

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD**

**CENTRAL VALLEY REGION**

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**ORDER R5-2014-XXXX  
 NPDES NO. CA0079189**

**WASTE DISCHARGE REQUIREMENTS FOR THE  
 CITY OF VISALIA  
 WATER CONSERVATION PLANT  
 TULARE COUNTY**

The following Discharger is subject to waste discharge requirements as set forth in this Order:

**Table 1. Discharger Information**

<b>Discharger</b>	City of Visalia
<b>Name of Facility</b>	Water Conservation Plant
<b>Facility Address</b>	7579 Avenue 288
	Visalia, CA 93277
	Tulare County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.	

The discharge by the City of Visalia from the discharge points identified below is subject to waste discharge requirements as set forth in this Order:

**Table 2. Discharge Locations**

<b>Discharge Point</b>	<b>Effluent Description</b>	<b>Discharge Point Latitude</b>	<b>Discharge Point Longitude</b>	<b>Receiving Water</b>
001	Disinfected Secondary Treated Municipal Wastewater	36° 18' 44.78" N	119° 24' 57.34" W	Mill Creek
002	Secondary Treated Municipal Wastewater	36° 18' 4.03" N	119° 23' 39.81" W	Groundwater underlying Use Area
003	Secondary Treated Municipal Wastewater	36° 18' 38.52" N	119° 24' 58.14" W	Groundwater underlying on-site disposal ponds
004	Secondary Treated Municipal Wastewater	36° 18' 5.52" N	119° 28' 12.35" W	Groundwater underlying off-site disposal ponds

**Table 3. Administrative Information**

This Order was adopted by the Regional Water Quality Control Board on:	<b>&lt;Adoption Date&gt;</b>
This Order shall become effective on:	<b>&lt;Effective Date&gt;</b>
This Order shall expire on:	<b>&lt;Expiration Date&gt;</b>
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	<b>&lt;180 days prior to the Order expiration date OR insert date&gt;</b>

I, Pamela C. Creedon, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on **<Adoption Date>**.

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 PAMELA C. CREEDON, Executive Officer

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**I. FACILITY INFORMATION**

The following Discharger is subject to waste discharge requirements as set forth in this Order:

**Table 4. Facility Information**

<b>Discharger</b>	City of Visalia
<b>Name of Facility</b>	Water Conservation Plant
<b>Facility Address</b>	7579 Avenue 288
	Visalia, CA 93277
	Tulare County
<b>Facility Contact, Title, and Phone</b>	James Ross, Public Works Manager, (559) 713-4466
<b>Mailing Address</b>	Same as Facility Address
<b>Type of Facility</b>	Publicly Owned Treatment Works
<b>Facility Design Flow</b>	22 million gallons per day (mgd)

**II. FINDINGS**

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

**A. Background.** The City of Visalia (hereinafter Discharger) is currently discharging pursuant to Order R5-2006-0091 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0079189. The Discharger submitted a Report of Waste Discharge, dated 4 February 2011, and applied for a NPDES permit renewal to discharge up to 20 mgd of treated wastewater from the Visalia Water Conservation Plant, hereinafter Facility.

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

**B. Facility Description.** The Discharger owns and operates a municipal wastewater treatment facility. The treatment system consists of preliminary screening and grit removal, primary sedimentation, fixed-film biological treatment, activated sludge aeration, secondary sedimentation, chlorine disinfection, and dechlorination. Treated wastewater is discharged from Discharge Point 001 (see table on cover page) to Mill Creek, a water of the United States, within the Kaweah Delta Hydrologic Area (No. 558.10), recycled on a 250-acre use area at Discharge Point 002, and disposed of in two on-site disposal ponds at Discharge Point 003 and four off-site disposal ponds at Discharge Point 004. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

**C. Legal Authorities.** This Order serves as Waste Discharge Requirements (WDRs) 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 USEPA and chapter 5.5, division 7 of the Water Code (commencing with section

13370). It shall serve as a NPDES permit for point source discharges from this Facility to surface waters.

- D. 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 Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E and G through J are also incorporated into this Order.
- E. California Environmental Quality Act (CEQA).** Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100-21177. In 1992, the Discharger certified a final Environmental Impact Report (EIR) in accordance with CEQA and Section 15090 of the State CEQA Guidelines. At the time, the Central Valley Water Board considered the EIR and concurred there are no significant impacts on water quality as a result of the Facility discharge. In 2013, the Discharger certified another final EIR for proposed Facility upgrades and a new discharge location.
- F. Technology-based Effluent Limitations.** Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations (40 CFR 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 CFR Part 133. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet.
- G. Water Quality-based Effluent Limitations (WQBELs).** Section 301(b) of the CWA and 40 CFR 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.
- 40 CFR 122.44(d)(1)(i) mandates 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) USEPA 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 40 CFR 122.44(d)(1)(vi).
- H. Water Quality Control Plans.** 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 in Section II, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Table II-1 of the Basin Plan identifies the beneficial uses of certain specific water bodies. Mill Creek is not listed but is considered a Valley Floor Water, for which beneficial uses are listed in Table II-1. The Basin Plan also identifies beneficial uses of groundwater. Beneficial uses applicable to Mill Creek and groundwater are as follows:

**Table 5. Basin Plan Beneficial Uses**

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Mill Creek	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); rare, threatened, or endangered species (RARE); and groundwater recharge (GWR)
002, 003, 004	Groundwater underlying Use Area and On-site and Off-site Disposal Ponds	Municipal and domestic supply (MUN); AGR; IND; PRO; REC-1; and REC-2

The Basin Plan includes a 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 effluent limitations for point sources {40 CFR 130, et seq.}.” The Basin Plan also states, “Additional treatment beyond minimum federal requirements will be imposed on dischargers to a WQLS. Point source dischargers will be assigned or allocated a maximum allowable load of critical pollutants.” Mill Creek is listed as a WQLS for unknown toxicity in the 303(d) list of impaired water bodies. Effluent limitations for chronic and acute toxicity are included in this Order.

Requirements of this Order implement the Basin Plan.

- I. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA 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, USEPA 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 water quality criteria for priority pollutants.
- J. **State Implementation Policy.** On 2 March 2000, the State Water Resources Control Board (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 USEPA 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 USEPA 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.

**K. Compliance Schedules and Interim Requirements.** In general, a NPDES permit must include final effluent limitations that are consistent with CWA section 301 and with 40 CFR 122.44(d). There are exceptions to this general rule. The State Water Board's *Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits* (Compliance Schedule Policy) allows compliance schedules for new, revised, or newly interpreted water quality objectives or criteria, or in accordance with a Total Maximum Daily Load (TMDL). All compliance schedules must be as short as possible, and may not exceed ten years from the effective date of the adoption, revision, or new interpretation of the applicable water quality objective or criterion, unless a TMDL allows a longer schedule. The Central Valley Water Board, however, is not required to include a compliance schedule, but may issue a Time Schedule Order pursuant to Water Code section 13300 or a Cease and Desist Order pursuant to Water Code section 13301 where it finds that the Discharger is violating or threatening to violate the Order. The Central Valley Water Board will consider the merits of each case in determining whether it is appropriate to include a compliance schedule in an Order, and, consistent with the Compliance Schedule Policy, should consider feasibility of achieving compliance, and must impose a schedule that is as short as possible to achieve compliance with the effluent limitation based on the objective or criterion.

The Compliance Schedule Policy and the SIP do not allow compliance schedules for priority pollutants beyond 18 May 2010, except for new or more stringent priority pollutant criteria adopted by USEPA after 17 December 2008.

Where a compliance schedule for a final effluent limitation exceeds one year, the Order must include interim numeric effluent limitations for that constituent or parameter, interim milestones and compliance reporting within 14 days after each interim milestone. The Order may also include interim requirements to control the pollutant, such as pollutant minimization and source control measures. This Order includes a compliance schedule for compliance with Title 27 requirements.

**L. Alaska Rule.** On 30 March 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards become effective for CWA purposes. (40 CFR 131.21 and 65 FR 24641 (27 April 2000).) Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after 30 May 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by 30 May 2000 may be used for CWA purposes, whether or not approved by USEPA.

**M. Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on 5-day biochemical oxygen demand (BOD<sub>5</sub>), total suspended solids (TSS), and BOD<sub>5</sub> and TSS percent

removal. The WQBELs consist of restrictions on flow, BOD<sub>5</sub>, TSS, total residual chlorine, pH, settleable solids, total coliform, copper, lead, un-ionized ammonia (as N), chronic toxicity, and acute toxicity. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order includes new effluent limitations for copper, lead, un-ionized ammonia (as N), and chronic toxicity to meet numeric objectives or protect beneficial uses.

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

- N. Antidegradation Policy.** 40 CFR 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 No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters 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. As discussed in detail in the Fact Sheet, the permitted discharge is consistent with the antidegradation provision of 40 CFR 131.12 and Resolution No. 68-16.
- O. Anti-Backsliding Requirements.** Sections 303(d)(4) and 402(o)(2) of the CWA and federal regulations at 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions. Some effluent limitations in this Order are less stringent than those in Order R5-2006-0091. As discussed in detail in the Fact Sheet, this relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.
- P. Endangered Species Act.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent

limitations, receiving water limitations, and other requirements to protect the beneficial uses of waters of the state. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

**Q. Monitoring and Reporting.** 40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Central Valley Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. The Monitoring and Reporting Program is provided in Attachment E.

The technical and monitoring reports in this Order are required in accordance with Water Code section 13267, which states the following in subsection (b)(1), *“In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged 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.

**R. Standard and Special Provisions.** Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under 40 CFR 122.42. The Central Valley Water Board has also included in this Order special provisions applicable to the Discharger. Some special provisions require submittal of technical reports. All technical reports are required in accordance with Water Code section 13267. The rationale for the special provisions and need for technical reports required in this Order is provided in the Fact Sheet.

**S. Provisions and Requirements Implementing State Law.** The provisions/requirements in sections IV.C, IV.D, V.B, and portions of VI.C of this Order are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

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

**U. 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 R5-2006-0091 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 federal 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. Direct reuse of effluent to areas lacking either water recycling requirements or waiver of said requirements is prohibited.
- B.** The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Federal Standard Provisions I.G. and I.H. (Attachment D).
- C.** Neither the discharge nor its treatment shall create a condition of pollution or 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. Facility Effluent Limitations – Discharge Points 001, 002, 003, and 004**

Unless otherwise indicated, the following effluent limitations apply to Discharge Points 001, 002, 003, and 004:

- 1. Average Monthly Flow.** The average monthly discharge flow shall not exceed 20 mgd, total sum for all discharge points. Compliance shall be determined at monitoring locations EFF-001, EFF-002, EFF-003, and EFF-004.

2. **Boron.** The boron concentration shall not exceed 1.0 mg/L, as a maximum daily. Compliance shall be determined at EFF-A.
3. **Chloride.** The chloride concentration shall not exceed 175 mg/L, as a maximum daily. Compliance shall be determined at EFF-A.
4. **Electrical Conductivity @ 25°C (EC).** The rolling 12-month average EC shall not exceed 1,000 µmhos/cm or the flow-weighted average EC of the source water plus 500 µmhos/cm, whichever is more stringent. Compliance shall be determined at EFF-A, in accordance with Section VII.G.
5. **Percent Removal.** The average monthly percent removal of 5-day biochemical oxygen demand (BOD<sub>5</sub>) and total suspended solids (TSS) shall not be less than 85 percent. Compliance shall be determined in accordance with Section VII.A. of this Order.

**B. 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 Location EFF-A, excepted as noted, as described in the Monitoring and Reporting Program:

- a. The effluent limitations in Table 6:

**Table 6. Effluent Limitations – Discharge Point 001**

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	5,004 <sup>1</sup>	7,506 <sup>1</sup>	15,012 <sup>1</sup>	--	--
Total Suspended Solids	mg/L	30	45	90	--	--
	lbs/day	5,004 <sup>1</sup>	7,506 <sup>1</sup>	15,012 <sup>1</sup>	--	--
pH	standard units	--	--	--	6.5	8.3
Copper, Total Recoverable	µg/L	4.0	--	10.	--	--
Lead, Total Recoverable	µg/L	1.0	--	2.9	--	--
Ammonia, un-ionized (as N)	mg/L	--	--	0.025	--	--
Settleable Solids	mL/L	0.2	--	0.5	--	--

<sup>1</sup> Based on a permitted flow of 20 mgd

- b. **Acute Whole Effluent Toxicity.** Survival of aquatic organisms in 96-hour bioassays of undiluted waste at EFF-001 shall be no less than:
  - i. Minimum for any one bioassay ----- 70%
  - ii. Median for any three consecutive bioassays----- 90%

- c. **Total Residual Chlorine.** Effluent total residual chlorine at EFF-001 shall not exceed:
  - i. 0.011 mg/L, as a 4-day average;
  - ii. 0.019 mg/L, as a 1-hour average.
- d. **Chronic Whole Effluent Toxicity.** There shall be no chronic toxicity in the effluent discharge at EFF-001.
- e. **Total Coliform.** Effluent total coliform 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;
  - iii. 500 MPN/100 mL, instantaneous maximum

**2. Interim Effluent Limitations – Not Applicable**

**C. Land Discharge Specifications – Discharge Points 003 and 004**

- 1. The Discharger shall maintain compliance with the following specifications at Discharge Points 003 and 004, with compliance measured at Monitoring Locations EFF-A, as described in the Monitoring and Reporting Program:

**Table 7. Land Discharge Specifications – Discharge Points 003 and 004**

Parameter	Units	Discharge Specifications				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	30	45	90	--	--
Total Suspended Solids	mg/L	30	45	90	--	--
pH	standard units	--	--	--	6.0	9.0
Settleable Solids	mL/L	0.2	--	0.5	--	--

**D. Recycled Water Specifications – Discharge Point 002**

The following specifications apply to recycled water and its application on the 250-acre Use Area (Discharge Point 002):

- 1. Use of recycled water shall comply with all the terms and conditions of the most current Title 22, CCR provisions.
- 2. Except as allowed under Title 17, CCR, section 7604, no physical connection shall be made or allowed to exist between any recycled water system and any separate system conveying potable water.
- 3. The portions of the recycled water piping system that are in areas subject to access by the general public shall not include any hose bibbs. Only quick couplers that differ from those used on the potable water system shall be used on the portion of the recycled water piping system in areas subject to public access.

4. Recycled water shall remain within the permitted Use Area.
5. In the event the crops grown in the Use Area change, the Discharger shall notify the Central Valley Water Board at least 30 days prior to commencing irrigation and limit the crops to those consistent with Title 22 regulations for use of secondary-treated wastewater.
6. Application of recycled water, biosolids, and commercial fertilizer to the Use Area shall be at reasonable agronomic rates considering the crop, soil, climate, and irrigation management system. The annual hydraulic and nutrient loading of the Use Area, including the nutritive value of organic and chemical fertilizers and of the recycled water, shall not exceed the crop demand.
7. The perimeter of the Use Area shall be graded to prevent ponding along public roads or other public areas.
8. Areas irrigated with recycled water shall be managed to prevent breeding of mosquitoes. More specifically:
  - a. All applied irrigation water must infiltrate completely within 24 hours.
  - b. Ditches not serving as wildlife habitat should be maintained free of emergent, marginal, and floating vegetation.
  - c. Low pressure and unpressurized pipelines and ditches accessible to mosquitoes shall not be used to store recycled water.
9. Recycled water used for irrigation shall be managed to minimize erosion.
10. Recycled water shall be managed to minimize contact with workers.
11. Workers shall be educated regarding proper hygienic procedures to ensure personal and public safety.
12. Spray, mist, or runoff shall not enter dwellings, designated outdoor eating areas, or food handling facilities.
13. Drinking water fountains shall be protected against contact with recycled water spray, mist, or runoff.
14. Public contact with recycled water shall be precluded through such means as fences and signs, or acceptable alternatives. Signs with proper wording (shown below) of a size no less than four inches high by eight inches wide shall be placed at all areas of public access and around the perimeter of all areas used for effluent disposal or conveyance to alert the public of the use of recycled water. All signs shall present the international symbol similar to that shown in Attachment J and present the following wording:

**RECYCLED WATER – DO NOT DRINK**

**AGUA DE DESPERDICIO RECLAMADA – POR FAVOR NO TOME**

- 15. No spray irrigation of any recycled water shall take place within 100 feet of a residence or a place where public exposure could be similar to that of a park, playground, or schoolyard.
- 16. No irrigation with, or impoundment of, recycled water shall take place within 150 feet of any domestic water supply well.
- 17. A 50-foot buffer zone shall be maintained between any watercourse and the wetted area produced during irrigation with recycled water.
- 18. A 25-foot buffer zone shall be maintained between recycled water application areas and all property boundaries.
- 19. The Discharger shall maintain compliance with the following specifications at Discharge Point 002, with compliance measured at Monitoring Location EFF-A, as described in the Monitoring and Reporting Program:

**Table 8. Recycled Water Discharge Specifications – Discharge Point 002**

Parameter	Units	Discharge Specifications				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	30	45	90	--	--
Total Suspended Solids	mg/L	30	45	90	--	--
pH	standard units	--	--	--	6.0	9.0
Settleable Solids	mL/L	0.2	--	0.5	--	--

**V. RECEIVING WATER LIMITATIONS**

**A. Surface Water Limitations**

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. The discharge shall not cause the following in Mill Creek:

- 1. **Un-ionized Ammonia.** Un-ionized ammonia to be present in amounts that adversely affect beneficial uses or 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 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;
  - 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 which 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. **Settleable Material.** Substances to be present in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.
13. **Suspended Material.** Suspended material to be present in concentrations that cause nuisance or adversely affect beneficial uses.

- 14. 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.
- 15. Taste and Odors.** Taste- or odor-producing substances to be present in concentrations that cause nuisance, adversely affect beneficial uses, or 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 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:** The turbidity to increase as follows:
  - a. More than 1 Nephelometric Turbidity Unit (NTU) where natural turbidity is between 0 and 5 NTUs;
  - b. More than 20 percent where natural turbidity is between 5 and 50 NTUs;
  - c. More than 10 NTUs where natural turbidity is between 50 and 100 NTUs; nor
  - d. More than 10 percent where natural turbidity is greater than 100 NTUs.

## **B. Groundwater Limitations**

1. Release of waste constituents from any storage, treatment, recycling, or disposal component associated with the Facility shall not, in combination with other sources of waste constituents, cause groundwater within influence of the Facility and discharge area(s) to contain waste constituents in concentrations listed below:
  - a. Total coliform equal to or greater than 2.2 MPN/100 mL.
  - b. Chemical constituents in concentrations that adversely affect beneficial uses, such as nitrate (as N) in excess of 10 mg/L.
  - c. Toxic constituents in concentrations that produce detrimental physiological responses in human, plant, or animal life.
  - d. Radionuclides in concentrations deleterious to human, plant, or animal, or aquatic life, or in concentrations that result in accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.

## VI. PROVISIONS

### A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions (federal NPDES standard conditions from 40 CFR Part 122) included in Attachment D of this Order.
2. The Discharger shall comply with the following provisions:
  - 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:

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

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

- c. If a toxic effluent standard or prohibition (including any scheduled compliance specified in such effluent standard or prohibition) is established under section

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

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

- d. This Order shall be modified, or alternately revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the CWA, if the effluent standard or limitation so issued or approved:
  - i. Contains different conditions or is otherwise more stringent than any effluent limitation in the Order; or
  - ii. Controls any pollutant limited in the Order.

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

- e. The provisions of this Order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.
- f. The Discharger shall take all reasonable steps to minimize any adverse effects to waters of the State or users of those waters resulting from any discharge or sludge use or disposal in violation of this Order. Reasonable steps shall include such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge or sludge use or disposal.
- g. The Discharger shall ensure compliance with any existing or future pretreatment standard promulgated by USEPA under section 307 of the CWA, or amendment thereto, for any discharge to the municipal system.
- h. A copy of this Order shall be maintained at the discharge facility and be available at all times to operating personnel. Key operating personnel shall be familiar with its content.
- i. Safeguard to electric power failure:
  - i. The Discharger shall provide safeguards to assure that, should there be reduction, loss, or failure of electric power, the discharge shall comply with the terms and conditions of this Order.
  - ii. Upon written request by the Central Valley Water Board, the Discharger shall submit a written description of safeguards. Such safeguards may include alternate power sources, standby generators, retention capacity, operating

procedures, or other means. A description of the safeguards provided shall include an analysis of the frequency, duration, and impact of power failures experienced over the past 5 years on effluent quality and on the capability of the Discharger to comply with the terms and conditions of the Order. The adequacy of the safeguards is subject to the approval of the Central Valley Water Board.

- iii. Should the treatment works not include safeguards against reduction, loss, or failure of electric power, or should the Central Valley Water Board not approve the existing safeguards, the Discharger shall, within 90 days of having been advised in writing by the Central Valley Water Board that the existing safeguards are inadequate, provide to the Central Valley Water Board and USEPA a schedule of compliance for providing safeguards such that in the event of reduction, loss, or failure of electric power, the Discharger shall comply with the terms and conditions of this Order. The schedule of compliance shall, upon approval of the Central Valley Water Board, become a condition of this Order.
- j. The Discharger, upon written request of the Central Valley Water Board, shall file with the Board a technical report on its preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. This report may be combined with that required under the Central Valley Water Board Standard Provision contained in section VI.A.2.i of this Order.

The technical report shall:

- i. Identify the possible sources of spills, leaks, untreated waste by-pass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes should be considered.
- ii. Evaluate the effectiveness of present facilities and procedures and state when they became operational.
- iii. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule containing interim and final dates when they will be constructed, implemented, or operational.

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

- k. A publicly owned treatment works whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment and disposal facilities. The projections shall be made in January, based on the last 3 years' average dry weather flows, peak

wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in 4 years, the Discharger shall notify the Central Valley Water Board by 31 January. A copy of the notification shall be sent to appropriate local elected officials, local permitting agencies and the press. Within 120 days of the notification, the Discharger shall submit a technical report showing how it will prevent flow volumes from exceeding capacity or how it will increase capacity to handle the larger flows. The Central Valley Water Board may extend the time for submitting the report.

- i.** The Discharger shall submit technical reports as directed by the Executive Officer. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code, sections 6735, 7835, and 7835.1. To demonstrate compliance with Title 16, CCR, sections 415 and 3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.
- m.** The Central Valley Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.
- n.** For 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 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, 1-hour average effluent limitation, acute toxicity effluent limitation, or receiving water limitation contained in this Order, the Discharger shall notify the Central Valley Water Board by telephone at (559) 445-5116 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within 5 days, unless the Central Valley Water Board waives confirmation. The written notification shall include the information required by the Standard Provision contained in Attachment D section V.E.1. [40 CFR 122.41(I)(6)(i)].
- 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 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.

## **B. Monitoring and Reporting Program Requirements**

The Discharger shall comply with the Monitoring and Reporting Program, 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 CFR 122.62, including, but not limited to:
  - i. If new or amended applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA, or amendments thereto, this permit may be reopened and modified in accordance with the new or amended standards.
  - ii. When new information, that was not available at the time of permit issuance, would have justified different permit conditions at the time of issuance.
- b. 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 testing, 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 new chronic toxicity effluent limitation, new acute toxicity effluent limitations, and/or effluent limitations 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 and lead. 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. Drinking Water Policy.** On 26 July 2013, the Central Valley Water Board adopted Resolution No. R5-2013-0098 amending the Basin Plan and establishing a Drinking Water Policy. The State Water Board adopted the Drinking Water Policy at its 3 December 2013 meeting. The Basin Plan amendment and Drinking Water Policy will be submitted to the Office of Administrative Law and USEPA for approval.

## 2. Special Studies, Technical Reports, and Additional Monitoring Requirements

- a. Chronic Whole Effluent Toxicity.** For compliance with the Basin Plan's narrative toxicity objective and the chronic toxicity effluent limitation, this Order requires the Discharger to conduct chronic whole effluent toxicity (WET) testing, as specified in the Monitoring and Reporting Program (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 exhibits toxicity, as described in subsection ii below, the Discharger is required to initiate a 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 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. TRE Work Plan.** By **<180 days of the effective date of this Order>**, 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

USEPA guidance<sup>1</sup> and be of adequate detail to allow the Discharger to immediately initiate a TRE as required in this Provision.

- ii. Accelerated Monitoring and TRE Initiation.** When the numeric toxicity monitoring trigger is exceeded during regular chronic toxicity monitoring, the Discharger shall initiate accelerated monitoring as required in the Accelerated Monitoring Specifications. The Discharger shall initiate a TRE to address effluent toxicity if any WET testing results exceed the numeric toxicity monitoring trigger during accelerated monitoring.
- iii. Numeric Toxicity Monitoring Trigger.** The numeric toxicity monitoring trigger to initiate a TRE is  $>1 TU_C$  (where  $TU_C = 100/NOEC$ ) (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.
- iv. Accelerated Monitoring Specifications.** If the numeric toxicity monitoring trigger is exceeded during regular chronic toxicity testing, the Discharger shall initiate accelerated monitoring within 14 days of notification by the laboratory of the exceedance. Accelerated monitoring shall consist of four (4) chronic toxicity tests in a six-week period (i.e., one test conducted 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 (4) 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 evidence 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

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<sup>1</sup> See the Fact Sheet (Attachment F, section VII.B.2.a.) for a list of USEPA guidance documents that must be considered in the development of the TRE Work Plan.

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.

**b. Cyanide Study.** There are indications that the discharge may contain cyanide at concentrations that have a reasonable potential to cause or contribute to an exceedance of the CTR criteria. However, there is evidence that suggests cyanide results may be due to interference from the preserving agent that 40 CFR Part 136 requires be added if samples will not be analyzed within 15 minutes. USEPA revised 40 CFR Part 136 in 2012 to include recommended treatment options for samples containing oxidants, and revises the cyanide sample handling instructions to describe options available for mitigating interferences. This Order requires the Discharger to conduct a study to determine an appropriate holding time and preservation technique, if any, in accordance with 40 CFR Part 136. The Discharger shall comply with the following time schedule in conducting the study:

<u>Task</u>	<u>Compliance Date</u>
i. Submit a work plan and time schedule for conducting a holding time study	<4 years>
ii. Begin study	Within 3 months following approval of work plan and time schedule
iii. Submit results of study	Per approved schedule

### 3. Best Management Practices and Pollution Prevention

**a. Salinity Evaluation and Minimization Plan.** The Discharger shall prepare a salinity evaluation and minimization plan to identify and address sources of salinity to and from from the Facility. Sources of salinity shall include sources to the Facility and sources at the Facility (e.g., from chemical addition). The plan shall be completed and submitted to the Central Valley Water Board by **<9 months of the adoption date of this Order>** for the approval by the Executive Officer.

### 4. Construction, Operation, and Maintenance Specifications

#### a. Disposal Ponds Operating Requirements

- i. The ponds shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

- ii. Public contact with wastewater, including wastewater at off-site disposal ponds (Discharge Point 004), shall be precluded through such means as fences, signs, and other acceptable alternatives.
- iii. On-site and off-site ponds shall be managed to prevent breeding of mosquitoes. In particular,
  - (a) An erosion control program should assure that small coves and irregularities are not created around the perimeter of the water surface.
  - (b) Weeds shall be minimized.
  - (c) Dead algae, vegetation, and debris shall not accumulate on the water surface.
- iv. Vegetation management operations in areas in which nesting birds have been observed shall be carried out either before or after, but not during, the 1 April through 30 June bird nesting season.
- v. The Discharger shall operate and maintain all wastewater ponds and irrigation reservoirs sufficiently to protect the integrity of containment dams and berms and prevent overtopping and/or structural failure. Unless a California-registered civil engineer certified (based on design, construction, and conditions of operation and maintenance) that less freeboard is adequate, the operating freeboard in any pond shall never be less than two feet (measured vertically from the lowest possible points of overflow).
- vi. Prior to the onset of the rainy season of each year, available pond storage capacity shall at least equal the volume necessary to comply with Disposal Ponds Operation Requirement at section VI.C.4.a.v., above.
- vii. Objectionable odors originating at this Facility shall not be perceivable beyond the limits of the wastewater treatment and disposal areas (or property owned by the Discharger).
- viii. The dissolved oxygen content in the upper zone (1 foot) of wastewater in the ponds shall not be less than 1.0 mg/L for three consecutive sampling events. Should the dissolved oxygen be below 1.0 mg/L for three consecutive sampling events, the Discharger shall report the finding 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 (POTWs Only)

### a. Pretreatment Requirements

- i. The Discharger shall continue to implement its pretreatment program that was approved by the Central Valley Water Board on 5 May 1983.

