CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL VALLEY REGION

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ORDER R5-2013-XXXX
NPDES NO. CA0079529

WASTE DISCHARGE REQUIREMENTS FOR THE CITY OF COLFAX WASTEWATER TREATMENT PLANT PLACER COUNTY

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

Table 1. Discharger Information

Discharger	**City of Colfax**
Name of Facility	**Wastewater Treatment Plant**
Facility Address	**23550 Grandview Avenue**
	Colfax, CA 95713
	Placer County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a **minor** discharge.	

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

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Domestic Wastewater	39º 04’ 44.5” N	120º 56’ 21.5” W	Unnamed tributary of Smuthers Ravine

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	**XX May 2013**
This Order shall become effective on:	**XX July 2013**
This Order shall expire on:	**1 July 2018**
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:	**180 days prior to the Order expiration date**

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

Discharger	City of Colfax
Name of Facility	Wastewater Treatment Plant
Facility Address	23550 Grandview Avenue
	Colfax, CA 95713
	Placer County
Facility Contact, Title, and Phone	Bruce Kranz, City Manager, 530-346-2313 Mike Faudoa, Chief Plant Operator, 530-346-8419
Mailing Address	P.O. Box 702 Colfax, 95713
Type of Facility	Publicly Owned Treatment Works (POTW)
Facility Design Flow	0.275 million gallons per day (Average Dry Weather Flow)

II. FINDINGS

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

A. Background. The City of Colfax (hereinafter Discharger) is currently discharging pursuant to Order R5-2007-0130 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0079529. In December 2011, the Central Valley Water Board adopted Cease and Desist Order (CDO) R5-2011-0097. The CDO established time schedules for meeting the discharge prohibitions and effluent limitations under Order R5-2007-0130 or subsequent order, and includes requirements for rehabilitation of the Infiltration and Inflow (I&I) problems of the sewer collection system. The Discharger submitted a Report of Waste Discharge, dated 3 April 2012, and applied for an NPDES permit renewal to discharge up to 0.275 million gallons per day of treated municipal wastewater, collected and treated seepage, and storm water runoff from the Wastewater Treatment Plant, hereinafter Facility. The application was deemed complete on 4 April 2012.

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 sanitary sewer collection system and the Facility, a publicly owned treatment works (POTW). The treatment system consists of a screening/diversion structure, headworks and parshall flume, influent pumping station, a package biological treatment facility, coagulation, tertiary filters, and Ultraviolet Light disinfection. The facility also includes two lined equalization ponds in series, and a lined storage reservoir. Prior to lining, the storage

reservoir was estimated to have an approximate storage capacity of 64 million gallons with two feet of freeboard. After lining, the storage reservoir volume decreased. As required in CDO R5-2011-0097, the Discharger must submit a recalculation of the storage capacity of the lined storage reservoir in April 2014. Average dry weather flow is 0.275 mgd and design capacity is 0.5 mgd. In a letter dated 30 July 2012, the Discharger requested an increase of the "engineered wet weather design flow" to 0.8 mgd based on a completed stress test and the requirements of CDO R5-2011-0097. In a letter dated 8 August 2012, the Executive Officer approved "the request to increase the engineered wet weather design flow rate to 0.8 mgd."

Screenings and biosolids are aerobically digested before being dewatered using a belt filter press. The centrate is returned back to the influent pump station for treatment, and the resultant sludge is stored within waterproof containers until hauled away for disposal at a landfill.

Treated wastewater is discharged from Discharge Point No. 001 (see table on cover page) to the unnamed tributary of Smuthers Ravine, a water of the United States, and a tributary of the North Fork of the American River via Smuthers Ravine and Bunch Canyon, within the Sacramento River Watershed. Attachment B provides a map of the area around the Facility. Attachment C provides a site schematic of the Facility.

The Discharger is required by CDO R5-2011-0097 to comply with Waste Discharge Requirements Order R5-2007-0130 or subsequent order. Work that is scheduled to achieve compliance includes collection system rehabilitation and storage capacity improvements. The timeline for completing the actions and/or proposing additional actions is April 2014.

C. Legal Authorities. This Order is issued pursuant to section 402 of the Clean Water Act (CWA) and implementing regulations adopted by USEPA and chapter 5.5, division 7 of the California Water Code (Water Code; commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

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.

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 and Best Professional Judgment (BPJ) in accordance with 40 CFR 125.3. 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. This Order contains requirements, expressed as technology equivalence requirements, which are necessary to achieve water quality standards. The Central Valley Water Board has considered the factors listed in Water Code section 13241 in establishing these requirements. The rationale for these requirements, which consist of tertiary treatment or equivalent requirements, is discussed in the Fact Sheet.

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, Fourth Edition (Revised October 2011)*, for the Sacramento and San Joaquin River Basins (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. The Basin Plan at page II-2.00 states that the "…*beneficial uses of any specifically identified water body generally apply to its tributary streams*." Table II-1 of the Basin Plan identifies the beneficial uses of certain specific water bodies. The Basin Plan does not specifically identify beneficial uses for Smuthers Ravine and its unnamed tributary or Bunch Canyon, but does identify present and potential uses in Table II-1 for the North Fork of the American River, to which Smuthers Ravine, via Bunch Canyon, is tributary. In addition, the Basin Plan implements State Water Resources Control Board (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. Thus, as discussed in detail in the Fact Sheet, beneficial uses applicable to the unnamed tributary of Smuthers

Ravine are as follows:

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Unnamed tributary of Smuthers Ravine, tributary of the North Fork of the American River	Existing uses from Table II-1 of the Basin Plan: Municipal and domestic supply (MUN); Agricultural supply, including irrigation (AGR); Water contact recreation, including canoeing and rafting (REC-1); Non-contact water recreation (REC-2); Cold freshwater habitat (COLD); Spawning, reproduction, and/or early development, cold (SPWN); and Wildlife habitat (WILD). Potential uses from Table II-1 of the Basin Plan: Warm freshwater habitat (WARM)
	Groundwater	Existing Uses from the Basin Plan Municipal and domestic supply (MUN); Agricultural supply (AGR); Industrial process supply (PROC); and Industrial service supply (IND).

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 limitations for point sources (40 CFR 130, et seq.)*." The list of impaired water bodies is known as the CWA section 303(d) list.

The unnamed tributary of Smuthers Ravine, Smuthers Ravine, and Bunch Canyon, are not listed on the 303(d) list of impaired water bodies. The North Fork of the American River is on the 303(d) list of impaired water bodies for mercury. The State Water Board and the nine Regional Water Boards are developing a statewide mercury TMDL program for mercury-impaired reservoirs. In addition, the State Water Board is developing statewide fish tissue objectives for mercury and an associated implementation program to achieve the objectives. Currently, no TMDL is scheduled for the North Fork of the American River; however, these programs may have future mercury requirements for dischargers. Effluent limits for mercury are not included in this Order, but it does contain a provision that allows this Order to be reopened to include any future mercury requirements.

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 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 - Not Applicable.

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 WQBEL's for individual pollutants. The technology-based effluent limitations consist of restrictions on flow and percent removal requirements for 5-day biochemical oxygen demand (BOD_5) and total suspended solids (TSS). The WQBEL's consist of restrictions on acute whole effluent toxicity, ammonia, arsenic, BOD_5, chlorine residual, chronic whole effluent toxicity, manganese, nitrate plus nitrite, pathogens (total coliform organisms), pH, and TSS. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

WQBEL's 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 WQBEL's were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR 131.38. The scientific procedures for calculating the individual WQBEL's 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 that those in Order No. R5-2007-0130. 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 limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

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 V.B and VI.C of this Order are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

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 No. R5-2007-0130 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.

III. DISCHARGE PROHIBITIONS

A. Discharge of wastewater at a location or in a manner different from that described in the Findings 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 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.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point No. 001

1. Final Effluent Limitations – Discharge Point No. 001

a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point No. 001 with compliance measured at Monitoring Location EFF-001 as described in the Monitoring and Reporting Program:

Table 6. Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Ammonia	mg/L	0.8	--	2.1	--	--
Arsenic	µg/L	10	--	20	--	--
Biochemical Oxygen Demand (5-day @ 20 ºC)	mg/L	10	15	25	--	--
	lbs/day [1]	23	34	57	--	--
Nitrate plus Nitrite	mg/L	10	--	--	--	--
pH	--	--	--	--	6.5	8.5
Total Suspended Solids	mg/L	10	15	25	--	--
	lbs/day [1]	23	34	57	--	--

[1] Mass-based effluent limitations are based on a permitted average dry weather flow of 0.275 mgd.

b. Percent Removal. The average monthly percent removal of 5-day biochemical oxygen demand (BOD_5) and total suspended solids (TSS) shall not be less than 85 percent.

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

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

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

e. Average Daily Dry Weather Flow. The Average Daily Dry Weather Discharge Flow shall not exceed 0.275 mgd.

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

i. 2.2 most probable number (MPN) per 100 mL, as a 7-day median;
ii. 23 MPN/100 mL, more than once in any 30-day period; and
iii. 240 MPN/100 mL, at any time.

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

i. 0.01 mg/L, as a 4-day average; and
ii. 0.02 mg/L as a 1-hour average.

h. Manganese. Effluent manganese shall not exceed 50 µg/L as an annual average

2. Interim Effluent Limitations – Not Applicable.

Interim Effluent Limitations and time schedules for compliance with the arsenic Final Effluent Limitations in Table 6 of this Order are contained in Cease and Desist Order R5-2013-XXXX.

B. Land Discharge Specifications – Not Applicable

C. Reclamation Specifications – Not Applicable

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 the unnamed tributary of Smuthers Ravine, Smuthers Ravine, Bunch Canyon, or downstream waters:

1. **Bacteria.** The fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, to exceed a geometric mean of 200 MPN/100 mL, nor more than 10 percent of the total number of fecal coliform samples taken during any 30-day period to exceed 400 MPN/100 mL.

2. **Biostimulatory Substances.** Water to contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.

3. **Chemical Constituents.** Chemical constituents to be present in concentrations that adversely affect beneficial uses.

4. **Color.** Discoloration that causes nuisance or adversely affects beneficial uses.

5. **Dissolved Oxygen:**

   a. The monthly median of the mean daily dissolved oxygen concentration to fall below 85 percent of saturation in the main water mass;

   b. The 95 percentile dissolved oxygen concentration to fall below 75 percent of saturation; nor

   c. The dissolved oxygen concentration to be reduced below 7.0 mg/L at any time.

6. **Floating Material.** Floating material to be present in amounts that cause nuisance or adversely affect beneficial uses.

7. **Oil and Grease.** Oils, greases, waxes, or other materials to be present in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.

8. **pH.** The pH to be depressed below 6.5 nor raised above 8.5.

9. **Pesticides:**

   a. Pesticides to be present, individually or in combination, in concentrations that adversely affect beneficial uses;

   b. Pesticides to be present in bottom sediments or aquatic life in concentrations that adversely affect beneficial uses;

   c. Total identifiable persistent chlorinated hydrocarbon pesticides to be present in the water column at concentrations detectable within the accuracy of analytical methods approved by USEPA or the Executive Officer;

d. Pesticide concentrations to exceed those allowable by applicable antidegradation policies (see State Water Board Resolution No. 68-16 and 40 CFR 131.12.);

e. Pesticide concentrations to exceed the lowest levels technically and economically achievable;

f. Pesticides to be present in concentration in excess of the maximum contaminant levels set forth in CCR, Title 22, division 4, chapter 15; nor

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

10. Radioactivity:

a. Radionuclides to be present in concentrations that are harmful to human, plant, animal, or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.

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

11. Suspended Sediments. The suspended sediment load and suspended sediment discharge rate of surface waters to be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

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

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

14. Taste and Odors. Taste- or odor-producing substances to be present in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.

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

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

17. Turbidity.

a. Shall not exceed 2 Nephelometric Turbidity Units (NTU) where natural turbidity is less than 1 NTU;

b. Shall not increase more than 1 NTU where natural turbidity is between 1 and 5 NTUs;

c. Shall not increase more than 20 percent where natural turbidity is between 5 and 50 NTUs;

d. Shall not increase more than 10 NTU where natural turbidity is between 50 and 100 NTUs; nor

e. Shall not increase more than 10 percent where natural turbidity is greater than 100 NTUs.

