons: dense vegetation, no beaches, no picnic areas, steep slopes, shallow water conditions, and remote location of the area.

Based on the Discharger's report and the Central Valley Water Board 15 January 2008 inspection, the receiving water conditions appear similar to the items i – iv above. Therefore, the DPH requirements are applicable to the Facility's discharge.

(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. The effluent limitations for total coliform are carried over from Order R5-2008-0091.

(d) **Plant Performance and Attainability.** The Facility provides chlorine disinfection of the effluent prior to discharging to Chanac Creek. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

vii. **Settleable Solids**

(a) **WQO.** For inland surface waters, the Basin Plan states that "*[w]aters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.*"

(b) **RPA Results.** The discharge of disinfected secondary-treated wastewater has a reasonable potential to cause or contribute to an excursion above the Basin Plan's narrative objective for settleable solids.

(c) **WQBELs.** Order R5-2008-0091 contained a settleable solids average monthly WQBEL of 0.1 mL/L for settleable solids. This Order retains the average monthly effluent limitation for settleable solids. Because the amount of settleable solids is measured in terms of volume per volume without a mass component, it is impracticable to calculate mass limitations for inclusion in this Order.

(d) **Plant Performance and Attainability.** Analysis of the effluent data shows that the MEC of <0.1 mL/L is less than the applicable average monthly WQBEL. The Central Valley Water Board concludes, therefore, that immediate compliance with this effluent limitation is feasible.

c. **Basin Plan Salinity Effluent Limitations**

i. **Limits.** The Basin Plan at page IV-10 includes effluent limitations for discharges to navigable waters. The Basin Plan requires at a minimum, discharges to surface waters, including stream channels, to comply with the following effluent limitations:

(a) The maximum electrical conductivity of a discharge shall not exceed the quality of the source water plus 500 µmhos/cm or 1,000 µmhos/cm, whichever is more stringent;

(b) A chloride content of 175 mg/L; and

(c) A boron content of 1.0 mg/L.

ii. **Data Analysis Results**

(a) **Electrical Conductivity.** The Discharger submitted 260 effluent monitoring results for electrical conductivity (@ 25°C) between June 2008 and March 2014. The average reported electrical conductivity effluent concentration was 944 mg/L, with a range from 480 mg/L to 1,313 mg/L. These levels exceed the Basin Plan effluent limit for electrical conductivity.

(b) **Chloride.** The Discharger submitted eight effluent monitoring results for chloride between July 2008 and September 2013. The average reported chloride effluent concentration was 106 mg/L, with a range from 93 mg/L to 120 mg/L. These levels do not exceed the Basin Plan effluent limit for chloride.

(c) **Boron.** The Discharger submitted six effluent monitoring results for boron between July 2008 and February 2013. The average reported boron effluent concentration was 0.2 mg/L, with a range from 0.1 mg/L to 0.37 mg/L. These levels do not exceed the Basin Plan effluent limit for boron.

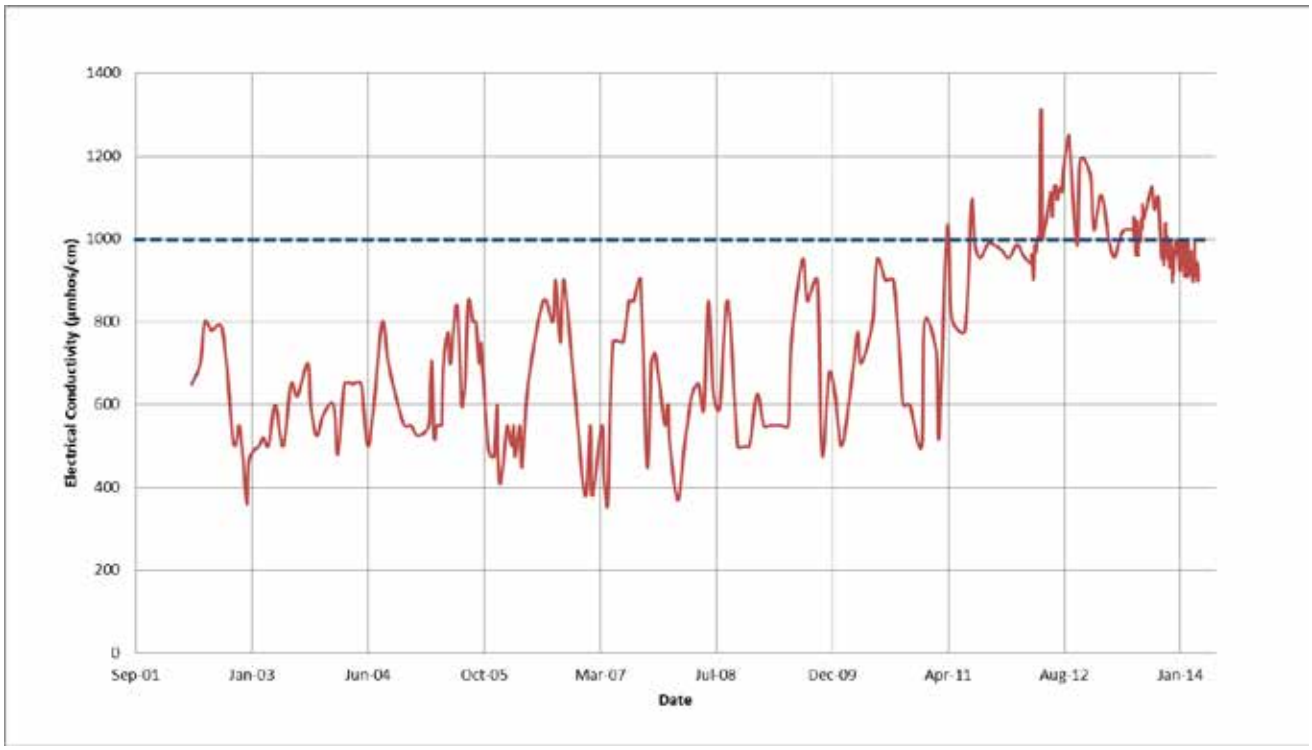
Table F-9. Basin Plan Salinity Effluent Limitations