- ii. The Discharger shall be responsible and liable for the performance of all Control Authority pretreatment requirements contained in 40 CFR Part 403, including any subsequent regulatory revisions to 40 CFR Part 403. Where 40 CFR Part 403 or subsequent revision places mandatory actions upon the Discharger as Control Authority but does not specify a timetable for completion of the actions, the Discharger shall complete the required actions within 6 months from the issuance date of this permit or the effective date of the 40 CFR Part 403 revisions, whichever comes later. For violations of pretreatment requirements, the Discharger shall be subject to enforcement actions, penalties, fines, and other remedies by USEPA or other appropriate parties, as provided in the CWA.
- iii. The Discharger shall enforce the requirements promulgated under sections 307(b), 307(c), 307(d), and 402(b) of the CWA with timely, appropriate, and effective enforcement actions. The Discharger shall cause all nondomestic users subject to federal categorical standards to achieve compliance no later than the date specified in those requirements or, in the case of a new nondomestic user, upon commencement of the discharge.
- iv. The Discharger shall perform the pretreatment functions as required in 40 CFR Part 403 including, but not limited to:
  - (a) Implement the necessary legal authorities as provided in 40 CFR 403.8(f)(1);
  - (b) Enforce the pretreatment requirements under 40 CFR 403.5 and 403.6;
  - (c) Implement the programmatic functions as provided in 40 CFR 403.8(f)(2); and
  - (d) Provide the requisite funding and personnel to implement the pretreatment program as provided in 40 CFR 403.8(f)(3).
- v. The Discharger shall implement, as more completely set forth in 40 CFR 403.5, the necessary legal authorities, programs, and controls to ensure that the following incompatible wastes are not introduced to the treatment system, where incompatible wastes are:
  - (a) Wastes which create a fire or explosion hazard in the treatment works;
  - (b) Wastes which will cause corrosive structural damage to treatment works, but in no case wastes with a pH lower than 5.0, unless the works is specially designed to accommodate such wastes;
  - (c) Solid or viscous wastes in amounts which cause obstruction to flow in sewers, or which cause other interference with proper operation or treatment works;

- (d) Any waste, including oxygen demanding pollutants (BOD, etc.), released in such volume or strength as to cause inhibition or disruption in the treatment works, and subsequent treatment process upset and loss of treatment efficiency;
  - (e) Heat in amounts that inhibit or disrupt biological activity in the treatment works, or that raise influent temperatures above 40°C (104°F), unless the Central Valley Water Board approves alternate temperature limits;
  - (f) Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;
  - (g) Pollutants which result in the presence of toxic gases, vapors, or fumes within the treatment works in a quantity that may cause acute worker health and safety problems; and:
  - (h) Any trucked or hauled pollutants, except at points predesignated by the Discharger.
- vi. The Discharger shall implement, as more completely set forth in 40 CFR 403.5, the legal authorities, programs, and controls necessary to ensure that indirect discharges do not introduce pollutants into the sewerage system that, either alone or in conjunction with a discharge or discharges from other sources:
- (a) Flow through the system to the receiving water in quantities or concentrations that cause a violation of this Order, or:
  - (b) Inhibit or disrupt treatment processes, treatment system operations, or sludge processes, use, or disposal and either cause a violation of this Order or prevent sludge use or disposal in accordance with this Order.
- b. Sludge/Biosolids Treatment or Discharge Specifications.** Sludge in this document means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screening material generated during preliminary treatment. Residual sludge means sludge that will not be subject to further treatment at the Facility. Biosolids refer to sludge that has been treated and tested and shown to be capable of being beneficially and legally used pursuant to federal and state regulations as a soil amendment for agricultural, silvicultural, horticultural, and land reclamation activities as specified under 40 CFR Part 503.
- i. Collected screenings, residual sludge, biosolids, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer, and consistent with *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, as set forth in Title 27, CCR, division 2, subdivision 1, section 20005, et seq. Removal for further treatment, storage, disposal, or reuse at sites (e.g., landfill,

composting sites, soil amendment sites) that are operated in accordance with valid waste discharge requirements issued by the State Water Board or a Regional Water Board will satisfy these specifications.

- ii. Sludge and solid waste shall be removed from screens, sumps, ponds, clarifiers, etc. as needed to ensure optimal plant performance.
- iii. The treatment of sludge and the dewatering of residual sludge and/or biosolids 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 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 V.B. of this Order.
- iv. The use, disposal, storage, and transportation of biosolids shall comply with existing federal and state laws and regulations, including permitting requirements and technical standards included in 40 CFR Part 503. If the State Water Board and the Central Valley Water Board are given the authority to implement regulations contained in 40 CFR Part 503, this Order may be reopened to incorporate appropriate time schedules and technical standards. The Discharger must comply with the standards and time schedules contained in 40 CFR Part 503 whether or not they have been incorporated into this Order.
- v. The Discharger shall comply with Section IX.A. Biosolids Monitoring of the Monitoring and Reporting Program, Attachment E.
- vi. Any proposed change in biosolids use or disposal practice from a previously approved practice shall be reported to the Executive Officer and USEPA Regional Administrator at least **90 days** in advance of the change.
- vii. By **<180 days of the permit effective date>**, the Discharger shall submit a biosolids use or disposal plan to the Central Valley Water Board. The plan shall describe, at a minimum:
  - (a) Sources and amounts of sludge/biosolids generated annually.
  - (b) Location(s) of on-site drying and storage areas 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.
- c. **Collection System.** On 2 May 2006, the State Water Board adopted State Water Board Order 2006-0003-DWQ, Statewide General Waste Discharge

Requirements for Sanitary Sewer Systems. The Discharger shall be subject to the requirements of Order 2006-0003-DWQ and any future revisions thereto. Order 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 of its wastewater collection system.

- d. Limited portions of the wastewater collection system may be outside the service area of the Discharger. In order to ensure protection of the entire collection system and treatment works from industrial discharges, it is necessary that the Discharger control discharges into the system. The Discharger and Goshen Community Services District adopted a Memorandum of Understanding, dated 24 March 1999 and amended on 24 April 2008, which establishes legally binding procedures to ensure that all nondomestic dischargers are subject to enforceable pretreatment standards and requirements. The Discharger shall provide the Central Valley Water Board any revisions or amendments to the Memorandum of Understanding **within 30 days** of the revisions or amendments becoming final.

**6. Other Special Provisions**

- a. The Discharger shall continue implementing its REC-1 discouragement plan for Mill Creek, as approved by the Central Valley Water Board on 21 October 2008. Any changes to the REC-1 discouragement plan shall be reported to the Central Valley Water Board within 30 days of implementation.

**7. Compliance Schedules**

- a. **Compliance with Title 27, CCR.** The Central Valley Water Board cannot make a finding that the disposal ponds are exempt from Title 27 based on the available groundwater monitoring data. However, the Discharger is in the process of upgrading its wastewater treatment facility to provide tertiary treatment with nitrogen removal, and to reconstruct the sludge drying beds with asphaltic concrete, among other improvements. This Order includes a compliance schedule to ensure the Discharger completes the planned Facility upgrades, which the Central Valley Water Board anticipates will allow the Facility to be exempt from Title 27.

<u>Task</u>	<u>Compliance Date</u>
i. Notify the Central Valley Water Board when construction commences	1 July 2014
ii. Progress Reports	Annually, 1 February
iii. Notify the Central Valley Water Board when construction is complete	1 July 2017
iv. Request termination of NPDES Permit -or- Submit application for NPDES Permit Renewal	<180 days before Order expiration>

## VII. COMPLIANCE DETERMINATION

- A. BOD<sub>5</sub> and TSS Effluent Limitations (Sections IV.A.5., IV.B.1.a., IV.C.1., IV.D.19.).** Compliance with the final effluent limitations for BOD<sub>5</sub> and TSS required in Limitations and Discharge Requirements sections IV.B.1.a., IV.C.1., and IV.D.19. shall be ascertained by 24-hour flow-proportional composite samples. Compliance with effluent limitations required in Limitations and Discharge Requirements section IV.A.5. for percent removal shall be calculated using the arithmetic mean of BOD<sub>5</sub> and TSS in effluent samples collected over a monthly period at EFF-A as a percentage of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period.
- B. Total Coliform Effluent Limitations (Section IV.B.1.e.).** For each day that an effluent sample is collected and analyzed for total coliform, the 7-day median shall be determined by calculating the median concentration of total coliform bacteria in the effluent utilizing the bacteriological results of the last 7 days. For example, if a sample is collected on a Wednesday, the result from that sampling event and all results from the previous 6 days (i.e., Tuesday, Monday, Sunday, Saturday, Friday, and Thursday) are used to calculate the 7-day median. If the 7-day median of total coliform organisms exceeds a most probable number (MPN) of 23 per 100 milliliters, the Discharger will be considered out of compliance.
- C. Total Residual Chlorine Effluent Limitations (Section IV.B.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 limitation 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).

- D. Mass Effluent Limitations.** The mass effluent limitations contained in the Final Effluent Limitations IV.B.1.a. are based on the permitted average dry weather flow and calculated as follows:

$$\text{Mass (lbs/day)} = \text{Flow (mgd)} \times \text{Concentration (mg/L)} \times 8.34 \text{ (conversion factor)}$$

**E. Copper and Lead Effluent Limitations.** Compliance with effluent limitations for copper and lead 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 sections 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 organism 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 the multiple sample results, is below the RL, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation and the Discharger conducts a PMP (as described in Section 2.4.5.1 of the SIP), the Discharger shall not be deemed out of compliance.

**F. Chronic Whole Effluent Toxicity Effluent Limitation (Section IV.B.1.d.).**

Compliance with the accelerated monitoring and TRE/TIE provisions of Provision VI.C.2.a. shall constitute compliance with the effluent limitation.

**G. Electrical Conductivity (Section IV.A.1.).** Beginning <12 months after permit adoption date>, compliance with the electrical conductivity effluent limitations shall be determined monthly at monitoring location EFF-A by comparing the 12-month rolling average of the effluent electrical conductivity data with 1,000  $\mu\text{mhos/cm}$  and with the 12-month rolling flow-weighted electrical conductivity data submitted for the public water supply plus 500  $\mu\text{mhos/cm}$ .

Between <permit adoption date> and <12 months after permit effective date>, compliance with the electrical conductivity effluent limitations shall be determined monthly at monitoring location EFF-A by comparing the 12-month rolling average of the effluent electrical conductivity data with 1,000  $\mu\text{mhos/cm}$  and with the latest annual flow-weighted average electrical conductivity data submitted for the public water supply plus 500  $\mu\text{mhos/cm}$ .

## ATTACHMENT A – DEFINITIONS

### Arithmetic Mean ( $\mu$ )

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

Arithmetic mean =  $\mu = \Sigma x / n$       where:  $\Sigma x$  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 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 assure that “(a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.” Pollution is defined in California 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 1 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 USEPA guidance (*Technical Support Document For Water Quality-based Toxics Control*, March 1991, second printing, EPA/505/2-90-001).

**Enclosed Bays**

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

**Estimated Chemical Concentration**

The estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the Minimum Level (ML) value. Same as Detected, but not Quantified.

**Estuaries**

Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters include, but are not limited to, the Sacramento-San Joaquin Delta, as defined in California

Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

### **Inland Surface Waters**

All surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

### **Instantaneous Maximum Effluent Limitation**

The highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

### **Instantaneous Minimum Effluent Limitation**

The lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

### **LC50**

The concentration of effluent that is lethal to 50% of the exposed test organisms, measured in a dilution series ranging from 100% effluent to 0% effluent.

### **Lowest Observed Effect Concentration (LOEC)**

The lowest concentration of an effluent at which adverse effects are observed on an aquatic test organism.

### **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 CFR 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.

### **No Observed Effect Concentration (NOEC)**

The highest concentration of toxicant to which organisms are exposed in a full life-cycle or partial life-cycle (short-term) test, that causes no observable adverse effects on the test organisms (i.e., the highest concentration of toxicant in which the values for the observed responses are not statistically significantly different from the controls).

### **Not Detected (ND)**

Sample results which are less than the laboratory's MDL.

### **Ocean Waters**

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

### **Persistent Pollutants**

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

### **Pollutant Minimization Program (PMP)**

Pollutant minimization plan 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, required pursuant to California 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 California 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.

**Reporting Level (RL)**

The reporting level is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the reporting level depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied in the computation of the reporting level.

**Satellite Collection System**

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

**Source of Drinking Water**

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

**Standard Deviation ( $\sigma$ )**

Standard deviation is a measure of variability that is calculated as follows:

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

where:

- x is the observed value;
- $\mu$  is the arithmetic mean of the observed values; and
- n is the number of samples.

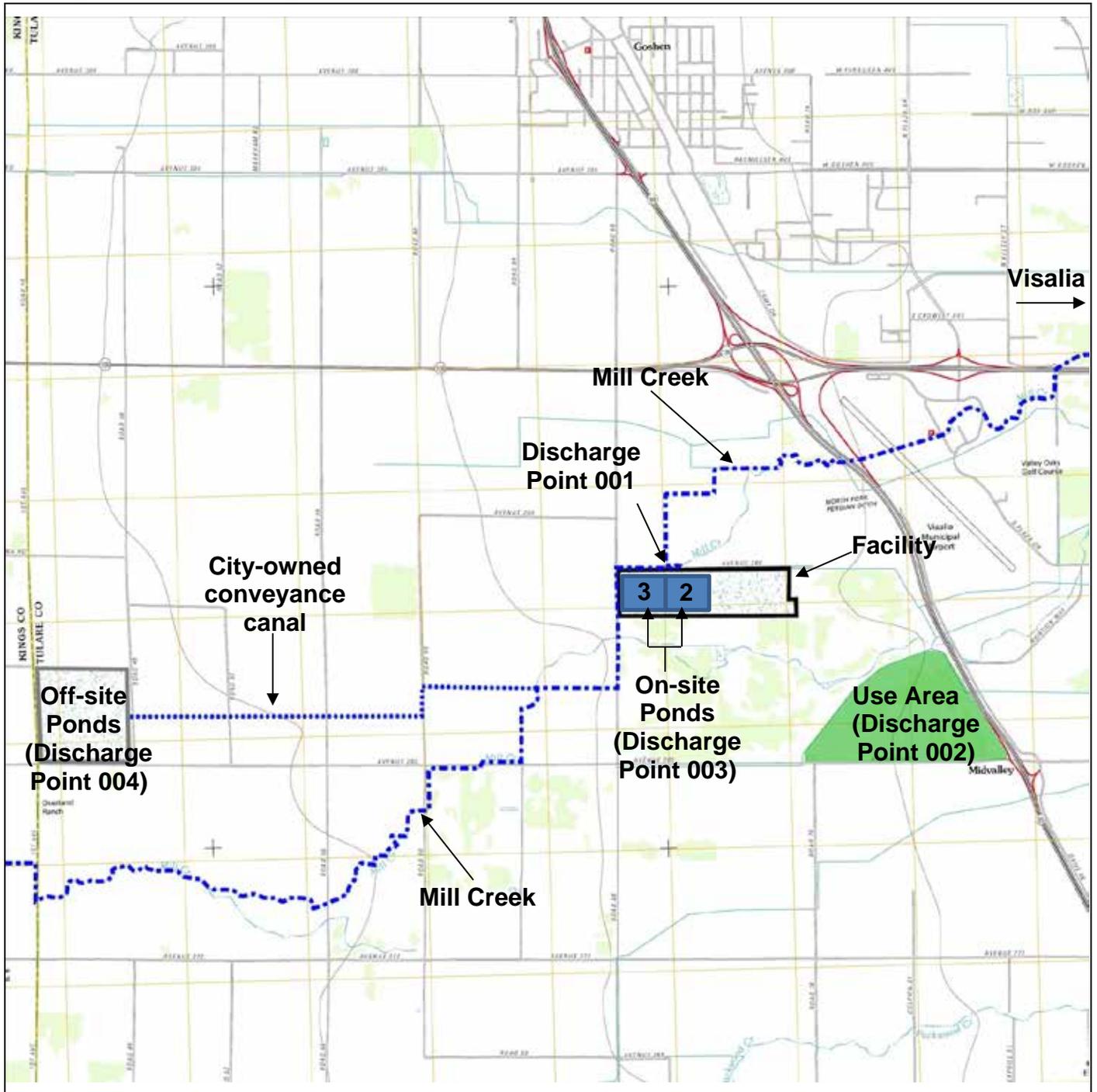
**Teratogenic**

Teratogenic pollutants are substances that are known to cause structural abnormalities or birth defects in living organisms.

**Toxicity Reduction Evaluation (TRE)**

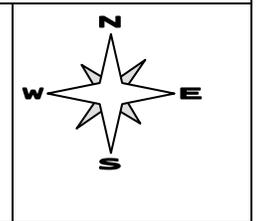
TRE is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection 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.

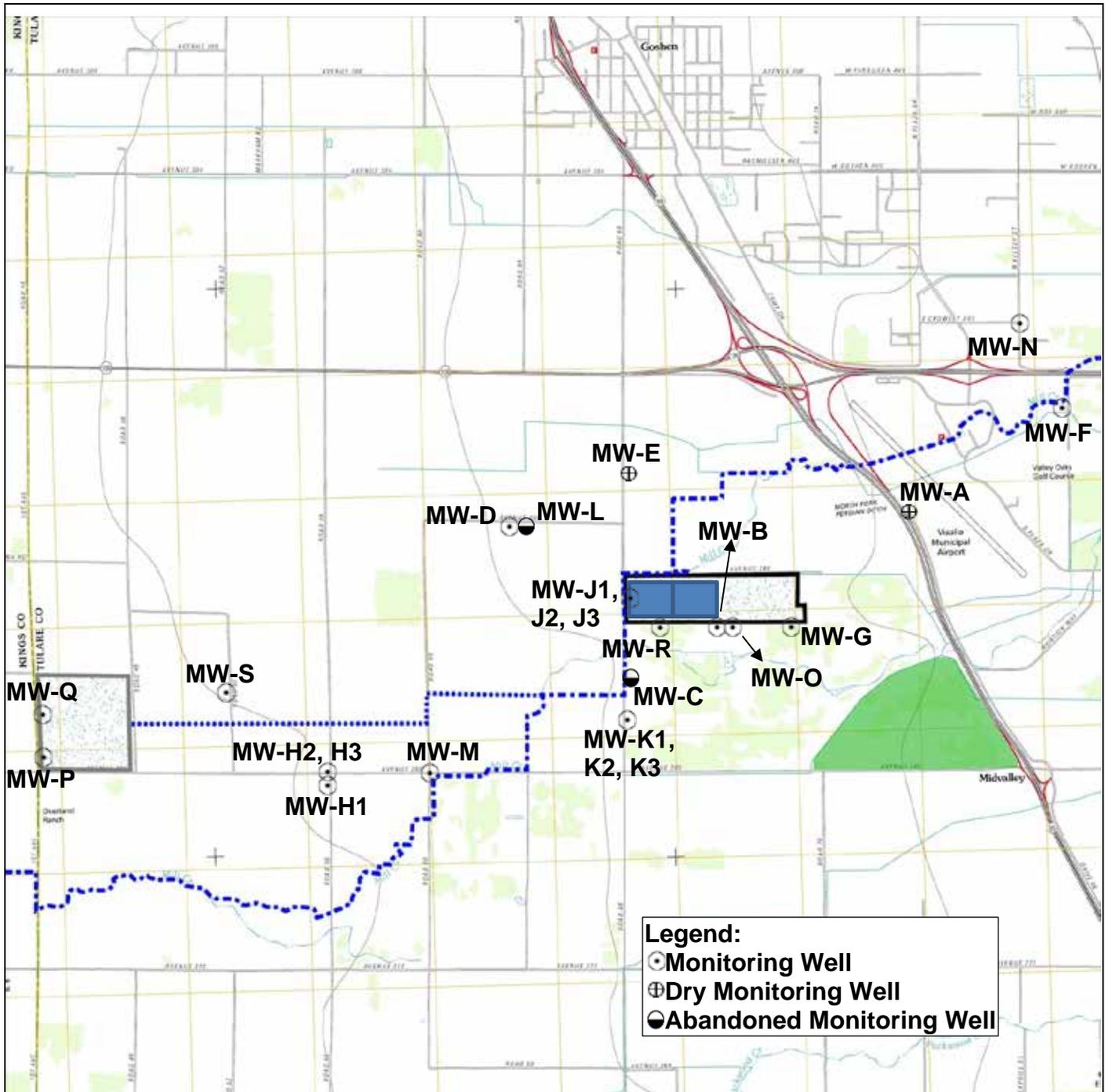
**ATTACHMENT B – MAPS**



Drawing Reference:  
 GOSHEN  
 U.S.G.S. TOPOGRAPHIC MAP  
 7.5 MINUTE QUADRANGLE  
 Revised 2012  
*Not to scale*

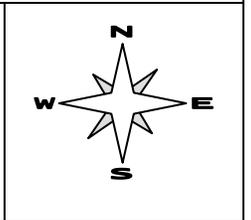
SITE LOCATION MAP  
 CITY OF VISALIA  
 WATER CONSERVATION PLANT  
 TULARE COUNTY





Drawing Reference:  
 GOSHEN  
 U.S.G.S. TOPOGRAPHIC MAP  
 7.5 MINUTE QUADRANGLE  
 Revised 2012  
*Not to scale*

GROUNDWATER MONITORING WELLS  
 LOCATION MAP (APPROXIMATE)  
  
 CITY OF VISALIA  
 WATER CONSERVATION PLANT  
 TULARE COUNTY





## **ATTACHMENT D – STANDARD PROVISIONS**

### **I. STANDARD PROVISIONS – PERMIT COMPLIANCE**

#### **A. Duty to Comply**

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code (Water Code) and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 CFR 122.41(a).)
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 CFR 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 CFR 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 CFR 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 CFR 122.41(e).)

#### **E. Property Rights**

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 CFR 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 CFR 122.5(c))

## **F. Inspection and Entry**

The Discharger shall allow the Central Valley Regional Water Quality Control Board (Central Valley Water Board), State Water Resources Control Board (State Water Board), United States Environmental Protection Agency (USEPA), 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 (40 CFR 122.41(i); Water Code section 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 (40 CFR 122.41(i)(1));
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 CFR 122.41(i)(2));
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 CFR 122.41(i)(3)); 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. (40 CFR 122.41(i)(4))

## **G. Bypass**

1. Definitions
  - a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR 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 CFR 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 CFR 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 CFR 122.41(m)(4)(i)):
  - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 CFR 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 CFR 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 CFR 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 CFR 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 CFR 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 CFR 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 CFR 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 CFR 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 CFR 122.41(n)(3)):
  - a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 CFR 122.41(n)(3)(i));
  - b. The permitted facility was, at the time, being properly operated (40 CFR 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 CFR 122.41(n)(3)(iii)); and
  - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 CFR 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 CFR 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 CFR 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 CFR 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 CFR 122.41(l)(3) and 122.61)

### III. STANDARD PROVISIONS – MONITORING

- A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 CFR 122.41(j)(1))
- B. Monitoring results must be conducted according to test procedures under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503 unless other test procedures have been specified in this Order. (40 CFR 122.41(j)(4) and 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 5 years (or longer as required by 40 CFR 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 CFR 122.41(j)(2))

#### B. Records of monitoring information shall include:

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

#### C. Claims of confidentiality for the following information will be denied (40 CFR 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 CFR 122.7(b)(1)); and
2. Permit applications and attachments, permits and effluent data. (40 CFR 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 USEPA within a reasonable time, any information which the Central Valley Water Board, State Water Board, or USEPA 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 USEPA copies of records required to be kept by this Order. (40 CFR 122.41(h); Water Code section 13267)

### **B. Signatory and Certification Requirements**

1. All applications, reports, or information submitted to the Central Valley Water Board, State Water Board, and/or USEPA 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 CFR 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 USEPA).  
(40 CFR 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 USEPA 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 CFR 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 CFR 122.22(b)(2)); and
  - c. The written authorization is submitted to the Central Valley Water Board and State Water Board. (40 CFR 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 CFR 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 CFR 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 CFR 122.22(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 CFR 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 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, or as specified in this Order, the results of this 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 CFR 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 CFR 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 CFR 122.41(l)(5))

### **E. Twenty-Four Hour Reporting**

1. The Discharger shall notify the California Office of Emergency Services of any noncompliance that may endanger health or the environment. Any information shall be provided to the Central Valley Water Board orally within 24 hours from the time

the Discharger becomes aware of the circumstances. A written submission shall also be provided to the Central Valley Water Board 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 CFR 122.41(l)(6)(i))

2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 CFR 122.41(l)(6)(ii)):
  - a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 CFR 122.41(l)(6)(ii)(A))
  - b. Any upset that exceeds any effluent limitation in this Order. (40 CFR 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 CFR 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 CFR 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 40 CFR 122.29(b) (40 CFR 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 CFR 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 CFR 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 Order requirements. (40 CFR 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 CFR 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 USEPA, the Discharger shall promptly submit such facts or information. (40 CFR 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 (POTWs)**

All POTWs shall provide adequate notice to the Central Valley Water Board of the following (40 CFR 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 CFR 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 CFR 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 CFR 122.42(b)(3))

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## **ATTACHMENT E – MONITORING AND REPORTING PROGRAM**

Title 40 of the Code of Federal Regulations (CFR), section 122.48 (40 CFR 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 Monitoring and Reporting Program establishes monitoring and reporting requirements, which implement the 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 (USEPA) 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 USEPA guidelines or to procedures approved by the Central Valley Water Board.
- D.** Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary, at least yearly, to ensure their

continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.

- E. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this Monitoring and Reporting Program.
- F. Laboratories analyzing monitoring samples shall be certified by 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 conduct analysis on any sample provided by USEPA as part of the Discharge Monitoring Quality Assurance (DMQA) program. The results of any such analysis shall be submitted to USEPA’s DMQA manager.
- H. The Discharger shall file with the Central Valley Water Board technical reports on self-monitoring performed according to the detailed specifications contained in this Monitoring and Reporting Program.
- I. The results of all monitoring required by this Order shall be reported to the Central Valley Water Board, and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order. Unless otherwise specified, discharge flows shall be reported in terms of the monthly average and the maximum daily discharge flows.