B. Groundwater Limitations. Release of waste constituents from any storage, treatment, or disposal component associated with the facility, in combination with other sources, shall not cause the underlying groundwater to contain waste constituents greater than background quality or water quality objectives, whichever is greater.

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.

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

professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.

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

n. For 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, maximum daily effluent limitation, 1-hour average effluent limitation, or receiving water limitation contained in this Order, the Discharger shall notify the Central Valley Water Board by telephone (916) 464-3291 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within 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(l)(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, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.

c. Mercury. If mercury is found to be causing toxicity based on acute or chronic toxicity test results, this Order shall be reopened and an effluent concentration limitation imposed. If USEPA develops new water quality standards for mercury, or if the statewide mercury project develops waste load allocations, this permit may be reopened and effluent limitations imposed. In addition, this Order may be reopened if the Central Valley Water Board determines that a mercury offset program is feasible for dischargers subject to NPDES permits.

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

e. Water Effects Ratios (WER) and Metal Translators. A default WER of 1.0 has been used in this Order for calculating CTR criteria for applicable priority pollutant inorganic constituents, except for copper. A site-specific WER of 8.57

was used for copper. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

f. **Hardness.** During the previous permit term one receiving water hardness sample was obtained upstream of the discharge point and two samples were obtained downstream. Receiving water hardness is necessary for calculating the CTR criteria for the hardness-dependent metals, cadmium, chromium III, copper, lead, nickel, silver, and zinc. This Order requires the Discharger to monitor the effluent and upstream receiving water for hardness. Based on review of the monitoring results and reassessment of the reasonable worst-case ambient hardness, this Order may be reopened for modification or imposition of effluent limitations for CTR hardness dependent metals.

g. **Pesticides.** If individual pesticides are found to be causing exceedances above the applicable water quality criteria, this Order may be reopened to add effluent limitations for individual pesticides.

h. **Pretreatment Requirements**. If the Central Valley Water Board determines that future Facility upsets and/or effluent limitation violations indicate that pretreatment requirements are necessary to control industrial user site-specific discharges, this Order may be reopened to add Pretreatment Requirements in section VI.C.5.a.

i. **Ultraviolet Light**. If the Discharger conducts a site-specific UV Engineering study that identifies site-specific UV operating specifications that will achieve the virus inactivation equivalent to Title 22 disinfected tertiary recycled water, this Order may be reopened to modify the UV operating specifications, in accordance with Reopener Provision VI.C.1.a.

j. **Regional Monitoring Program.** The State and Regional Water Boards are committed to creation of a coordinated Regional Monitoring Program to address receiving water monitoring for all Water Board regulatory and research programs. When a Regional Monitoring Program becomes functional, this permit may be reopened to make appropriate adjustments in permit-specific monitoring to coordinate with the Regional Monitoring Program.

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

a. **Chronic Whole Effluent Toxicity.** For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct chronic whole effluent toxicity (WET) testing, as specified in 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 Toxicity Reduction Evaluation (TRE) in accordance with an approved TRE Workplan, 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 Workplan and includes procedures for accelerated chronic toxicity monitoring and TRE initiation.

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

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

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

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

ii. Accelerated Monitoring and TRE Initiation. When the numeric toxicity monitoring trigger is exceeded during regular chronic toxicity monitoring, 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). 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 conducted once every 2 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 plant upset), the Discharger shall make necessary corrections to the facility and shall continue accelerated monitoring until four (4) consecutive accelerated tests do not exceed the monitoring trigger. Upon confirmation that the effluent toxicity has been removed, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring.

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

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

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

(3) A schedule for these actions.

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

b. Pesticide Study. An effluent monitoring study is required for pesticides to determine whether the effluent contains concentrations that have a reasonable potential to cause or contribute to an excursion above the water quality criteria

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

for pesticides. If pesticides are found to be causing exceedances above the applicable water quality criterion, this Order contains a reopener provision that allows the permit to be reopened to add effluent limitations if the Central Valley Water Board determines it necessary. During the first year of this permit term, the Discharger shall conduct monthly monitoring of the effluent at EFF-001 for persistent chlorinated hydrocarbon pesticides (organochlorine pesticides) including Aldrin, α-BHC, β-BHC, δ-BHC, γ-BHC, Chlordane, Dieldrin, 4,4-DDD, 4,4-DDE, 4,4-DDT, Endosulfan I, Endosulfan II, Endosulfan Sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, and Toxaphene. The study shall begin in November 2013 and conform to the following schedule:

Task	Compliance Date
i. Begin monthly pesticide monitoring [1, 2]	1 November 2013
ii. End monthly pesticide monitoring [1, 2]	1 November 2014
iii. Submit Final Pesticide Study Report [1,2]	1 May 2015

1 Pesticides include Aldrin, α-BHC, β-BHC, δ-BHC, γ-BHC, Chlordane, Dieldrin, 4,4-DDD, 4,4-DDE, 4,4-DDT, Endosulfan I, Endosulfan II, Endosulfan Sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, and Toxaphene

2. Appendix 4 of the SIP specifies the minimum levels to be achieved by the laboratories for analysis of each individual pesticide. Pesticides shall be sampled in accordance with USEPA Method 608 and 40 CFR part 136.

c. Effluent and Receiving Water Characterization Study. An effluent and receiving water monitoring study is required to ensure adequate information is available for the next permit renewal. During the third year of this permit term, the Discharger shall conduct **quarterly** monitoring of the effluent at EFF-001 and of the receiving water at RSW-001U for all priority pollutants and other constituents of concern as described in Attachment I. Dioxin and Furan sampling shall be performed only twice during the year, as described in Attachment J. The report shall be completed in conformance with the following schedule.

Task	Compliance Date
i. Submit Work Plan and Time Schedule	No later than 2 years 6 months from adoption of this Order
ii. Conduct quarterly[2] monitoring	During third year of permit term
iii. Submit Final Report	6 months following completion of final monitoring event

[2] Dioxin and Furan sampling shall be performed only twice during the year, as described in Attachment J.

d. Groundwater Monitoring and Assessment Report

i. By **1 December 2013**, the Discharger shall submit a *Groundwater Sampling Plan* that describes the procedures to be used to collect and analyze groundwater samples. The Plan shall discuss the EPA analytical test methods, chain of custody control, quality assurance/quality control procedures to be employed during sampling, sample collection procedures, sampling techniques, and decontamination procedures. The Plan shall include sample field data forms. The report shall be prepared by a California Registered Engineer or Professional Geologist as required by Section VI.A.2.l.

ii. By **1 June 2015**, the Discharger shall submit a *Groundwater Quality Assessment Report,* which evaluates the constituents found in groundwater monitoring well RGW-003 and the effectiveness of lining the storage reservoir (Pond 3) to ensure unauthorized discharges are not occurring. The evaluation shall include an assessment of the concentrations of electrical conductivity, nitrate, and ammonia, and changes in pH, with respect to background conditions (if able to determine) and/or water quality trends within monitoring well RGW-003. The evaluation, should also include graphical representation of the chemistry of water samples where the mineral cations and anions are shown by separate plots (e.g. piper or stiff diagrams), and a test using the electrical resistivity technique to assess the integrity of the high density polyethylene liner. The report shall be prepared by a California Registered Engineer or Professional Geologist as required by Section VI.A.2.l.

iii. The Discharger shall comply with section VI.B. Groundwater Monitoring Locations RGW-001, RGW-002, and RGW-003 of the Monitoring and Reporting Program, Attachment E.

3. Best Management Practices and Pollution Prevention

a. Salinity Evaluation and Minimization Plan. A Salinity Evaluation and Minimization Plan was submitted on 14 August 2009 to ensure that adequate measures are developed and implemented by the Discharger to reduce the discharge of salinity to the unnamed tributary of Smuthers Ravine. The Discharger has already implemented significant salinity reduction measures including conversion of the disinfection system from chlorine to Ultraviolet Light and the addition of nitrogen removal to the treatment system. Additional methods available to reduce salinity include public outreach and education. The Discharger shall continue to implement the steps outlined in Table 3 of the 14 August 2009 Salinity Evaluation and Minimization Plan and shall initiate a community outreach program. The Discharger shall submit Annual Monitoring Reports on Salinity Reduction Progress by 1 February annually.

4. Construction, Operation and Maintenance Specifications

a. Turbidity. The Discharger shall operate the treatment system to ensure that turbidity prior to disinfection shall not exceed any of the following:

i. 2 NTU, as a daily average;
ii. 5 NTU, more than 5% of the time within a 24-hour period;
iii. 10 NTU, at any time.

b. Ultraviolet Light (UV) Disinfection System Operating Specifications. The Discharger shall operate the UV disinfection system to provide a minimum UV dose per channel of 100 millijoules per square centimeter (mJ/cm^2) at peak daily flow and shall maintain an adequate dose for disinfection while discharging to the unnamed tributary of Smuthers Ravine, unless operated by an alternative plan approved by the Department of Public Health (DPH) or the Executive Officer.

i. The Discharger shall provide continuous, reliable monitoring of flow, UV transmittance, UV power, and turbidity.

ii. The UV transmittance (at 254 nanometers) in the wastewater exiting the UV disinfection system shall not fall below 55 percent of maximum at any time.

iii. The quartz sleeves and cleaning system components must be visually inspected per the manufacturer's operations manual for physical wear (scoring, solarization, seal leaks, cleaning fluid levels, etc.) and to check the efficacy of the cleaning system.

iv. The lamp sleeves must be cleaned periodically as necessary to meet the requirements.

v. Lamps must be replaced per the manufacturer's operations manual, or sooner, if there are indications the lamps are failing to provide adequate disinfection. Lamp age and lamp replacement records must be maintained.

vi. The Facility must be operated in accordance with an operations and maintenance program that assures adequate disinfection.

c. Treatment Pond and Storage Reservoir Operating Requirements.

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

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

iii. Ponds and the storage reservoir shall be managed to prevent breeding of mosquitoes. In particular,

(a) An erosion control program should assure that small coves and irregularities are not created around the perimeter of the water surface.

(b) Weeds shall be minimized.

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

iv. Freeboard shall never be less than 2 feet (measured vertically from the water surface to the lowest point of overflow of the dam, levees, or Pond 3 spillway).

v. Ponds and the storage reservoir shall have sufficient capacity to accommodate allowable wastewater flow and design seasonal precipitation and ancillary inflow and infiltration during the winter season. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.

vi. Prior to the onset of the rainy season of each year, available pond and reservoir storage capacity shall be maximized.

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

viii. Objectionable odors originating at this Facility shall not be perceivable beyond the limits of the wastewater treatment and storage areas (or property owned by the Discharger).

ix. As a means of discerning compliance with the above requirement, the dissolved oxygen (DO) content in the upper one foot of any wastewater ponds shall not be less than 1.0 mg/L for three consecutive weekly sampling events. If the DO in any single pond is below 1.0 mg/L for three consecutive sampling events, then the Discharger shall report the findings to the Regional Water Board in writing within 10 days and shall include a specific plan to resolve the low DO results within 30 days.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. Pretreatment Requirements – Not Applicable

b. Sludge/Biosolids Treatment or Discharge Specifications. Sludge in this document means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste

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

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

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 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 the narrative groundwater limitations in section V.B of this Order. In addition, the storage of residual sludge, solid waste, and biosolids on Facility property shall be temporary and controlled, and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate the narrative groundwater limitations included in section 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.B. Biosolids of the Monitoring and Reporting Program, Attachment E.

vi. Any proposed change in biosolids treatment, use, handling, 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. Within 180 days of the permit effective date, the Discharger shall review and update its existing biosolids use or disposal plan, and submit it to the Central Valley Water Board. The updated plan shall describe at a minimum:

(a) Sources and amounts of biosolids generated annually.