Parameter	Basin Plan	Effluent Results	
		Average	Maximum
Electrical Conductivity (µmhos/cm)	1,000	944	1,313
Chloride (mg/L)	175	106	120
Boron (mg/L	1.0	0.2	0.37

iii. **WQBELs**. Order R5-2008-0091 included an annual average electrical conductivity (@ 25°C) effluent limitation of source water plus 500 µmhos/cm/cm or a maximum of 1,0000 µmhos/cm, whichever less. This electrical conductivity effluent limitation is carried over in this Permit. This Order also establishes effluent limitations for chloride (175 mg/L) and boron (1.0 mg/L) that implement the Basin Plan effluent limitations for discharges to navigable waters.

Plant Performance and Attainability. Order R5-2008-0091 determined compliance with the electrical conductivity effluent limitation on an annual basis. This Order carries over the annual averaging period for electrical conductivity. Beginning in 2011, effluent electrical conductivity levels began increasing to the point the effluent electrical conductivity levels were consistently over 1,000 µmhos. Central Valley Water Board staff repeatedly discussed this issue with the Discharger and the Discharger began addressing the issue through public education and outreach. Recently reported electrical conductivity data show the effluent electrical conductivity levels below 1,000 µmhos/cm. A graph of the electrical conductivity data from May 2002 to March 2014 is included below. In addition, section VI.C.3.a. of this Order requires the Discharger to submit a salinity evaluation and minimization plan to identify and further address sources of the salinity in the Facility's discharge.

The Discharger reported a maximum boron and chloride effluent concentration of 0.37 mg/L and 120 mg/L, respectively, and neither exceeds the applicable effluent limit. Therefore, based on the data submitted over the previous Permit term, the Central Valley Water Board concludes that immediate compliance with the boron, chloride, and electrical conductivity effluent limitations included in this Order is feasible.



4. WQBEL Calculations

a. This Order includes WQBELs for ammonia, boron, chloride, copper, electrical conductivity, pH, settleable solids, total coliform organisms, and total residual chlorine.

The general methodology for calculating WQBELs based on the different criteria/objectives is described in subsections IV.C.4.b through e, below. See Attachment H for the WQBEL calculations.

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

$ECA = C + D(C - B)$ *where C>B, and*
$ECA = C$ *where C≤B*

where:

ECA = effluent concentration allowance
D = dilution credit
C = the priority pollutant criterion/objective
B = the ambient background concentration.

According to the SIP, the ambient background concentration (B) in the equation above shall be the observed maximum with the exception that an ECA calculated from a priority pollutant criterion/objective that is intended to protect human health from carcinogenic effects shall use the arithmetic mean concentration of the ambient background samples. 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 001

Table F-10. Summary of Water Quality-Based Effluent Limitations

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	standard units	--	--	6.5	8.3
Copper, Total Recoverable	µg/L	13	26		
Ammonia, Un-ionized (as N)	mg/L	--	0.025	--	--
Boron	mg/L	--	1.0	--	--
Chloride	mg/L	--	175	--	--
Settleable Solids	mL/L	0.1	--	--	--

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Total Residual Chlorine	mg/L	0.011 [1]	--	--	0.019 [2]
Total Coliform Organisms	MPN/100 mL	23 [3]	--	--	240 [4]
Electrical Conductivity @ 25°C	µmhos/cm	1,000 [5]	--	--	--
Flow [6]	mgd	0.10	--	--	--

1 Applied as a 4-day average.
2 Applied as a 1-hour average.
3 Applied as a 7-day median.
4 Not more than once in any 30-day period.
5 The calendar annual average electrical conductivity (@ 25°C) of the discharge shall not exceed the calendar annual average electrical conductivity (@ 25°C) of the source water plus 500 µmhos/cm, or a maximum of 1,000 µmhos/cm, whichever is more stringent.
6 Average monthly dry weather flow limitation (May – October).