**II. MONITORING LOCATIONS**

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

**Table E-1. Monitoring Station Locations**

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	INF-001	Influent flow prior to any treatment
001, 002, 003, 004	EFF-A	Single sampling location to monitor secondary effluent to Mill Creek, Use Area, on-site disposal ponds, and/or off-site disposal ponds, at the sampling box
001	EFF-001	Disinfected secondary effluent to Mill Creek, after dechlorination
002	EFF-002	Secondary effluent to Use Area
003	EFF-003	Secondary effluent to on-site disposal ponds
004	EFF-004	Secondary effluent to off-site disposal ponds (Basin No. 4
--	RSW-001	Mill Creek, upstream of Discharge Point 001 and of the backwater conditions but no more than 5,000 feet upstream from Discharge Point 001
--	RSW-002	Mill Creek, no more than 1,000 feet downstream from Discharge Point 001. Monitoring location shall be established to ensure no intervening discharge (e.g., tailwater, storm water, confluence with another canal, etc.) occurs between Discharge Point 001 and RSW-002.
--	BIO-001	Biosolids Monitoring
--	SPL-001	Public water supply for the area served by the Facility
--	MW-x	Groundwater monitoring wells
--	PND-002	Monitoring of on-site disposal pond 2 (east pond)

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	PND-003	Monitoring of on-site disposal pond 3 (west pond)
--	PND-004	Monitoring of off-site disposal pond (Basin No. 4)

**III. INFLUENT MONITORING REQUIREMENTS**

**A. Monitoring Location INF-001**

1. The Discharger shall monitor the influent to the facility at INF-001 as follows:

**Table E-2. Influent Monitoring**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Calculate	1/Day	--
Biochemical Oxygen Demand (BOD) (5-day @ 20°C)	mg/L	Composite <sup>1</sup>	2/Week <sup>4</sup>	2
Total Suspended Solids	mg/L	Composite <sup>1</sup>	2/Week <sup>4</sup>	2
pH	standard units	Grab	1/Day	2,3
Electrical Conductivity @ 25°C	µmhos/cm	Composite <sup>1</sup>	1/Day	2

- <sup>1</sup> Composite samples shall be 24-hour flow-proportional composites.
- <sup>2</sup> Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136 or by methods approved by the Central Valley Water Board or the State Water Board.
- <sup>3</sup> A hand-held field meter may be used, provided the meter utilizes a USEPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer’s instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
- <sup>4</sup> Samples shall be collected on non-consecutive days.

**IV. EFFLUENT MONITORING REQUIREMENTS**

**A. Monitoring Location EFF-001**

1. The Discharger shall monitor disinfected secondary-treated wastewater discharged to Mill Creek at EFF-001 as follows.

**Table E-3. Effluent Monitoring Requirements at EFF-001**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Meter	Continuous	--
<b>Conventional Pollutants</b>				
Biochemical Oxygen Demand (BOD) (5-day @ 20°C)	lbs/day	Calculate <sup>3</sup>	3/Week	--
Total Suspended Solids	lbs/day	Calculate <sup>3</sup>	3/Week	--
<b>Non-Conventional Pollutants</b>				
Chlorine, Total Residual	mg/L	Grab	1/Day	1,2

- <sup>1</sup> Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136 or by methods approved by the Central Valley Water Board or the State Water Board.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
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- <sup>2</sup> Total chlorine residual must be monitored with a method sensitive to and accurate at the permitted level of 0.01 mg/L.
- <sup>3</sup> The Discharger shall use sample results for BOD and TSS collected at EFF-A to calculate mass loading.

**B. Monitoring Location EFF-A**

1. The Discharger shall monitor secondary-treated wastewater at EFF-A for the following constituents **only when discharging to Mill Creek**, in addition to the monitoring required by Table E-5. If the discharge is intermittent rather than continuous, the Discharger shall monitor and record data for all constituents listed below on the first day of each intermittent discharge and thereafter the frequencies of analyses given in the schedule shall apply.

**Table E-4. Monitoring Requirements at EFF-A for discharge to Mill Creek**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
<b>Priority Pollutants</b>				
Bis(2-ethylhexyl) phthalate	µg/L	Grab	1/Month <sup>4</sup>	2,5,6
Copper, Total Recoverable	µg/L	Composite <sup>1</sup>	1/Month <sup>11</sup>	2,5
Cyanide, Total (as CN)	µg/L	Grab	<sup>12</sup>	2,5
Lead, Total Recoverable	µg/L	Composite <sup>1</sup>	1/Month <sup>11</sup>	2,5
Mercury, Total Recoverable	µg/L or ng/L	Grab	1/Month <sup>4</sup>	2,7
Silver, Total Recoverable	µg/L	Composite <sup>1</sup>	1/Month <sup>4,11</sup>	2,5
Priority Pollutants	vary	Grab/Composite <sup>1</sup>	1/Year <sup>8</sup>	2,5,9
<b>Non-Conventional Pollutants</b>				
Aluminum	µg/L	Composite <sup>1</sup>	2/Year <sup>11</sup>	2
Ammonia, un-ionized (as N)	mg/L	Calculate	1/Week	--
Dissolved Oxygen	mg/L	Grab	1/Day	2,3
Hardness (as CaCO <sub>3</sub> )	mg/L	Composite <sup>1</sup>	1/Month <sup>11</sup>	2
Total Coliform	MPN/100 mL	Grab <sup>10</sup>	3/Week	2

- <sup>1</sup> Composite samples shall be 24-hour flow-proportional composites.
- <sup>2</sup> Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136 or by methods approved by the Central Valley Water Board or the State Water Board.
- <sup>3</sup> A hand-held field meter may be used, provided the meter utilizes a USEPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
- <sup>4</sup> Monitoring shall commence during the third year of the permit term (**<date>**).
- <sup>5</sup> Reporting levels shall be equal to the reporting levels specified in Attachment I of this Order. If more than one analytical test method and reporting level is listed for a given parameter in Attachment I, the Discharger may select from the listed methods and corresponding reporting level.
- <sup>6</sup> In order to verify if bis(2-ethylhexyl) phthalate is truly present in the effluent discharge, the Discharger shall take steps to ensure that sample containers, sampling apparatus, and analytical equipment are not sources of the detected contaminant.
- <sup>7</sup> Total mercury samples shall be taken using clean hands/dirty hands procedures, as described in USEPA method 1669: *Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels*, for collection of

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
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equipment blanks (section 9.4.4.2), and shall be analyzed by USEPA method 1630/1631 (Revision E) with a reporting level of 0.5 ng/L.

- <sup>8</sup> Priority pollutant samples shall be collected concurrent with receiving water samples for priority pollutants at RSW-001.
- <sup>9</sup> Volatile constituents shall be sampled in accordance with 40 CFR Part 136 or by methods approved by the Central Valley Water Board or the State Water Board.
- <sup>10</sup> Total coliform samples may be collected at any point following disinfection.
- <sup>11</sup> Hardness samples shall be collected at the same time as metals samples.
- <sup>12</sup> In accordance with the approved work plan and time schedule required under Provision VI.C.2.b. of this Order.

2. The Discharger shall monitor secondary-treated wastewater at EFF-A. EFF-A is a location representative of the effluent discharged to Mill Creek (Discharge Point 001), the Use Area (Discharge Point 002), the on-site disposal ponds (Discharge Point 003), and the off-site disposal ponds (Discharge Point 004), as follows:

**Table E-5. Effluent Monitoring Requirements at EFF-A**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
<b>Conventional Pollutants</b>				
Biochemical Oxygen Demand (BOD) (5-day @ 20°C)	mg/L	Composite <sup>1</sup>	3/Week	<sup>2</sup>
	% Removal	Calculate	1/Month	--
Total Suspended Solids	mg/L	Composite <sup>1</sup>	3/Week	<sup>2</sup>
	% Removal	Calculate	1/Month	--
pH	standard units	Grab	1/Day <sup>6</sup>	<sup>2,3</sup>
<b>Non-Conventional Pollutants</b>				
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Week <sup>6</sup>	<sup>2</sup>
Boron	mg/L	Grab	1/Month	<sup>2</sup>
Chloride	mg/L	Grab	1/Month	<sup>2</sup>
Electrical Conductivity @ 25°C	µmhos/cm	Composite <sup>1</sup>	1/Day	<sup>2</sup>
General Minerals <sup>4</sup>	mg/L	Composite <sup>1</sup>	2/Year	<sup>2</sup>
Nitrate Nitrogen, Total (as N)	mg/L	Grab	1/Month <sup>5</sup>	<sup>2</sup>
Nitrite Nitrogen, Total (as N)	mg/L	Grab	1/Month <sup>5</sup>	<sup>2</sup>
Settleable Solids	mL/L	Grab	1/Week	<sup>2</sup>
Temperature	°C/°F	Grab	1/Day <sup>6</sup>	<sup>2,3</sup>
Total Dissolved Solids	mg/L	Composite <sup>1</sup>	1/Month	<sup>2</sup>
Total Kjeldahl Nitrogen	mg/L	Grab	1/Month	<sup>2</sup>
Total Nitrogen	mg/L	Calculate	1/Month	--

- <sup>1</sup> Composite samples shall be 24-hour flow-proportional composites.
- <sup>2</sup> Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136 or by methods approved by the Central Valley Water Board or the State Water Board.
- <sup>3</sup> A hand-held field meter may be used, provided the meter utilizes a USEPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
- <sup>4</sup> General 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

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
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the analysis is complete (i.e., cation/anion balance).

<sup>5</sup> Monitoring for nitrate (as N) and nitrite (as N) shall be conducted concurrently.

<sup>6</sup> Temperature and pH shall be recorded at the same time as total ammonia (as N) sample collection.

**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 **semi-annual (2/year)** acute toxicity testing, concurrent with effluent ammonia sampling.
2. Sample Types – The samples shall be flow proportional 24-hour composites and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at the effluent monitoring location EFF-001.
3. Test Species – Test species shall be fathead minnows (*Pimephales promelas*).
4. Test Type and Duration – Test type shall be static renewal, and the test duration shall be 96 hours.
5. Dilutions – The acute toxicity testing shall be performed using undiluted effluent.
6. Test Methods – 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, and pH shall be recorded at the time of sample collection. No pH adjustment may be made unless approved by the Executive Officer.
7. Test Failure – If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger must re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure.
8. Ammonia Toxicity – The acute toxicity testing may be modified to eliminate ammonia-related toxicity until **<5 years>**, at which time the Discharger shall be required to implement the test without modifications to eliminate ammonia toxicity.

**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 **quarterly (1/quarter)** three species chronic toxicity testing.

2. Sample Types – Effluent samples shall be flow proportional 24-hour composites and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at the effluent monitoring location EFF-001.
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:
  - The cladoceran, water flea, *Ceriodaphnia dubia* (survival and reproduction test);
  - The fathead minnow, *Pimephales promelas* (larval survival and growth test); and
  - The green alga, *Selenastrum capricornutum* (growth test).
5. Test Methods – The presence of chronic toxicity shall be estimated as specified in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Fourth Edition, EPA/821-R-02-013, October 2002 (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 testing, it is not necessary to perform the test using a dilution series. The test may be performed using 100% effluent and one control. For Toxicity Reduction Evaluation (TRE) monitoring, the chronic toxicity testing shall be performed using the full dilution series identified in Table E-6, below, unless an alternative dilution series is detailed in the submitted TRE Action Plan. Laboratory water control 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.iii. of this Order.)

9. Ammonia Toxicity – The chronic toxicity testing may be modified to eliminate ammonia-related toxicity until **<5 years>**, at which time the Discharger shall be required to implement the test without modifications to eliminate ammonia toxicity.

**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 exceedances of the acute toxicity effluent limitations.

**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 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.

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**

**A. Monitoring Locations EFF-003 and EFF-004**

- 1. The Discharger shall monitor treated municipal wastewater discharged to the on-site and off-site disposal ponds at EFF-003 and EFF-004, respectively, as follows.

**Table E-7. Land Discharge Monitoring Requirements at EFF-003**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Meter	Continuous	--

**Table E-8. Land Discharge Monitoring Requirements at EFF-004**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Meter	Continuous	--

**VII. RECYCLED WATER MONITORING REQUIREMENTS**

**A. Monitoring Location EFF-002**

- 1. The Discharger shall monitor treated municipal wastewater reclaimed on the Use Area at EFF-002 as follows. If the discharge is intermittent rather than continuous, the Discharger shall monitor and record data for all constituents listed below on the first day of each intermittent discharge and thereafter the frequencies of analyses given in the schedule shall apply.

**Table E-9. Recycled Water Monitoring Requirements at EFF-002**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Meter	Continuous	--
Type of Crop Irrigated	--	Observation	1/Day	--
Rainfall	inches	Observation	1/Day	--
Effluent Application Rate	af/acre/month	Calculate	1/Month	--
Total Nitrogen Loading Rate – Effluent	lbs/acre/month	Calculate	1/Month	--
Total Nitrogen Loading Rate – Other Sources (e.g., chemical fertilizer, biosolids, etc.)	lbs/acre/month	Calculate	1/Month	--
Hydraulic/Nutrient Balance <sup>1</sup>	vary	Calculate	1/Year	--

<sup>1</sup> The hydraulic/nutrient balance shall include the total water application to cropland, including treated effluent and other irrigation water; the total nutrient loading from wastewater, sludges, and chemical fertilizers; and amount of nutrients removed through harvest of the crop.

**VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER**

**A. Monitoring Locations RSW-001 and RSW-002**

1. When there is a discharge to Discharge Point 001, the Discharger shall monitor Mill Creek at RSW-001 and RSW-002, as follows:

**Table E-10. Receiving Water Monitoring Requirements at RSW-001 and RSW-002**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
pH	standard units	Grab	1/Week <sup>1</sup>	2,3
Priority Pollutants	vary	Grab	1/Year <sup>4,5</sup>	2,6,7,8
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Week <sup>1</sup>	2
Ammonia, un-ionized (as N)	mg/L	Calculate	1/Week	--
Dissolved Oxygen	mg/L	Grab	1/Week	2,3
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Week	2,3
Fecal Coliform	MPN/100 mL	Grab	1/Week	2
General Minerals <sup>9</sup>	mg/L	Grab	1/Year <sup>4</sup>	2
Hardness (as CaCO <sub>3</sub> )	mg/L	Grab	1/Month <sup>4</sup>	2
Temperature	°C/°F	Grab	1/Week <sup>1</sup>	2,3
Turbidity	NTU	Grab	1/Week	2,3

- <sup>1</sup> Temperature and pH shall be recorded at the same time as total ammonia (as N) sample collection.
- <sup>2</sup> Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136 or by methods approved by the Central Valley Water Board or the State Water Board.
- <sup>3</sup> A hand-held field meter may be used, provided the meter utilizes a USEPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
- <sup>4</sup> Monitoring required at RSW-001 only. Samples for priority pollutants shall be collected at approximately the same time as priority pollutant samples for the effluent.
- <sup>5</sup> Monitoring shall commence during the third year of the permit term (<date>).
- <sup>6</sup> Reporting levels shall be equal to the reporting levels specified in Attachment I of this Order. If more than one analytical test method and reporting level is listed for a given parameter in Attachment I, the Discharger may select from the listed methods and corresponding reporting level.
- <sup>7</sup> In order to verify if bis(2-ethylhexyl) phthalate is truly present in the effluent discharge, the Discharger shall take steps to ensure that sample containers, sampling apparatus, and analytical equipment are not sources of the detected contaminant.
- <sup>8</sup> Total mercury samples shall be taken using clean hands/dirty hands procedures, as described in USEPA 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 USEPA method 1630/1631 (Revision E) with a method detection limit of 0.2 ng/L.
- <sup>9</sup> General 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).

**B. Monitoring Location MW-x**

1. The Discharger shall monitor groundwater at the groundwater monitoring wells depicted in Attachment B. Prior to sampling, the groundwater elevations shall be

measured and the wells shall be purged of at least three well volumes until temperature, pH, and electrical conductivity have stabilized. Depth to groundwater shall be measured to the nearest 0.01 foot. Groundwater monitoring shall include, at a minimum, the following.

**Table E-11. Groundwater Monitoring Requirements**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Depth to Groundwater	feet below ground surface	Measured	1/Quarter <sup>1</sup>	--
Groundwater Elevation	feet MSL	Calculate	1/Quarter <sup>1</sup>	--
Gradient	feet/feet	Calculate	1/Quarter <sup>1</sup>	--
Gradient Direction	degrees	Calculate	1/Quarter <sup>1</sup>	--
pH	standard units	Grab	1/Quarter <sup>1</sup>	2,3
Ammonia, Total (as N)	mg/L	Grab	1/Quarter <sup>1</sup>	2
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Quarter <sup>1</sup>	2,3
General Minerals <sup>4</sup>	mg/L	Grab	1/Quarter <sup>1</sup>	2,5
Nitrate (as N)	mg/L	Grab	1/Quarter <sup>1</sup>	2
Total Dissolved Solids	mg/L	Grab	1/Quarter <sup>1</sup>	2
Total Kjeldahl Nitrogen	mg/L	Grab	1/Quarter <sup>1</sup>	2
Total Organic Carbon	mg/L	Grab	1/Quarter <sup>1</sup>	2
Total Nitrogen	mg/L	Calculate	1/Quarter <sup>1</sup>	--

<sup>1</sup> Samples shall be collected in January, April, July, and October

<sup>2</sup> Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136 or by methods approved by the Central Valley Water Board Executive Officer or the State Water Board.

<sup>3</sup> A hand-held field meter may be used, provided the meter utilizes a USEPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

<sup>4</sup> General 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).

<sup>5</sup> Samples shall be filtered through a 0.45 µm filter prior to analysis.

**IX. OTHER MONITORING REQUIREMENTS**

**A. Biosolids**

**1. Monitoring Location BIO-001**

- a. A composite sample of sludge shall be collected **quarterly (1/quarter)** at Monitoring Location BIO-001 in accordance with USEPA's *POTW Sludge Sampling and Analysis Guidance Document*, August 1989, and tested for priority pollutants listed in 40 CFR Part 122, Appendix D, Tables II and III (excluding total phenols).
- b. Biosolids monitoring shall be conducted using the methods in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods* (USEPA publication SW-

846), as required in 40 CFR 203.8(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**

The Discharger shall monitor the public water supply at SPL-001 as follows. A sampling station(s) shall be established where representative sample(s) of the public water supply can be obtained. The results for EC shall be reported monthly as a rolling 12-month flow-weighted average and be supplemented with supporting calculations. The results for TDS shall be reported as a flow-weighted calendar year average and be supplemented with supporting calculations.

**Table E-12. Public Water Supply Monitoring Requirements**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Flow	gallons	Measure	1/Month	--
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Year	1
General Minerals <sup>2</sup>	mg/L	Grab	1/Three Years <sup>3,4</sup>	1
Total Dissolved Solids	mg/L	Grab	1/Year <sup>4</sup>	1

<sup>1</sup> Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136, or by methods approved by the Central Valley Water Board or the State Water Board.  
<sup>2</sup> General 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).  
<sup>3</sup> Coincident with monitoring required by the California Department of Public Health.  
<sup>4</sup> Results shall be reported with the Annual Report required under Section X.D.2. of the MRP.

**C. Disposal Ponds**

**1. Monitoring Locations PND-002, PND-003, and PND-004**

When discharging to the on-site and/or off-site disposal ponds (Discharge Points 003 and 004, respectively), samples shall be collected from each disposal pond at a depth of 1.0 foot from the opposite side of each pond inlet between the hours of 0800 and 0900. Pond monitoring is only required when discharging directly to the ponds. Monitoring shall be as follows:

**Table E-13. Disposal Ponds Monitoring Requirements**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Dissolved Oxygen	mg/L	Grab	1	2,3
Freeboard	feet <sup>4</sup>	Observation	1/Day	--

- <sup>1</sup> If offensive odor is detected by or brought to the attention of Facility personnel, the Discharger shall monitor the affected pond(s) daily (1/day) until the dissolved oxygen is >1.0 mg/L.
- <sup>2</sup> A hand-held field meter may be used, provided the meter utilizes a USEPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
- <sup>3</sup> Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136, or by methods approved by the Central Valley Water Board or the State Water Board.
- <sup>4</sup> Freeboard shall be measured vertically in all disposal ponds to the nearest one-tenth of a foot, as determined by permanent staff gauges.

**X. REPORTING REQUIREMENTS**

**A. General Monitoring and Reporting Requirements**

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. Upon written request of the Central Valley Water Board, the Discharger shall submit a summary monitoring report. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year(s).
3. **Compliance Time Schedules.** For compliance time schedules included in this Order, the Discharger shall submit to the Central Valley Water Board, on or before each compliance due date, the specified document or a written report detailing compliance or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board by letter when it returns to compliance with the compliance time schedule.
4. The Discharger shall report to the Central Valley Water Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act" of 1986.

**B. Self-Monitoring Reports (SMRs)**

1. The Discharger shall continue to submit electronic self-monitoring reports (eSMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (<http://ciwqs.waterboards.ca.gov/>). 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 directions for eSMR submittal in the event there will be service interruption.

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

**Table E-14. Monitoring Periods and Reporting Schedule**

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Continuous	First day of the calendar month following the permit effective date or on the permit effective date if that date is the first day of the month	All	Submit with monthly SMR
1/Day	First day of the calendar month following the permit effective date or on the permit effective date if that date is the first day of the month	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with monthly SMR
3/Week 2/Week 1/Week	First Sunday of the calendar month following the permit effective date or on the permit effective date if that date is the first Sunday of the month	Sunday through Saturday	Submit with monthly SMR
1/Month	First day of the calendar month following the permit effective date or on the permit effective date if that date is the first day of the month	First day of calendar month through last day of calendar month	First day of the second 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	1 May 1 August 1 November 1 February
1/Quarter (Pretreatment)	Permit effective date	1 January through 31 March 1 April through 30 June 1 July through 30 September 1 October through 31 December	1 May 1 August 1 November 28 February
1/Quarter (Groundwater)	Closest of 1 January, 1 April, 1 July, or 1 October following (or on) permit effective date	1 January through 31 January 1 April through 30 April 1 July through 31 July 1 October through 31 October	1 May 1 August 1 November 1 February
1/Quarter (Chronic Toxicity)	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	Within 30 days following receipt of the laboratory report
2/Year	Closest of 1 January, or 1 July following (or on) permit effective date	1 January through 30 June 1 July through 31 December	Submit with the monthly SMR in which sample was taken (e.g., if a sample is taken in March, the result must be included in the March SMR [due 1 May])

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
2/Year (Acute Toxicity)	Closest of 1 January, or 1 July following (or on) permit effective date	1 January through 30 June 1 July through 31 December	Within 30 days following receipt of the laboratory report
1/Year	1 January following (or on) permit effective date	1 January through 31 December	Submit with the monthly SMR in which sample was taken (e.g., if a sample is taken in March, the result must be included in the March SMR [due 1 May])
1/Year (Groundwater)	1 October following (or on) permit effective date	1 October through 31 October	Submit with the Quarterly Groundwater Report due 1 February
1/Year (Annual Report)	1 January following (or on) permit effective date	1 January through 31 December	1 February of the following year
1/Year (Pretreatment)	Permit effective date	1 January through 31 December	28 February of the following year
1/Three Years	As specified by the California Department of Public Health	As specified by the California Department of Public Health	Submit with Annual Report

**3. Reporting Protocols.** The Discharger shall report with each sample result the applicable Reporting Level (RL) and the laboratory’s current Method Detection Limit (MDL), as determined by the procedure in 40 CFR 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 as well as the words “Estimated Concentration” (may be shortened to “Est. Conc.”). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy ( $\pm$  a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.



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

**7. Calculation Requirements.** The following shall be calculated and reported in the SMRs:

- a. **Mass Loading Limitations.** For BOD<sub>5</sub> and TSS at monitoring location EFF-A, the Discharger shall calculate and report the mass loading (lbs/day) in the SMRs. The mass loading shall be calculated as follows:

$$\text{Mass Loading (lbs/day)} = \text{Flow (mgd)} \times \text{Concentration (mg/L)} \times 8.34$$

Flow shall be monitored at EFF-001 and concentrations at EFF-A. 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.

- b. **Removal Efficiency (BOD<sub>5</sub> and TSS).** The Discharger shall calculate and report the percent removal of BOD<sub>5</sub> and TSS in the SMRs. The percent removal shall be calculated as specified in Section VII.A. of the Limitations and Discharge Requirements.
- c. **Total Coliform Effluent Limitations.** For monitoring location EFF-A, the Discharger shall calculate and report the 7-day median of total coliform for the effluent. The 7-day median of total coliform shall be calculated as specified in Section VII.B. of the Limitations and Discharge Requirements.
- d. **Dissolved Oxygen Receiving Water Limitations.** For monitoring locations RSW-001 and RSW-002, the Discharger shall calculate and report monthly in the self-monitoring report: i) the dissolved oxygen concentration, ii) the percent of saturation in the main water mass, and iii) the 95<sup>th</sup> percentile dissolved oxygen concentration.
- e. **Turbidity Receiving Water Limitations.** For monitoring locations RSW-001 and RSW-002, the Discharger shall calculate and report the turbidity increase in the receiving water applicable to the natural turbidity condition specified in Section V.18.a-e. of the Limitations and Discharge Requirements.
- f. **Temperature Receiving Water Limitation.** 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.

**8.** The Discharger shall submit eSMRs in accordance with the following requirements:

- a. When CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data as an attachment under the

Attachments tab. The Discharger is not required to duplicate the submittal of data that are entered in a tabular format within CIWQS.

- 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 into 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. 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.

**C. Discharge Monitoring Reports (DMRs)**

- 1. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharger shall submit the original DMR and one copy of the DMR to the address listed below:

STANDARD MAIL	FEDEX/UPS/ OTHER PRIVATE CARRIERS
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15 <sup>th</sup> Floor Sacramento, CA 95814

- 2. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (USEPA Form 3320-1). Forms that are self-generated will not be accepted unless they follow the exact same format of USEPA Form 3320-1.
- 3. At any time during the term of this permit, the State Water Board or Central Valley Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of DMRs. Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described above.

**D. Other Reports**

- 1. By **<60 days of permit adoption>**, the Discharger shall submit a report outlining reporting levels (RLs), method detection limits, and analytical methods for approval. The Discharger shall comply with the monitoring and reporting requirements for CTR constituents as outlined in section 2.3 and 2.4 of the SIP. The maximum required

reporting levels for priority pollutant constituents shall be based on the Minimum Levels (MLs) contained in Appendix 4 of the SIP, determined in accordance with Section 2.4.2 and Section 2.4.3 of the SIP. In accordance with Section 2.4.2 of the SIP, when there is more than one ML value for a given substance, the Central Valley Water Board shall include as RLs, in the Order, 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 Order. Table I-1 in Attachment I provides required reporting levels in accordance with the SIP.

- 2. 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(s).
  - d. A statement certifying whether the current operation and maintenance manual, and contingency plan, reflect the Facility 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.
  - f. Biosolids.**
    - i. Annual sludge production in dry tons and percent solids.
    - ii. A schematic diagram showing sludge handling facilities and solids flow diagram.
    - iii. A description of the disposal method(s), including the following information related to the disposal methods used at the Facility. If more than one method

is used, include the percentage of annual sludge production disposed of by each method.

**(a) For landfill disposal**, include: (a) the Order numbers of WDRs that regulate the landfill(s) used; (b) the present classification of the landfill(s) used; and (c) the names and locations of the facilities receiving sludge.

**(b) For land application**, include: (a) the locations of the site(s), and (b) the Order numbers of any WDRs that regulate the site(s).

**(c) For incineration**, include: (a) the names and locations of the site(s) where sludge incineration occurs; (b) the Order numbers of the WDRs that regulate the site(s); (c) the disposal method of ash; and (d) the names and locations of facilities receiving ash (if applicable).

**(d) For composting**, include: (a) the locations of the site(s), and (b) the Order numbers of any WDRs that regulate the site(s).

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

An annual report shall be submitted by **28 February** and include at least the following items:

**a.** A summary of analytical results from representative, flow proportioned, 24-hour composite sampling of the Facility's influent and effluent for those pollutants USEPA has identified under section 307(a) of the CWA which are known or suspected to be discharged by industrial users.