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

(c) Plans for ultimate disposal. For landfill disposal, include the Central Valley Water Board's waste discharge requirement numbers that regulate the particular landfill; the present classification of the landfill; and the name and location of the landfill.

c. Biosolids Storage and Transportation Specifications

Biosolids shall be considered to be "stored" if they are placed on the ground or in non-mobile containers (i.e. not in a truck or trailer) at an intermediate storage location away from the generator/processing for more than 48 hours. Biosolids shall be considered to be "staged" if placed on the ground for brief periods of time solely to facilitate transfer of the biosolids between transportation and application vehicles.

i. Biosolids shall not be stored directly on the ground at any one location for more than seven (7) consecutive days.

ii. Facilities for the storage of Class B biosolids shall be located, designed and maintained to restrict public access to biosolids.

iii. Biosolids storage facilities shall be designed and maintained to prevent washout or inundation from a storm or flood with a return frequency of 100 years.

iv. Biosolids storage facilities, which contain biosolids, shall be designed and maintained to contain all storm water falling on the biosolids storage area during a rainfall year with a return frequency of 100 years.

v. Biosolids placed on site for more than 24 hours shall be covered.

vi. Biosolids storage facilities shall be designed, maintained and operated to minimize the generation of leachate and the effects of erosion.

vii. If biosolids are to be stored at the site, a plan describing the storage program and means of complying with the specifications contained in sections VI.C.5.b and c of this Order shall be submitted for the Central Valley Water Board's staff approval. The storage plan shall also include an adverse weather plan.

viii. The Discharger shall operate the biosolids storage facilities in accordance with the approved biosolids storage plan.

ix. The Discharger shall immediately remove and relocate any biosolids stored on site in violation of this General Order.

x. All biosolids shall be transported in covered vehicles capable of containing the designated load.

xi. All biosolids having a water content that is capable of leaching liquids shall be transported in leak proof vehicles.

xii. Each biosolids transport driver shall be trained as to the nature of its load and the proper response to accidents or spill events and shall carry a copy of an approved spill response plan.

xiii. The Discharger shall avoid the use of haul routes near residential land uses to the extent possible. If the use of haul routes near residential land uses cannot be avoided, the Discharger shall limit project-related truck traffic to daylight hours.

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

e. This Order, and the Monitoring and Reporting Program which is a part of this Order, requires that certain parameters be monitored on a continuous basis. For electronic systems installed following permit adoption, the notification system shall be installed simultaneously.

6. Other Special Provisions – Not Applicable

7. Compliance Schedules – Not Applicable

VII. COMPLIANCE DETERMINATION

A. BOD_5 and TSS Effluent Limitations (Section IV.A.1.a). Compliance with the final effluent limitations for BOD_5 and TSS required in Limitations and Discharge Requirements section IV.A.1.a shall be ascertained by 24-hour composite samples. Compliance with effluent limitations required in Limitations and Discharge

Requirements section IV.A.1.b for percent removal shall be calculated using the arithmetic mean of BOD_5 and TSS in effluent samples collected over a monthly period as a percentage of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period.

B. Average Dry Weather Flow Effluent Limitations (Section IV.A.1d). The average dry weather discharge flow represents the daily average flow when groundwater is at or near normal and runoff is not occurring. Compliance with the average dry weather flow effluent limitations will be determined annually based on the average daily flow over three consecutive dry weather months (e.g., July, August, and September).

C. Total Coliform Organisms Effluent Limitations (Section IV.A.1.f). For each day that an effluent sample is collected and analyzed for total coliform organisms, the 7-day median shall be determined by calculating the median concentration of total coliform bacteria in the effluent utilizing the bacteriological results of the last 7 days. For example, if a sample is collected on a Wednesday, the result from that sampling event and all results from the previous 6 days (i.e., Tuesday, Monday, Sunday, Saturday, Friday, and Thursday) are used to calculate the 7-day median. If the 7-day median of total coliform organisms exceeds a most probable number (MPN) of 2.2 per 100 milliliters, the Discharger will be considered out of compliance.

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

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

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

E. Priority Pollutant Effluent Limitations. Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in Attachments A, E, I, and J of this Order. For purposes of reporting and administrative enforcement by the Central Valley Water Board and the State Water Board, the Discharger shall be deemed out of compliance with effluent limitations 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).

F. Total Residual Chlorine Effluent Limitations. 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.

ATTACHMENT A – DEFINITIONS

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

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

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

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

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

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

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

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

The daily discharge may be determined by the analytical results of a composite sample taken over the course of 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 RL, but greater than or equal to the laboratory's 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 ML value.

Estuaries
Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

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

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

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

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

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

Method Detection Limit (MDL)
MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 CFR Part 136, Appendix B, revised as of 14 May 1999.

Minimum Level (ML)
ML is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed. As defined in the SIP, Appendix 1.

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

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

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

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

Pollutant Minimization Program (PMP)
Pollutant minimization means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Central Valley Water Board may consider cost effectiveness when establishing the requirements of a PMP. The PMP shall be prepared in accordance with section 2.4.5.1 of the SIP. The completion and implementation of a Pollution Prevention Plan, required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements of the SIP.

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

Reporting Level (RL)
The RL 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 RL 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 RL.

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

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

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

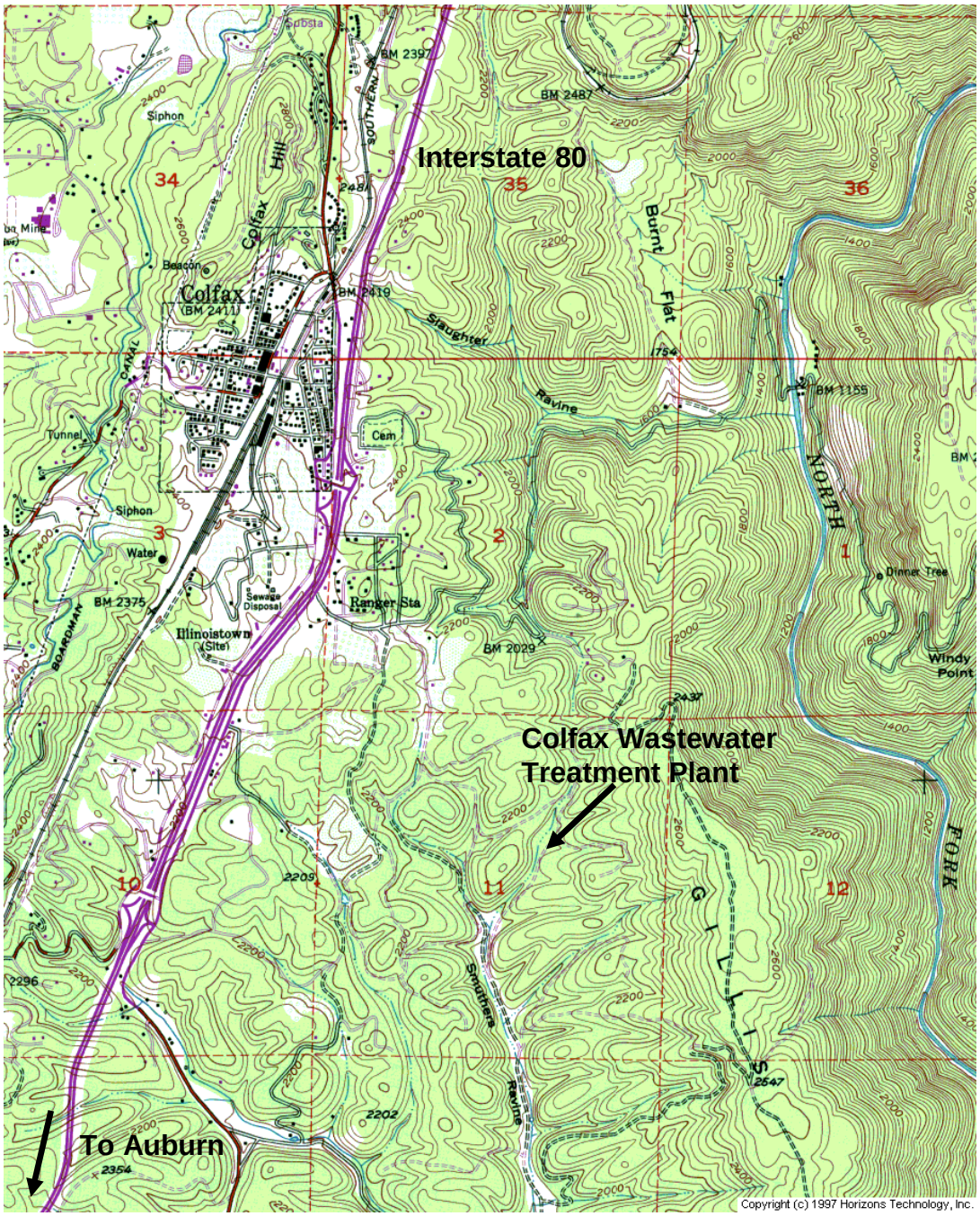
$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

where:

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

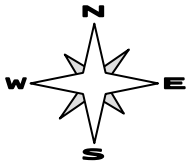
Toxicity Reduction Evaluation (TRE)
TRE is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first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

ATTACHMENT B – MAP

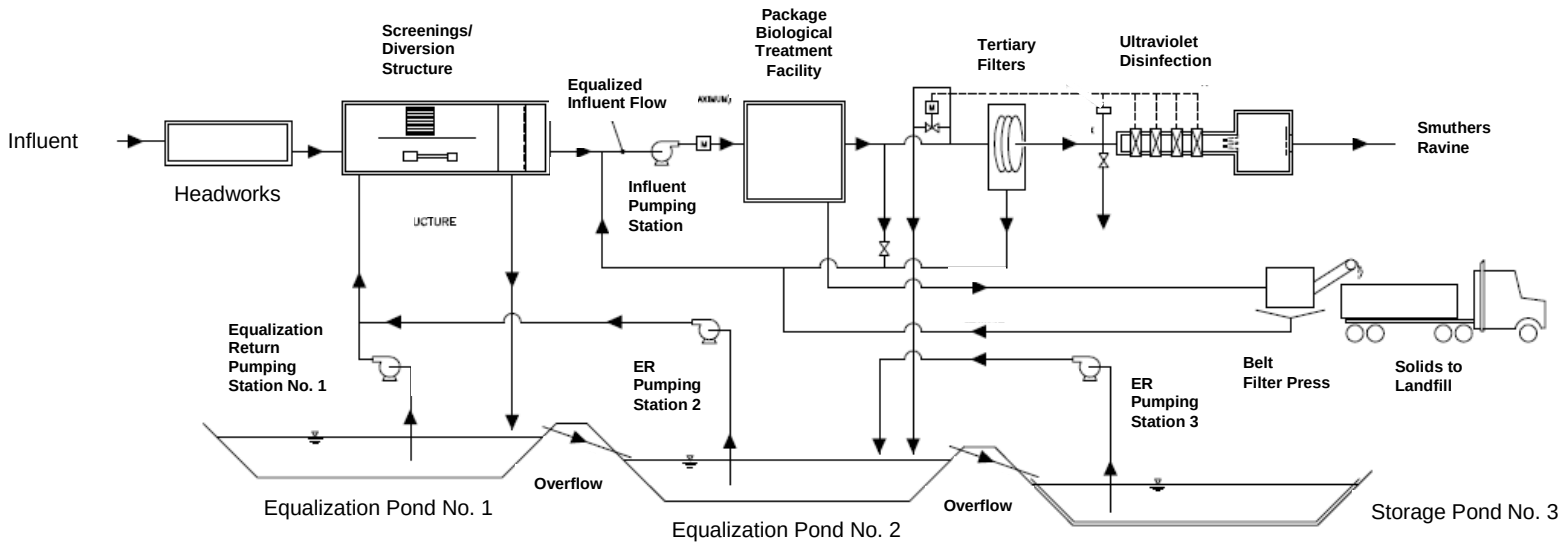


Drawing Reference: COLFAX U.S.G.S TOPOGRAPHIC MAP 7.5 MINUTE QUADRANGLE *Photorevised 1973* *Not to scale*	**SITE LOCATION MAP** CITY OF COLFAX WASTEWATER TREATMENT PLANT PLACER COUNTY	N W E S

ATTACHMENT C1 – SITE MAP



ATTACHMENT C2 – PROCESS FLOW SCHEMATIC



ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code (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).)