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-6) 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. Due to the site-specific conditions of the discharge, the Central Valley Water Board used professional judgment in determining the appropriate method for conducting the RPA . U.S. EPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states, "*State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available…A permitting authority might also determine that WQBELs are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBELs for pathogens in all permits for POTW's 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 limitations are required to ensure compliance with the Basin Plan's narrative toxicity objective.

U.S. EPA 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.*" Consistent with Order R5-2008-0091, 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-6.) Based on recent chronic WET testing performed by the Discharger, the discharge does not have reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan's narrative toxicity objective, as shown in Table F-11 below.

Table F-11. Whole Effluent Chronic Toxicity Testing Results

	Fathead Minnow *Pimephales promelas*		**Water Flea** *Ceriodaphnia dubia*		**Green Algae** *Selenastrum capricornutum*
Date	Survival (TUc)	Growth (TUc)	Survival (TUc)	Reproduction (TUc)	Growth (TUc)
December 2009	1	1	1	>1	1
January 2010	--	--	1	8	--
February 2010	--	--	1.25	1.25	--
July 2010	1	1	1	1	1
September 2011	1	1	1	1	1
November 2012	1	1	1	1	1
September 2013	1	1	1	1	1

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 limitations. 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

[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)

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 limitations 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 C.F.R. 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.). 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 work plan. 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

40 C.F.R. 122.45(f)(1) requires effluent limitations be expressed in terms of mass, with some exceptions, and 40 C.F.R. 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 C.F.R. 122.45(f)(1), some effluent limitations are not expressed in terms of mass, such as pH and temperature, and when the applicable standards are expressed in terms of concentration (e.g., CTR criteria and MCLs) and mass limitations are not necessary to protect the beneficial uses of the receiving water.

Mass-based effluent limitations were calculated based upon the design flow (Average Dry Weather Flow) permitted in section IV.A.1.f. of this Order.

2. Averaging Periods for Effluent Limitations

40 C.F.R. 122.45 (d) requires average weekly and average monthly discharge limitations for publicly owned treatment works (POTW's) unless impracticable. However, for toxic pollutants and pollutant parameters in water quality permitting, U.S. EPA 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) This Order uses maximum daily effluent limitations in lieu of average weekly effluent limitations for copper, unionized ammonia, boron, and chloride as recommended by the TSD for the achievement of water quality standards and for the protection of the beneficial uses of the receiving stream. Furthermore, for pH, total residual chlorine, and total coliform organisms, weekly average effluent limitations have been replaced or supplemented with effluent limitations utilizing shorter averaging periods. The rationale for using shorter averaging periods for these constituents is discussed in section IV.C.3 of this Fact Sheet.

3. Satisfaction of Anti-Backsliding Requirements

The 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 C.F.R. 122.44(l).

All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order, with the exception of effluent limitations for copper. The effluent limitations for copper are less stringent than those in Order R5-2008-0091. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations, as discussed in detail below.

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 TMDLs or WLAs will assure the attainment of such water quality standards.

   ii. For attainment waters, CWA section 303(d)(4)(B) specifies that a limitation based on a water quality standard may be relaxed where the action is consistent with the antidegradation policy.

   Chanac Creek is considered an attainment water for copper because the receiving water is not listed as impaired on the 303(d) list for this constituent.[1] As discussed in section IV.D.4, below, relaxation of the effluent limitations complies with federal and state antidegradation requirements. Thus, removal of the effluent limitations for copper from Order R5-2008-0091 meets the exception in CWA section 303(d)(4)(B).

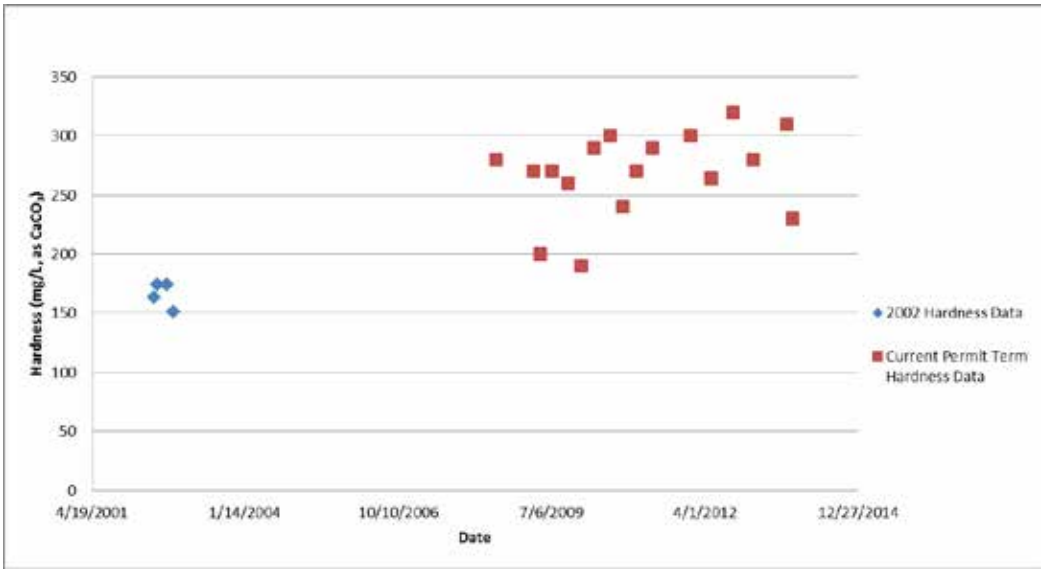
b. **CWA section 402(o)(2).** CWA section 402(o)(2) provides several exceptions to the anti-backsliding regulations contained in section 402(o)(1). CWA 402(o)(2)(B)(i)

[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.