Biosolids shall be sampled during the same 24-hour period and analyzed for the same pollutants as the influent and effluent sampling and analysis. The biosolids analyzed shall be a composite sample of a minimum of 12 discrete samples taken at equal time intervals over the 24-hour period. Wastewater and biosolids sampling and analysis shall be performed at least annually. The Discharger shall also provide any influent, effluent, or biosolids monitoring data for non-priority pollutants which may be causing or contributing to interference, pass-through or adversely impacting biosolids quality. Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 CFR Part 136 and amendments thereto.

- b.** A discussion of upset, interference, or pass-through incidents, if any, at the Facility, which the Discharger knows, or suspects, were caused by industrial users. The discussion shall include the reasons why the incidents occurred, the corrective actions taken and, if known, the name and address of the industrial user(s) responsible. The discussion shall also include a review of the applicable pollutant limitations to determine whether any additional limitations, or changes to existing requirements, may be necessary to prevent pass-through, interference, or noncompliance with sludge disposal requirements.
- c.** The cumulative number of industrial users that the Discharger has notified regarding Baseline Monitoring Reports and the cumulative number of industrial user responses.
- d.** An updated list of the Discharger's industrial users including their names and addresses, or a list of deletions and additions keyed to a previously submitted list. The Discharger shall provide a brief explanation for each deletion. The list shall identify the industrial users subject to federal categorical standards by specifying which set(s) of standards are applicable. The list shall indicate which categorical industries, or specific pollutants from each industry, are subject to local limitations that are more stringent than the federal categorical standards. The Discharger shall also list the noncategorical industrial users that are subject only to local discharge limitations.
- e.** The Discharger shall characterize the compliance status through the year of record of each industrial user by employing the following descriptions:

  - i.** complied with baseline monitoring report requirements (where applicable);
  - ii.** consistently achieved compliance;
  - iii.** inconsistently achieved compliance;
  - iv.** significantly violated applicable pretreatment requirements as defined by 40 CFR 403.8(f)(2)(vii);
  - v.** complied with schedule to achieve compliance (include the date final compliance is required);
  - vi.** did not achieve compliance and not on a compliance schedule; and
  - vii.** compliance status unknown.
- f.** A report describing the compliance status of each industrial user characterized by the descriptions in items i through vii above shall be submitted for each calendar quarter as noted in Table E-14. The report shall identify the specific compliance status of each such industrial user and shall also identify the compliance status of the Facility with regards to audit/pretreatment compliance inspection requirements. If none of the aforementioned conditions exist, at a minimum, a letter indicating that all industries are in compliance and no violations

or changes to the pretreatment program have occurred during the quarter must be submitted. The information required in the fourth quarter report shall be included as part of the annual pretreatment report. This quarterly reporting requirement shall commence upon issuance of this Order.

- g.** A summary of the inspection and sampling activities conducted by the Discharger during the past year to gather information and data regarding the industrial users. The summary shall include:
  - i.** The names and addresses of the industrial users subjected to surveillance and an explanation of whether they were inspected, sampled, or both and the frequency of these activities at each user; and
  - ii.** The conclusions or results from the inspection or sampling of each industrial user.
- h.** A summary of the compliance and enforcement activities during the past year. The summary shall include the names and addresses of the industrial users affected by the following actions:
  - i.** Warning letters or notices of violation regarding the industrial users' apparent noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the apparent violation concerned the federal categorical standards or local discharge limitations.
  - ii.** Administrative orders regarding the industrial users' noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations.
  - iii.** Civil actions regarding the industrial users' noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations.
  - iv.** Criminal actions regarding the industrial users' noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations.
  - v.** Assessment of monetary penalties. For each industrial user identify the amount of the penalties.
  - vi.** Restriction of flow to the Facility.
  - vii.** Disconnection from discharge to the Facility.
- i.** A description of any significant changes in operating the pretreatment program which differ from the information in the Discharger's approved Pretreatment

Program including, but not limited to, changes concerning: the program's administrative structure, local industrial discharge limitations, monitoring program or monitoring frequencies, legal authority or enforcement policy, funding mechanisms, resource requirements, or staffing levels.

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

Duplicate signed copies of these Pretreatment Program reports shall be submitted to the Central Valley Water Board and the:

State Water Resources Control Board  
Division of Water Quality  
1001 I Street  
Sacramento, CA 95814

or

P.O. Box 100  
Sacramento, CA 95812-1000

and the

Regional Pretreatment Coordinator  
U.S. Environmental Protection Agency (WTR-5)  
75 Hawthorne Street  
San Francisco, CA 94105

## ATTACHMENT F – FACT SHEET

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**ATTACHMENT F – FACT SHEET**

As described in the Findings in section II 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**

<b>WDID</b>	5D540113001
<b>Discharger</b>	City of Visalia
<b>Name of Facility</b>	Water Conservation Plant
<b>Facility Address</b>	7579 Avenue 288
	Visalia, CA 93277
	Tulare County
<b>Facility Contact, Title and Phone</b>	James Ross, Public Works Wastewater Manager, (559) 713-4466
<b>Authorized Persons to Sign and Submit Reports</b>	City Manager, Public Works Director, Public Works Wastewater Manager, and/or Wastewater Superintendent [Jeff Misenhimer, (559) 713-4176]
<b>Mailing Address</b>	Same as Facility Address
<b>Billing Address</b>	Same as Facility Address
<b>Type of Facility</b>	Publicly Owned Treatment Works
<b>Major or Minor Facility</b>	Major
<b>Threat to Water Quality</b>	1
<b>Complexity</b>	A
<b>Pretreatment Program</b>	Yes
<b>Reclamation Requirements</b>	Producer/User
<b>Facility Permitted Flow</b>	20 million gallons per day (mgd)
<b>Facility Design Flow</b>	22 mgd
<b>Watershed</b>	Kaweah Delta Hydrologic Area No. 558.10
<b>Receiving Water</b>	Mill Creek
<b>Receiving Water Type</b>	Inland surface water

A. The City of Visalia (hereinafter Discharger) is the owner and operator of the Visalia Water Conservation Plant (hereinafter Facility), a Publicly Owned Treatment Works.

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 Mill Creek, a water of the United States, and was regulated by Order R5-2006-0091, which was adopted on 21 September 2006 and expired on 21 September 2011. The terms and conditions of Order R5-2006-0091 were automatically continued and remained in effect until new Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit are adopted pursuant to this Order.
- C.** The Discharger filed a Report of Waste Discharge (RWD) and submitted an application for renewal of its WDRs and NPDES permit on 4 February 2011. Supplemental information was received on 27 April 2011 and 25 July 2013.

## **II. FACILITY DESCRIPTION**

The Discharger provides sewerage service for the City of Visalia and the community of Goshen and serves a population of approximately 131,000. The design average daily flow capacity of the Facility is 22 million gallons per day (mgd).

### **A. Description of Wastewater and Biosolids Treatment or Controls**

The treatment system at the Facility consists of preliminary screening and grit removal, primary sedimentation, fixed-film biological treatment (i.e., trickling filters), activated sludge aeration, secondary sedimentation, chlorine disinfection, and dechlorination. Chlorine disinfection and dechlorination are currently only required when discharging to Mill Creek at Discharge Point 001. The Facility process return flows consist of gravity belt thickener filtrate, scum from the secondary clarifiers, supernatant from the digested sludge pits, decant from the sludge drying beds, and septage hauler waste. These flows amount to approximately 2% of the plant inflows and enter the Facility through wet wells prior to the headworks. The Discharger collects its influent samples through these wet wells. Sludge is anaerobically digested and dried in unlined sludge drying beds. The anaerobic digesters process sludge from the primary and secondary sedimentation basins and gravity belt-thickened waste activated sludge, and discharge digested sludge to unlined sludge pits. Pumps extract supernatant from near the surface of the unlined sludge pits and return it to the headworks for treatment. Historically, dried biosolids have been hauled to a land application area in Merced County.

### **B. Discharge Points and Receiving Waters**

- 1.** The Facility is located in Sections 5 and 6, T19S, R24E, MDB&M, as shown in Attachment B, a part of this Order.
- 2.** Treated municipal wastewater is discharged at Discharge Point 001 to Mill Creek, a water of the United States, at a point latitude 36° 18' 44.78" N and longitude 119° 24' 57.34" W.
- 3.** Treated municipal wastewater is also discharged at Discharge Point 002 to a 250-acre on-site use area. Historically, the Discharger recycled water on a 900-acre walnut orchard. However, by letter dated 19 August 2002, the California Department of Public Health (DPH; formerly the California Department of Health Services)

commented on the Discharger's Title 22 engineering report dated 7 June 2002 and recommended that the walnut orchard be irrigated with recycled water that at least meets the requirements of secondary-2.2 recycled water as defined in Title 22, CCR, Section 60301.220. The Discharger, by letter dated 9 September 2002, indicated that, to consistently comply with the 2.2 MPN/100 mL total coliform limitation, it would need to modify the chlorine contact basins and increase the detention time. It questioned whether these modifications would be cost effective. The Discharger also indicated that it would likely suspend irrigating the walnut orchard until significant modifications to the chlorine contact basins could be completed. The Discharger suspended irrigation of the walnut orchard with recycled water in May 2002.

4. Treated municipal wastewater is also discharged at Discharge Point 003 to two on-site disposal ponds and at Discharge Point 004 to off-site disposal ponds (Basin No. 4).
5. Land use in the Facility vicinity is primarily agricultural and includes numerous dairies. Farmers along Mill Creek with riparian water rights use creek water to irrigate their crops. Area dairies also irrigate associated fodder crop acreage with dairy wastewater. Regional land use data compiled by the California Department of Water Resources (DWR) indicate fodder crops of corn and alfalfa are the primary crops. A small percentage of land near the Facility area contains walnut and pistachio orchards. While Mill Creek downstream of the discharge is accessible by the public, there is no nearby habitation except for farm residences, and limited public use of the discharge area. Additionally, the Discharger was required to develop and implement a REC-1 use discouragement plan, which was approved by the Central Valley Water Board on 21 October 2008.

## 6. Surface Water

- a. Mill Creek flows southwesterly from Lake Kaweah in the foothills east of the City of Visalia and is ephemeral, conveying short-duration storm water runoff, flood releases from Lake Kaweah, and occasionally delivering irrigation supply water from Lake Kaweah or the Friant-Kern Canal. Mill Creek upstream of the Discharger's discharge is usually dry except for periods of significant storm water runoff, flood releases from Lake Kaweah, or irrigation deliveries. Irrigation deliveries through Mill Creek typically occur from the end of May through mid-July and terminate at the diversion at Persian Weir several miles upstream from the Discharger's discharge. Accordingly, Mill Creek downstream of Discharge Point 001 is an effluent-dominated water body. Due to Mill Creek's gradual slope, effluent can back up about 5,000 feet upstream of Discharge Point 001, which creates a condition of "backwater" that does not qualify as upstream receiving water.
- b. The Discharger discharges to Mill Creek year-round except when the Kaweah Delta Water Conservation District (District) conducts routine maintenance of the channel. The Discharger owns 160 acres of percolation ponds (Basin No. 4) roughly four miles west of the Facility. About one mile downstream from

Discharge Point 001, a diversion structure within Mill Creek allows the District to divert Mill Creek flows to Basin No. 4. Flow not directed to Basin No. 4 flows south in Mill Creek and may occasionally reach Cross Creek several miles downstream. Cross Creek is ephemeral and flows primarily during heavy storm water runoff and flood releases from Lake Kaweah. The District indicated that Cross Creek occasionally flows to the Tulare Lake Bed, but believes effluent reaching Cross Creek would likely flow only a short distance due to the size and dryness of the creek bed. Agricultural lands bound the portion of Mill Creek between Discharge Point 001 and Cross Creek.

## 7. Groundwater

- a. Area soils are moderately permeable alluvial deposits originating in the Sierra Nevada Mountains to the east. The surface soil is classified as Tagus fine sandy loam. The geology of the Visalia area generally consists of deep underlying metamorphic and granitic rock overlain by hundreds of feet of alluvium. More specifically, the first 100 feet below ground surface (bgs) contains interbedded sand zones that are periodically saturated depending on the lateral proximity to surface water (e.g., disposal and percolation ponds and canals). The interbedded sand zone is underlain by relatively thin saturated beds of sand mixed with clay, clayey silt, and silt that extend to depths of 240 to 275 feet bgs. The Discharger's groundwater monitoring reports designate groundwater within the interbedded sand zone as the upper aquifer, and previous reports indicated the majority of the water supply wells in the area are completed within this zone. The highly impermeable and regionally extensive Corcoran Clay (E-clay) layer lies beneath these soils and is approximately 20 feet thick. Stratigraphic and water quality data indicate the E-clay to be the first effective aquitard in the upper portion of the regional aquifer; however, its effectiveness as an aquitard has been reduced by numerous wells that penetrate the E-clay layer. The monitoring reports identify the lower aquifer as the groundwater beneath the E-clay.
- b. Regional first-encountered groundwater flows west-southwesterly and occurs about 140 feet bgs, according to information in *Lines of Equal Depth to Water in Wells, Unconfined Aquifer*, published by the California Department of Water Resources in Spring 2010.
- c. In 1986, the Discharger installed five groundwater monitoring wells (MW-A, MW-B, MW-C, MW-D, and MW-E) to depths from 30 to 60 feet bgs. At that time, the Discharger used the disposal ponds to dispose of about half the effluent flow, causing groundwater to mound beneath the ponds. MW-A, MW-C, MW-D, and MW-E are dry and no longer sampled. In 1992, the Discharger installed MW-F, MW-G, and MW-H1, upgradient, on-site, and downgradient of the Facility, respectively. These were installed with perforations from about 100 to 110 feet bgs. MW-F, about one mile northeast of the Facility, is adjacent to an irrigation ditch and water quality data indicate the well may reflect high quality percolated irrigation water, which is not representative of regional groundwater. In 2013, the Central Valley Water Board approved installation of new background (upgradient) monitoring wells and four new downgradient monitoring wells. The new

upgradient wells are located approximately one and one-half miles northeast from the northeast corner of the Facility boundary (MW-N) and approximately one-half mile east of Basin No. 4 (MW-S). New downgradient wells are on the southern boundary of Pond No. 2 (MW-R), on the southern boundary of the existing unlined sludge drying beds (MW-O), and on the western boundary of Basin No. 4 (MW-Q and MW-P).

- d. In Cease and Desist Order (CDO) 97-062, the Central Valley Water Board found that groundwater underlying and downgradient of the Facility was degraded with salinity constituents (e.g., sodium, chloride, sulfate, and calcium). Groundwater elevation and chemical data indicated a mound of salt-degraded groundwater radiating outward from beneath the Facility disposal ponds. The Discharger measured the highest EC value in MW-G at 1,300  $\mu\text{mhos/cm}$  in October 1993.
- e. Because of CDO 97-062, the Discharger defined to some degree the horizontal and vertical extent of the degraded groundwater. The Discharger installed ten additional groundwater monitoring wells in 1997 such that nested wells at locations H, J, and K monitor the upper groundwater, groundwater just above the E-clay, and groundwater just beneath the E-clay.
- f. The 30 January 1998 *Groundwater Investigation Report* (Report), by Boyajian & Ross, Inc., identified a plume of degraded groundwater emanating from beneath the Facility's disposal ponds. The Report also identified groundwater collected from periphery wells that showed significant adverse impacts from dairies (e.g., degradation for salinity constituents and nitrate). The Report proposed to pump agricultural wells at the Facility margin to hydraulically control the highest concentrations of effluent-derived salts in the upper aquifer and either discharge to Mill Creek or irrigate the Use Area. Agricultural wells generally withdraw groundwater through vertically extensive perforations and are not generally efficient in achieving plume containment. Order R5-2006-0091 included a finding that groundwater data collected prior to adoption of the 2006 Order indicated a reduction in the high salinity groundwater, and that the groundwater mound beneath the Facility had subsided and the west-southwest regional groundwater flow direction had been re-established. The finding also indicated that regional groundwater pumping of agricultural wells may have achieved what the Discharger proposed to implement pursuant to the CDO.
- g. Groundwater sampling conducted in January 2012 indicates that EC, chloride, and nitrate (as  $\text{NO}_3$ ) in MW-B (downgradient of unlined sludge handling facilities and near the southeast corner of the on-site disposal ponds) were detected at 680  $\mu\text{mhos/cm}$ , 70 mg/L, and 44 mg/L, respectively.
- h. The Discharger's nested groundwater monitoring wells at location H (see Attachment B), identified as MW-H1, -H2, -H3, are within one mile of six dairies. Samples collected from MW-H1 between October 2006 and March 2012 indicate an average EC of 1,355  $\mu\text{mhos/cm}$  and average concentrations of chloride and nitrate (as  $\text{NO}_3$ ) of 113 and 215 mg/L, respectively. Groundwater samples collected during the same period from MW-L, within one-quarter mile of three

dairies, showed an average EC of 953 µmhos/cm, and average concentrations of chloride and nitrate (as NO<sub>3</sub>) of 54 mg/L and 136 mg/L, respectively.

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

Effluent limitations and Discharge Specifications contained in Order R5-2006-0091 for discharges from Discharge Point 001, Discharge Point 002, and Discharge Point 003, and representative monitoring data from the term of Order R5-2006-0091 are as follows. Order R5-2006-0091 identified one monitoring location for all discharge points.

**Table F-2. Historic Effluent Limitations and Monitoring Data**

Parameter	Units	Effluent Limitations			Monitoring Data <sup>1</sup> (From October 2006 to April 2012)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Flow	mgd	20	--	--	12.9	--	--
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	30	45	90	6.25	12	15
	lbs/day	5,004 <sup>2,3</sup>	7,506 <sup>2,3</sup>	15,012 <sup>2,3</sup>	602	1254	1538
	% removal	85 <sup>4</sup>	--	--	97.8 <sup>4</sup>	--	--
Total Suspended Solids	mg/L	30	45	90	8.86	12.2	15
	lbs/day	5,004 <sup>2,3</sup>	7,506 <sup>2,3</sup>	15,012 <sup>2,3</sup>	881	1228	1560
	% removal	85 <sup>4</sup>	--	--	97.0 <sup>4</sup>	--	--
pH	standard units	--	--	6.5-8.3 <sup>3,5</sup> 6.0-9.0 <sup>5,6</sup>	--	--	6.51-8.08 <sup>5</sup>
Oil and Grease	mg/L	10 <sup>3</sup>	--	15 <sup>3</sup>	33	--	33
	lbs/day	1,668 <sup>2,3</sup>	--	2,502 <sup>2,3</sup>	3296	--	3296
Lead	mg/L	0.05 <sup>3</sup>	--	0.1 <sup>3</sup>	0.0018	--	0.0054
Ammonia (as N)	mg/L	--	--	25 <sup>12</sup>	--	--	28
Electrical Conductivity @ 25°C	µmhos/cm	source+500 or 1,000	--	--	713	--	807
Chloride	mg/L	--	--	175	--	--	80
Chlorine Residual	mg/L	0.01 <sup>3</sup>	--	0.02 <sup>3</sup>	<0.01	--	<0.01
Settleable Solids	mL/L	0.2	--	0.5	<0.1	--	<0.1
Total Coliform	MPN/100 mL	240 <sup>3,7</sup>	23 <sup>3,8</sup>	500 <sup>3,9</sup>	>1600 <sup>10</sup>	>1600 <sup>9</sup>	140 <sup>11</sup>
Acute Toxicity	% survival	--	--	70/90 <sup>13</sup>	--	--	5/100 <sup>13</sup>

<sup>1</sup> Order R5-2006-0091 identified only one monitoring location for all three discharge points

<sup>2</sup> Value based upon a design capacity of 20.0 mgd

<sup>3</sup> Applicable at Discharge Point 001 only

<sup>4</sup> Minimum/lowest monthly average

<sup>5</sup> Instantaneous minimum to instantaneous maximum range

<sup>6</sup> Applicable at Discharge Points 002 and 003 only

<sup>7</sup> Value not to be exceeded more than once in a 30-day period

<sup>8</sup> 7-sample median

<sup>9</sup> Instantaneous maximum

<sup>10</sup> Highest 30-day maximum

<sup>11</sup> Highest 7-sample median

<sup>12</sup> Interim effluent limitation effective up through 25 March 2011

Parameter	Units	Effluent Limitations			Monitoring Data <sup>1</sup> (From October 2006 to April 2012)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge

<sup>13</sup> Minimum for any one bioassay/median for any three or more consecutive bioassays

Discharge Point 004 is a new discharge location. However, the effluent quality is expected to be similar to that presented in Table F-2, above, with the exception of coliform.

**D. Compliance Summary**

1. The Discharger has been experiencing total coliform effluent limitations violations at Discharge Point 001 since approximately late 2009. Order R5-2006-0091 included a 7-sample median effluent limitation for total coliform of 23 MPN/100 mL, based on DPH’s recommendation. On several occasions, the discharge also exceeded the total coliform instantaneous maximum effluent limitation of 500 MPN/100 mL, with total coliform reported as >1600 MPN/100 mL. The Discharger stated during a March 2012 compliance inspection that it believed trickling filter snails were causing the coliform exceedances. To control filter snail populations, the Discharger would recirculate water with high doses of ammonia within the trickling filters for several hours. This was done quarterly and effluent was only discharged to the on-site ponds. In 2009, the Discharger stopped using one of the on-site disposal ponds as part of a project, and subsequently stopped controlling filter snail populations. When the project was put on hold, the Discharger began controlling filter snail populations again in December 2011. However, effluent data showed total coliform was still a problem. The Discharger hired an engineering consulting firm to investigate the problem but the firm was unable to determine the cause of the coliform exceedances. In August 2012, the Discharger hired a different consulting firm to investigate the coliform problems. The consulting firm provided the Discharger with a list of recommendations, which the Discharger began implementing. Between September 2012 and February 2013, the Discharger did not report any coliform violations; however, in March 2013 it reported five coliform exceedances. The Discharger continues to investigate the coliform problem, and has implemented a number of actions to no avail. On 31 December 2013, the Discharger was issued Administrative Civil Liability Complaint (ACLC) R5-2013-0596 for assessment of mandatory minimum penalties. All of the violations addressed in the ACLC, except for one, are for exceedances of total coliform.

**E. Planned Changes**

The Discharger is in the process of upgrading the Facility from secondary level treatment to tertiary level treatment to meet Title 22 recycling requirements for unrestricted reuse and will provide nitrogen removal. The Discharger also intends to replace the chlorination/de-chlorination systems with an ultraviolet light disinfection

system. The Discharger intends to cease discharging to Mill Creek once Facility upgrades are complete. The Discharger plans to build a pipeline that will bypass Mill Creek and allow it to discharge to off-site percolation ponds (Basin No. 4) owned by the Discharger, which is where flows in Mill Creek generally end up. As part of the Facility upgrades, several treatment units, including but not limited to two existing secondary sedimentation basins and one trickling filter, will be taken out of service to accommodate for new treatment units. The Discharger intends to utilize the pipeline to discharge secondary-treated wastewater to the off-site percolation ponds once the two secondary sedimentation basins are taken out of service in order to minimize discharges to Mill Creek during construction. The discharge to the off-site ponds authorized in this Order is temporary. The Discharger expects to complete construction of the pipeline to Basin No. 4 within one year of funding approval, at which point it will discontinue the discharge to Mill Creek. Construction of the Facility upgrades is expected to be completed in mid-2017.

The Discharger will also reconstruct a portion of its unlined sludge drying beds with asphaltic concrete pavement, and will add a paved area for stockpiling the dried sludge removed from the drying beds.

### **III. APPLICABLE PLANS, POLICIES, AND REGULATIONS**

The requirements contained in this Order are based on the applicable plans, policies, and regulations identified in the Findings in section II of this Order. The applicable plans, policies, and regulations relevant to the discharge include the following:

#### **A. Legal Authorities**

This Order is issued pursuant to regulations in the Clean Water Act (CWA) and the California Water Code (Water Code) as specified in the Finding contained at section II.C of this Order.

#### **B. California Environmental Quality Act (CEQA)**

This Order meets the requirements of CEQA as specified in the Finding contained at section II.E of this Order. The Discharger certified a final environmental impact report (EIR) for proposed Facility upgrades in 1992 and 2013 accordance with CEQA. Basin No. 4 (Discharge Point 004) is considered in the 2013 final EIR as a discharge location. This Order includes discharge specifications for discharges to Basin No. 4, as a temporary discharge location.

#### **C. State and Federal Regulations, Policies, and Plans**

**1. Water Quality Control Plan.** This Order implements the following water quality control plan as specified in the Finding contained at section II.H of this Order.

- a.** *Water Quality Control Plan for the Tulare Lake Basin*, Second Edition, revised January 2004 (Basin Plan).

2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** This Order implements the NTR and CTR as specified in the Finding contained at section II.I of this Order.
3. **State Implementation Policy (SIP).** This Order implements the SIP as specified in the Finding contained at section II.J of this Order.
4. **Alaska Rule.** This Order is consistent with the Alaska Rule as specified in the Finding contained at section II.L of this Order.
5. **Antidegradation Policy.** As specified in the Finding contained at section II.N of this Order and as discussed in detail in the Fact Sheet (Attachment F, Section IV.E.4.), the discharge is consistent with the antidegradation provisions of Title 40, Code of Federal Regulations, section 131.12 (40 CFR 131.12) and State Water Resources Control Board (State Water Board) Resolution No. 68-16.
6. **Anti-Backsliding Requirements.** This Order is consistent with anti-backsliding policies as specified in the Finding contained at section II.M of this Order. Compliance with the anti-backsliding requirements is discussed in the Fact Sheet (Attachment F, Section IV.E.3).
7. **Emergency Planning and Community Right to Know Act.** Section 13263.6(a) of the Water Code, requires that “[t]he regional 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 board or the regional 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 indicates that nitrate compounds are discharged into the collection system for this Facility. This Order includes effluent monitoring for nitrate (as N). 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.** USEPA promulgated federal regulations for storm water on 16 November 1990 in 40 CFR Parts 122, 123, and 124. The NPDES Industrial Storm Water Program regulates storm water discharges from wastewater treatment facilities. Wastewater treatment plants are applicable industries under the storm water program and are obligated to comply with the federal regulations.

State Water Board Water Quality Order No. 97-03-DWQ, NPDES General Permit No. CAS000001, Waste Discharge Requirements for Discharges of Storm Water

Associated with Industrial Activities Excluding Construction Activities, does not require facilities to obtain coverage if storm water is captured and treated and/or disposed of with the Facility's NPDES permitted process wastewater or if storm water is disposed of in evaporation ponds, percolation ponds, or combined sewer systems. The Discharger captures all storm water that falls on-site and diverts to on-site detention ponds or to the headworks. Therefore, coverage under the General Storm Water Permit is not required. The Discharger retains storm water runoff on the Facility property and either pumps the runoff to the headworks or directs the flows to dedicated unlined storm water retention ponds.

**9. Endangered Species Act.** This Order is consistent with the Endangered Species Act as specified in the Finding contained at section II.P of this Order.

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

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

1. Under section 303(d) of the 1972 CWA, states, territories, and authorized tribes are required to develop lists of water quality limited segments. The waters on these lists do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. On 11 October 2011, USEPA gave final approval to California's 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 effluent limitations for point sources {40 CFR Part 130, et seq.}*." The Basin Plan also states, "*Additional treatment beyond minimum federal requirements will be imposed on dischargers to a WQLS. Point source dischargers will be assigned or allocated a maximum allowable load of critical pollutants.*" The listing for Mill Creek includes unknown toxicity.
2. **Total Maximum Daily Loads (TMDLs).** USEPA requires the Central Valley Water Board to develop TMDLs for each 303(d) listed pollutant and water body combination. The expected TMDL completion date for unknown toxicity in Mill Creek is 2021.
3. The 303(d) listings and TMDLs have been considered in the development of the Order. A pollutant-by-pollutant evaluation of each pollutant of concern is described in section IV.C. of this Fact Sheet.