A. 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 Regional Water 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 Regional 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 Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 CFR 122.41(m)(4)(i)(C))

4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional 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 Regional Water Board. The Regional 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

B. 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 Regional Water Board Executive Officer at any time. (40 CFR 122.41(j)(2))

E. 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))

F. 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 Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional 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 Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 CFR 122.41(h); Wat. Code, § 13267)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional 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 Regional 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 Regional 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 Regional 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 form or forms provided or specified by the Regional 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 sludge reporting form specified by the Regional 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 Office of Emergency Services of any noncompliance that may endanger health or the environment within two (2) hours from the time the Discharger becomes aware of the circumstances. The Discharger shall notify the Central Valley Water Board of the noncompliance by telephone or fax 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 Regional 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 Regional 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 previous 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 Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General 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 Regional 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 Regional 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 Regional 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))

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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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 Department of Public Health (DPH). Laboratories that perform sample analyses must be identified in all monitoring reports submitted to the Central Valley Water Board. In the event a certified laboratory is not available to the Discharger for any onsite field measurements such as pH, DO, turbidity, temperature, and residual chlorine, such analyses performed by a noncertified laboratory will be accepted provided a Quality Assurance-Quality Control Program is instituted by the laboratory. A manual containing the steps followed in this program for any onsite field measurements such as pH, DO, turbidity, temperature, and residual chlorine must be kept onsite in the treatment facility laboratory and shall be available for inspection by Central Valley Water Board staff. The Discharger must demonstrate sufficient capability (qualified and trained employees, properly calibrated and maintained field instruments, etc.) to adequately perform these field measurements. The Quality Assurance-Quality Control Program must conform to USEPA guidelines or to procedures approved by the Central Valley Water Board.

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

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

F. Laboratories analyzing monitoring samples shall be certified by DPH, in accordance with the provision of CWC 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 daily maximum discharge flows.

II. MONITORING LOCATIONS

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

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	INF-001	Facility Headworks
001	EFF-001	Downstream from the last connection through which wastewater can be admitted to the outfall (39°, 4’, 58” N, 120°, 56’, 12” W)
--	UVS-001	Ultraviolet Light Disinfection System
--	PND-001	Treatment Pond 1
--	PND-002	Treatment Pond 2
--	PND-003	Storage Reservoir (Pond 3)
--	RSW-001U	100 feet upstream from the discharge point EFF-001
--	RSW-002D	100 feet downstream from the discharge point EFF-001 (If access is denied, collect samples at property boundary.)
--	RGW-001, RGW-002, RGW-003	Groundwater Monitoring Wells
--	BIO-001	Biosolids
--	SPL-001	Municipal Water Supply Source

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

1. The Discharger shall monitor 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	Meter	Continuous	[1]
BOD 5-day @ 20°C	mg/L	24-hr Composite [2]	1/Week	[1]
Total Suspended Solids	mg/L	24-hr Composite [2]	1/Week	[1]

[1] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136; or by methods approved by the Central Valley Water Board or the State Water Board.
[2] 24-hour flow proportional composite.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. When discharging to surface water, the Discharger shall monitor treated wastewater at Monitoring Location EFF-001 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level. Where a CTR constituent is listed in Appendix 4 of the SIP, the reporting level specified in Attachment I of this Order must be achieved by the laboratory conducting the analysis.

Table E-3. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Week [4, 5]	[1]
Arsenic	µg/L	Grab	1/Month	[1]
Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C)	mg/L	24-hr Composite [3]	1/Week	[1]
	lbs/day	Calculate	1/Week	--
Chlorine, Total Residual [8]	mg/L	Meter	Continuous [17]	[1]
Dissolved Oxygen	mgL	Grab	3/Week	
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Month	[1]
Flow	mgd	Meter	Continuous	[1]
Hardness (as $CaCO_3$)	mg/L	Grab	1/Month [9]	[1]
Nitrate plus Nitrite, Total (sum as N)	mg/L	Grab	1/Week	[1]
pH	Standard Units	Grab	3/Week [4, 12]	[1]
Priority Pollutants and Other Constituents of Concern (see section X.D.5. below and	See Attachment I	See Attachment I	See Attachment I	See Attachment I

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Attachment I) [1,2,6,7,10,11,13]				
Settleable Solids	ml/L	Grab	1/Week	[1]
Standard Minerals[14]	mg/L	Grab	1/Year	[1]
Temperature	°C	Grab	3/Week [4, 12]	[1]
TCDD-Equivalents [15]	pg/L	Grab	See Attachment J	See Attachment J
Total Coliform Organisms	MPN/100 mL	Grab	3/Week [16]	[1]
Total Dissolved Solids	mg/L	Grab	1/Month	[1]
Total Suspended Solids	mg/L	24-hr Composite [3]	1/Week	[1]
	lbs/day	Calculate	1/Week	--
Turbidity	NTU	Meter	Continuous	[1]
Whole Effluent Toxicity (see Section V. below)	--	--	--	--

[1] Pollutants shall be analyzed using the analytical methods described in 40 CFR part 136 or by methods approved by the Central Valley Water Board or the State Water Board.

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

[3] 24-hour flow proportional composite.

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

[5] Concurrent with whole effluent toxicity monitoring.

[6] In order to verify if bis (2-ethylhexyl) phthalate is truly present in the effluent discharge, the Discharger shall take steps to assure that sample containers, sampling apparatus, and analytical equipment are not sources of the detected contaminant. The laboratory maximum reporting level for bis (2-ethylhexyl) phthalate shall be 5 µg/L and the method shall be GCMS as specified in Appendix 4 of the SIP.

[7] The maximum required Reporting Level is specified in Attachment I, Table I-1, Priority Pollutants and Other Constituents of Concern. Sampling and analysis of bis (2-ethylhexyl) phthalate shall be conducted using ultra-clean techniques that eliminate the possibility of sample contamination. For lead, the laboratories shall establish calibration standards so that the ML value is 0.5 µg/L.

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

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

[10] Unfiltered methyl mercury and total mercury samples shall be taken using clean hands/dirty hands procedures, as described in U.S. EPA method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels, for collection of equipment blanks (section 9.4.4.2), and shall be analyzed by U.S. EPA method 1630/1631 (Revision E) with a method detection limit of 0.02 ng/l for methyl mercury and 0.2 ng/l for total mercury.

[11] Persistent chlorinated hydrocarbon pesticides include the CTR constituents: aldrin, dieldrin, chlordane, endrin, endrin aldehyde, heptachlor, heptachlor epoxide, hexachlorocyclohexane (alpha-BHC, beta-BHC, delta-BHC, and gamma-BHC or lindane), endosulfan (alpha and beta), endosulfan sulfate, toxaphene, 4,4'DDD, 4,4'DDE, and 4,4'DDT. Appendix 4 of the SIP specifies the minimum levels to be achieved by the laboratories for analysis of each individual pesticide. Pesticides shall be sampled in accordance with USEPA Method 608 and 40 CFR part 136 or by methods approved by the Central Valley Water Board or the State Water Board.

[12] 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.

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

[14] Standard minerals shall include the following: boron, calcium, iron, magnesium, potassium, sodium, chloride, manganese, phosphorus, total alkalinity (including alkalinity series), and hardness, and include verification that the analysis is complete (i.e., cation/anion balance).

[15] TCDD-Dioxin Congener Equivalents shall include all 17 of the 2,3,7,8 TCDD dioxin congeners as listed in section 3 of the SIP.

[16] Samples for Total coliform organisms may be collected at any point following disinfection.

[17] The Discharger shall monitor chlorine residual continuously through 31 July 2014. After that time, the Discharger may request in writing that chlorine residual monitoring be reduced to only periods when chlorine is used at the facility. Approval for this change shall be based on whether or not previous monitoring results show that chlorine residual effluent limits have been met. The monitoring change may only be implemented after the Discharger receives written approval from the Executive Officer.

2. If the discharge is intermittent rather than continuous, then on the first day of each such intermittent discharge, the Discharger shall monitor and record data for all of the constituents listed above, except for priority pollutants, after which the frequencies of analysis given in the schedule shall apply for the duration of each such intermittent discharge. In no event shall the Discharger be required to monitor and record data more often than twice the frequencies listed in the schedule.

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 (Twice/Year, 1st quarter and 3rd quarter) acute toxicity testing, concurrent with effluent ammonia sampling.

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

3. *Test Species* – Test species shall be larval stage (0 to 14 days old) rainbow trout (*Onchorhynchus mykiss*) or fathead minnows (*Pimephales promelas*).

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

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

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

1. *Monitoring Frequency –* The Discharger shall perform semi-annual (Twice/Year, 1st quarter and 3rd 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 The receiving water control shall be a grab sample obtained from the RSW-001U sampling location, as identified in this Monitoring and Reporting Program.

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

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

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

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

7. *Dilutions* – The chronic toxicity testing shall be performed using the dilution series identified in the table, below. The receiving water control shall be used as the diluent (unless the receiving water is toxic).

Table E-4. Chronic Toxicity Testing Dilution Series

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

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

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

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

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

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

1. Chronic WET Reporting. Regular chronic toxicity monitoring results shall be reported to the Central Valley Water Board within 30 days following completion of the 1st and 3rd quarterly tests, and shall contain, at minimum:

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

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

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

d. The statistical methods used to calculate endpoints.

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

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

2. **Acute WET Reporting.** 1st and 3rd quarterly acute toxicity test results shall be submitted with the monthly discharger self-monitoring reports and reported as percent survival.

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

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

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

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

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

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECLAMATION MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Surface Water Monitoring Locations RSW-001U and RSW-002D

1. The Discharger shall monitor the receiving water at the unnamed tributary of Smuthers Ravine monitoring locations RSW-001U and RSW-002D as follows.

Table E-5a. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Ammonia (as N)	mg/L	Grab	1/week	[2]
Dissolved Oxygen	mg/L	Grab	1/week	[1,2]
	% Saturation	Grab	1/week	[1,2]
Electrical Conductivity @ 25ºC	µmhos/cm	Grab	1/week	[1,2]
Fecal Coliform	MPN/100 mL	Grab	1/week	[2]
Hardness, Total (as CaCO3)	mg/L	Grab	1/week	[2]
pH	Standard Units	Grab	1/week	[1,2]
Priority Pollutants and Other Constituents of Concern	See Attachment I	See Attachment I	See Attachment I	--
Temperature, Deg. Fahrenheit	ºF	Grab	1/week	[1,2]
Turbidity	NTU	Grab	1/week	[2]

[1] 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 wastewater treatment plant.

[2] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136; for priority pollutants the methods must meet the lowest minimum levels (MLs) specified in Appendix 4 of the SIP, where no methods are specified for a given pollutant by methods approved by this Regional Water Board or the State Water Board.

2. In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by Stations RSW-001U and RSW-002D on the unnamed tributary of Smuthers Ravine. In the event that no receiving water is present at station RSW-001U, the Discharger shall so state in the monitoring report, and no receiving water monitoring data is required for station RSW-001U. Attention shall be given to the presence or absence of:

a. Floating or suspended matter and foam
b. Discoloration
c. Bottom Deposits
d. Aquatic Life
e. Visible films, sheens, or coatings
f. Fungi, slimes, or objectionable growths
g. Potential nuisance conditions
h. The presence of flowing water upstream of the discharge point

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

B. Groundwater Monitoring Locations RGW-001, RGW-002, and RGW-003

1. After 1 June 2015, the groundwater monitoring results will be assessed to determine whether impacts from the storage reservoir have been reduced/eliminated due to the new liner. The content of, and due date for, the *Groundwater Quality Assessment Report* is described in Section VI.C.2.d.ii of the Order. If the Executive Officer agrees in writing that groundwater quality is improving, then the monitoring schedule may be reduced to semiannually (with samples to be collected during the first quarter and third quarter each year). If the Executive Officer does not agree that the groundwater quality is improving, then samples shall continue to be collected quarterly and the Discharger may be required to install additional monitoring wells.

2. Prior to construction and/or beginning a sampling program of any new groundwater monitoring wells, the Discharger shall submit plans and specifications to the Central Valley Water Board for approval. Once installed, all new wells shall be added to the monitoring network which currently consists of Monitoring Well Nos. RGW-001, RGW-002, and RGW-003. RGW-002 has been dry for several years. The Discharger is expected to sound the well during the monitoring events, and if water is present, collect a sample. If water is not present, the Discharger shall report this fact in the monitoring report. Groundwater shall be sampled and analyzed according to the schedule below. All samples shall be collected using approved EPA methods.

3. As required by Section VI.A.2.l of the Order, groundwater monitoring reports shall be prepared by, or under the direction of, a California Registered Engineer or Professional Geologist. All groundwater samples shall be collected pursuant to an approved *Groundwater Sampling Plan* (as required by Section VI.C.2.d.i of this Order).