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 in section IV.C.2.e. of this Fact Sheet, copper is a hardness-dependent metal. Order R5-2008-0091 used a worst-case hardness of 151 mg/L to calculate the copper criteria. The 151 mg/L (as $CaCO_3$) effluent hardness result was the minimum of only four effluent samples collected during 2002.

Order R5-2008-0091 required the Discharger to collected quarterly effluent hardness results during the term of the Order. From June 2008 to December 2013, the Discharger reported 17 effluent hardness results. The lowest reported effluent hardness was 190 mg/L (as $CaCO_3$). As illustrated in the graph below, all the effluent hardness results reported from June 2008 to December 2013 were higher than all four effluent hardness results reported in 2002. Therefore, the Central Valley Water Board concludes that the effluent hardness results collected in 2002 are unrepresentative of the Facility's current discharge. Since a higher hardness was used to calculate the copper criteria, the applicable copper effluent limitations are less stringent than the copper effluent limitations in Order R5-2008-0091.



Thus, the relaxation of the effluent limitations for copper from previous Order R5-2008-0091 is in accordance with CWA 402(o)(2)(B)(i), which allows for the relaxation and removal of effluent limitations based on information that was not available at the time of permit issuance.

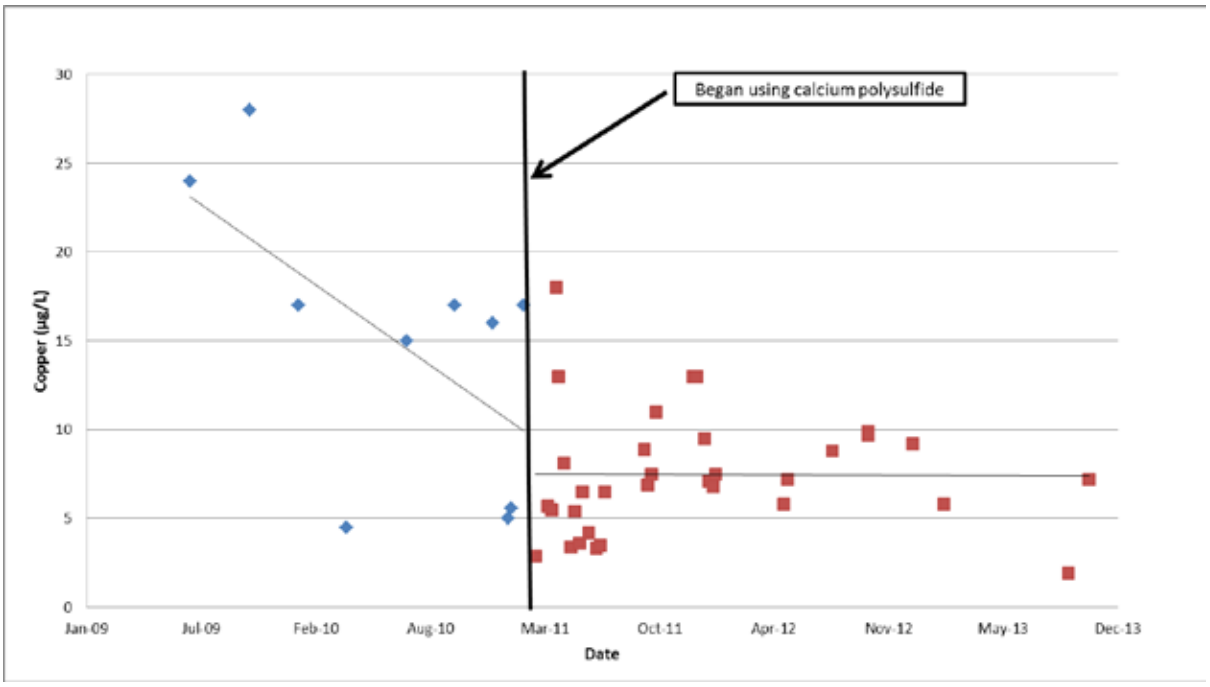
4. Antidegradation Policies

The Central Valley Water Board found in Order R5-2008-0091 that "*[t]he permitted discharge is consistent with the antidegradation provision of 40 CFR 131.12 and State Water Board Resolution 68-16.*" This Order does not allow for an increase in flow to the receiving water from previous Order R5-2008-0091. 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 C.F.R. 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 relaxes the existing effluent limitations for copper. As described in section IV.D.3. of this Fact Sheet, a worst-case hardness of 190 mg/L (as $CaCO_3$) was used to calculate the CTR criteria for copper, as opposed to 151 mg/L (as $CaCO_3$) used in Order R5-2008-0091. State Water Resources Control Board Administrative Procedures Update (APU) 90-004 "*Antidegradation Policy Implementation for NPDES Permitting*" recommends a simple antidegradation analysis is sufficient, where a Regional Water Board determines the proposed action will not result in a significant reduction in water quality.