## E. Other Plans, Policies and Regulations

### 1. Title 27, California Code of Regulations (CCR), section 20005 et seq (hereinafter Title 27)

- a. 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. The exemption of the treatment and storage facilities, pursuant to Title 27, CCR, subsection 20090(a), is based on the following:
  - i. The waste consists primarily of domestic sewage and treated effluent;
  - ii. The waste discharge requirements are consistent with water quality objectives; and
  - iii. The treatment and storage facilities described herein are associated with a municipal wastewater treatment plant.

The Discharger's treatment and storage facilities, including sludge handling facilities, are exempt from Title 27.

- b. The discharge authorized herein to the Use Area (Discharge Point 002) is exempt from the requirements of Title 27. The exemption, pursuant to Title 27, CCR, section 20090(h), is based on the Discharger using secondary treated effluent for irrigation in accordance with the Recycled Water Specifications in this Order and the Water Recycling Criteria in Title 22, CCR, Division 4, Chapter 3.
- c. Pursuant to Title 27, CCR, subsection 20090(b), "*[d]ischarges of wastewater to land, including but not limited to evaporation ponds, percolation ponds, or subsurface leachfields [shall be exempt] if the following conditions are met:*
  - (1) *the applicable RWQCB has issued WDRs, reclamation requirements, or waived such issuance;*
  - (2) *the discharge is in compliance with the applicable [Basin Plan]; and*
  - (3) *the wastewater does not need to be managed... as a hazardous waste.*"

The on-site and off-site disposal ponds (Discharge Points 003 and 004) and the Use Area (Discharge Point 002) may be exempted from Title 27 if they meet the preconditions listed above. The three discharge points meet preconditions (1) and (3). The groundwater monitoring data indicate that precondition (2) may not be met. However, additional evaluation is needed to determine whether or not precondition (2) has been met. Additionally, the Central Valley Water Board expects the upgraded Facility to produce a discharge quality that will ensure precondition (2) is met.

The Discharger conducts groundwater monitoring in the area. While an upgradient (background) well exists, the Central Valley Water Board found in Order R5-2006-0091 that the background well is not representative of regional

groundwater conditions because of its location adjacent to an irrigation delivery canal. Additionally, there are no existing upgradient or downgradient wells near the off-site disposal ponds. An existing well (MW-J1) adjacent to the on-site disposal ponds shows nitrate (as N) concentrations averaged 11 mg/L between 2006 and 2013, which is slightly above the MCL of 10 mg/L. Land use in the Facility vicinity is primarily agricultural and includes numerous dairies. Given the lack of adequate groundwater data upgradient of the Facility and the lack of groundwater data upgradient and downgradient of the off-site disposal ponds, the Central Valley Water Board cannot adequately evaluate potential impacts from the disposal ponds and the Use Area. Consequently, the Central Valley Water Board is not making any conclusion with respect to the application of the Title 27 exemptions for the on-site and off-site disposal ponds and the Use Area. However, this Order includes a compliance schedule to ensure the Discharger complies with groundwater limitations.

#### **IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS**

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

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

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 CFR 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR 122.44(d) requires that permits include WQBELs to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where numeric water quality objectives have not been established. The Basin Plan at page IV-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 CFR 122.44(d)(1). With respect to narrative objectives, the Central Valley Water Board must establish effluent limitations using one or more of three specified sources, including: (1) USEPA’s published water quality criteria, (2) a proposed state criterion (i.e., water quality objective) or an explicit state policy interpreting its narrative water quality criteria (i.e., the Central Valley Water Board’s “*Application of Water Quality Objectives*”)(40 CFR 122.44(d)(1)(vi)(A), (B) or (C)), or (3) an indicator parameter.

The Basin Plan includes numeric site-specific water quality objectives and narrative objectives for toxicity, chemical constituents, discoloration, radionuclides, and tastes and odors. The narrative toxicity objective states: “*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.*” (Basin Plan at III-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) specified in*” Title 22, 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: “*Waters shall not contain taste- or odor-producing substances in concentrations that cause nuisance, adversely affect beneficial uses, or impart undesirable tastes 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 40 CFR 122.41(m)(4)).** This Order prohibits bypass pursuant to 40 CFR 122.41(m)(4), with federal allowance for exceptions set forth in Section I.G. of Attachment D – Federal Standard Provisions. It also prohibits overflows, which concerns release of untreated and partially treated wastewater to surface waters.
- 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 be established for the prevention of nuisance within a specific area. The Basin Plan prohibits conditions that create a nuisance. Prohibition III.C. also reflects general situations that, if created, justify cleanup or abatement enforcement activities and assessment of administrative civil liabilities.

4. **Prohibition III.D (No inclusion of pollutant free wastewater shall cause improper operation of the Facility’s systems).** This prohibition is based on 40 CFR 122.41 et seq., which requires the proper design and operation of treatment facilities.
5. **Prohibition III.E. (No discharge of waste classified as ‘hazardous’).** 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 USEPA permit regulations at 40 CFR 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 CFR Part 133.

Regulations promulgated in 40 CFR 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 USEPA Administrator.

Based on this statutory requirement, USEPA developed secondary treatment regulations, which are specified in 40 CFR 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<sub>5</sub>), total suspended solids (TSS), and pH.

### **2. Applicable Technology-Based Effluent Limitations**

#### **a. Discharge Point 001**

- i. **BOD<sub>5</sub> and TSS.** Federal regulations at 40 CFR Part 133, establish the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for BOD<sub>5</sub> and TSS, for discharges to waters of the United States. In addition, 40 CFR 133.102, in describing the minimum level of effluent quality attainable by secondary treatment, states that the 30-day average percent removal shall not be less than 85 percent. This Order

contains a limitation requiring an average of 85 percent removal of BOD<sub>5</sub> and TSS over each calendar month.

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

**Summary of Technology-based Effluent Limitations  
 Discharge Point 001**

**Table F-3. 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 @ 25°C	mg/L	30	45	--	--	--
Total Suspended Solids	mg/L	30	45	--	--	--
pH	standard units	--	--	--	6.0	9.0

**C. Water Quality-Based Effluent Limitations (WQBELs)**

**1. Scope and Authority**

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

40 CFR 122.44(d)(1)(i) mandates 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) USEPA 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 40 CFR 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 Valley Floor Waters, which does not include municipal and domestic supply. Therefore, the municipal and domestic supply beneficial use does not apply to Mill 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 CFR sections 131.2 and 131.10, require that all waters of the State regulated to protect the beneficial uses of public water supply, protection and propagation of fish, shell fish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation. Federal regulation, 40 CFR 131.3(e), defines existing beneficial uses as those uses actually attained after 28 November 1975, whether or not they are included in the water quality standards. Federal regulation, 40 CFR 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.** Beneficial uses from Table II-1 of the Basin Plan applicable to Mill Creek are presented in Table F-4, below. Groundwater underlying the Facility and the Use Area and on-site and off-site disposal ponds is in the Kaweah Delta Detailed Analysis Unit (DAU) No. 242. The beneficial uses of groundwater for this DAU are designated in the Basin Plan and listed in Table F-4, below.

**Table F-4. Basin Plan Beneficial Uses**

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Mill Creek	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); rare, threatened, or endangered species (RARE); and groundwater recharge (GWR)
002, 003, 004	Groundwater underlying Use Area and On-site and Off-site Disposal Ponds	Municipal and domestic supply (MUN); AGR; IND; PRO; REC-1; and REC-2

- b. Effluent and Ambient Background Data.** The reasonable potential analysis (RPA), as described in section IV.C.3 of this Fact Sheet, was based on data from October 2006 through April 2012 and through October 2012 for some CTR constituents, which includes effluent and receiving surface water data submitted in the self-monitoring reports. Additionally, effluent data from 2001 were also used for the endrin and heptachlor RPA. Effluent data from all discharge points were used for the RPA because the Facility provides the same level of treatment regardless of discharge location, except treatment for pathogens.
- c. Assimilative Capacity/Mixing Zone.** Based on the available information, the worst-case dilution for Mill 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. USEPA recommends conversion factors to translate dissolved concentrations to total concentrations. The default USEPA conversion factors contained in Appendix 3 of the SIP were used to convert the applicable dissolved criteria to total recoverable criteria.
- e. Hardness-Dependent CTR Metals Criteria.** The *California Toxics Rule* and the *National Toxics Rule* contain water quality criteria for seven metals that vary as a function of hardness. The lower the hardness, the lower the water quality criteria. The metals with hardness-dependent criteria include cadmium, copper, chromium III, lead, nickel, silver, and zinc.

This Order has established the criteria for hardness-dependent metals based on the reasonable worst-case ambient hardness as required by the SIP<sup>1</sup>, the CTR<sup>2</sup>

<sup>1</sup> 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.

and State Water Board Order 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 CFR 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 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 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

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<sup>2</sup> The CTR requires that, for waters with a hardness of 400 mg/L (as CaCO<sub>3</sub>), 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.

hardness was used to adjust the criterion. For this situation, it is necessary to consider the hardness of the effluent in determining the applicable hardness to adjust the criterion. The procedures for determining the applicable criterion after proper adjustment using the reasonable worst-case downstream ambient hardness is outlined in subsection ii, below.

**(b)** The SIP requires WQBELs if the receiving water is impaired upstream (outside the influence) of the discharge, i.e., if the Maximum Ambient Background Concentration of a pollutant exceeds the applicable criterion, adjusted for hardness.<sup>3</sup> 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 WQBELs.** 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.

A 2006 Study<sup>4</sup> developed procedures for calculating the effluent concentration allowance (ECA)<sup>5</sup> 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,<sup>6</sup> is as follows:

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

<sup>3</sup> The pollutant must also be detected in the effluent.

<sup>4</sup> 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.

<sup>5</sup> 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.

<sup>6</sup> 40 CFR 131.38(b)(2)

Where:

H = hardness (as CaCO<sub>3</sub>)<sup>7</sup>  
WER = water-effects 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:

$$ECA = C \text{ (when } C \leq B\text{)}^8 \quad \text{(Equation 2)}$$

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 chronic cadmium, chromium III, copper, nickel, and zinc. These 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 acute cadmium, lead, and acute silver, which are referred to hereafter as “Concave Up Metals”.

***ECA for Chronic Cadmium, Chromium III, Copper, Nickel, and Zinc*** – For Concave Down Metals (i.e., chronic cadmium, 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.<sup>9</sup> 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).<sup>10</sup> Consequently,

<sup>7</sup> For this discussion, all hardness values are in mg/L as CaCO<sub>3</sub>.

<sup>8</sup> The 2006 Study assumes the ambient background metals concentration is equal to the CTR criterion (i.e., C ≤ B).

<sup>9</sup> 2006 Study, p. 5700

<sup>10</sup> 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

for Concave Down Metals, the CTR criteria have been calculated using the downstream ambient hardness under this condition.

The effluent hardness ranged from 72 mg/L to 110 mg/L, based on 139 samples from October 2006 to April 2012. The upstream receiving water hardness varied from 14 mg/L to 51 mg/L, based on 27 samples from October 2006 to April 2012, and the downstream receiving water hardness varied from 37 mg/L to 110 mg/L, during the same period. Under the effluent dominated condition, the reasonable worst-case downstream ambient hardness is 72 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 always at the lowest observed upstream receiving water hardness (i.e., 14 mg/L)
- Upstream receiving water copper concentration always 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

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.<sup>11</sup>

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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.

<sup>11</sup> 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.

**Table F-5. Copper ECA Evaluation**

		<b>Lowest Observed Effluent Hardness</b>				<b>72 mg/L</b>
		<b>Lowest Observed Upstream Receiving Water Hardness</b>				<b>14 mg/L</b>
		<b>Highest Assumed Upstream Receiving Water Copper Concentration</b>				<b>1.7 µg/L<sup>1</sup></b>
		<b>Copper ECA<sub>chronic</sub><sup>2</sup></b>				<b>7.0 µg/L</b>
		<b>Fully Mixed Downstream Ambient Concentration</b>				
<b>Effluent Fraction<sup>6</sup></b>		<b>Hardness<sup>3</sup> (mg/L)</b>	<b>CTR Criteria<sup>4</sup> (µg/L)</b>	<b>Copper<sup>5</sup> (µg/L)</b>	<b>Complies with CTR Criteria?</b>	
High Flow  Low Flow	1%	15	1.8	1.8	<b>Yes</b>	
	5%	17	2.0	2.0	<b>Yes</b>	
	15%	23	2.6	2.5	<b>Yes</b>	
	25%	29	3.2	3.1	<b>Yes</b>	
	50%	43	4.5	4.4	<b>Yes</b>	
	75%	58	5.8	5.7	<b>Yes</b>	
	100%	72	7.0	7.0	<b>Yes</b>	

- <sup>1</sup> Highest assumed upstream receiving water copper concentration calculated using Equation 1 for chronic criterion at a hardness of 14 mg/L.
- <sup>2</sup> ECA calculated using Equation 1 for chronic criterion at a hardness of 72 mg/L.
- <sup>3</sup> Fully mixed downstream ambient hardness is the mixture of the receiving water and effluent hardness at the applicable effluent fraction using Equation 3.
- <sup>4</sup> Fully mixed downstream ambient criteria are the chronic criteria calculated using Equation 1 at the mixed hardness.
- <sup>5</sup> 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.
- <sup>6</sup> 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 Acute Cadmium, Lead, and Acute Silver** – For Concave Up Metals (i.e., acute cadmium, lead, and acute silver), 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).

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-6a).

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

Where:

- m, b = criterion specific constants (from CTR)
- H<sub>e</sub> = lowest observed effluent hardness
- H<sub>rw</sub> = 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-6a, below. As previously mentioned, the lowest effluent hardness is 72 mg/L, while the upstream receiving water hardness ranged from 14 mg/L to 51 mg/L, and the downstream receiving water hardness ranged from 37 mg/L to 110 mg/L. In this case, the reasonable worst-case upstream receiving water hardness to use in Equation 4 to calculate the lead ECA is 14 mg/L.

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-6a, for lead.

**Table F-6a. Lead ECA Evaluation**

		<b>Lowest Observed Effluent Hardness</b>		<b>72 mg/L</b>	
		<b>Reasonable Worst-case Upstream Receiving Water Hardness</b>		<b>14 mg/L</b>	
		<b>Reasonable Worst-case Upstream Receiving Water Lead Concentration</b>		<b>0.26 µg/L<sup>1</sup></b>	
		<b>Lead ECA<sub>chronic</sub><sup>2</sup></b>		<b>1.6 µg/L</b>	
		<b>Fully Mixed Downstream Ambient Concentration</b>			
<b>Effluent Fraction<sup>6</sup></b>		<b>Hardness<sup>3</sup> (mg/L)</b>	<b>CTR Criteria<sup>4</sup> (µg/L)</b>	<b>Lead<sup>5</sup> (µg/L)</b>	<b>Complies with CTR Criteria?</b>
High Flow Low Flow	1%	15	0.27	0.27	<b>Yes</b>
	5%	17	0.33	0.33	<b>Yes</b>
	15%	23	0.48	0.46	<b>Yes</b>
	25%	29	0.64	0.60	<b>Yes</b>
	50%	43	1.1	0.93	<b>Yes</b>
	75%	58	1.6	1.3	<b>Yes</b>
	100%	72	2.1	1.6	<b>Yes</b>

<sup>1</sup> Reasonable worst-case upstream receiving water lead concentration calculated using Equation 1 for chronic criterion at a hardness of 14 mg/L.  
<sup>2</sup> ECA calculated using Equation 4 for chronic criteria.  
<sup>3</sup> Fully mixed downstream ambient hardness is the mixture of the receiving water and effluent hardness at the applicable effluent fraction.

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- <sup>4</sup> Fully mixed downstream ambient criteria are the chronic criteria calculated using Equation 1 at the mixed hardness.
  - <sup>5</sup> Fully mixed downstream ambient lead concentration is the mixture of the receiving water and effluent lead concentrations at the applicable effluent fraction.
  - <sup>6</sup> 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).

As discussed above, the receiving water at times contains concentrations of lead that exceed water quality criteria associated with the hardness condition previous to the discharge. The 2006 Study procedures remain applicable under these conditions. The discharge cannot cause or contribute to a violation of water quality criteria/objectives in the receiving water. Although metals concentrations downstream of the discharge exceed CTR criteria, the cause of the exceedance is not due to the discharge, it is due to the elevated metals concentrations upstream of the discharge. Implementing the procedures of the 2006 Study does not result in an increase in toxicity downstream of the discharge, and in fact reduces the amount of toxicity already present in the receiving water. This is demonstrated in the example below for lead (see Table F-6b).

As shown in Table F-6b for lead, prior to the discharge, background lead concentrations have been observed to exceed water quality criteria by up to 2000%. When the receiving water contains some fraction of effluent, the percent exceedance is reduced. The greater the amount of effluent in the receiving water, the lower the percent exceedance, until a fully compliant state is achieved when the effluent constitutes the entire flow. The effluent limitation associated with lead, therefore, was sufficient to assure that the discharge never causes or contributes to a violation of a water quality criterion, and in fact reduces the amount of toxicity already present in the receiving water.

**Table F-6b. Lead ECA Evaluation**

		Lowest Observed Effluent Hardness			72 mg/L
		Lowest Observed Upstream Receiving Water Hardness			14 mg/L
		Highest Observed Upstream Receiving Water Lead Concentration			6.1 µg/L
		Lead ECA <sub>chronic</sub> <sup>1</sup>			1.6 µg/L
Effluent Fraction <sup>5</sup>		Fully Mixed Downstream Ambient Concentration			
		Hardness <sup>2</sup> (mg/L)	CTR Criteria <sup>3</sup> (µg/L)	Lead <sup>4</sup> (µg/L)	% Exceeding Criterion
High Flow Low Flow	0%	14	0.26	6.1	2242
	1%	15	0.27	6.1	2108
	5%	17	0.33	5.9	1675
	15%	23	0.48	5.4	1026
	25%	29	0.64	5.0	673
	50%	43	1.1	3.9	254
	75%	58	1.6	2.7	73
	100%	72	2.1	1.6	-24

- <sup>1</sup> ECA calculated using Equation 4 for chronic criteria.
- <sup>2</sup> Fully mixed downstream ambient hardness is the mixture of the receiving water and effluent hardness at the applicable effluent fraction using Equation 3.
- <sup>3</sup> Fully mixed downstream ambient criteria are the chronic criteria calculated using Equation 1 at the mixed hardness.
- <sup>4</sup> Fully mixed downstream ambient lead concentration is the mixture of the receiving water and effluent lead concentrations at the applicable effluent fraction using Equation 3.
- <sup>5</sup> The effluent fraction ranges from 0% 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)	
	acute	chronic
Copper	10.	7.0
Chromium III	1300	160
Cadmium	2.8	1.9
Lead	42	1.6
Nickel	360	40.
Silver	1.1	--
Zinc	91	91

**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. Aluminum**

**(a) WQO.** USEPA developed National Recommended Ambient Water Quality Criteria (NAWQC) for protection of freshwater aquatic life for aluminum in 1988. The recommended 4-day average (chronic) and 1-hour average (acute) criteria for aluminum are 87 µg/L and 750 µg/L, respectively, for waters with a pH of 6.5 to 9.0.

Footnote L of Table 2 on page 19 of the NAWQC Correction (April 1999), indicates that the chronic aquatic life criterion is based on studies conducted under specific receiving water conditions with a low pH (6.5 to 6.6 standard units) and low hardness (<10 mg/L as CaCO<sub>3</sub>).

USEPA advises that a water-effects ratio may be more appropriate to better reflect the actual toxicity of aluminum to aquatic organisms. Discharger monitoring data demonstrate that the NAWQC study conditions are not similar to those in Mill Creek, which consistently has upstream hardness concentrations ranging from 14 to 51 mg/L and the pH ranging from 6.05 to 8.97 standard units (median of 7.11). Thus, it is unlikely that application of the chronic criterion of 87 µg/L is necessary to protect aquatic life in Mill Creek. For similar reasons, the Utah Department of Environmental Quality (Department) only applies the 87 µg/L chronic criterion for aluminum where the pH is less than 7.0 and the hardness is less than 50 mg/L (as CaCO<sub>3</sub>) in the receiving water after mixing. For conditions where the pH equals or exceeds 7.0 and the hardness is equal to or exceeds 50 mg/L (as CaCO<sub>3</sub>), the Department regulates aluminum based on the 750 µg/L acute criterion. In the case of Mill Creek, the available data indicate that the downstream pH ranges from 6.53 to 7.8 standard units with the median at 6.89 standard units, and the downstream hardness ranges from 37 to 110 mg/L with a median of 85.5 mg/L (as CaCO<sub>3</sub>). It is likely that application of the stringent chronic criteria (87 µg/L) is overly protective. Additionally, the chronic criterion is based on toxicity tests for brook trout and striped bass, which do not exist in Mill Creek. In the absence of an applicable chronic aquatic life criterion, the most stringent water quality criterion is the acute criterion 750 µg/L.

**(b) RPA Results.** The Maximum Effluent Concentration (MEC) for aluminum was 110 µg/L. Therefore, aluminum in the discharge does not demonstrate reasonable potential to cause or contribute to an in-stream

excursion above the NAWQC acute concentration, and no effluent limitations for aluminum have been included in this Order. This Order carries over the general minerals monitoring requirement, which includes aluminum monitoring, of two times per year.

## ii. Chromium (VI)

**(a) WQO.** The CTR includes maximum 1-hour average and 4-day average criteria of 16 µg/L and 11 µg/L, respectively, for total recoverable chromium (VI) for the protection of freshwater aquatic life. The CTR criteria apply only at Discharge Point 001 and in Mill Creek.

**(b) RPA Results.** The MEC for chromium (VI) was non-detect. Chromium (VI) was not detected in the upstream receiving water samples.

Section 1.2 of the SIP states, “*the RWQCB shall have discretion to consider if any data are inappropriate or insufficient for use in implementing this Policy.*” The highest reported effluent concentration was 17 µg/L. However, the laboratory report indicates that this concentration may be a false positive because total chromium was not detected in the same sample, which was analyzed using a different method. The next highest concentration for chromium (VI) was 8.2 µg/L, reported as an estimated concentration. The laboratory QA/QC sheets for this sample analysis indicate that the method blank had an estimated concentration of 11.2 µg/L. Both reported effluent results are considered invalid and were not used for the RPA.

Section 1.3, Step 8 of the SIP allows the Central Valley Water Board to require additional monitoring for a pollutant in place of an effluent limitation if data are unavailable or insufficient. Monitoring for chromium (VI) is required with the annual priority pollutant monitoring.

## iii. Oil and Grease

**(a) WQO.** The Basin Plan contains a narrative oil and grease objective, which states, “*Waters shall not contain oils, greases, waxes, or other materials 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.*”

**(b) RPA Results.** Order R5-2006-0091 includes effluent limitations for oil and grease of 10 mg/L as a monthly average and 15 mg/L as a daily maximum. The MEC for oil and grease was 33 mg/L. Out of 67 effluent samples collected between October 2006 and April 2012, only three samples had detections of oil and grease, and of those, only one sample was detected above 10 mg/L. Influent data for the same period varied from 36 mg/L to 58 mg/L, based on four samples. Additionally, as discussed in Section II.D.2. of this Fact Sheet, the Discharger was

collecting oil and grease samples in a stainless steel container prior to transferring to a glass container. Given the infrequency of oil and grease detections in the effluent, it is likely that the use of an unapproved container may have caused sample contamination.

Oil and grease used to be a problem at many POTWs and effluent limitations were necessary to protect the treatment plant and receiving waters. The Discharger is required to be covered under State Water Board WQO 2006-0003, a Statewide General Order for Sanitary Sewer Systems, which requires each enrollee to evaluate its service area to determine whether a fats, oils, and grease (FOG) control program is needed. If an enrollee determines that a FOG control program is not needed, the enrollee must provide justification for why it is not needed. If FOG is found to be a problem, the enrollee must prepare and implement a FOG source control program to reduce the amount of these substances discharged to the sanitary sewer system. The Discharger's compliance with the requirements of WQO 2006-0003 will ensure minimal amounts of oil and grease are discharged into the Facility. Based on the effluent data and infrequency of detections, there is no reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan water quality objective for oil and grease. The effluent limitations from Order R5-2006-0091 have not been retained. Removal of these effluent limitations is in accordance with federal anti-backsliding regulations (see Section IV.E.3. of this Fact Sheet).

#### iv. Persistent Chlorinated Hydrocarbon Pesticides

**(a) WQO.** The Basin Plan requires that no individual pesticides shall be present in concentrations that adversely affect beneficial uses; discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses; persistent chlorinated hydrocarbon pesticides shall not be present in the water column at detectable concentrations; and pesticide concentrations shall not exceed those allowable by applicable antidegradation policies. Persistent chlorinated hydrocarbon pesticides include aldrin; alpha-BHC; beta-BHC; chlordane; 4,4-DDT; 4,4-DDE; 4,4-DDD; delta-BHC; dieldrin; alpha-endosulfan; beta-endosulfan; endosulfan sulfate; endrin; endrin aldehyde; gamma-BHC; heptachlor; heptachlor epoxide; and toxaphene. The CTR includes criteria for each persistent chlorinated hydrocarbon pesticide. The CTR criteria apply only at Discharge Point 001 and in Mill Creek.

**(b) RPA Results.** Endrin and heptachlor were detected in the effluent once at 0.078 µg/L and 0.18 µg/L, respectively, out of 13 effluent samples. Endrin is an insecticide that has been used mainly on field crops. Most uses of endrin were cancelled in 1980. Heptachlor was used to kill termites in homes and insects on farm crops. Most uses of heptachlor were cancelled in 1978, with the only permitted uses currently being for

fire ant control in buried pad-mounted electric power transformers, and in underground cable television and telephone cable boxes.

Section 1.2 of the SIP states, “*the RWQCB shall have discretion to consider if any data are inappropriate or insufficient for use in implementing this Policy.*” Based on the information available (both were detected on the same day, no other detections occurred, endrin uses have been cancelled, and neither pesticide was detected in the influent), staff determined that the reported concentrations of endrin and heptachlor were likely false-positives and the results are not representative of the effluent discharge. Therefore, the Central Valley Water Board finds that the sample results are inappropriate and did not use the data in conducting the RPA.

Section 1.3, Step 8 of the SIP allows the Central Valley Water Board to require additional monitoring for a pollutant in place of an effluent limitation if data are unavailable or insufficient. Monitoring for persistent chlorinated hydrocarbons is required with the priority pollutant monitoring. This Order also requires the Discharger to continue implementing its pretreatment program.

#### v. Selenium

- (a) WQO.** The CTR includes a maximum 4-day average criterion of 5.0 µg/L for total recoverable selenium for the protection of freshwater aquatic life. The United States Fish and Wildlife Service (USFWS) established a wildlife impact selenium threshold level of 2 µg/L. The Basin Plan indicates that evaporation basins containing selenium concentrations greater than 2.7 µg/L have potential for reduced hatchability and teratogenic impacts on waterfowl. Since the effluent is disposed of in ponds, and water in Mill Creek is diverted to off-site disposal ponds, selenium in the effluent is a potential concern. The CTR criteria apply only at Discharge Point 001 and in Mill Creek.
- (b) RPA Results.** The MEC for selenium was 2.9 µg/L, reported as an estimated concentration. The Discharger collected 160 effluent samples for selenium for all discharge points. Of those, 85 samples had detections but 79 were reported as estimated concentrations. The highest quantified concentration was reported as 2.1 µg/L. The estimated concentrations do not provide an adequate level of scientific certainty to use as evidence that the effluent exceeds 2.7 µg/L. The Discharger does not conduct in-pond sampling for selenium. Selenium in the Mill Creek discharge does not demonstrate reasonable potential to cause or contribute to an in-stream excursion above the CTR chronic criterion of 5 µg/L; therefore, this Order does not include WQBELs for selenium. This Order reduces selenium effluent monitoring to once per year, and is only required when discharging to Mill Creek (Discharge Point 001).