4. Prior to sampling, the groundwater elevations shall be measured and the wells shall be purged of at least three well volumes until temperature, pH, and electrical conductivity have stabilized. Depth to groundwater shall be measured to the nearest 0.01 feet. Groundwater monitoring at RGW-001, RGW-002, and RGW-003, and any new groundwater monitoring wells shall include, at a minimum, the following:

Table E-5b. Groundwater Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Depth to Groundwater	±0.01 feet	Measurement	1/Quarter or semiannually[4] if approved by the Executive Officer	--
Groundwater Elevation [1]	±0.01 feet	Calculated	1/Quarter or semiannually[4] if approved by the Executive Officer	--
Gradient [5]	feet/feet	Calculated	1/Quarter or semiannually[4] if approved by the Executive Officer	--
Gradient Direction [5]	degrees	Calculated	1/Quarter or semiannually[4] if approved by the Executive Officer	--
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Quarter or semiannually[4] if approved by the Executive Officer	[2, 3]
pH	standard units	Grab	1/Quarter or semiannually[4] if approved by the Executive Officer	[2, 3]
Standard Minerals [6]	mg/L	Grab	1/Quarter or semiannually[4] if approved by the Executive Officer	--
Nitrate Nitrogen, Total (as N)	mg/L	Grab	1/Quarter or semiannually[4] if approved by the Executive Officer	[2]
Ammonia (as NH_4)	mg/L	Grab	1/Quarter or semiannually[4] if approved by the Executive Officer	[2]

[1] Groundwater elevation shall be determined based on depth-to-water measurements from a surveyed measuring point elevation on the well. The groundwater elevation shall be used to calculate the direction and gradient of groundwater flow.

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

[3] A hand-held field meter may be used, if the meter uses USEPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter shall be maintained at the wastewater treatment plant.

[4] During the first and third quarters each year.

[5] If all three wells have water. If less than three wells contain water then this cannot be determined.

[6] Standard minerals shall include the following: boron, bromide, calcium, fluoride, iron, magnesium, total potassium, sodium, chloride, total phosphorus, sulfate, total alkalinity (including alkalinity series), and total hardness as CaCO3, and include verification that the analysis is complete (i.e., cation/anion balance)

IX. OTHER MONITORING REQUIREMENTS

A. Water Supply Monitoring

1. Monitoring Location SPL-001.

The Discharger shall monitor the municipal water supply at SPL-001 as follows. A sampling station shall be established where a representative sample of the municipal water supply can be obtained. If applicable, publicly-available data may be used to demonstrate the average quality of the water supply.

Table E-6. Water Supply Monitoring Requirements

Parameter[1]	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Dissolved Solids (TDS)	mg/L	Grab	1/year	[3]
Electrical Conductivity @ 25 Deg. C [1]	µmhos/cm	Grab	1/year	[3]
Standard Minerals[2]	mg/L	Grab	1/year	[3]

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

[2] Standard minerals shall include all major cations and anions and include verification that the analysis is complete (i.e. cation/anion balance).

[3] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136; for priority pollutants the methods must meet the lowest minimum levels (MLs) specified in Appendix 4 of the SIP, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board.

B. Biosolids

1. Monitoring Location BIO-001

a. A composite sample of sludge shall be collected once per year when sludge is removed from the ponds for disposal in accordance with USEPA's *POTW Sludge Sampling and Analysis Guidance Document*, August 1989, and tested for the metals listed in Title 22.

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

c. Upon removal of sludge, the Discharger shall submit characterization of sludge quality, including sludge percent solids and quantitative results of chemical analysis for the priority pollutants listed in 40 CFR 122 Appendix D, Tables II and III (excluding total phenols). Suggested methods for analysis of sludge are

provided in USEPA publications titled *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods* and *Test Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater*. Recommended analytical holding times for sludge samples should reflect those specified in 40 CFR 136.6.3(e). Other guidance is available in USEPA's *POTW Sludge Sampling and Analysis Guidance Document*, August 1989.

C. Pond Monitoring

1. Monitoring Locations PND-001, PND-002, and PND-003

A sampling station shall be established where a representative sample of the treatment ponds can be obtained. The Discharger shall monitor the treatment ponds and storage reservoir (to the extent sampling the storage reservoir is possible) at PND-001, PND-002, and PND-003 as follows:

Table E-7. Treatment Pond and Storage Reservoir Monitoring Requirements

Parameter[1]	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Dissolved Oxygen	mg/L	Grab	1/week	[1]
pH	S.U.	Grab	1/week	[1]
Odors	--	Observation	1/week	--
Freeboard	Tenths of feet	Measured	1/week	--
Pond Elevation	Tenths of feet	Measured	1/week	--

[1] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.

D. Ultraviolet Light Disinfection System

1. Monitoring Location UVS-001

The Discharger shall monitor the Ultraviolet Light disinfection system at UVS-001 as shown in the following table. Reporting shall begin 90 days from the effective date of this Order.

Table E-8. Ultraviolet Light Disinfection System Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	MGD	Meter	Continuous [1]
Turbidity	NTU	Meter [3]	Continuous [1, 4]
Number of Ultraviolet Light banks in operation	Number	Meter	Continuous [1]
Ultraviolet Light Transmittance	Percent (%)	Meter	Continuous [1]
Ultraviolet Light Power Setting	Percent (%)	Meter	Continuous [1]
Ultraviolet Light Dose [5]	MW-sec/cm [2]	Calculated	Continuous [1]

[1] For continuous analyzers, the Discharger shall report documented routine meter maintenance activities including date, time of day, and duration, in which the analyzer(s) is not in operation.

[3] The turbidity meter shall be stationed immediately after the filters, prior to the Ultraviolet Light disinfection process.

[4] Report daily average turbidity and maximum. If the influent exceeds 10 NTU and effluent is being discharged, collect a sample for total coliform organisms and report the duration of the turbidity exceedance.

[5] Report daily minimum Ultraviolet Light dose, daily average Ultraviolet Light dose, and weekly average Ultraviolet

Light dose. For the daily minimum Ultraviolet Light dose, also report associated number of banks, gallons per minute per lamp, and Ultraviolet Light transmittance used in the calculation. If effluent discharge has received less than the minimum Ultraviolet Light dose and is not diverted from discharging to the unnamed tributary of Smuthers Ravine, report the duration and dose calculation variables associated with each incident.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

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

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

3. **Compliance Time Schedules.** For compliance time schedules included in the Order, the Discharger shall submit to the Central Valley Water Board, on or before each compliance 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 eSMRs using the State Water Board's CIWQS Program Web site (http:www.waterboards.ca.gov/ciwqs/index.html). The Discharger shall maintain sufficient staffing and resources to ensure it submits eSMRs during the effective duration of this Order. This includes provision of training and supervision of individuals (e.g., Discharger personnel or consultant) on how to prepare and submit eSMRs.

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

Table E-9. Monitoring Periods and Reporting Schedule

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

3. **Reporting Protocols.** The Discharger shall report with each sample result the applicable reported Reporting Level (RL) and the 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 (+ a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

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

d. Dischargers are to instruct laboratories to establish calibration standards so that the RL value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve. The Discharger's laboratory (ies) may, as allowed for by the rules governing alterations to minimum level (ML) values in section 2.4.3 of the SIP, employ a calibration standard lower than the ML value in Appendix 4 of the SIP.

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

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

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

5. Reporting Requirements. In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible.

a. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations or with other waste discharge requirements (e.g., discharge specifications, receiving water limitations, special provisions, etc.).

b. Reports must clearly show when discharging to EFF-001 or other permitted discharge locations. Reports must show the date and time that the discharge started and stopped at each location.

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

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

a. Daily Dry Weather Flow. Calculate and report in the Annual Report.

b. Mass Loading Limitations. For BOD_5 and TSS the Discharger shall calculate and report the mass loading (lbs/day) in the SMRs. The mass loading shall be calculated as follows:

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

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

c. Removal Efficiency (BOD_5 and TSS). The Discharger shall calculate and report the percent removal of BOD_5 and TSS in the SMRs. The percent removal shall be calculated as specified in Section VII.A of the Limitations and Discharge Requirements.

d. Total Coliform Organisms Effluent Limitations. The Discharger shall calculate and report the 7-day median of total coliform organisms for the effluent. The 7-day median of total coliform organisms shall be calculated as specified in Section VII.C of the Limitations and Discharge Requirements.

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

f. Turbidity Receiving Water Limitations. The Discharger shall calculate and report the turbidity increase in the receiving water applicable to the natural turbidity condition specified in Section V.A.17.a-e of the Limitations and Discharge Requirements.

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

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

a. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS.

b. The Discharger shall include a cover letter with the eSMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule

for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

c. Individual reports must be submitted to the Central Valley Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

Regional Water Quality Control Board
Central Valley Region
NPDES Compliance and Enforcement Unit
11020 Sun Center Dr., Suite #200
Rancho Cordova, CA 95670-6114

C. Discharge Monitoring Reports (DMRs) – Not Applicable

D. Other Reports

1. The Discharger shall report the results of any special studies, acute and chronic toxicity testing, TRE/TIE, PMP, and Pollution Prevention Plan required by Special Provisions VI.C of this Order. The Discharger shall report the progress in satisfaction of compliance schedule dates specified in the Special Provision at section VI.C.7 of this Order. The Discharger shall submit reports with the first monthly SMR scheduled to be submitted on or immediately following the report due date.

2. Within 60 days of permit adoption, the Discharger shall submit a report outlining reporting levels (RLs), method detection limits, and analytical methods for approval. The Discharger shall comply with the monitoring and reporting requirements for CTR constituents as outlined in section 2.3 and 2.4 of the SIP. The maximum required reporting levels for priority pollutant constituents shall be based on the Minimum Levels (MLs) contained in Appendix 4 of the SIP, determined in accordance with Section 2.4.2 and Section 2.4.3 of the SIP. In accordance with Section 2.4.2 of the SIP, when there is more than one ML value for a given substance, the Central Valley Water Board shall include as RLs, in the permit, all ML values, and their associated analytical methods, listed in Appendix 4 that are below the calculated effluent limitation. The Discharger may select any one of those cited analytical methods for compliance determination. If no ML value is below the effluent limitation, then the Central Valley Water Board shall select as the RL, the lowest ML value, and its associated analytical method, listed in Appendix 4 for inclusion in the permit. Table I-1 (Attachment I) provides required maximum reporting levels in accordance with the SIP.

3. The Discharger's sanitary sewer system collects wastewater using sewers, pipes, pumps, and/or other conveyance systems and directs the raw sewage to the wastewater treatment plant. A "sanitary sewer overflow" is defined as a discharge to ground or surface water from the sanitary sewer system at any point upstream of the wastewater treatment plant. Sanitary sewer overflows are prohibited by this Order. All violations must be reported as required in Standard Provisions.

Facilities (such as wet wells, regulated impoundments, tanks, highlines, etc.) may be part of a sanitary sewer system and discharges to these facilities are not considered sanitary sewer overflows, provided that the waste is fully contained within these temporary storage facilities.

4. **Effluent and Receiving Water Characterization Study.** An effluent and receiving water monitoring study is required to ensure adequate information is available for the next permit renewal. During the third year of this permit term, the Discharger shall conduct **quarterly** monitoring of the effluent at EFF-001 and of the receiving water at RSW-001U for all priority pollutants and other constituents of concern as described in Attachment I. Dioxin and Furan sampling shall be performed only twice during the year, as described in Attachment J. The report shall be completed in conformance with the following schedule.

Task	Compliance Date
i. Submit Work Plan and Time Schedule	No later than 2 years 6 months from adoption of this Order
ii. Conduct monthly[1] monitoring	During third year of permit term
iii. Submit Final Report	6 months following completion of final monitoring event

[1] Dioxin and Furan sampling shall be performed only twice during the year, as described in Attachment J.

5. **Groundwater Monitoring and Assessment Reports.** The Discharger shall submit a *Groundwater Sampling Plan* and a *Groundwater Quality Assessment Report* as required by Sections VI.C.2.d.i and ii of this Order. The reports shall be submitted according to the following schedule:

Task	Compliance Date
i. Submit Groundwater Sampling Plan	1 December 2013
ii. Submit Groundwater Quality Assessment Report	1 June 2015

6. **Pesticide Study.** An effluent monitoring study is required for pesticides. During the first year of this permit term, the Discharger shall conduct monthly monitoring of the effluent at EFF-001 for persistent chlorinated hydrocarbon pesticides (organochlorine pesticides) including Aldrin, α-BHC, β-BHC, δ-BHC, γ-BHC, Chlordane, Dieldrin, 4,4-DDD, 4,4-DDE, 4,4-DDT, Endosulfan I, Endosulfan II, Endosulfan Sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, and Toxaphene. The study shall begin in November 2013 and conform to the following schedule:

Task	Compliance Date
i. Begin monthly pesticide monitoring [1, 2]	1 November 2013
ii. End monthly pesticide monitoring [1, 2]	1 November 2014
iii. Submit Final Pesticide Study Report [1,2]	1 May 2015

1 Pesticides include Aldrin, α-BHC, β-BHC, δ-BHC, γ-BHC, Chlordane, Dieldrin, 4,4-DDD, 4,4-DDE, 4,4-DDT, Endosulfan I, Endosulfan II, Endosulfan Sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, and Toxaphene

2. Appendix 4 of the SIP specifies the minimum levels to be achieved by the laboratories for analysis of each individual pesticide. Pesticides shall be sampled in accordance with USEPA Method 608 and 40 CFR part 136.