Previous Order R5-2008-0091 established copper effluent limitations and the Discharger was granted an interim limit as well as a time schedule to achieve compliance with the new copper effluent limitations. The Discharger began using calcium polysulfide to increase removal of copper in the Facility's treatment system in March 2011. As shown in the graph below, these measures resulted in a reduction in the effluent concentration from March 2011 to December 2013. The average copper effluent concentration from July 2009 to February 2011 (prior to use of calcium polysulfide) was 14.9 µg/L while the average copper effluent concentration from March 2011 to December 2013 was 7.5 µg/L.



The effluent copper concentrations prior to when the Discharger began using calcium polysulfide exceed the copper effluent limitations included in this Order (AMEL = 13 µg/L and MDEL = 26 µg/L). Therefore, the Discharger will likely need to continue to use calcium polysulfide or another control method to reduce the copper concentration in the wastewater. Consequently, the relaxation of the copper effluent limitations in this Order

will not cause a significant reduction of the receiving water quality and does not impact beneficial uses in the receiving water. The relaxation of copper effluent limitations in this Order is consistent with the antidegradation provisions of 40 C.F.R. 131.12 and State Water Board Resolution No. 68-16.

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 BOD, flow, and TSS.

WQBELs have been derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 C.F.R. section 131.38. The procedures for calculating the individual WQBELs for priority pollutants are based on the CTR implemented by the SIP, which was approved by U.S. EPA on 18 May 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by U.S. EPA prior to 30 May 2000. Any water quality objectives and beneficial uses submitted to U.S. EPA prior to 30 May 2000, but not approved by U.S. EPA before that date, are nonetheless "*applicable water quality standards for purposes of the CWA"* pursuant to 40 C.F.R. section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

Summary of Final Effluent Limitations
Discharge Point 001

Table F-12. Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations					Basis[1]
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	30	45	90	--	--	CFR
	lbs/day	25	38	75	--	--	CFR
	% removal	85	--	--	--	--	CFR
Total Suspended Solids	mg/L	30	45	90	--	--	CFR
	lbs/day	25	38	75	--	--	CFR
	% removal	85	--	--	--	--	CFR

Parameter	Units	Effluent Limitations					Basis[1]
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
pH	standard units	--	--	--	6.5	8.3	BP
Copper, Total Recoverable	µg/L	13	--	26	--	--	CTR
Ammonia, un-ionized (as N)	mg/L	--	--	0.025	--	--	BP
Boron	mg/L	--	--	1.0	--	--	BP
Chloride	mg/L	--	--	175	--	--	BP
Settleable Solids	mL/L	0.1	--	--	--	--	BP
Total Residual Chlorine	mg/L	--	0.011 [2]	0.019 [3]	--	--	BP, NAWQC
Total Coliform Organisms	MPN/ 100 mL	--	23 [4]	--	--	240 [5]	BP (Title 22)
Average Dry Weather Flow	mgd	0.10	--	--	--	--	PO
Electrical Conductivity	µmhos/cm	1,000 [6]	--	--	--	--	BP
Acute Whole Effluent Toxicity	% Survival	--	--	[7]	--	--	BP

[1] **PO** – Carried over from previous Order R5-2008-0091
CFR – Based on secondary treatment standards contained in 40 C.F.R. Part 133.
BP – Based on water quality objectives contained in the Basin Plan.
CTR – Based on water quality criteria contained in the California Toxics Rule and applied as specified in the SIP.
NAWQC – Based on U.S. EPA's National Ambient Water Quality Criteria for the protection of freshwater aquatic life.
Title 22 – Based on CA Department of Public Health Reclamation Criteria, CCR, Division 4, Chapter 3 (Title 22).

[2] Applied as a 4-day average.

[3] Applied as a 1-hour average.

[4] Applied as a 7-day median.

[5] More than once in any 30-day period.

[6] The calendar annual average electrical conductivity (@ 25°C) of the discharge shall not exceed the calendar annual average electrical conductivity (@ 25°C) of the source water plus 500 µmhos/cm, or a maximum of 1,000 µmhos/cm, whichever is more stringent.

[7] Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:
i. 70%, minimum for any one bioassay.
ii. 90%, median for any three consecutive bioassays.

E. Interim Effluent Limitations – Not Applicable

F. Land Discharge Specifications – Not Applicable

G. Recycling Specifications – Not Applicable

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 unionized ammonia, bacteria, biostimulatory substances, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, suspended sediment, settleable substances, suspended material, tastes and odors, temperature, toxicity, and turbidity.