**b. Constituents with Limited Data.** Reasonable potential cannot be determined for the following constituents because effluent data are limited or ambient background concentrations are not available. The Discharger is required to continue to monitor for these constituents in the effluent using analytical methods that provide the best feasible detection limits, and that meet the minimum levels established in Appendix 4 of the State Implementation Policy. When additional data become available, further analysis will be conducted to determine whether to add numeric effluent limitations or to continue monitoring.

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

**(a) WQO.** The CTR includes a criterion of 5.9 µg/L for bis(2-ethylhexyl) phthalate for the protection of human health for waters from which only organisms are consumed. The CTR criterion applies only at Discharge Point 001 and in Mill Creek.

**(b) RPA Results.** The MEC for bis(2-ethylhexyl) phthalate was 21 µg/L. The Discharger routinely collected blanks with the effluent samples for bis(2-ethylhexyl) phthalate. The blanks show that bis(2-ethylhexyl) phthalate was detected at concentrations ranging from an estimated 2.5 µg/L to 190 µg/L, with a few blanks showing non-detects. The Discharger did not collect blank samples every time it sampled the effluent. Bis(2-ethylhexyl) phthalate is a common contaminant of sample containers, sampling apparatus, and analytical equipment, and sources of the detected bis(2-ethylhexyl) phthalate may be from plastics used for sampling or analytical equipment. Order R5-2006-0091 required the Discharger to collect composite samples for bis(2-ethylhexyl) phthalate, which are collected using plastic tubing and plastic containers.

Section 1.2 of the SIP states, “*the RWQCB shall have discretion to consider if any data are inappropriate or insufficient for use in implementing this Policy.*” Based on the information, there is evidence that the bis(2-ethylhexyl) phthalate concentrations are not representative of the effluent. Therefore, the Central Valley Water Board finds that the sample results are inappropriate and did not use the data in conducting the RPA.

Section 1.3, Step 8 of the SIP allows the Central Valley Water Board to require additional monitoring for a pollutant in place of an effluent limitation if data are unavailable or insufficient. This Order requires the Discharger to conduct additional monitoring for bis(2-ethylhexyl) phthalate. The additional monitoring is not required to commence until the third year of the permit term.

Bis(2-ethylhexyl) phthalate data

Date	Effluent (µg/L)	Blank (µg/L)
12/19/2006	4.7	2
1/3/2007	3.8	N/S
2/9/2007	ND	3.3
3/6/2007	ND	N/S
4/3/2007	7.8	2.4
5/2/2007	ND	N/S
6/5/2007	2 DNQ	N/S
7/10/2007	ND	N/S
7/18/2007	ND	N/S
8/8/2007	ND	N/S
9/5/2007	ND	N/S
10/2/2007	ND	N/S
11/6/2007	ND	N/S
12/6/2007	ND	N/S
1/3/2008	ND	N/S
1/15/2008	ND	N/S
2/6/2008	ND	N/S
3/4/2008	ND	N/S
4/2/2008	ND	N/S
5/6/2008	ND	N/S
6/5/2008	ND	N/S
7/9/2008	ND	N/S
7/23/2008	ND	N/S
8/6/2008	ND	N/S
9/9/2008	ND	190
10/8/2008	ND	N/S
11/4/2008	ND	170
12/2/2008	ND	140
1/6/2009	ND	140
1/13/2009	ND	150
2/4/2009	ND	150

Bis(2-ethylhexyl) phthalate data

Date	Effluent (µg/L)	Blank (µg/L)
3/4/2009	ND	96
4/2/2009	ND	92
5/5/2009	ND	89
6/2/2009	13	120
7/8/2009	ND	98
7/22/2009	ND	N/S
8/4/2009	ND	68
9/2/2009	ND	48
10/20/2009	3 DNQ	94
11/3/2009	ND	100
12/10/2009	ND	N/S
1/6/2010	ND	64
1/13/2010	ND	N/S
1/22/2010	ND	110
2/9/2010	8.1	88
3/2/2010	12	59
4/13/2010	9.2	94
5/4/2010	9.3	59
6/3/2010	13	87
7/8/2010	5.7	66
7/28/2010	4.1	N/S
8/6/2010	7.1 DNQ	70
8/18/2010	9.3	N/S
9/3/2010	8.3	66
10/13/2010	8.6	36
11/9/2010	18	57
12/7/2010	6	59
1/7/2011	ND	47
2/3/2011	6.6	65
3/2/2011	2.5 DNQ	68
4/7/2011	3.7 DNQ	46

Bis(2-ethylhexyl) phthalate data

Date	Effluent (µg/L)	Blank (µg/L)
5/4/2011	2.3 DNQ	24
6/8/2011	2.8 DNQ	36
6/29/2011	21	N/S
6/29/2011	8.9	N/S
7/7/2011	14	2.5
7/7/2011	ND	16
7/27/2011	3.7	N/S
8/2/2011	6.5	65
9/7/2011	3.7 DNQ	17
10/7/2011	1.3 DNQ	53
11/3/2011	4.6 DNQ	23
12/2/2011	1.7 DNQ	16
1/5/2012	5.7	29
1/5/2012	2 DNQ	16
2/2/2012	1.8 DNQ	26
3/2/2012	4.5 DNQ	20
4/10/2012	11	36
5/4/2012	2.3	N/S
6/12/2012	3.6	24
7/3/2012	1.1	8.2
7/6/2012	2	32
7/25/2012	ND	44
8/2/2012	4.3	28
9/11/2012	0.61	11
10/5/2012	0.84	20
11/8/2012	1.5	15
12/6/2012	0.73	13

N/S – Not Sampled  
DNQ – Detected, not quantified  
ND – Non Detect

**ii. 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. The CTR criteria apply only at Discharge Point 001 and in Mill Creek.

**(b) RPA Results.** The MEC for cyanide was 7.9 µg/L. Research indicates that other constituents in wastewater may have the potential to form cyanide during sample collection. Effluent sample data collected by other wastewater treatment facilities suggest that addition of sodium hydroxide, the preserving agent required by 40 CFR Part 136 if samples will not be analyzed within 15 minutes of sample collection, results in higher cyanide

concentrations compared to samples that were unpreserved. Cyanide was detected in seven out of 15 effluent samples.

Section 1.2 of the SIP states, “*the RWQCB shall have discretion to consider if any data are inappropriate or insufficient for use in implementing this Policy.*” The laboratory QA/QC sheets do not show any issues with sample analyses. However, based on the information collected by other dischargers in the Central Valley Region and data published by professional organizations, staff has determined that reasonable potential for cyanide cannot be determined at this time. Therefore, the Central Valley Water Board finds that the sample results are insufficient to determine reasonable potential. The Discharger has not conducted a study to determine appropriate sample preservation methods and times for the Facility effluent.

Section 1.3, Step 8 of the SIP allows the Central Valley Water Board to require additional monitoring for a pollutant in place of an effluent limitation if data are unavailable or insufficient. This Order requires the Discharger to conduct a study to determine if cyanide is truly present in the effluent in concentrations exceeding criteria.

### iii. Mercury

**(a) WQO.** The CTR contains a human health criterion of 0.051 µg/L for waters from which aquatic organisms are consumed. In the CTR, USEPA reserved the mercury criteria for freshwater and aquatic life and may adopt new criteria at a later date. The CTR criterion applies only at Discharge Point 001 and in Mill Creek.

**(b) RPA Results.** The MEC for mercury was 0.0061 µg/L out of 34 samples. The maximum receiving water concentration was 0.006 µg/L. Effluent and receiving water mercury data are summarized below.

Section 1.2 of the SIP states, “*the RWQCB shall have discretion to consider if any data are inappropriate or insufficient for use in implementing this Policy.*” The maximum reported value for the effluent was 20 µg/L. However, this concentration is unreasonably high, with the next highest reported concentration being 0.17 µg/L, as an estimated concentration. The maximum influent concentration, based on quarterly samples, was 7.1 µg/L out of 33 samples. According to USEPA, POTWs provide approximately 90% removal of influent mercury concentrations. Therefore, Central Valley Water Board staff considers the value of 20 µg/L as an outlier and not representative of the effluent, and, thus, it was not used in the RPA. Of the remaining data, the values that were reported above the criterion were reported as estimated concentrations (DNQ). Estimated concentrations do not provide an adequate level of scientific certainty to use as evidence that the effluent exceeds criteria. Therefore,

the Central Valley Water Board finds that the sample results are inappropriate and did not use the data in conducting the RPA.

Section 1.3, Step 8 of the SIP allows the Central Valley Water Board to require additional monitoring for a pollutant in place of an effluent limitation if data are unavailable or insufficient. This Order requires the Discharger to collect monthly effluent samples for mercury to determine if there is reasonable potential to cause or contribute to an exceedance of a water quality objective.

Mercury Sample Data

Date	Location	Result (µg/L)
10/3/2006	Effluent	<0.2
11/7/2006	Effluent	<0.2
1/3/2007	Effluent	<0.2
4/3/2007	Effluent	20
7/10/2007	Effluent	<0.2
7/18/2007	Effluent	<0.2
7/18/2007	Effluent	0.0024
10/2/2007	Effluent	<0.2
1/3/2008	Effluent	<0.2
4/2/2008	Effluent	<0.2
7/9/2008	Effluent	<0.2
7/23/2008	Effluent	<0.2
7/23/2008	Effluent	0.0015
10/8/2008	Effluent	<0.2
1/6/2009	Effluent	<0.2
4/2/2009	Effluent	<0.2

Mercury Sample Data

Date	Location	Result (µg/L)
7/8/2009	Effluent	0.11 DNQ
7/22/2009	Effluent	0.0037
10/20/2009	Effluent	0.14 DNQ
1/6/2010	Effluent	<0.062
4/13/2010	Effluent	0.075 DNQ
7/8/2010	Effluent	0.13 DNQ
7/28/2010	Effluent	0.12 DNQ
8/18/2010	Effluent	0.17 DNQ
10/13/2010	Effluent	<0.2
1/7/2011	Effluent	0.094 DNQ
4/5/2011	Effluent	0.095 DNQ
6/29/2011	Effluent	0.0061
7/7/2011	Effluent	0.085 DNQ
7/27/2011	Effluent	<0.062
10/7/2011	Effluent	0.17 DNQ
1/5/2012	Effluent	<0.062

Mercury Sample Data

Date	Location	Result (µg/L)
1/9/2012	Effluent	<0.062
4/10/2012	Effluent	0.097 DNQ
6/19/2007	R-1	<0.2
6/19/2007	R-1	0.0011
7/22/2008	R-1	<0.2
7/22/2008	R-1	0.00078
8/6/2009	R-1	<0.2
8/6/2009	R-1	0.0011
8/18/2010	R-1	0.0022
6/29/2011	R-1	0.006
7/27/2011	R-1	ND

DNQ – Detected, Not Quantified  
 R-1 – Upstream Receiving Water  
 ND – Non Detect

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 for the analytical method associated with that ML. 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 Reporting Level (RL). 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. Section 1.2 of the SIP requires that the Central Valley Water Board 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. Data reported below RL indicate the data may not be valid due to possible matrix interferences during the analytical procedure. 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. Data reported below the RL are not considered valid data for use in determining reasonable potential. Therefore, in accordance with Section 1.2 of the SIP, the Central Valley Water Board has determined that data reported below the RL as estimated concentrations are inappropriate and insufficient to be used to determine reasonable potential. In implementing its discretion, the Central Valley Water Board is not finding that reasonable potential does not exist; rather the Central Valley Water Board cannot make such a determination given the estimated concentrations. Therefore, the Central Valley Water Board will require additional monitoring for such constituents until such time a determination can be made in accordance with the SIP.

#### iv. Silver

- (a) WQO.** The CTR includes a hardness-dependent criterion for the protection of freshwater aquatic life for total recoverable silver. Using the default conversion factor and reasonable worst-case measured hardness, as described in section IV.C.2.e of this Fact Sheet, the applicable effluent acute (1-hour average) criterion is 1.1 µg/L, as total recoverable. The applicable receiving water acute criterion is 0.14 µg/L, as total recoverable. The CTR criteria apply only at Discharge Point 001 and in Mill Creek.
- (b) RPA Results.** The MEC for silver was 1.1 µg/L, reported as an estimated concentration. Silver was not detected in the upstream receiving water. Out of 31 effluent samples, six had detections of silver but all were reported as estimated concentrations.

Section 1.2 of the SIP states, “*the RWQCB shall have discretion to consider if any data are inappropriate or insufficient for use in implementing this Policy.*” The estimated concentrations do not provide an adequate level of scientific certainty to use as evidence that the effluent exceeds criteria. Therefore, the Central Valley Water Board finds that the sample results are inappropriate and did not use the data in conducting the RPA.

Section 1.3, Step 8 of the SIP allows the Central Valley Water Board to require additional monitoring for a pollutant in place of an effluent limitation if data are unavailable or insufficient. This Order requires the Discharger to monitor the effluent for silver using an analytical method with a reporting limit that is lower than the criterion.

Silver Sample Data

Date	Location	Result (µg/L)
10/3/2006	Effluent	<5
11/7/2006	Effluent	<5
1/3/2007	Effluent	<5
4/3/2007	Effluent	<5
7/10/2007	Effluent	<5
7/18/2007	Effluent	<5
10/2/2007	Effluent	<5
1/3/2008	Effluent	<5
4/2/2008	Effluent	<5
7/9/2008	Effluent	<5
7/23/2008	Effluent	<10
10/8/2008	Effluent	<5
1/6/2009	Effluent	<1
4/2/2009	Effluent	<1
7/8/2009	Effluent	0.25 DNQ

Silver Sample Data

Date	Location	Result (µg/L)
7/22/2009	Effluent	<10
10/20/2009	Effluent	<0.15
1/6/2010	Effluent	<0.15
4/13/2010	Effluent	<0.15
7/8/2010	Effluent	<0.15
7/28/2010	Effluent	1.1 DNQ
8/18/2010	Effluent	<1.1
10/13/2010	Effluent	<1
1/7/2011	Effluent	<1.1
4/5/2011	Effluent	0.22 DNQ
7/7/2011	Effluent	0.22 DNQ
7/27/2011	Effluent	<1.1
10/7/2011	Effluent	0.17 DNQ
1/5/2012	Effluent	<0.15
1/9/2012	Effluent	<0.15

Silver Sample Data

Date	Location	Result (µg/L)
4/10/2012	Effluent	0.2 DNQ
7/3/2012	Effluent	<1.1
7/25/2012	Effluent	<0.15
10/5/2012	Effluent	<5.4
7/3/2012	Effluent	<1.1
6/19/2007	R-1	<5
7/22/2008	R-1	<10
8/6/2009	R-1	<5
8/18/2010	R-1	ND
7/27/2011	R-1	ND

DNQ – Detected, Not Quantified  
 R-1 – Upstream Receiving Water  
 ND – Non Detect

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 for the analytical method associated with that ML. 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 Reporting Level (RL). 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. Section 1.2 of the SIP requires that the Central Valley Water Board 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. Data reported below RL indicate the data may not be valid due to possible matrix interferences during the analytical procedure. 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. Data reported below the RL are not considered valid data for use in determining reasonable potential. Therefore, in accordance with Section 1.2 of the SIP, the Central Valley Water Board has determined that data reported below the RL as estimated concentrations are inappropriate and insufficient to be used to

determine reasonable potential. In implementing its discretion, the Central Valley Water Board is not finding that reasonable potential does not exist; rather the Central Valley Water Board cannot make such a determination given the estimated concentrations. Therefore, the Central Valley Water Board will require additional monitoring for such constituents until such time a determination can be made in accordance with the SIP.

- c. Constituents with Reasonable Potential.** The Central Valley Water Board finds that the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for un-ionized ammonia (as N), total chlorine residual, copper, flow, lead, pH, BOD, TSS, total coliform, settleable solids, acute toxicity, and chronic toxicity. 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).** The NAWQC for the protection of freshwater aquatic life for total ammonia (as N) recommends acute (1-hour average; criteria maximum concentration or CMC) and chronic (30-day average; criteria continuous concentration or CCC) standards based on pH and temperature. USEPA also recommends that no 4-day average concentration should exceed 2.5 times the 30-day CCC. USEPA found that as pH increased, both the acute and chronic toxicity of ammonia increased. Salmonids were more sensitive to acute toxicity effects than other species. However, while the acute toxicity of ammonia was not influenced by temperature, it was found that invertebrates (e.g., freshwater unionid mussels) and young fish experienced increasing chronic toxicity effects with increasing temperature.

Review of the *Sensitive Freshwater Mussel Surveys in the Pacific Southwest Region: Assessment of Conservation Status* (Report) published August 2010 by The Nature Conservancy, did not contain any survey information for Mill Creek. The Report did not provide any surveys for mussels within 30 linear miles from the Facility. Historical information is included for the Tulare Lake Bed, which indicates *Anodonta californiensis* were recorded. However, this location was not resurveyed for the Report and no recent information is available. Two sites in Kern County were surveyed but indicate that no mussels were found. At the point of discharge, Mill Creek is an effluent dominated water body and is not used for irrigation deliveries. Irrigation deliveries in Mill Creek occur several miles upstream of Discharge Point 001. Mussels require water to survive and the self-monitoring reports indicate that there are periods of more than one month, at times, that

there is no discharge to Mill Creek. Thus, the recommended criteria for mussels absent were used. Mill Creek has a beneficial use of warm freshwater habitat. The presence of early fish life stages has not been documented. Therefore, the recommended criteria for waters where salmonids are absent and early life stages are absent were used.

The Central Valley Water Board may require additional information from the Discharger in the future to evaluate whether more restrictive ammonia criteria for other species (i.e., unionid mussels) is applicable to Mill Creek. However, at this time, ammonia criteria have been calculated with the assumption that mussels are not present due to the ephemeral nature of Mill Creek and the fact that the Discharger does not consistently discharge to Mill Creek during the year.

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 temperature in the downstream receiving water was 28.6°C. Based on the maximum permitted pH and maximum observed downstream receiving water temperature, the resulting acute criterion is 2.89 mg/L.

Receiving water monitoring for pH and temperature was conducted once per week when discharging to Mill Creek, resulting in 191 sets of paired pH and temperature data. In accordance with USEPA's 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia – Freshwater, the 30-day CCC was determined by calculating the CCC for each paired pH and temperature set and taking the 95<sup>th</sup> percentile CCC. The resulting 30-day CCC is 4.57 mg/L. The 4-day average concentration is derived in accordance with the USEPA criterion as 2.5 times the 30-day CCC. Based on the 30-day CCC of 4.57 mg/L, the 4-day average concentration that should not be exceeded is 11.43 mg/L.

**(2) Un-ionized Ammonia (as N).** The Basin Plan includes an 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<sub>3</sub>) to exceed 0.025 mg/L (as N) in receiving waters.”

**(b) RPA Results.**

**(1) Total Ammonia (as N).** The Facility is a POTW that treats domestic wastewater. Untreated domestic wastewater contains ammonia in concentrations that, without treatment, would be harmful to aquatic life 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 WQBELs are required as explained in more detail below.

Federal regulations at 40 CFR 122.44(d)(1)(i) require 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.

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

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 does not nitrify. 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. Inadequate or incomplete

nitrification, such as occurs at the Facility, creates the potential for ammonia to be discharged in concentrations exceeding water quality objectives. Therefore, the Central Valley Water Board finds the discharge has reasonable potential for ammonia and WQBELs are required.

**(2) Un-ionized Ammonia (as N).** For the reasons described above, there is reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan objective. In addition, the maximum calculated effluent concentration for un-ionized ammonia (as N) was 0.51 mg/L.

**(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 MDEL of 0.025 mg/L for un-ionized ammonia (as N) that is based on the Basin Plan objective.

**(d) Plant Performance and Attainability.**

**(1) Total Ammonia (as N).** Not applicable.

**(2) Un-ionized Ammonia (as N).** Analysis of the effluent data shows that the Discharger cannot consistently comply with the applicable WQBEL. New or modified control measures may be necessary in order to comply with the effluent limitation, and the new or modified control measures cannot be designed, installed, and put into operation within 30 calendar days. Furthermore, the effluent limitation for un-ionized ammonia (as N) is a new regulatory requirement within this Order, which became applicable to the waste discharge with the adoption of this Order, and which was adopted after 1 July 2000. Therefore, a compliance time schedule for compliance with the un-ionized ammonia (as N) effluent limitation is established in TSO R5-2014-XXXX in accordance with Water Code section 13300, which requires preparation and implementation of a pollution prevention plan in accordance with Water Code section 13263.3.

**ii. Chlorine Residual**

**(a) WQO.** USEPA developed NAWQC for protection of freshwater aquatic life for chlorine residual. The recommended 4-day average (chronic) and 1-hour average (acute) criteria for chlorine residual are 0.011 mg/L and 0.019 mg/L, respectively. These criteria are protective of the Basin Plan's narrative toxicity objective, and apply only at Discharge Point 001 and in Mill Creek.

**(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 CFR 122.44(d)(1)(i) require that, "*Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.*" For priority pollutants, the SIP dictates the procedures for conducting the RPA. Chlorine is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific conditions of the discharge, the Central Valley Water Board has used its judgment in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent.

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

The Discharger uses chlorine for disinfection, which is extremely toxic to aquatic organisms. Although the Discharger dechlorinates the effluent prior to discharge to Mill 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 that can and will be monitored continuously, 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 USEPA's NAWQC, which implements the Basin Plan's narrative toxicity objective for protection of aquatic life.

**(d) Plant Performance and Attainability.** Effluent data show that since the Discharger started dechlorinating prior to discharge to Mill Creek, chlorine residual has not been detected above a detection limit of 0.01 mg/L. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

### iii. Copper

**(a) WQO.** The CTR includes hardness dependent criteria for the protection of freshwater aquatic life for total recoverable copper. Using the default conversion factors and reasonable worst-case measured hardness, as described in section IV.C.2.e. of this Fact Sheet, the applicable effluent acute (1-hour average) criterion is 10. µg/L and the applicable effluent chronic (4-day average) criterion is 7.0 µg/L, as total recoverable. The applicable receiving water acute criterion is 2.2 µg/L and the applicable receiving water chronic criterion is 1.7 µg/L, as total recoverable. The CTR criteria apply only at Discharge Point 001 and in Mill Creek.

**(b) RPA Results.** The MEC for copper was 23 µg/L (as total recoverable) while the maximum observed upstream receiving water concentration was an estimated concentration of 1.3 µg/L (as total recoverable). Therefore, copper in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for the protection of freshwater aquatic life, due to the MEC exceeding criteria.

**(c) WQBELs.** No dilution credits are allowed for development of WQBELs for total recoverable copper due to periods of no flow in the receiving water. This Order contains a final AMEL and a final MDEL for total recoverable copper of 4.0 µg/L and 10. µg/L, respectively, based on the CTR criterion for the protection of freshwater aquatic life.

**(d) Plant Performance and Attainability.** Analysis of the effluent data shows that the Discharger cannot consistently comply with the applicable WQBELs. New or modified control measures may be necessary in order to comply with the effluent limitations, and the new or modified control measures cannot be designed, installed, and put into operation within 30 calendar days. Furthermore, the effluent limitations for total recoverable copper are a new regulatory requirement within this Order, which become applicable to the waste discharge with the adoption of this

Order, and which was adopted after 1 July 2000. Therefore, a compliance time schedule for compliance with the total recoverable copper effluent limitations is established in TSO R5-2014-XXXX in accordance with Water Code section 13300, which requires preparation and implementation of a pollution prevention plan in compliance with Water Code section 13263.3.

**iv. Flow.** This Order contains an average monthly discharge effluent flow limitation of 20 mgd, as the sum of all discharge points. In October 1992, the Discharger certified a final environmental impact report (EIR) in accordance with the CEQA for Facility expansion up to 20 mgd. In September 2002, the Discharger re-evaluated its Facility capacity based on new population data and indicated the Facility would have a capacity of 22 mgd, not 20 mgd. Order R5-2006-0091 established an effluent flow limitation of 20 mgd, consistent with that examined through the CEQA process. This Order carries over the effluent flow limitation from Order R5-2006-0091, as a water-quality based effluent limitation. Between 2006-2012, the maximum average monthly flow was 12.9 mgd. Therefore, the Discharger is able to comply with the average monthly effluent flow limitation of 20 mgd.

**v. Lead**

**(a) WQO.** The CTR includes hardness dependent criteria for the protection of freshwater aquatic life for total recoverable lead. Using the default conversion factors and reasonable worst-case measured hardness, as described in section IV.C.2.e of this Fact Sheet, the applicable effluent acute (1-hour average) criterion is 42 µg/L and the applicable effluent chronic (4-day average) criterion is 1.6 µg/L, as total recoverable. The applicable receiving water acute criterion is 6.7 µg/L and the applicable receiving water chronic criterion is 0.26 µg/L, as total recoverable. The CTR criteria apply only at Discharge Point 001 and in Mill Creek.

**(b) RPA Results.** The MEC for lead at Discharge Point 001 was 0.62 µg/L (as total recoverable) while the maximum observed upstream receiving water concentration was 6.1 µg/L (as total recoverable). Paired receiving water lead and hardness data were evaluated to determine if there were any exceedances of the criteria based on the actual hardness of the receiving water at the time of the lead sampling. Out of 17 paired samples, 16 had lead concentrations above their respective criteria. Therefore, lead in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for the protection of freshwater aquatic life due to the background exceeding criteria, and lead being detected in the effluent.

**(c) WQBELs.** No dilution credits are allowed for development of WQBELs for total recoverable lead due to periods of no flow in the receiving water. This Order contains a final AMEL and a final MDEL for total recoverable lead of 1.0 µg/L and 2.9 µg/L, respectively, based on the CTR criteria for the protection of freshwater aquatic life.

**(d) Plant Performance and Attainability.** Analysis of the effluent data shows that lead was not detected at Discharge Point 001 above the applicable WQBELs. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

## vi. Pathogens

**(a) WQO.** By letter dated 2 August 2006, DPH clarified appropriate disinfection levels for discharges to Mill Creek based on identified downstream use patterns. The letter recommends disinfected secondary-23 recycled water as protective of known REC-1 intensity and AGR uses of Mill Creek, provided areas of public access are posted to discourage REC-1 uses and AGR uses are limited to fiber and fodder crops. Coliform organisms are intended as an indicator of the effectiveness of the entire treatment train and the effectiveness of removing other pathogens.

Order R5-2006-0091 required the Discharger to submit a plan describing how it would discourage REC-1 uses in Mill Creek downstream of the discharge point. Additionally, Order R5-2006-0091 required the Discharger include in its annual report verification that the cropping patterns downstream of the discharge point remained unchanged from those described in the Order. As part of its REC-1 discouragement plan, the Discharger posted warning signs on City-owned property along roads and near residential areas adjacent to Mill Creek. The Discharger had already posted warning signs every four hundred feet along the north, west, and south property boundaries of the Facility area. In addition, the Discharger proposed to mail informational fliers to residences and landowners adjacent to Mill Creek once per year, explaining that the quality of the water in the Creek is not adequate for human consumption and is not recommended for recreational activities involving body contact such as swimming, wading, or fishing. The annual reports from 2007-2011 indicate that the Discharger verified the cropping patterns had not changed downstream of the discharge point. Central Valley Water Board staff also reviewed the 2007 California Department of Water Resources Land Use Survey, and found that the majority of crops grown in the areas adjacent to Mill Creek are fodder and fiber crops.