7. **Annual Operations Report.** By 30 January of each year, the Discharger shall submit a written report to the Executive Officer containing the following:

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

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

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

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

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

ATTACHMENT F – FACT SHEET

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Attachment F – Fact Sheet

As described in 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

WDID	5A310101001
Discharger	City of Colfax
Name of Facility	Wastewater Treatment Plant
Facility Address	23550 Grandview Avenue
	Colfax, CA 95713
	Placer County
Facility Contact, Title and Phone	Bruce Kranz, City Manager, (530) 346-2313 Mike Faudoa, Chief Plant Operator, (530) 346-8419
Authorized Person to Sign and Submit Reports	Mitchell Mysliwiec, City Environmental Engineer (530) 753-6400 Gabe Armstrong, Community Services Director , (530) 346-2313
Mailing Address	P.O. Box 702, Colfax, CA 95713
Billing Address	SAME
Type of Facility	Publicly Owned Treatment Works (POTW)
Major or Minor Facility	Minor
Threat to Water Quality	2
Complexity	B
Pretreatment Program	N
Reclamation Requirements	Not Applicable
Facility Permitted Flow	0.275 million gallons per day (mgd), average dry weather flow
Facility Design Flow	0.5 mgd
Watershed	Sacramento
Receiving Water	Unnamed tributary of Smuthers Ravine
Receiving Water Type	Inland Surface Water – Ephemeral Effluent-Dominated Stream

A. The City of Colfax (hereinafter Discharger) is the owner and operator of sanitary sewer collection system and Wastewater Treatment Plant (hereinafter Facility), a publicly owned treatment works (POTW).

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

B. The Facility discharges wastewater to an unnamed tributary of Smuthers Ravine, a water of the United States, and was regulated by Order R5-2007-0130, which was adopted on 25 October 2007 and expired on 1 October 2012. The terms and conditions of Order R5-2007-0130 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 and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on 3 April 2012. A site visit was conducted on 12 July 2012, to observe operations and collect additional data to develop permit limitations and conditions.

II. FACILITY DESCRIPTION

The Discharger provides sewerage service for the community of Colfax and serves a population of approximately 1,878. The average daily dry weather flow of the Facility is 0.275 million gallons per day (mgd). Colfax is considered a small, disadvantaged community[2].

A. Description of Wastewater and Biosolids Treatment or Controls

1. **New Wastewater Treatment Plant.** To meet the effluent requirements listed in Order R5-2007-0130, the Discharger initiated the Colfax Wastewater Treatment Plant Improvement Project, which constructed a new extended aeration tertiary treatment package plant that was in full operation by 1 January 2009. Average dry weather flow is 0.275 mgd and design capacity is 0.5 mgd. In a letter dated 30 July 2012, the Discharger requested an increase of the "engineered wet weather design flow" to 0.8 mgd based on a completed stress test and the requirements of CDO R5-2011-0097. In a letter dated 8 August 2012, the Executive Officer approved "the request to increase the engineered wet weather design flow rate to 0.8 mgd." The updated treatment plant unit processes include: fine screens/diversions in the headworks, an influent pumping station to equalize incoming flow, aerated lagoons for primary sedimentation and biological oxidation (Pond 1 and Pond 2), biological treatment facility (secondary clarification, aeration basins, nitrification and denitrification), aerated digesters, coagulation, tertiary filtration, Ultraviolet Light disinfection, and biosolids treatment facilities. Pond 1 and Pond 2 provide influent flow equalization and oxidation of organic material. The equalization ponds have a combined capacity of approximately 4.6 million gallons (MG). Ponds 1 and 2 are lined. The storage reservoir (Pond 3) is lined (see section A.5 below for further discussion). Prior to lining, the storage reservoir was estimated to have an approximate storage capacity of 64 million gallons at two feet of freeboard. After lining, the storage reservoir capacity is smaller. The

[2] Median household income of $48,752 per year, as found in State Water Resources Control Board ("State Water Board") staff report for CWSRF Project C-06-7806-110.

Discharger must submit a recalculation of the storage capacity of the lined storage reservoir in April 2014 as required in CDO R5-2011-0097.

The pond system is designed to cascade. There are pipes connecting Pond 1 to Pond 2, and Pond 2 to Pond 3. So when Pond 1 fills it reaches the overflow pipe, sending any additional water to Pond 2, which then reaches the overflow pipe sending any additional water to Pond 3. The water in Ponds 1 and 2 is never within 2 feet of overflowing to the environment.

Pond 3 was constructed by building an earthen dam across the floor of a ravine and was not lined. The Discharger collected all known sources of seepage and returned the water to the reservoir. Cease and Desist Order R5-2011-0097 required the Discharger to cease all seepage discharges to surface water, and allowed the Discharger until 1 October 2012 to comply. The Discharger installed a high density polyethylene lining in Pond 3 by the end of November 2012 and completed all phases of the lining project in January 2013. The Pond 3 dam is classified as a jurisdictional dam by the California Department of Water Resources Division of Safety of Dams.

Due to the low alkalinity of the City water supply, when the treatment plant was first brought online, the nitrification was found to be unstable. The ammonia effluent concentrations were not consistently within the effluent limitations. In March 2010, an alkalinity adjustment structure was installed and began feeding magnesium hydroxide. Since the alkalinity control began, the nitrification has proven quite stable. The chemical adjustment is a necessary part of the treatment plant operation.

Screenings and solids are aerobically digested before being dewatered using a belt filter press. The resultant sludge is hauled away for disposal at a Landfill and the centrate is returned back to the influent pump station for treatment. Biosolids are stored within waterproof containers and disposed off-site at a landfill.

2. **Rain Gauges/Water Balance.** Previous water balance calculations have used the Western Regional Climate Center (WRCC) gauge near I-80. Additionally, National Oceanic and Atmospheric Administration (NOAA) maintains a weather station near the WRCC gauge, station “CFX”. The Discharger investigated the accuracy of WRCC and NOAA rain gauges used by the Discharger in past water balance evaluations of WWTP and Pond 3. The Discharger confirmed that the WRCC and NOAA “CFX” sites located close to Interstate 80 in Colfax were not accurately reporting the significant rainfall in and around the WWTP and storage reservoir due to significant blockage from trees/cover, which detrimentally affected previous efforts by the Discharger to predict and control flows into the storage reservoir. The NOAA “CFC” began operation in November 2005 being operated November through April and located at the WWTP adjacent to the dam at the storage reservoir. The precipitation measured at CFC, which is considered the more accurate rain gage, is consistently greater than the measurements at the other two gages. Starting in 2010 the CFC site is now operated year round, and provides the

basis for current efforts, and will result in more reliable assumptions and operations.

Since Pond 3 is now lined, no seepage should enter Pond 3 and no wastewater should seep out of Pond 3 and thus dam seepage (spring water) should no longer need to be collected and returned for treatment. In a letter dated 16 November 2012, the Discharger requested that they be allowed to discontinue collection of seepage at the base of the dam. In a letter dated 7 January 2013, the Executive Officer approved the Discharger's request to discontinue collection of seepage water at the base of the dam. As required in Cease and Desist Order R5-2011-0097, the Discharger must submit a new water balance for the facility and storm capacity assessment in April 2014.

3. **Collection System Repair.** The Discharger completed a collection system repair, replacement, and rehabilitation project in 2011 as required by Cease and Desist Order R5-2011-0097. The Discharger completed smoke testing, closed circuit television inspections, repaired, replaced, or rehabilitated 7,475 linear feet of collection system, rehabilitated 11 sewer manholes, and upgraded four pump stations. The Discharger plans ongoing repair, replacement, and rehabilitation of an additional 10,182 linear feet of collection system, and rehabilitation of approximately 100 manholes. This work is expected to be complete in 2014.

   With regard to reducing I/I: CDO R5-2011-0097 requires the Discharger to rehabilitate its collection system, implement its private lateral program (Ordinance No. 499), submit annual progress reports, and evaluate the magnitude of I/I reduction by 1 May 2014. Also, CDO R5-2011-0097 requires; if the Discharger's I/I peak factor remains significantly greater than what US EPA considers acceptable, then the Discharger shall (a) evaluate whether it is more cost effective to continue to rehabilitate the sewer collection system or to increase the storage and treatment capacity of the wastewater treatment facility, (b) describe which option the Discharger will pursue, and (c) provide a proposed schedule for financing, design, and construction.

4. **Wastewater Treatment Plant Stress Tests.** Cease and Desist Order R5-2011-0097 "*allows the City to conduct the stress tests, and if the City can support a higher flow rate, allows the Executive Officer to authorize it after the City makes upgrades to its pumps. It is anticipated that this higher flow rate would also be reflected in the revised NPDES permit, which is scheduled for adoption in late 2012 or early 2013.*"

   The Discharger conducted stress tests of the Facility from January to April 2012. Three different assessments were performed on the Facility. Each assessment identified the clarifiers and Ultraviolet Light Disinfection as the limiting components to potential flow through the system. According to the Discharger, they increased the effluent flow to 0.80 mgd without any major hydraulic or treatment issues and there were no major effluent quality issues with flows up to 0.80 mgd.

The Discharger installed two upgraded influent pumps on 18 May 2012, each with a 1.2 mgd capacity.

In the Discharger's 2012 Second Quarter Progress Report dated 30 July 2012, the Discharger requested that the "engineered wet weather design flow" be "*officially increased to 0.8 mgd*". Subsequently, in a letter dated 8 August 2012, the Executive Officer approved "*the request to increase the engineered wet weather design flow rate to 0.8 mgd.*"

5. **Draining and Lining of Pond 3.** During the spring and early summer of 2012, the Discharger was able to completely drain Pond 3 (Storage Reservoir). During the summer, fall, and early winter of 2012, the Discharger prepared the pond surface and installed a high density polyethylene liner. The lining is intended to prevent infiltration and inflow of groundwater into the pond and passage of wastewater out of the pond as seepage. The Discharger is no longer required to capture and treat seepage. A new water balance is necessary now that Pond 3 is lined to determine whether there is enough capacity to contain all wastewater plus storm flows. CDO R5-2011-0097 requires submittal of a Storage Capacity Evaluation Report by 30 April 2014, which should provide the necessary water balance information.

   This order requires monitoring of the existing groundwater monitoring wells to determine whether the lining of the storage reservoir has reduced/eliminated contamination in the groundwater. After one year of quarterly monitoring the discharger shall submit a groundwater assessment report as described in Section VI.C.2.d of this Order.

6. **May/June 2012 Plant Upset.** On 15 May 2012, a discharge to the Facility by an industrial discharger caused a plant upset. The Discharger was able to get the Facility back to proper operating status by early July 2012. The plant upset was evidenced primarily by discharges of high ammonia concentrations between late May and early July 2012. The effluent ammonia concentrations exceeded the effluent limitations for over a month. The maximum effluent concentration during the upset period was 11.7 mg/L and the maximum ammonia concentration at the downstream receiving water monitoring point was 7.46 mg/L. Aside from the plant upset, the downstream receiving water has met the ammonia criteria.

   Federal regulations, 40 CFR 403 requires facilities with design flow greater than 5 mgd to have a Pretreatment Program in place. 40 CFR 403 allows the Central Valley Water Board to impose a pretreatment program on facilities that discharge less than 5 mgd, where necessary. The Facility has a design flow of 0.5 mgd and is not required to have a Pretreatment Program. The City of Colfax has the ability to regulate industrial dischargers through the municipal code and has done so in this case. This Order does not require the City to have a Pretreatment Program as defined by 40 CFR 403. This Order contains a provision so that this Order can be reopened to impose pretreatment requirements for the City of Colfax if the Central Valley Water Board determines that future plant upsets and/or effluent limitation

violations indicate that a Pretreatment Program in accordance with 40 CFR 403 is necessary to control industrial user site-specific discharges.