B. Groundwater

1. The beneficial uses of the underlying ground water (Cummings Valley Groundwater Basin) are municipal and domestic supply, industrial service supply, agricultural supply, water contact recreation, and non-contact water recreation.
2. The following groundwater limitation in this Order is based on State Water Board Resolution No. 68-16: "*Neither the Facility nor the discharge shall cause underlying groundwater to contain waste constituents in concentrations greater than background water quality unaffected by waste sources.*

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. **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) if toxicity is detected in the chronic whole effluent monitoring required by this Order. This Order may be reopened to include a numeric chronic toxicity limitation, new acute toxicity limitations, and/or limitations 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.

b. **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 for copper. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

c. **Site-Specific Ammonia Criteria.** If it is determined that the receiving water conditions warrant more stringent ammonia WQBELs to protect the beneficial uses applicable to Chanac Creek, this Order may be reopened and modified effluent limitations added for ammonia.

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-6) Based on whole effluent chronic toxicity testing performed by the Discharger from December 2009 through September 2013, the discharge does not have reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan's narrative toxicity objective.

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

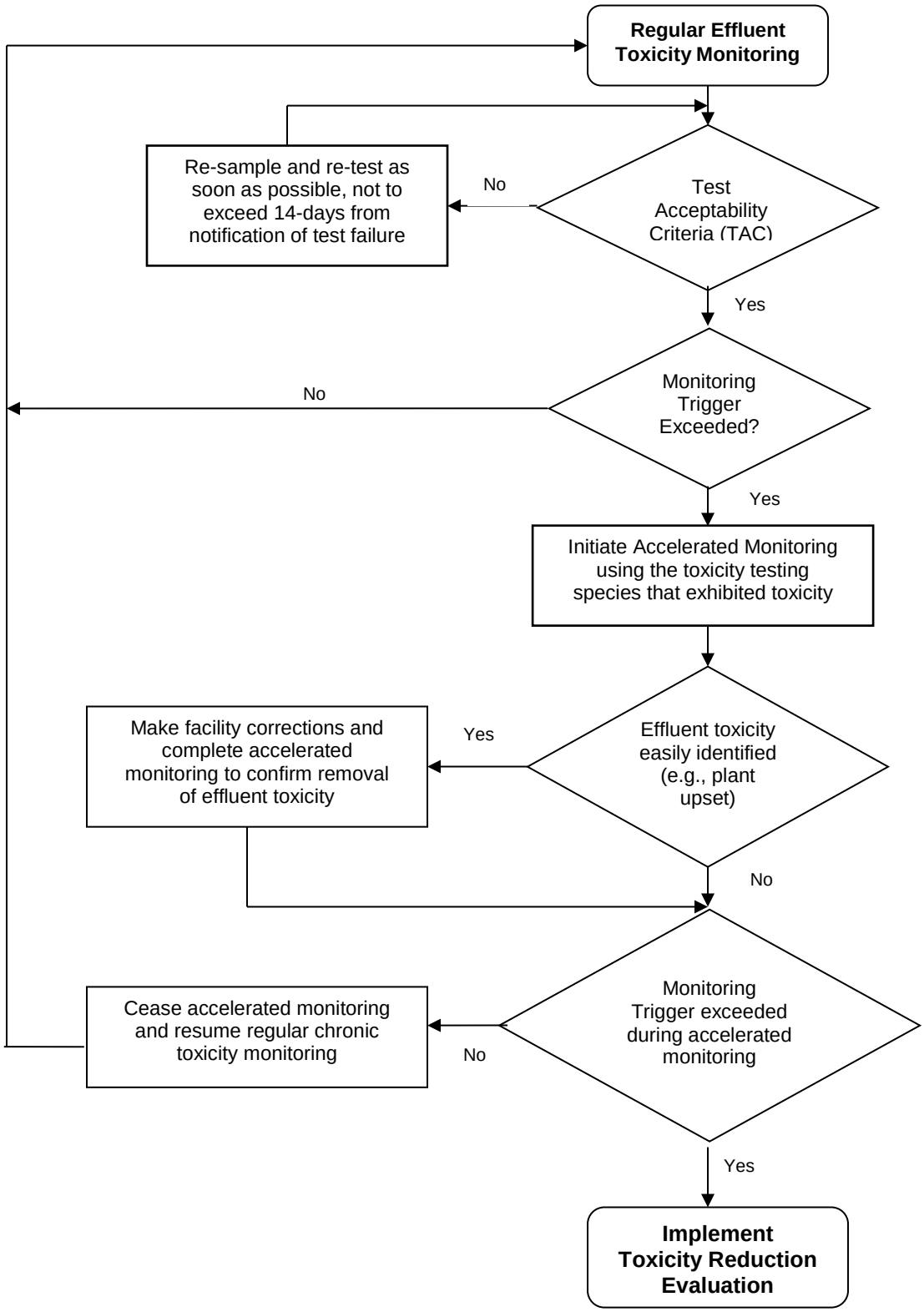
accelerated monitoring tests are required in this provision. If no toxicity is demonstrated in the four accelerated tests, then it demonstrates that toxicity is not present at levels above the monitoring trigger more than 20 percent of the time (only 1 of 5 tests are toxic, including the initial test). 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 work plan in accordance with U.S. EPA guidance. Numerous guidance documents are available, as identified below:

- *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants*, EPA/833-B-99/002, August 1999.
- *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (TREs)*, EPA/600/2-88/070, April 1989.
- *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures*, Second Edition, EPA 600/6-91/003, February 1991.
- *Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents*, Phase I, EPA/600/6-91/005F, May 1992.
- *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.
- *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.
- *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.
- *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.
- *Technical Support Document for Water Quality-based Toxics Control*, EPA/505/2-90-001, March 1991.