**(b) RPA Results.** Federal regulations at 40 CFR 122.44(d)(1)(i) require 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. Total coliform 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 discharger, the Central

Valley Water Board has used best professional judgment in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent.

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

The beneficial uses of Mill Creek include water contact recreation and agricultural irrigation supply. To protect these beneficial uses, the Central Valley Water Board finds that the wastewater must be disinfected and adequately treated to prevent disease. Although the Discharger provides disinfection, inadequate or complete disinfection creates the potential for pathogens to be discharged. Therefore, the Central Valley Water Board finds the discharge has reasonable potential for total coliform and WQBELs are included in this Order.

In addition, as discussed in further detail in Section II.D.1 of this Fact Sheet, the Discharger has been experiencing exceedances of the total coliform effluent limitations for a number of years. The Discharger has conducted investigations as to the cause but has not found what the cause of the exceedances is.

- (c) WQBELs.** The method of treatment is not prescribed by this Order; however, wastewater must be treated to a level equivalent to that recommended by DPH. In accordance with DPH recommendations, this Order includes effluent limitations for total coliform of 23 MPN/100 mL as a 7-day median; 240 MPN/100 mL, not to be exceeded more than once in a 30-day period; and 500 MPN/100 mL as an instantaneous maximum. This Order contains effluent limitations for total coliform to protect the beneficial uses of the receiving water. As coliform organisms are living and mobile, it is impracticable to quantify an exact number of coliform organisms and to establish weekly average effluent limitations. Instead, coliform organisms are measured as a most probable number and regulated based

on a seven sample median effluent limitation. In addition to the average weekly and average monthly technology-based effluent limitations, a daily maximum effluent limitation for BOD<sub>5</sub> and TSS is included in the Order to ensure that the treatment works are not organically overloaded and operate in accordance with design capabilities.

**(d) Plant Performance and Attainability.** As discussed in Section II.D.1. of this Fact Sheet, the Discharger has been in chronic violation of the total coliform effluent limitations since late 2009. The Discharger continues to investigate the coliform problem, and has implemented a number of actions to no avail.

## vii. pH

**(a) WQO.** The Basin Plan includes a water quality objective for surface waters that the “...pH of water shall not be depressed below 6.5, raised above 8.3...”

**(b) RPA Results.** Federal regulations at 40 CFR 122.44(d)(1)(i) require 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. 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 best professional judgment in determining the appropriate method for conducting the RPA for pH.

USEPA’s September 2010 NPDES Permit Writers’ Manual at 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 may also determine that WQBELs are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBELs for pathogens in all permits for POTWs discharging to contact recreational waters).*” USEPA’s TSD also recommends that factors other than effluent data should be considered in the RPA, “*When determining whether or not a discharge causes, has the reasonable potential to cause, or contributes to an excursion of a numeric or narrative water quality criterion for individual toxicants or for toxicity, the regulatory authority can use a variety of factors and information where facility-specific effluent monitoring data are unavailable. These factors also should be considered with available effluent monitoring data.*” (TSD, p. 50)

The Facility is a POTW that treats domestic wastewater. Although the Discharger has proper pH controls in place, the pH for the Facility's influent varies due to the nature of municipal sewerage, which provides the basis for the discharge to have a reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan's numeric objectives for pH in the receiving water. Therefore, WQBELs for pH are included in this Order.

**(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 the Basin Plan objectives for pH.

**(d) Plant Performance and Attainability.** Analysis of the effluent data shows that the effluent pH, which ranged between 6.51 and 8.08 is within the applicable WQBELs. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

#### viii. 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 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.** This Order contains average monthly and average daily effluent limitations 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. A daily maximum effluent limitation for settleable solids is included in the Order, in lieu of a weekly average, to ensure that the treatment works operate in accordance with design capabilities.

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

#### 4. WQBELs Calculations

a. This Order includes WQBELs for un-ionized ammonia (as N), total chlorine residual, total recoverable copper, flow, total recoverable lead, BOD, TSS, total coliform, pH, settleable solids, acute toxicity, and chronic toxicity. 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 WQBELs 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:

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

$$ECA = C \quad \text{where } C \leq B$$

where:

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

According to the SIP, the ambient background concentration (B) in the equation above shall be the observed maximum with the exception that an ECA calculated from a priority pollutant criterion/objective that is intended to protect human health from carcinogenic effects shall use the arithmetic mean concentration of the ambient background samples. For ECAs based on MCLs, which implement the Basin Plan’s chemical constituents objective and are applied as annual averages, an arithmetic mean is also used for B due to the long-term basis of the criteria.

- c. Basin Plan Objectives and MCLs.** For WQBELs based on site-specific numeric Basin Plan objectives or MCLs, the effluent limitations are applied directly as the ECA as either an MDEL, AMEL, or average annual effluent limitation, 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 is used to calculate the MDEL.

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

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

$$MDEL_{HH} = \frac{mult_{MDEL} \cdot AMEL_{HH}}{mult_{AMEL}}$$

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-8. Summary of Water Quality-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	--	--	90	--	--
	lbs/day	5,004 <sup>1,2</sup>	7,506 <sup>1,2</sup>	15,012 <sup>2</sup>	--	--
Total Suspended Solids	mg/L	--	--	90	--	--
	lbs/day	5,004 <sup>1,2</sup>	7,506 <sup>1,2</sup>	15,012 <sup>2</sup>	--	--
pH	standard units	--	--	--	6.5	8.3
Copper, Total Recoverable	µg/L	4.0	--	10.	--	--
Lead, Total Recoverable	µg/L	1.0	--	2.9	--	--
Ammonia, un-ionized (as N)	mg/L	--	--	0.025	--	--
Settleable Solids	mL/L	0.2	--	0.5	--	--

<sup>1</sup> Based on the technology-based effluent limitation

<sup>2</sup> Based on a permitted flow of 20 mgd

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

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

**b. 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

**c. Chronic Whole Effluent Toxicity.** There shall be no chronic toxicity in the effluent discharge.

**d. Total Coliform.** Effluent total coliform 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
- iii. 500 MPN/100 mL, instantaneous maximum

- e. **Average Monthly Flow.** The average monthly discharge flow shall not exceed 20 mgd, total for all discharge points.

**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 and chronic 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...*” (Basin Plan at page III-7). USEPA Region 9 provided guidance for the development of acute toxicity effluent limitations in the absence of numeric water quality objectives for toxicity in its document titled “Guidance for NPDES Permit Issuance”, dated February 1994. In section B.2. “Toxicity Requirements” (pgs. 14-15) it states that, “*In the absence of specific numeric water quality objectives for acute and chronic toxicity, the narrative criterion ‘no toxics in toxic amounts’ applies. Achievement of the narrative criterion, as applied herein, means that ambient waters shall not demonstrate for acute toxicity: 1) less than 90% survival, 50% of the time, based on the monthly median, or 2) less than 70% survival, 10% of the time, based on any monthly median. For chronic toxicity, ambient waters shall not demonstrate a test result of greater than 1 TUc.*” Accordingly, effluent limitations for acute toxicity have been included in this Order as follows:

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

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

- b. **Chronic Aquatic Toxicity.** The Basin Plan contains a narrative toxicity objective that states, “*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.*” (Basin Plan at page III-6) Based on chronic WET testing performed by the Discharger from September 2007 through April 2012, the discharge has 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-9 below.

**Table F-9. Whole Effluent Chronic Toxicity Testing Results**

Date	Fathead Minnow		Water Flea		Green Algae
	<i>Pimephales promelas</i>		<i>Ceriodaphnia dubia</i>		<i>Selenastrum capricornutum</i>
	Survival (TUc)	Growth (TUc)	Survival (TUc)	Reproduction (TUc)	Growth (TUc)
11/26/2007	1.0	1.0	1.0	1.0	1.0
1/7/2008	1.0	1.0	1.0	1.0	1.0
4/21/2008	1.0	1.0	1.0	1.0	1.0
7/21/2008	1.0	1.0	1.0	2.0	1.0
9/8/2008	--	--	1.0	1.0	--
10/13/2008	1.0	1.0	1.0	1.0	1.0
1/12/2009	1.0	1.0	1.0	1.0	1.0
4/13/2009	1.0	1.0	1.0	1.0	1.0
8/3/2009	1.0	1.0	1.0	1.0	1.0
10/26/2009	1.0	1.0	1.0	1.0	1.0
2/1/2010	1.0	1.0	1.0	1.0	1.0
4/5/2010	1.0	1.0	1.0	1.0	1.0
7/12/2010	1.0	1.0	1.0	1.0	2.0
8/2/2010	--	--	--	--	1.0
9/13/2010	--	--	--	--	1.0
10/4/2010	1.0	1.0	1.0	1.0	2.0
11/1/2010	--	--	--	--	1.0
3/14/2011	1	1	1	1	1
7/18/2011	1	1	--	--	1
10/10/2011	1	1	1	1	1
12/5/2011	--	--	1	8	--
2/6/2012	1	1	1	1	1
3/5/2012	--	--	1	1	--

No dilution has been granted for the chronic condition. Therefore, chronic toxicity testing results exceeding 1 chronic toxicity unit (TUc) demonstrate the discharge has a reasonable potential to cause or contribute to an exceedance of the Basin Plan’s narrative toxicity objective.

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<sup>1</sup> that contained numeric chronic toxicity effluent limitations. To address the petition, the State Water Board adopted WQO 2003-0012 directing its staff to revise the toxicity control provisions in the SIP. The State Water Board states the following in WQO 2003-0012, “*In reviewing this petition and receiving comments from numerous interested persons on the propriety of including numeric effluent limitations for*

<sup>1</sup> 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).

*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 CFR 122.44(k).

To ensure compliance with the Basin Plan’s narrative toxicity objective, the Discharger is required to conduct chronic WET testing, as specified in the Monitoring and Reporting Program (Attachment E, section V.). Furthermore, Special Provision VI.C.2.a. of this Order requires the Discharger to investigate the causes of, and identify and implement corrective actions to reduce or eliminate effluent toxicity. If the discharge demonstrates toxicity exceeding the numeric toxicity monitoring trigger, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE) in accordance with an approved TRE 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. Basin Plan Effluent Limitations**

1. 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  $\mu\text{mhos/cm}$ , or 1,000  $\mu\text{mhos/cm}$ , whichever is more stringent.
  - b. Discharges shall not exceed an electrical conductivity of 1,000  $\mu\text{mhos/cm}$ , a chloride content of 175 mg/L, or a boron content of 1.0 mg/L.
  - c. This Order carries over the chloride and electrical conductivity effluent limitations in Order R5-2006-0091, which are based on the Basin Plan effluent limitations, and re-establishes a boron effluent limitation to implement the Basin Plan effluent limitation.

## **E. Final Effluent Limitations**

### **1. Mass-based Effluent Limitations**

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

Mass-based effluent limitations were calculated based upon the permitted flow in section IV.A.1. of this Order.

### **2. Averaging Periods for Effluent Limitations**

40 CFR 122.45(d) requires average weekly and average monthly discharge limitations for publicly owned treatment works (POTWs) unless impracticable. However, for toxic pollutants and pollutant parameters in water quality permitting, USEPA recommends the use of a maximum daily effluent limitation in lieu of average weekly effluent limitations for two reasons. *“First, the basis for the 7-day average for POTWs derives from the secondary treatment requirements. This basis is not related to the need for assuring achievement of water quality standards. Second, a 7-day average, which could comprise up to seven or more daily samples, could average out peak toxic concentrations and therefore the discharge’s potential for causing acute toxic effects would be missed.”* (TSD, pg. 96) This Order uses maximum daily effluent limitations in lieu of average weekly effluent limitations for copper, lead, and settleable solids 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 copper, lead, and settleable solids, 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 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 oil and grease. The effluent limitations for this pollutant are less stringent than those in Order R5-2006-0091. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

Order R5-2006-0091 required that oil and grease at Discharge Point 001 not exceed 10 mg/L and 1,668 lbs/day as monthly averages nor 15 mg/L and 2,502 lbs/day as

daily maximums. In 2006, the State Water Board adopted Order 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, which requires public agencies that own or operate sanitary sewer systems to develop and implement sewer system management plans and report all sanitary sewer overflows. The Order also requires enrollees to evaluate the need for, and develop and implement as necessary, a Fats, Oils, and Grease (FOG) control program to reduce the amount of FOG discharged to the sanitary sewer system. The Discharger is enrolled under Order 2006-0003-DWQ. Compliance with requirements of that Order will ensure minimal amounts of oil and grease are discharged to Facility. The removal of the effluent limitations for oil and grease is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16. Any impact on existing water quality will be insignificant.

#### 4. Satisfaction of Antidegradation Policy

- a. **Surface Water.** The permitted surface water discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.
- b. **Groundwater.** The Discharger utilizes evaporation/percolation ponds for effluent disposal. Domestic wastewater contains constituents such as total dissolved solids (TDS), electrical conductivity, pathogens, nitrates, organics, metals and oxygen demanding substances (BOD). Percolation from the ponds may result in an increase in the concentration of these constituents in groundwater. The increase in the concentration of these constituents in groundwater must be consistent with Resolution No. 68-16. Any increase in pollutant concentrations in groundwater must be shown to be necessary to allow wastewater utility service necessary to accommodate housing and economic expansion in the area and must be consistent with maximum benefit to the people of the State of California. Some degradation of groundwater by the Discharger is consistent with Resolution No. 68-16 provided that:
  - i. the degradation is limited in extent;
  - ii. the degradation, after effective source control, treatment, and control, is limited to waste constituents typically encountered in municipal wastewater as specified in the groundwater limitations in this Order;
  - iii. the Discharger minimizes the degradation by fully implementing, regularly maintaining, and optimally operating best practicable treatment or control (BPTC) measures; and
  - iv. the degradation does not result in water quality less than that prescribed in the Basin Plan.

Background groundwater quality data are not available for comparing to downgradient groundwater monitoring data. As discussed in Section II.B.7. of this Fact Sheet, the Discharger's background groundwater monitoring well does not provide data representative of regional groundwater conditions. Monitoring data show the on-site disposal ponds and/or the unlined sludge drying beds appear to have caused elevated levels of nitrogen in downgradient wells. However, the Central Valley Water Board expects that compliance with this Order will ensure the Facility does not cause exceedances of the water quality objective for nitrogen.

This Order includes a new, temporary discharge location at Discharge Point 004 to Basin No. 4 (off-site disposal ponds). The discharge is temporary and is intended to accommodate construction of Facility upgrades described in Section II.E. of this Fact Sheet, which will provide a higher level of treatment with nitrogen removal. Effluent currently discharged to Mill Creek (Discharge Point 001) is generally diverted to Basin No. 4 by the local water district. Therefore, the Central Valley Water Board does not expect a significant increase in flow or mass of pollutants at Discharge Point 004.

## **5. Stringency of Requirements for Individual Pollutants**

This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD and TSS. The WQBELs consist of restrictions on un-ionized ammonia (as N), total chlorine residual, total recoverable copper, flow, total recoverable lead, BOD, TSS, total coliform, pH, settleable solids, acute toxicity, and chronic toxicity. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order includes new effluent limitations for un-ionized ammonia (as N), total recoverable copper, total recoverable lead, and chronic toxicity to meet numeric objectives or protect beneficial uses.

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

**Summary of Final Effluent Limitations  
 Discharge Point 001**

**Table F-10. Summary of Final Effluent Limitations at Discharge Point 001**

Parameter	Units	Effluent Limitations					Basis <sup>1</sup>
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	30	45	90	--	--	CFR, PO
	lbs/day	5,004	7,506	15,012	--	--	PO
	% removal	85	--	--	--	--	CFR
Total Suspended Solids	mg/L	30	45	90	--	--	CFR, PO
	lbs/day	5,004	7,506	15,012	--	--	PO
	% removal	85	--	--	--	--	CFR
pH	standard units	--	--	--	6.5	8.3	BP
Copper, Total Recoverable	µg/L	4.0	--	10.	--	--	CTR
Lead, Total Recoverable	µg/L	1.0	--	2.9	--	--	CTR
Ammonia, un-ionized (as N)	mg/L	--	--	0.025	--	--	BP
Settleable Solids	mL/L	0.2	--	0.5	--	--	BP
Acute Toxicity	% survival	see below					BP
Total Residual Chlorine	mg/L	see below					BP, NAWQC
Chronic Toxicity	TUc	see below					BP
Total Coliform	MPN/100 mL	see below					PO, DPH
Boron	mg/L	--	--	1.0	--	--	BP
Chloride	mg/L	--	--	175	--	--	BP
Electrical Conductivity @ 25°C	µmhos/cm	1,000 or source + 500	--	--	--	--	BP
Flow (total for all discharge points)	mgd	20	--	--	--	--	PO

<sup>1</sup> CFR – Based on secondary treatment standards contained in 40 CFR Part 133.  
 PO – Carried over from previous Order R5-2006-0091  
 BP – Based on water quality objectives or effluent limitations contained in the Basin Plan.  
 CTR – Based on water quality criteria contained in the California Toxics Rule and applied as specified in the SIP.  
 NAWQC – Based on USEPA's National Recommended Ambient Water Quality Criteria  
 DPH – Based on recommendation of California Department of Public Health

- a. Acute Whole Effluent Toxicity.** Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:
  - i.** Minimum for any one bioassay ----- 70%
  - ii.** Median for any three consecutive bioassays----- 90%

**b. 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

**c. Chronic Whole Effluent Toxicity.** There shall be no chronic toxicity in the effluent discharge.

**d. Total Coliform.** Effluent total coliform 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
- iii. 500 MPN/100 mL, instantaneous maximum

## **F. Interim Effluent Limitations – Not Applicable**

## **G. Land Discharge Specifications**

The Land Discharge Specifications for the disposal ponds are necessary to ensure proper operation of the ponds and to protect the beneficial uses of the groundwater.

- 1. BOD, TSS, and BOD and TSS percent removal.** As discussed in section IV.B.2. of this Fact Sheet, federal regulations require POTWs discharging to waters of the United States to provide secondary-level treatment and includes effluent limitations for BOD, TSS, and BOD and TSS percent removal. The Discharger provides the same level of treatment regardless of discharge location, with the exception of Discharge Point 001, which also receives disinfection. This Order carries over the BOD, TSS, and BOD and TSS percent removal effluent limitations from Order R5-2006-0091 for discharge to the on-site disposal ponds, and applies the same effluent limitations for discharge the off-site disposal ponds.
- 2. pH.** This Order carries over the pH effluent limitations from Order R5-2006-0091 for discharge to the on-site disposal ponds, and applies the same pH effluent limitations for discharge to the off-site disposal ponds.
- 3. Settleable Solids.** This Order carries over the settleable solids effluent limitations from Order R5-2006-0091 for discharge to the on-site disposal ponds. The same effluent limitations apply the off-site disposal ponds.
- 4. Basin Plan Effluent Limitations.** This Order carries over the effluent limitations for EC and chloride, which were applicable to all discharge locations in Order R5-2006-0091, and which are based on the Basin Plan limitations. This Order includes a boron effluent limitation based on the Basin Plan limitation.
- 5. Flow.** As discussed in section IV.C.3.c.iv. of this Fact Sheet, this Order carries over the effluent flow limitation from Order R5-2006-0091. The flow limitation applies as the sum of all discharge points, as an average monthly effluent limitation.

**Summary of Land Discharge Specifications  
Discharge Points 003 and 004**

**Table F-11. Summary of Land Discharge Specifications**

Parameter	Units	Discharge Specifications				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	30	45	90	--	--
	% removal	85	--	--	--	--
Total Suspended Solids	mg/L	30	45	90	--	--
	% removal	85	--	--	--	--
pH	standard units	--	--	--	6.0	9.0
Settleable Solids	mL/L	0.2	--	0.5	--	--
Flow	mgd	20	--	--	--	--
Boron	mg/L	--	--	1.0	--	--
Chloride	mg/L	--	--	175	--	--
Electrical Conductivity @ 25°C	µmhos/cm	1,000 or source + 500	--	--	--	--

**H. Recycled Water Specifications**

Recycled water is required to meet the criteria contained in Title 22, Division 4, CCR, Section 60301, et seq. This Order retains the recycled water specifications contained in Order R5-2006-0091 for use on fodder and fiber crops. Order R5-2006-0091 included reclamation specifications for use of recycled water on an on-site walnut orchard. The Discharger did not use recycled water on the walnut orchard during the term of Order R5-2006-0091 and has not used recycled water to irrigate the walnut orchard since 2002. As such, the reclamation specifications for the walnut orchard are not carried over. This Order prohibits the Discharger from applying recycled water to areas lacking either recycled water requirements or waiver of recycled water requirements. The Use Area for applying recycled water is limited to the on-site 250-acre area used for growing fiber and fodder crops, as depicted in Attachment B.

- 1. BOD, TSS, and BOD and TSS percent removal.** As discussed in section IV.B.2. of this Fact Sheet, federal regulations require POTWs discharging to waters of the United States to provide secondary-level treatment and includes effluent limitations for BOD, TSS, and BOD and TSS percent removal. The Discharger provides the same level of treatment regardless of discharge location, with the exception of Discharge Point 001, which also receives disinfection. This Order carries over the BOD, TSS, and BOD and TSS percent removal effluent limitations from Order R5-2006-0091 for discharge to the Use Area.
- 2. pH.** This Order carries over the pH effluent limitations from Order R5-2006-0091 for discharge to the Use Area.
- 3. Settleable Solids.** This Order carries over the settleable solids effluent limitations from Order R5-2006-0091 for discharge to the Use Area.

4. **Basin Plan Effluent Limitations.** This Order carries over the effluent limitations for EC and chloride, which were applicable to all discharge locations in Order R5-2006-0091. This Order includes a boron effluent limitation based on the Basin Plan limitation.
5. **Flow.** As discussed in section IV.C.3.c.iv. of this Fact Sheet, this Order carries over the effluent flow limitation from Order R5-2006-0091. The flow limitation applies as the sum of all discharge points, as an average monthly effluent limitation.
6. **Title 22 Requirements.** This Order includes requirements from Title 22 for recycling with secondary-treated wastewater.

**Summary of Recycled Water Specifications  
 Discharge Point 002**

**Table F-12. Summary of Recycled Water Specifications**

Parameter	Units	Recycled Water Specifications				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	30	45	90	--	--
Total Suspended Solids	mg/L	30	45	90	--	--
pH	standard units	--	--	--	6.0	9.0
Settleable Solids	mL/L	0.2	--	0.5	--	--
Flow	mgd	20	--	--	--	--
Boron	mg/L	--	--	1.0	--	--
Chloride	mg/L	--	--	175	--	--
Electrical Conductivity @ 25°C	µmhos/cm	1,000 or source + 500	--	--	--	--

**V. RATIONALE FOR RECEIVING WATER LIMITATIONS**

Basin Plan water quality objectives to protect the beneficial uses of surface water and groundwater include numeric objectives and narrative objectives, including objectives for chemical constituents, toxicity, and tastes and odors. The toxicity objective requires that surface water and groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants, animals, or aquatic life. The chemical constituent objective requires that surface water and groundwater shall not contain chemical constituents in concentrations that adversely affect any beneficial use or that exceed the maximum contaminant levels (MCLs) in Title 22, CCR. The tastes and odors objective states that surface water and groundwater shall not contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan requires the application of the most stringent objective necessary to ensure that surface water and groundwater do not contain chemical constituents, toxic substances, radionuclides, or taste and odor producing substances in concentrations that adversely affect domestic drinking water supply, agricultural supply, or any other beneficial use.

## 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 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 are municipal and domestic supply, agricultural supply, industrial service supply, industrial process supply, water contact recreation, and non-contact water recreation.
2. Basin Plan water quality objectives include narrative objectives for bacteria, chemical constituents, pesticides, radioactivity, salinity, tastes and odors, and toxicity of groundwater. The bacteria objective prohibits total coliform at or above 2.2 MPN/100 mL for waters designated MUN. The chemical constituents objective states groundwater shall not contain chemical constituents in concentrations that adversely affect any beneficial use. The pesticide objective states that no individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. The radioactivity objective prohibits radionuclides to be present in concentrations that are deleterious to human, plant, animal or aquatic life, or 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. The salinity objective includes maximum average annual increases in salinity for specific groundwater basins. The tastes and odors objective prohibits taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses. The toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants, animals, or aquatic life. The Basin Plan requires the application of the most stringent objective necessary to ensure that waters do not contain chemical constituents, toxic substances, radionuclides, taste- or odor-producing substances, or bacteria in concentrations that adversely affect municipal or domestic supply, agricultural supply, industrial supply or some other beneficial use.
3. Groundwater limitations are required to protect the beneficial uses of the underlying groundwater.

## **VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS**

40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Central Valley Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (Attachment E) of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the Monitoring and Reporting Program for the 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<sub>5</sub> and TSS reduction requirements). The monitoring frequencies for flow (continuous), BOD and TSS (weekly), and pH and EC (daily) have been retained from Order R5-2006-0091.
2. Influent monitoring for settleable solids (daily), ammonia (monthly), total Kjeldahl nitrogen (monthly), metals (quarterly), and general minerals (yearly) have not been retained. These constituents are not necessary to assess compliance with Facility performance.

### **B. Effluent Monitoring**

#### **1. Discharge Point 001**

- a. Pursuant to the requirements of 40 CFR 122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. Effluent monitoring is necessary to assess compliance with effluent limitations, assess the effectiveness of the treatment process, and to assess the impacts of the discharge on the receiving stream and groundwater.
- b. Effluent monitoring frequencies and sample types for flow and chlorine residual (continuous); pH, EC, and temperature (daily); BOD, TSS, and total coliform (3/week); settleable solids (weekly); and TDS (monthly) have been retained from Order R5-2006-0091 to determine compliance with effluent and/or receiving water limitations for these parameters.
- c. Monitoring data collected over the existing permit term for selenium and Title 22 constituents did not demonstrate reasonable potential to exceed water quality objectives/criteria. Thus, specific monitoring requirements for these parameters have not been retained from Order R5-2006-0091.
- d. Section 1.3 of the SIP requires the Central Valley Water Board to require periodic monitoring for priority pollutants, at least once prior to the reissuance of a permit, for which criteria or objectives apply and for which no effluent limitations have been established. To comply with the SIP and to adequately characterize the discharge, this Order requires the Discharger to sample its effluent for priority

pollutants at least once per year, beginning during the third year of the permit (two years after permit effective date).

- e. 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 California Department of Public Health certifies laboratories through its Environmental Laboratory Accreditation Program (ELAP).

Water Code 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. (Water Code sections 13370(c), 13372, 13377.) Water Code section 13176 is inapplicable to NPDES permits to the extent it is inconsistent with CWA requirements. (Water Code section 13372(a)) The holding time requirements are 15 minutes for chlorine residual, dissolved oxygen, and pH, and immediate analysis is required for temperature. (40 CFR 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.** Semi-annual 96-hour bioassay testing is required to demonstrate compliance with the effluent limitations for acute toxicity.
2. **Chronic Toxicity.** Quarterly chronic whole effluent toxicity testing is required in order to demonstrate compliance with the Basin Plan’s narrative toxicity objective and narrative effluent limitation.

### D. Receiving Water Monitoring

#### 1. Surface Water

- a. Receiving water monitoring is necessary to assess compliance with receiving water limitations and to assess the impacts of the discharge on the receiving stream.

#### 2. Groundwater

- a. Water Code section 13267 states, in part, “(a) *A regional board, in establishing... waste discharge requirements... may investigate the quality of any waters of the state within its region*” and “(b) (1) *In conducting an investigation..., the regional board may require that any person who... discharges... waste... that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional 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 Monitoring and Reporting Program (Attachment E) is issued pursuant to Water Code section 13267. The groundwater monitoring and reporting program required by this Order and the Monitoring and Reporting Program are necessary to ensure compliance with this Order. The Discharger is responsible for the discharges of waste at the Facility subject to this Order.