B. Discharge Points and Receiving Waters

1. The Facility is located in Section 11, T14N, R9E, MDB&M, as shown in Attachment B, a part of this Order.

2. Treated municipal wastewater is discharged at Discharge Point No. 001 to an unnamed tributary of Smuthers Ravine, a water of the United States and tributary to the North Fork of the American River (via Smuthers Ravine and Bunch Canyon) at a point latitude 39° 04' 44.5" N and longitude 120° 56' 21.5" W. (The Discharge Point 001 position was calibrated correctly from the latitude and longitude shown in previous Order R5-2007-0130, latitude 39° 04' 30" N and longitude 120° 56' 30" W.)

3. The confluence of the unnamed tributary of Smuthers Ravine with Smuthers Ravine is approximately 1,000 feet downstream of the discharge point, while the confluence of Smuthers Ravine with Bunch Canyon is approximately two miles downstream of the discharge point. The confluence of the North Fork American River is approximately 6 miles from the discharge point. Smuthers Ravine is an ephemeral stream; Bunch Canyon and the North Fork American River are perennial streams that support aquatic life year round.

Most of the City of Colfax is located on the southeast side of a mountain ridge. Storm water runoff from this portion of the City of Colfax discharges to Bunch Canyon, which discharges into the North Fork of the American River. The storm water runoff, within the city limits that are on the northwest side of the ridge, ultimately makes its way to the Bear River which is a tributary of the Feather River.

4. The existing upstream monitoring point (RSW-001U) is located approximately 500 feet upstream of the discharge point on the unnamed tributary of Smuthers Ravine. The existing upstream monitoring point is in a location where the unnamed tributary is an ephemeral segment at the headwaters that is predominately dry year round except for stormwater runoff. Approximately 100 feet upstream of the Discharge Point, the unnamed tributary contains water most of the time fed by a natural spring. At the downstream monitoring point (RSW-002D) approximately 100 feet downstream of the discharge point, the unnamed tributary of Smuthers Ravine is effluent-dominated, except under storm conditions. Previous Order R5-2007-0130 contained a monitoring point approximately 500 feet upstream of the discharge point (RSW-001U) on the unnamed tributary of Smuthers Ravine; however, because this upstream monitoring point was dry most of the time, very few water samples were collected from the small segment located at the head of the unnamed tributary of Smuthers Ravine. Therefore, very few (e.g. one hardness result of 31 mg/L) upstream receiving water monitoring results were available for review during the analysis of the monitoring data and determination of effluent limitations.

5. Receiving water monitoring is implemented in NPDES permits to determine ambient water quality conditions, compliance with Basin Plan Objectives, and that its Beneficial Uses are protected. As explained, Previous Order R5-2007-0130 contained a monitoring location upstream of the discharge point located in a small segment at the head of the unnamed tributary that was dry during most sampling events under the duration of the permit. Consequently, staff has moved the upstream monitoring point (RSW-001U) to approximately 100 feet upstream of the discharge point, where there is flowing water nearly year round; in dry years it may go dry also.

6. Smuthers Ravine and its unnamed tributary are tributaries to the North Fork of the American River (source to Folsom Lake) via Bunch Canyon and are located in the North Fork American Hydrologic Area of the American River Hydrologic Unit of the Sacramento Hydrologic Basin.

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

Effluent limitations/Discharge Specifications contained in Order R5-2007-0130 for discharges from Discharge Point No. 001 (Monitoring Location EFF-001) and representative monitoring data from 1 January 2009 through 31 December 2011 are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation							Monitoring Data (From Jan 2009 To Nov 2012)
		Yearly Ave.	Monthly Ave.	7-Day Ave.	7-Day Median	4-Day Ave.	1-Hour Ave.	Max. Daily	Highest Daily Discharge
Aluminum	µg/L	--	71	--	--	--	--	143	82.2
Ammonia	mg/L	--	0.8	--	--	--	--	2.1	11.7
Bis (2-ethylhexyl) phthalate	µg/L	--	1.8	--	--	--	--	3.6	5.3 DNQ
BOD	mg/L	--	10	15	--	--	--	25	10
Chlorine Residual	mg/L	--	--	--	--	0.01	0.02	--	0.48 [1]
Copper	µg/L	--	2.7	--	--	--	--	5.5	13.1 [2]
Cyanide	µg/L	--	4.3	--	--	--	--	8.5	5
EC	µmhos/cm	--	700	--	--	--	--	--	761 [3]
Flow	mgd	--	--	--	--	--	--	--	0.6
Iron	µg/L	300	--	--	--	--	--	--	26 ave/yr
Hardness	mg/L	--	--	--	--	--	--	--	35
Manganese	µg/L	50	--	--	--	--	--	--	24 ave/yr
Nitrate	mg/L	--	10	--	--	--	--	--	11.2
Settleable Solids	mL/L-hr	--	0.1	--	--	--	--	0.2	0.05
Total Coliform Organisms	MPN/100 mL	--	23	--	2.2	--	--	240	1600

Parameter	Units	Effluent Limitation							Monitoring Data (From Jan 2009 To Nov 2012)
		Yearly Ave.	Monthly Ave.	7-Day Ave.	7-Day Median	4-Day Ave.	1-Hour Ave.	Max. Daily	Highest Daily Discharge
TSS	mg/L	--	10	15	--	--	--	25	5
Turbidity	NTU	--	--	--	--	--	--	--	10

1. See Fact Sheet section IV.C.3.d for further discussion of chlorine residual.
2. See Fact Sheet section IV.C.3.b. for further discussion of copper.
3. See Fact Sheet section IV.C.3.b. for further discussion of salinity/EC.

D. Compliance Summary

1. The Central Valley Regional Water Quality Control Board (Central Valley Water Board) issued Administrative Civil Liability (ACL) Order No. R5-2008-0534 on 10 September 2008 which proposed to assess an administrative civil liability of $234,000 against the Discharger for 24 Group I violations, 9 Group II violations, and 45 non-serious violations subject to mandatory penalties from 1 April 2003 through 31 December 2007. The constituents that were in violation included BOD, pH, TSS, total coliform organisms, and chlorine residual. The Discharger completed a compliance project in lieu of paying the fine.

2. The Central Valley Water Board issued ACL Order No. R5-2011-0096 on 2 December 2011 which proposed to assess an administrative civil liability of $165,000 against the Discharger for 9 Group I violations, 22 Group II violations, and 24 non-serious violations subject to mandatory penalties from 1 January 2008 through 30 June 2011. The constituents that were in violation under the old treatment plant included aluminum, pH, mercury, chlorine residual, and manganese. The constituents that were in violation under the new treatment plant included bis(2-ethylhexyl)phthalate, copper, total coliform organisms, cyanide, and turbidity. The Discharger paid a penalty of $12,000 and applied the remainder to compliance projects. See Fact Sheet section IV.C.3.b below for discussions of the constituents.

3. The Central Valley Water Board issued ACL Order No. R5-2013-0500 on 7 January 2013 which proposed to assess an administrative civil liability of $33,000 against the Discharger for 6 Group II violations and 5 non-serious violations subject to mandatory penalties from 1 July 2011 through 30 September 2012. The constituents that were in violation included ammonia, bis(2-ethylhexyl)phthalate, copper, mercury, total coliform organisms, and turbidity. The Discharger paid a penalty of $14,020 and applied the remainder to compliance projects. See Fact Sheet section IV.C.3.b below for discussions of the constituents.

4. During the term of Order R5-2007-0130, there were three Cease and Desist Orders (CDO's); CDO R5-2007-0131, CDO R5-2010-0001, and CDO R5-2011-0097.

CDO Number	Adopted	Rescinded
R5-2007-0131	25 October 2007	28 January 2010
R5-2010-0001	28 January 2010	2 December 2011
R5-2011-0097	2 December 2011	In effect
R5-2013-XXXX	XX XXXXX 2013	In effect

5. CDO R5-2011-0097 requires the following submittals:

Due Date	Description
30 April 2013	First Quarter 2013 Progress Report - 2012-2013 Collection System I/I Reduction Report
30 July 2013	Second Quarter 2013 Progress Report
30 September 2013	Third Quarter 2013 Progress Report
30 January 2014	Fourth Quarter 2013 Progress Report, including: - documentation of full compliance with copper effluent limit
30 April 2014	First Quarter 2014 Progress Report, including - Final Collection System I/I Reduction Report - Storage Capacity Evaluation Report
Quarterly	Continuing Progress Reports until Order is rescinded

6. CDO R5-2013-XXXX requires the following submittals and due dates:

Due Date	Description
30 January 2014	Pollution Prevention Plan for arsenic
30 January 2015	Annual 2014 Progress Report
30 January 2016	Annual 2015 Progress Report
9 December 2016	Comply with Final Effluent Limitations for arsenic
30 January 2017	Annual 2016 Progress Report, including: - documentation of full compliance with arsenic effluent limit
Annually	By 30 January, Continuing Progress Reports until Order is rescinded

E. Planned Changes

The Discharger is continuing the process of investigating and repairing the collection system to reduce infiltration and inflow into the system.

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.

C. State and Federal Regulations, Policies, and Plans

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

   a. *Water Quality Control Plan, Fourth Edition (Revised October 2011), for the Sacramento and San Joaquin River Basins* (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.I 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.D.4.), the discharge is consistent with the antidegradation provisions of 40 CFR section 131.12 and State Water Resources Control Board (State Water Board) Resolution 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.D.3).

7. Emergency Planning and Community Right to Know Act

Section 13263.6(a) of the Water Code, requires that "*the Regional Water Board shall prescribe effluent limitations as part of the waste discharge requirements of a POTW for all substances that the most recent toxic chemical release data reported to the state emergency response commission pursuant to Section 313 of the Emergency Planning and Community Right to Know Act of 1986 (42 U.S.C. Sec. 11023) (EPCRA) indicate as discharged into the POTW, for which the State Water Board or the Regional Water Board has established numeric water quality objectives, and has determined that the discharge is or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to, an excursion above any numeric water quality objective*".

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

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

8. Storm Water Requirements

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.

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.

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

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 30 November 2006 USEPA gave final approval to California's 2006 section 303(d) List of Water Quality Limited Segments. The Basin Plan includes a list of Water Quality Limited Segments (WQLS's), which are defined as "…*those sections of lakes, streams, rivers or other fresh water bodies where water quality does not meet (or is not expected to meet) water quality standards even after the application of appropriate*

limitations for point sources (40 CFR 130, et seq.)." The list of impaired water bodies is known as the CWA section 303(d) list.

1. The unnamed tributary of Smuthers Ravine, Smuthers Ravine, and Bunch Canyon, are not listed on the 303(d) list of impaired water bodies.

2. The North Fork of the American River is on the 303(d) list of impaired water bodies for mercury. The State Water Board and the nine Regional Water Boards are developing a statewide mercury TMDL program for mercury-impaired reservoirs. In addition, the State Water Board is developing statewide fish tissue objectives for mercury and an associated implementation program to achieve the objectives. Currently, no TMDL is scheduled for the North Fork of the American River; however, these programs may have future mercury requirements for dischargers. Effluent limits for mercury are not included in this Order.

E. Other Plans, Policies and Regulations

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

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

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

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

The storage reservoir was dewatered and a high density polyethylene lining was installed by the end of November 2012. The facility has three groundwater monitoring wells on-site to determine if the underlying groundwater is impacted by the Facility. However, groundwater monitoring well RGW-002 is dry year-round, and therefore has provided no recent information about the quality of the groundwater. This Order requires monitoring of the two remaining groundwater monitoring wells to determine if the liner properly protects the underlying groundwater. Additionally, this Order contains a narrative groundwater limitation to protect beneficial uses.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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

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

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 CFR 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR 122.44(d) requires that permits include WQBELs to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where numeric water quality objectives have not been established. The Basin Plan at page IV-17.00, contains an implementation policy, "*Policy for Application of Water Quality Objectives*", that specifies that the Central Valley Water Board "*will, on a case-by-case basis, adopt numerical limitations in orders which will implement the narrative objectives*." This Policy complies with 40 CFR 122.44(d)(1). With respect to narrative objectives, the Central Valley Water Board must establish effluent limitations using one or more of three specified sources, including: (1) USEPA's published water quality criteria, (2) a proposed state criterion (i.e., water quality objective) or an explicit state policy interpreting its narrative water quality criteria (i.e., the Central Valley Water Board's "*Policy for Application of Water Quality Objectives*")(40 CFR 122.44(d)(1)(vi)(A), (B) or (C)), or (3) an indicator parameter.