Figure F-1
WET Accelerated Monitoring Flow Chart



b. **Priority Pollutant Evaluation.** Section IX.C. of the Monitoring and Reporting Program requires the Discharger to monitor for priority pollutants and other constituents of concern in the effluent and upstream receiving water once during the permit term. The Discharger is required to submit, for Executive Officer approval, a monitoring plan for the constituents detected in the effluent and/or receiving water when conducting the priority pollutant and other constituents of concern monitoring. The purpose of the monitoring plan is to evaluate and adequately characterize the detected priority pollutants and other constituents of concern in the effluent and/or receiving water.

3. Best Management Practices and Pollution Prevention

a. **Salinity Evaluation and Minimization Plan.** The Discharger shall prepare and implement a salinity evaluation and minimization plan to identify and address sources of salinity from the Facility, including, but not limited to, 1) the chemicals used for drinking water and wastewater treatment, 2) the contribution of salinity from sewer users (e.g., the use of water softeners in the community), and 3) the source water (i.e., potable water supply wells). The plan shall be completed and submitted to the Central Valley Water Board by **1 June 2015** for the approval by the Executive Officer. The Discharger shall provide annual reports demonstrating reasonable progress in the reduction/minimization of salinity in its discharge to Chanac Creek. The annual reports shall be submitted in accordance with the Monitoring and Reporting Program (Attachment E, section X.D.1.)

4. Construction, Operation, and Maintenance Specifications

a. The operation and maintenance specifications for the storage pond are necessary to prevent nuisance conditions. Operation and maintenance specifications for the storage pond were also included in Order R5-2008-0091.

5. Special Provisions for Municipal Facilities (POTW's Only)

a. **Collection System.** 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 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 enrolled under the General Order in April 2006.

6. Compliance Schedules – Not Applicable

VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 of 40 C.F.R. requires 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., BOD_5 and TSS reduction requirements). The monitoring frequencies for BOD_5 (1/week), TSS (1/week), and settleable solids (1/week) have been retained from Order R5-2008-0091. Electrical conductivity influent monitoring (1/week) is required to characterize the wastewater and to track the relative contribution of salinity at the Facility.

B. Effluent Monitoring

1. Pursuant to the requirements of 40 C.F.R. 122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. Effluent monitoring is necessary to assess compliance with effluent limitations, assess the effectiveness of the treatment process, and to assess the impacts of the discharge on the receiving stream.
2. Three effluent monitoring locations for Discharge Point 001 to Chanac Creek were included in previous Order R5-2008-0091. This Order retains the three effluent monitoring locations to evaluate the treated effluent prior to storage in the storage pond (Monitoring Location EFF-001A), while in the storage pond (Monitoring Location EFF-001B), and after storage just prior to discharge to Chanac Creek (Monitoring Location EFF-001C).
3. Effluent monitoring frequencies and sample types at Monitoring Location EFF-001A for BOD_5 (1/week), pH (5/week), standard minerals (1/year), flow (continuous), TSS (1/week), total ammonia (1/week), total dissolved solids (1/year), total coliform organisms (2/week), and turbidity (5/week) have been retained from Order R5-2008-0091 to determine compliance with effluent limitations for these parameters, where applicable, and to characterize the effluent.
4. This Order includes chloride and boron effluent limitations. Therefore, quarterly (1/quarter) effluent monitoring for chloride and boron is required in this Order to determine compliance with the applicable effluent limitations.
5. The settleable solids monitoring frequency has been reduced from 5/week to 1/week in this Order at monitoring Location EFF-001C since settleable solids was consistently reported as below analytical detection levels (non-detect) during the previous permit term.
6. This Order includes an un-ionized ammonia effluent limitation. Therefore, this Order includes monitoring for un-ionized ammonia and temperature (1/week) at Monitoring Location EFF-001A to determine compliance with the un-ionized ammonia effluent limitation.
7. This Order increases the electrical conductivity monitoring form 1/month to 5/week at Monitoring Location EFF-001A to determine compliance with the electrical conductivity effluent limitation and to better characterize the effluent.
8. The 1/quarter copper and hardness effluent monitoring requirement is retained in this Order, but moved to Monitoring Location EFF-001C since compliance with the copper effluent limitations is assessed at Monitoring Location EFF-001C in this Order instead of Monitoring Location EFF-001A.
9. Monitoring data collected over the previous permit term for cyanide did not demonstrate reasonable potential to exceed water quality objectives/criteria. Thus, specific monitoring requirements for cyanide have not been retained from Order R5-2008-0091.

10. Effluent monitoring frequencies at Monitoring Location EFF-001B for dissolved oxygen(1/week) and freeboard (1/week) are retained in this Order to evaluate the effluent while stored in the storage pond.