- b.** Monitoring of the groundwater must be conducted to determine the extent to which the discharge has caused an increase in constituent concentrations, when compared to background, and to evaluate whether the discharge has caused exceedances of water quality objectives. The monitoring must, at a minimum, require a complete assessment of groundwater impacts including the vertical and lateral extent of degradation, an assessment of all wastewater-related constituents which may have migrated to groundwater, an analysis of whether additional or different methods of treatment or control of the discharge are necessary to provide best practicable treatment or control to comply with Resolution No. 68-16. Economic analysis is only one of many factors considered in determining best practicable treatment or control. If monitoring indicates that the discharge has incrementally increased constituent concentrations in groundwater above criteria, this Order may be reopened and modified.
- c.** This Order requires the Discharger to continue groundwater monitoring and includes a regular schedule of groundwater monitoring in Attachment E – Monitoring and Reporting Program. The groundwater monitoring reports are necessary to evaluate impacts to waters of the State to ensure protection of beneficial uses and compliance with Central Valley Water Board plans and policies, including Resolution No. 68-16. Evidence in the record includes effluent monitoring data that indicate the presence of constituents that may degrade groundwater and surface water.

## **E. Other Monitoring Requirements**

### **1. Biosolids Monitoring**

Biosolids monitoring is required to ensure compliance with the biosolids disposal requirements contained in Special Provision VI.C.5.b. of this Order. Biosolids disposal requirements are imposed pursuant to 40 CFR Part 503 to protect public health and prevent groundwater degradation.

### **2. Water Supply Monitoring**

Water supply monitoring is required to evaluate the source of constituents in the wastewater, and assess compliance with the electrical conductivity effluent limitations.

### 3. Pond Monitoring

Disposal pond monitoring is required to ensure proper operation of the ponds and to identify the potential for nuisance conditions. Daily monitoring for freeboard during periods of discharge, and monitoring of dissolved oxygen when there is odor emanating from the ponds, have been retained from Order R5-2006-0091. This Order also requires the same monitoring of ponds at Basin No. 4.

### 4. Land Disposal Monitoring

Land discharge monitoring is required to ensure that the discharge to the disposal ponds complies with the Disposal Ponds Operating Requirements in Section VI.C.4.a. of this Order.

### 5. Recycled Water Monitoring

Recycled water monitoring is required to ensure the Discharger complies with the Recycled Water Specifications in Section IV.D. of this Order.

## VII. RATIONALE FOR PROVISIONS

### A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under 40 CFR 122.42.

40 CFR 122.41(a)(1) and (b) through (n) 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. 40 CFR 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 CFR 123.25, this Order omits federal conditions that address enforcement authority specified in 40 CFR 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). This Order may be reopened to include a numeric chronic toxicity effluent limitation, new acute toxicity effluent limitations, and/or effluent 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 effluent 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 and lead. 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. Drinking Water Policy.** The Central Valley Water Board adopted a Drinking Water Policy. This Order may be reopened to incorporate monitoring of constituents to implement the Drinking Water Policy.

## 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 November 2007 through March 2012, the discharge has reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan’s narrative toxicity objective.

This provision requires the Discharger to develop a TRE Work Plan in accordance with USEPA guidance. In addition, the provision provides a numeric toxicity monitoring trigger and requirements for accelerated monitoring, as well as, requirements for TRE initiation if toxicity has been 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.

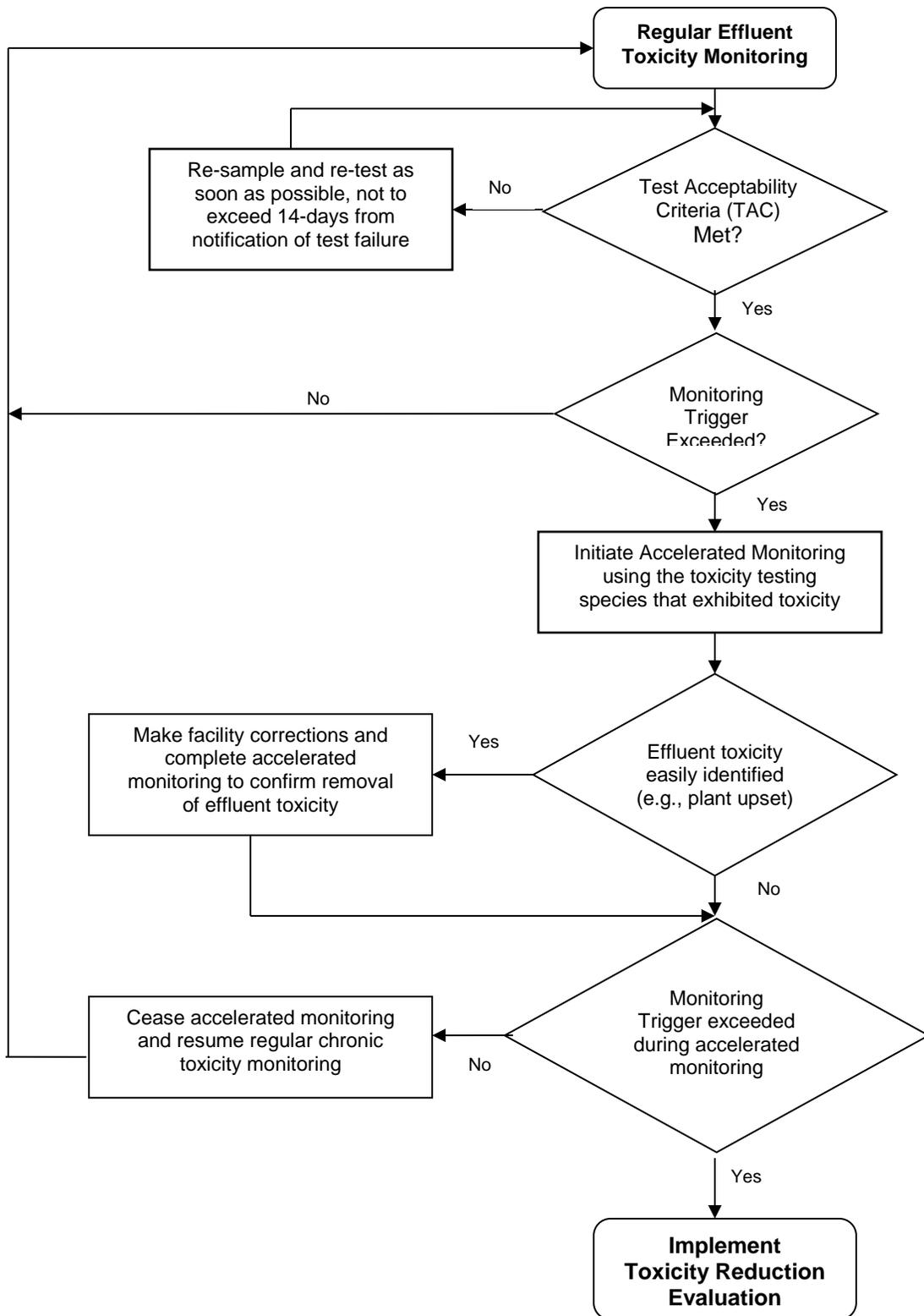
See the WET Accelerated Monitoring Flow Chart (Figure F-1), below, for further clarification of the accelerated monitoring requirements and for the decision points for determining the need for TRE initiation.

**TRE Guidance.** The Discharger is required to prepare a TRE Work Plan in accordance with USEPA 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. Cyanide Study.** This Order requires the Discharger to conduct a preservation and holding time study to determine the appropriate an holding time and preservation technique, if any, for analysis of cyanide samples. Studies conducted at other POTWs indicate there is evidence that interference due to the preserving agent required by 40 CFR Part 136 may be causing increased cyanide concentrations that are not representative of the effluent. USEPA revised 40 CFR Part 136 in 2012 recommending treatment options for samples containing oxidants, and describing options available to mitigate interference.

### 3. Best Management Practices and Pollution Prevention

- a. Salinity Evaluation and Minimization Plan.** An Evaluation and Minimization Plan for salinity is required in this Order to ensure adequate measures are developed and implemented by the Discharger to reduce the discharge of salinity to Mill Creek and to underlying groundwater.

### 4. Construction, Operation, and Maintenance Specifications

- a.** The operation and maintenance specifications for the disposal ponds are necessary to prevent nuisance conditions. The specifications included in this Order are retained from Order R5-2006-0091.

### 5. Special Provisions for Municipal Facilities (POTWs Only)

#### **a. Pretreatment Requirements.**

- i.** The federal CWA section 307(b), and federal regulations, 40 CFR Part 403, require publicly owned treatment works to develop an acceptable industrial pretreatment program. A pretreatment program is required to prevent the introduction of pollutants, which will interfere with treatment plant operations or sludge disposal, and prevent pass through of pollutants that exceed water quality objectives, standards or permit limitations. Pretreatment requirements are imposed pursuant to 40 CFR Part 403.
- ii.** The Discharger shall implement and enforce its approved pretreatment program and is an enforceable condition of this Order. If the Discharger fails to perform the pretreatment functions, the Central Valley Water Board, the State Water Board or USEPA may take enforcement actions against the Discharger as authorized by the CWA.

- b. Biosolids.** The sludge/biosolids provision is required to ensure compliance with State disposal requirements (Title 27, CCR, division 2, subdivision 1, section 20005, et seq.) and USEPA sludge/biosolids use and disposal requirements at 40 CFR Part 503.

- c. Collection System.** The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order 2006-0003-DWQ (General Order) on 2 May 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 is enrolled under the General Order.

- d. Portions of the collection system are outside of the Discharger's jurisdiction. The Discharger signed a Memorandum of Understanding with the Goshen Community Services District (GCSD) on 25 March 1999 and amended on 24 April 2008, which establishes legally binding procedures to ensure that all nondomestic dischargers are subject to enforceable pretreatment standards and requirements. If the Discharger and GCSD update the Memorandum of Understanding, the Discharger shall provide a copy within 30 days of it becoming final.

## 6. Other Special Provisions

- a. **REC-1 Discouragement.** Order R5-2006-0091 required the Discharger to develop and implement a plan for discouraging REC-1 uses of the water in Mill Creek downstream of Discharge Point 001. The plan was approved by letter dated 21 October 2008, and requires the Discharger to implement a maintenance plan to ensure the consistent upkeep of the REC-1 discouragement signs and to develop and distribute fliers and letters (sent annually to surrounding residents) in Spanish, as well as English.

## 7. Compliance Schedules

- a. This Order establishes a compliance schedule for the Discharger to come into compliance with requirements in Title 27, CCR, by continuing its proposed Facility upgrades. There are no reliable background groundwater monitoring data for comparison. However, downgradient data from well MW-J1 indicate that the on-site disposal ponds may be causing or contributing to exceedances of water quality objectives. Additionally, the Discharger's use of unlined sludge drying beds may also be contributing to exceedances of water quality objectives. The Discharger has proposed to remove its unlined sludge drying beds as part of the Facility upgrades and construct lined sludge drying beds.

## VIII. PUBLIC PARTICIPATION

The Central Valley Water Board is considering the issuance of WDRs that will serve as a NPDES permit for the Facility. As a step in the WDR adoption process, the Central Valley Water Board staff has developed tentative WDRs. The Central Valley Water Board encourages public participation in the WDR adoption process.

### **A. Notification of Interested Parties**

The Central Valley Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through publication in a newspaper, posting at the Facility, posting at the nearest city hall or county courthouse, posting at the post office (if allowed), and posting on the Central Valley Water Board website.

### **B. Written Comments**

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Officer at the Central Valley Water Board at the address on the cover page of this Order.

To be fully responded to by staff and considered by the Central Valley Water Board, written comments must be received at the Central Valley Water Board offices by 5:00 p.m. on **18 April 2014**.

### **C. Public Hearing**

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

Date: 5/6 June 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 are invited to attend. At the public hearing, the Central Valley Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our Web address is <http://www.waterboards.ca.gov/centralvalley> where you can access the current agenda for changes in dates and locations.

### **D. Waste Discharge Requirements Petitions**

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

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

**E. Information and Copying**

The Report of Waste Discharge, related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Central Valley Water Board by calling (559) 445-5116. Our office is located at 1685 “E” Street, Fresno, California 93706.

**F. Register of Interested Persons**

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Central Valley Water Board, reference this Facility, and provide a name, address, and phone number.

**G. Additional Information**

Requests for additional information or questions regarding this Order should be directed to Aide Ortiz at (559) 445-6083.

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

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	Reasonable Potential
Aluminum	µg/L	110	NA	750	750 <sup>1</sup>	--	--	--	--	No
Ammonia, Total (as N)	mg/L	28	3.1	1.93	4.71 <sup>1</sup>	1.93 <sup>1,2</sup> /4.83 <sup>1,3</sup>	--	--	--	No <sup>7</sup>
Ammonia, un-ionized (as N)	mg/L	0.51	0.16	0.025	--	--	--	--	0.025	Yes
Bis(2-ethylhexyl)phthalate	µg/L	21	ND	5.9	--	--	--	5.9	--	No <sup>7</sup>
Copper	µg/L	23	1.3 DNQ	7.0 <sup>4</sup> /1.7 <sup>5</sup>	10. <sup>4</sup> /2.2 <sup>5</sup>	7.0 <sup>4</sup> /1.7 <sup>5</sup>	--	--	--	Yes
Cyanide	µg/L	7.9	ND	5.2	22	5.2	--	220,000	--	No <sup>7</sup>
Endrin	µg/L	0.078	ND	0.036	0.086	0.036	--	0.81	--	No <sup>7</sup>
Heptachlor	µg/L	0.18	ND	0.00021	0.52	0.0038	--	0.00021	--	No <sup>7</sup>
Hexavalent Chromium	µg/L	ND <sup>7</sup>	ND	11	16	11	--	--	--	No <sup>7</sup>
Lead	µg/L	0.8	6.1	1.6 <sup>4</sup> /0.26 <sup>5</sup>	42 <sup>4</sup> /6.7 <sup>5</sup>	1.6 <sup>4</sup> /0.26 <sup>5</sup>	--	--	--	Yes
Mercury	µg/L	0.0061 <sup>7</sup>	0.006	0.051	--	--	--	0.051	--	No <sup>7</sup>
pH	standard units	6.5-8.1 <sup>6</sup>	6.05-8.97 <sup>6</sup>	6.5-8.5 <sup>6</sup>	--	--	--	--	6.5-8.5 <sup>6</sup>	Yes
Selenium	µg/L	2.9 DNQ	0.22 DNQ	5.0	--	5.0	--	--	--	No <sup>7</sup>
Silver	µg/L	1.1 DNQ	ND	1.1 <sup>4</sup> /0.14 <sup>5</sup>	1.1 <sup>4</sup> /0.14 <sup>5</sup>	--	--	--	--	No <sup>7</sup>

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

MEC = Maximum Effluent Concentration

B = Maximum Receiving Water Concentration or lowest detection level, if non-detect

C = Criterion used for Reasonable Potential Analysis

CMC = Criterion Maximum Concentration (CTR or NTR)

CCC = Criterion Continuous Concentration (CTR or NTR)

Water & Org = Human Health Criterion for Consumption of Water & Organisms (CTR or NTR)

Org. Only = Human Health Criterion for Consumption of Organisms Only (CTR or NTR)

Basin Plan = Numeric Basin Plan Water Quality Objective

ND = Non-detect

DNQ = Detected, not Quantified

Footnotes:

- (1) USEPA National Recommended Ambient Water Quality Criteria
- (2) 4-day chronic criterion
- (3) 30-day chronic criterion
- (4) Criterion applicable to the effluent
- (5) Criterion applicable to the receiving water
- (6) Minimum to maximum range
- (7) See Section IV.C.3 of the Fact Sheet (Attachment F) for detailed discussion.

**ATTACHMENT H – CALCULATION OF QWBELS**

Parameter	Units	Most Stringent Criteria			Dilution Factors			HH Calculations			Aquatic Life Calculations							Final Effluent Limitations			
		HH	CMC	CCC	HH	CMC	CCC	ECA <sub>HH</sub> = AMEL <sub>HH</sub>	AMEL/MDEL Multiplier <sub>HH</sub>	MDEL <sub>HH</sub>	ECA Multiplier <sub>acute</sub>	LTA <sub>acute</sub>	ECA Multiplier <sub>chronic</sub>	LTA <sub>chronic</sub>	Lowest LTA	AMEL Multiplier <sub>95</sub>	AMEL <sub>AL</sub>	MDEL Multiplier <sub>99</sub>	MDEL <sub>AL</sub>	Lowest AMEL	Lowest MDEL
Copper, Total Recoverable	µg/L	--	10.	7.0	--	--	--	--	--	--	0.213	2.13	0.386	2.71	2.13	1.90	4.0	4.70	10.	4.0	10.
Lead, Total Recoverable	µg/L	--	42	1.6	--	--	--	--	--	--	0.140	5.88	0.255	0.408	0.408	2.45	1.0	7.15	2.9	1.0	2.9

**ATTACHMENT I – REQUIRED REPORTING LEVELS FOR PRIORITY POLLUTANTS**

**Table I-1. Required Reporting Levels for Priority Pollutants**

CTR #	Constituent	CAS Number	Associated Analytical Method Type <sup>1</sup>	Reporting Level (µg/L or noted)
1	Antimony, Total Recoverable	7440360	FAA	10
			GFAA	5
			ICP	50
			ICPMS	0.5
			SPGFAA	5
			HYDRIDE	0.5
2	Arsenic, Total Recoverable	7440382	GFAA	2
			ICP	10
			ICPMS	2
			SPGFAA	2
			HYDRIDE	1
			COLOR	20
3	Beryllium, Total Recoverable	7440417	FAA	20
			GFAA	0.5
			ICP	2
			ICPMS	0.5
			SPGFAA	1
4	Cadmium, Total Recoverable	7440439	GFAA	0.5
			ICPMS	0.25
			SPGFAA	0.5
5	Chromium (III), Total Recoverable	16065831	--	--
5	Chromium (VI), Total Recoverable	18540299	FAA	5
			COLOR	10
6	Copper, Total Recoverable	7440508	ICPMS	0.5
7	Lead, Total Recoverable	7439921	ICPMS	0.5
8	Mercury, Total Recoverable	7439976	CVAA	0.2
			GFAA	5
			ICPMS	1
9	Nickel, Total Recoverable	7440020	SPGFAA	5
			GFAA	5
			ICPMS	2
10	Selenium, Total Recoverable	7782492	SPGFAA	5
			HYDRIDE	1
			ICPMS	2
			GFAA	5
11	Silver, Total Recoverable	7440224	ICPMS	0.25
12	Thallium, Total Recoverable	7440280	GFAA	2
			ICPMS	1
			SPGFAA	5
13	Zinc, Total Recoverable	7440666	FAA	20
			ICP	20
			ICPMS	1
			SPGFAA	10
14	Cyanide, Total (as CN)	57125	COLOR	5
15	Asbestos (MFL units)	1332214	--	--

CTR #	Constituent	CAS Number	Associated Analytical Method Type <sup>1</sup>	Reporting Level (µg/L or noted)
16	2,3,7,8-TCDD (Dioxin)	1746016	--	--
17	Acrolein	107028	GC	2.0
			GCMS	5
18	Acrylonitrile	107131	GC	2.0
			GCMS	2
19	Benzene	71432	GC	0.5
			GCMS	2
20	Bromoform	75252	GC	0.5
			GCMS	2
21	Carbon Tetrachloride	56235	GC	0.5
			GCMS	2
22	Chlorobenzene	108907	GC	0.5
			GCMS	2
23	Chlorodibromomethane (Dibromochloromethane)	124481	GC	0.5
			GCMS	2
24	Chloroethane	75003	GC	0.5
			GCMS	2
25	2-Chloroethylvinyl Ether	110758	GC	1
			GCMS	1
26	Chloroform	67663	GC	0.5
			GCMS	2
27	Dichlorobromomethane (Bromodichloromethane)	75274	GC	0.5
			GCMS	2
28	1,1-Dichloroethane	75343	GC	0.5
			GCMS	1
29	1,2-Dichloroethane	107062	GC	0.5
			GCMS	2
30	1,1-Dichloroethylene	75354	GC	0.5
			GCMS	2
31	1,2-Dichloropropane	78875	GC	0.5
			GCMS	1
32	1,3-Dichloropropylene	542756	GC	0.5
			GCMS	2
33	Ethylbenzene	100414	GC	0.5
			GCMS	2
34	Methyl Bromide (Bromomethane)	74839	GC	1.0
			GCMS	2
35	Methyl Chloride (Chloromethane)	74873	GC	0.5
			GCMS	2
36	Methylene Chloride (Dichloromethane)	75092	GC	0.5
			GCMS	2
37	1,1,2,2-Tetrachloroethane	79345	GC	0.5
			GCMS	1
38	Tetrachloroethylene	127184	GC	0.5
			GCMS	2

CTR #	Constituent	CAS Number	Associated Analytical Method Type <sup>1</sup>	Reporting Level (µg/L or noted)
39	Toluene	108883	GC	0.5
			GCMS	2
40	Trans-1,2-Dichloroethylene	156605	GC	0.5
			GCMS	1
41	1,1,1-Trichloroethane	71556	GC	0.5
			GCMS	2
42	1,1,2-Trichloroethane	79005	GC	0.5
			GCMS	2
43	Trichloroethylene	79016	GC	0.5
			GCMS	2
44	Vinyl Chloride	75014	GC	0.5
			GCMS	2
45	2-Chlorophenol	95578	GC	2
			GCMS	5
46	2,4-Dichlorophenol	120832	GC	1
			GCMS	5
47	2,4-Dimethylphenol	105679	GC	1
			GCMS	2
48	2-Methyl-4,6-Dinitrophenol	534521	GC	10
			GCMS	5
49	2,4-Dinitrophenol	51285	GC	5
			GCMS	5
50	2-Nitrophenol	88755	GCMS	10
51	4-Nitrophenol	100027	GC	5
			GCMS	10
52	3-Methyl-4-Chlorophenol	59507	GC	5
			GCMS	1
53	Pentachlorophenol	87865	GC	1
			GCMS	5
54	Phenol	108952	GC	1
			GCMS	1
			COLOR	50
55	2,4,6-Trichlorophenol	88062	GC	10
			GCMS	10
56	Acenaphthene	83329	GC	1
			GCMS	1
			LC	0.5
57	Acenaphthylene	208968	GCMS	10
			LC	0.2
58	Anthracene	120127	LC	2
59	Benzidine	92875	GCMS	5
60	Benzo(a)Anthracene	56553	GCMS	5
61	Benzo(a)Pyrene	50328	LC	2
62	Benzo(b)Fluoranthene	205992	GCMS	10
			LC	10
63	Benzo(ghi)Perylene	191242	GCMS	5
			LC	0.1

CTR #	Constituent	CAS Number	Associated Analytical Method Type <sup>1</sup>	Reporting Level (µg/L or noted)
64	Benzo(k)Fluoranthene	207089	LC	2
65	Bis(2-Chloroethoxy)Methane	111911	GCMS	5
66	Bis(2-Chloroethyl)Ether	111444	GCMS	1
67	Bis(2-Chloroisopropyl)Ether	108601	GC	10
			GCMS	2
68	Bis(2-Ethylhexyl)Phthalate	117817	GCMS	5
69	4-Bromophenyl Phenyl Ether	101553	GC	10
			GCMS	5
70	Butylbenzyl Phthalate	85687	GC	10
			GCMS	10
71	2-Chloronaphthalene	91587	GCMS	10
72	4-Chlorophenyl Phenyl Ether	7005723	GCMS	5
73	Chrysene	218019	LC	5
74	Dibenzo(a,h)Anthracene	53703	LC	0.1
75	1,2-Dichlorobenzene	95501	GC	2
			GCMS	2
76	1,3-Dichlorobenzene	541731	GC	2
			GCMS	1
77	1,4-Dichlorobenzene	106467	GC	2
			GCMS	1
78	3,3'-Dichlorobenzidine	91941	GCMS	5
79	Diethyl Phthalate	84662	GC	10
			GCMS	2
80	Dimethyl Phthalate	131113	GC	10
			GCMS	2
81	Di-n-Butyl Phthalate	84742	GCMS	10
82	2,4-Dinitrotoluene	121142	GCMS	5
83	2,6-Dinitrotoluene	606202	GCMS	5
84	Di-n-Octyl Phthalate	117840	GCMS	10
85	1,2-Diphenylhydrazine	122667	GCMS	1
86	Fluoranthene	206440	GC	10
			GCMS	1
			LC	0.05
87	Fluorene	86737	GCMS	10
			LC	0.1
88	Hexachlorobenzene	118741	GCMS	1
89	Hexachlorobutadiene	87683	GC	5
			GCMS	1
90	Hexachlorocyclopentadiene	77474	GC	5
			GCMS	5
91	Hexachloroethane	67721	GC	5
			GCMS	1
92	Indeno(1,2,3-cd) Pyrene	193395	LC	0.05
93	Isophorone	78591	GC	10
			GCMS	1

CTR #	Constituent	CAS Number	Associated Analytical Method Type <sup>1</sup>	Reporting Level (µg/L or noted)
94	Naphthalene	91203	GC	10
			GCMS	1
			LC	0.2
95	Nitrobenzene	98953	GC	10
			GCMS	1
96	N-Nitrosodimethylamine	62759	GCMS	5
97	N-Nitrosodi-n-Propylamine	621647	GCMS	5
98	N-Nitrosodiphenylamine	86306	GC	10
			GCMS	1
99	Phenanthrene	85018	GCMS	5
			LC	0.05
100	Pyrene	129000	GCMS	10
			LC	0.05
101	1,2,4-Trichlorobenzene	120821	GC	1
			GCMS	5
102	Aldrin	309002	GC	0.005
103	alpha-BHC	319846	GC	0.01
104	beta-BHC	319857	GC	0.005
105	gamma-BHC (Lindane)	58899	GC	0.02
106	delta-BHC	319868	GC	0.005
107	Chlordane	57749	GC	0.1
108	4,4'-DDT	50293	GC	0.01
109	4,4'-DDE	72559	GC	0.05
110	4,4'-DDD	72548	GC	0.05
111	Dieldrin	60571	GC	0.01
112	alpha-Endosulfan	959988	GC	0.02
113	beta-Endosulfan	33213659	GC	0.01
114	Endosulfan Sulfate	1031078	GC	0.05
115	Endrin	72208	GC	0.01
116	Endrin Aldehyde	7421934	GC	0.01
117	Heptachlor	76448	GC	0.01
118	Heptachlor Epoxide	1024573	GC	0.01
119	PCB 1242	53469219	GC	0.5
120	PCB 1254	11097691	GC	0.5
121	PCB 1221	11104282	GC	0.5
122	PCB 1232	11141165	GC	0.5
123	PCB 1248	12672296	GC	0.5
124	PCB 1260	11096825	GC	0.5
125	PCB 1016	12674112	GC	0.5
126	Toxaphene	8001352	GC	0.5

CTR #	Constituent	CAS Number	Associated Analytical Method Type <sup>1</sup>	Reporting Level (µg/L or noted)
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- <sup>1</sup>
- GC – Gas Chromatography
  - GCMS – Gas Chromatography/Mass Spectrometry
  - HRGCMS – High Resolution Gas Chromatography/Mass Spectrometry (i.e., USEPA 1613, 1624, or 1625)
  - 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., USEPA 200.9)
  - DCP – Direct Current Plasma
  - COLOR – Colorimetric

**ATTACHMENT J – RECYCLED WATER SIGNAGE**



From Title 22, California Code of Regulations, Figure 60310-A