11. Effluent monitoring frequencies and sample types at Monitoring Location EFF-001C for flow (continuous) and total residual chlorine (1/day) are retained in this Order to determine compliance with effluent limitations for these parameters, where applicable, and to characterize the effluent.

12. The pH and temperate monitoring frequencies at Monitoring Location EFF-001C are increased to 1/day to better characterize the effluent discharged to Chanac Creek.

13. In accordance with Section 1.3 of the SIP, periodic monitoring is required for priority pollutants for which criteria or objectives apply and for which no effluent limitations have been established. This Order relaxes the effluent monitoring for priority pollutants and other constituents of concern from three times a permit term to once a permit term.

14. 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) Due to the location of the Facility, it is both legally and factually impossible for the Discharger to comply with section 13176 for constituents with short holding times.

C. Whole Effluent Toxicity Testing Requirements

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

2. **Chronic Toxicity.** Annual (1/year) chronic whole effluent toxicity testing is required in 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.

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.5.a. of this Order. Biosolids disposal requirements are imposed pursuant to 40 C.F.R. 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 and assess compliance with the electrical conductivity effluent limitation.

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 the following: direct mailing to agencies and known interested parties; posting of a Notice of Public Hearing at the Stallion Springs Community Services District Office, nearest city hall, local post office, and the Central Valley Water Board's web site on 31 July 2014.

The public had access to the agenda and any changes in dates and locations through the Central Valley Water Board's website at:
http://www.swrcb.ca.gov/centralvalley/board_decisions/tentative_orders/

B. Written Comments

Interested persons were invited to submit written comments concerning tentative WDR's as provided through the notification process. Comments were due either in person or by mail to the Executive Officer at the Central Valley Water Board at:

California Regional Water Quality Control Board, Central Valley Region – Fresno Office
1685 "E" Street, Suite 100
Fresno, CA 93706-2007

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 2 September 2014.

C. Public Hearing

The Central Valley Water Board held 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:	9/10 October 2014
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 8:00 a.m. and 4:30 p.m., Monday through Friday. Copying of documents may be arranged through the Central Valley Water Board by calling (559) 445-5116. Our office is located at 1685 "E" Street, Fresno, CA 93706.

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 Alexander Mushegan at (559) 488-4397 or at Alexander.Mushegan@waterboards.ca.gov.

ATTACHMENT G – SUMMARY OF REASONABLE POTENTIAL ANALYSIS

Constituent	Units	MEC	B	C	CMC	CCC	Org. Only	Basin Plan	Reasonable Potential
Bromoform	µg/L	0.55	<0.26	360	--	--	360	--	No
Carbon Tetrachloride	µg/L	0.21	< 0.12	4.4	--	--	4.4	--	No
Chlorodibromomethane	µg/L	10	0.58	34	--	--	34	--	No
Copper, Total Recoverable	µg/L	28	8.5	16 [3] 17 [4]	26 [3] 27 [4]	16 [3] 17 [4]	--	--	Yes
Cyanide, Total Recoverable	µg/L	55 [1] (DNQ)	15	5.2	22	5.2	220,000	--	No [2]
Dichlorobromomethane	µg/L	33	1.6	46	--	--	46	--	No
Electrical Conductivity @ 25°C	µmhos/cm	1,313	1,481	1,000[3]	--	--	--	source + 500 or 1,000 (max)	Yes
Zinc, Total Recoverable	µg/L	180	23	210 [3] 220 [4]	210 [3] 220 [4]	210 [3] 220 [4]	--	--	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)
Org. Only = Human Health Criterion for Consumption of Organisms Only (CTR or NTR)
Basin Plan = Numeric Site-Specific Basin Plan Water Quality Objective
DNQ = Detected but not quantified

Footnotes:
(1) The highest observed effluent concentration of 280 µg/L is considered an outlying data point, the second highest detected cyanide concentration is 55 µg/L as an estimated value (DNQ). See section IV.C.3.a. of the Fact Sheet.
(2) See section IV.C.3.a. of the Fact Sheet.
(3) Criterion applicable to the maximum effluent concentration (MEC).
(4) Criterion applicable to the maximum upstream receiving water concentration (B).

ATTACHMENT H – CALCULATION OF WQBELS

Parameter	Units	Most Stringent Criteria			Dilution Factors			HH Calculations			Aquatic Life Calculations									Final Effluent Limitations	
		HH	CMC	CCC	HH	CMC	CCC	ECA_{HH} = $AMEL_{HH}$	AMEL/MDEL $Multiplier_{HH}$	$MDEL_{HH}$	ECA $Multiplier_{acute}$	LTA_{acute}	ECA $Multiplier_{chronic}$	$LTA_{chronic}$	Lowest LTA	AMEL $Multiplier_{95}$	$AMEL_{AL}$	MDEL $Multiplier_{99}$	$MDEL_{AL}$	Lowest AMEL	Lowest MDEL
Copper, Total Recoverable	µg/L	--	26	16	--	--	--	--	--	--	0.31	8.1	0.52	8.3	8.1	1.6	13	3.2	26	13	26