The Basin Plan includes numeric site-specific water quality objectives and narrative objectives for toxicity, chemical constituents, discoloration, radionuclides, and tastes and odors. The narrative toxicity objective states: "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life*." (Basin Plan at III-8.00) The Basin Plan states that material

and relevant information, including numeric criteria, and recommendations from other agencies and scientific literature will be utilized in evaluating compliance with the narrative toxicity objective. The narrative chemical constituents objective states that waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. At minimum, "…*water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs)" in Title 22 of CCR.* The Basin Plan further states that, to protect all beneficial uses, the Central Valley Water Board may apply limits more stringent than MCLs. The narrative tastes and odors objective states: *"Water shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to domestic or municipal water supplies or to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses*."

A. Discharge Prohibitions

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

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

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

4. **Prohibition III.D (No inclusion of pollutant free wastewater shall cause improper operation of the Facility's systems).** This prohibition is based on CFR Part 122.41 et seq. that requires the proper design and operation of treatment facilities

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_5), total suspended solids (TSS), and pH.

2. Applicable Technology-Based Effluent Limitations

a. BOD_5 and TSS. Federal regulations, 40 CFR Part 133, establish the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for BOD_5 and TSS. Tertiary treatment is necessary to protect the beneficial uses of the receiving stream and the final effluent limitations for BOD_5 and TSS are based on the technical capability of the tertiary process. BOD_5 is a measure of the amount of oxygen used in the biochemical oxidation of organic matter. The secondary and tertiary treatment standards for BOD_5 and TSS are indicators of the effectiveness of the treatment processes. The principal design parameter for wastewater treatment plants is the daily BOD_5 and TSS loading rates and the corresponding removal rate of the system. In applying 40 CFR Part 133 for weekly and monthly average BOD_5 and TSS limitations, the application of tertiary treatment processes results in the ability to achieve lower levels for BOD_5 and TSS than the secondary standards currently prescribed; the 30-day average BOD_5 and TSS limitations have been revised to 10 mg/L, which is technically based on the capability of a tertiary system. In addition to the average weekly and average monthly effluent limitations, a daily maximum effluent limitation for BOD_5 and TSS is included in the Order to ensure that the treatment works are not organically overloaded and operate in accordance with design capabilities. 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. If 85 percent removal of BOD_5 and TSS must be achieved by a secondary treatment plant, it must also be achieved by a tertiary (i.e., treatment beyond secondary level) treatment plant. This Order contains a limitation requiring an average of 85 percent removal of BOD_5 and TSS over each calendar month. This Order requires Water Quality Based Effluent Limitations (WQBELs) that are equal to or more stringent than the secondary technology-based treatment described in 40 CFR Part 133. (See section IV.C.3.d of this Attachment for the discussion on Pathogens which includes WQBELs for BOD_5 and TSS.)

b. Flow. The Facility is designed to provide a tertiary level of treatment for up to 0.5 mgd. The Central Valley Water Board permitted the Facility in Order R5-2007-0130 to discharge up to 0.275 mgd, based on the average daily flow over three consecutive dry weather months (referred to as the average dry weather discharge flow), of tertiary level treated effluent. Therefore, this Order contains an average dry weather discharge flow effluent limit of 0.275 mgd. In a letter dated 30 July 2012, the Discharger requested an increase of the "engineered wet weather design flow" to 0.8 mgd based on a completed stress test and the requirements of CDO R5-2011-0097. In a letter dated 8 August 2012, the Executive Officer approved "the request to increase the engineered wet weather design flow rate to 0.8 mgd."

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

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

Table F-3. Summary of Technology-based Effluent Limitations

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Flow	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand (5-day @ 20 ºC)	mg/L	30	45	60	--	--	--
	lbs/day	69	103	138	--	--	--
Total Suspended Solids	mg/L	30	45	60	--	--	--
	lbs/day	69	103	138	--	--	--
ADWF [1]	mgd	--	--	--	0.275	--	--
pH	--	--	--	--	--	6.0	9.0

[1] Average dry weather flow

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. This Order contains requirements, expressed as technology equivalence requirements, more stringent than secondary treatment requirements that are necessary to meet applicable water quality standards. The rationale for these requirements, which consist of tertiary treatment or equivalent requirements, is discussed in section IV.C.3.c.xviii of this Fact Sheet.

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 on page II-1.00 states: "*Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning…*" and with respect to disposal of wastewaters states that "...*disposal of wastewaters is [not] a prohibited use of waters of the State; it is merely a use which cannot be satisfied to the detriment of beneficial uses.*"

The federal CWA section 101(a)(2), states: "*it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and*

propagation of fish, shellfish, and wildlife, and for recreation in and on the water be achieved by July 1, 1983." Federal Regulations, developed to implement the requirements of the CWA, create a rebuttable presumption that all waters be designated as fishable and swimmable. Federal Regulations, 40 CFR sections 131.2 and 131.10, require that all waters of the State regulated to protect the beneficial uses of public water supply, protection and propagation of fish, shell fish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation. Section 131.3(e), 40 CFR, defines existing beneficial uses as those uses actually attained after 28 November 1975, whether or not they are included in the water quality standards. Federal Regulation, 40 CFR section 131.10 requires that uses be obtained by implementing effluent limitations, requires that all downstream uses be protected and states that in no case shall a state adopt waste transport or waste assimilation as a beneficial use for any waters of the United States.

a. Receiving Water and Beneficial Uses. Unnamed tributary of Smuthers Ravine, Smuthers Ravine, Bunch Canyon, North Fork American River

The Basin Plan at II-2.00 states that the beneficial uses of any specifically identified water body generally apply to its tributary streams. The Basin Plan in Table II-1, Section II, does not specifically identify beneficial uses for the unnamed tributary of Smuthers Ravine, Smuthers Ravine, and Bunch Canyon, but does identify present and potential uses for the North Fork American River, to which the unnamed tributary of Smuthers Ravine, via Smuthers Ravine and Bunch Canyon, is tributary. Thus, beneficial uses applicable to the unnamed tributary of Smuthers Ravine are as follows:

Table F-4. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Unnamed tributary of Smuthers Ravine, tributary of the North Fork of the American River	Existing uses from Table II-1 of the Basin Plan: Municipal and domestic supply (MUN); Agricultural supply, including irrigation (AGR); Water contact recreation, including canoeing and rafting (REC-1); Non-contact water recreation (REC-2); Cold freshwater habitat (COLD); Spawning, reproduction, and/or early development, cold (SPWN); and Wildlife habitat (WILD). Potential uses from Table II-1 of the Basin Plan: Warm freshwater habitat (WARM)
	Groundwater	Existing uses from the Basin Plan: Municipal and domestic supply (MUN); Agricultural supply (AGR); Industrial process supply (PROC); and Industrial service supply (IND).

b. Effluent and Ambient Background Data. A new package treatment plant was in place and on line by 1 January 2009. All data provided in the self-monitoring reports before that date reflects the status of the old nonexistent treatment facility. Therefore the reasonable potential analysis (RPA), as described in section IV.C.3 of this Fact Sheet, was based on effluent data from 1 January 2009 through 30 November 2012 for aluminum, bis(2-ethylhexyl)phthalate, chlorine residual, copper, cyanide, iron, manganese, mercury, persistent chlorinated hydrocarbon pesticides, settleable solids, and salinity. Data between 1 January 2009 and 31 December 2011 was used for the remainder of the constituents where the data was sufficient to determine the reasonable potential of the constituent. The receiving water (the unnamed tributary of Smuthers Ravine) was dry upstream of the discharge point on the dates of data collection, therefore, ambient background data was not collected for CTR constituents.

Treated municipal wastewater is discharged at Discharge Point No. 001 to an unnamed tributary of Smuthers Ravine, a water of the United States and tributary to the North Fork of the American River at a point latitude 39° 04’ 44.5” N and longitude 120° 56’ 21.5” W. The confluence of the unnamed tributary of Smuthers Ravine with Smuthers Ravine is approximately one mile downstream of the discharge point, while the confluence of Smuthers Ravine with Bunch Canyon is approximately two miles downstream of the discharge point. Smuthers Ravine is also an ephemeral stream; Bunch Canyon is a perennial stream that supports aquatic life year round.

The upstream monitoring point (RSW-001U) described in previous Order R5-2007-0130 is located approximately 500 feet upstream of the discharge point on the unnamed tributary of Smuthers Ravine where it is an ephemeral segment at the headwaters. Because the upstream monitoring point was dry most of the time, very few upstream receiving water monitoring results were available for review during the analysis of the monitoring data and determination of effluent limitations. Where samples were collected, they occurred during the winter and/or spring months during wet seasons. At the previous location of RSW-001U, 43 of 208 weekly samples were collected for analysis of pH, EC, temperature, DO, and turbidity. Five samples were collected for analysis of chloride and total coliform organisms. Hardness was analyzed once at 31 mg/L $CaCO_3$. Ammonia was analyzed 33 times. No samples were analyzed for any other constituents, including CTR constituents.

At the downstream monitoring point (RSW-002D) approximately 100 feet downstream of the discharge point, the unnamed tributary of Smuthers Ravine is effluent-dominated. Up to 208 samples were analyzed at the downstream monitoring point (RSW-002D) for pH, EC, temperature, chloride, DO, turbidity, total coliform, and ammonia. However, only two samples were analyzed for hardness, with one hardness concentration reported at 29 mg/L. No samples were analyzed for CTR constituents.

Receiving water monitoring is implemented in NPDES permits to determine ambient water quality conditions, compliance with Basin Plan Objectives, and that the receiving water Beneficial Uses are protected. Previous Order R5-2007-0130 contained a monitoring location 500 feet upstream of the discharge point that was dry during most sampling events under the duration of the permit. Approximately 100 feet upstream of the discharge point, there is flowing water almost year round that is spring-fed. In the past, this monitoring point was possibly impacted by seepage from the storage reservoir. However, with the lining of the storage reservoir, the risk of seepage impacts has been greatly reduced. Monitoring at this point should provide a better dataset, and therefore, Board staff has moved the upstream monitoring point to a location approximately 100 feet upstream of the discharge point.

c. **Assimilative Capacity/Mixing Zone –** The Regional Water Board finds that based on the available information and on the Discharger's application, that the unnamed tributary of Smuthers Ravine, absent the discharge, is an ephemeral stream. Smuthers Ravine itself is an ephemeral stream, absent the discharge. Perennial conditions are first encountered downstream of the discharge in Bunch Canyon. The ephemeral nature of the unnamed tributary of Smuthers Ravine and Smuthers Ravine means that the designated beneficial uses must be protected, but that no credit for receiving water dilution is available. Although the discharge, at times, maintains the aquatic habitat, constituents may not be discharged that may cause harm to aquatic life. At other times, natural flows within the unnamed tributary of Smuthers Ravine and in Smuthers Ravine help support aquatic life. Both conditions may exist within a short time span, where the unnamed tributary of Smuthers Ravine and Smuthers Ravine would be dry without the discharge and periods when sufficient background flows provide hydraulic continuity with the North Fork of the American River (source to Folsom Lake). Dry conditions occur primarily in the summer months, but dry conditions may also occur throughout the year, particularly in low rainfall years. The lack of dilution results in more stringent effluent limitations to protect contact recreational uses, drinking water standards, agricultural water quality goals and aquatic life. Significant dilution may occur during and immediately following high rainfall events. The impact of assuming zero assimilative capacity within the receiving water is that discharge limitations are end-of-pipe limits with no allowance for dilution within the receiving water.

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

e. **Hardness-Dependent CTR Metals Criteria.** The *California Toxics Rule* and the *National Toxics Rule* contain water quality criteria for seven metals that vary as a function of hardness. The lower the hardness, the lower the water quality

criteria. The metals with hardness-dependent criteria include cadmium, copper, chromium III, lead, nickel, silver, and zinc.

This Order has established the criteria for hardness-dependent metals based on the reasonable worst-case ambient hardness as required by the SIP[3], the CTR[4] and State Water Board Order No. WQO 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 WQO 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[5]. 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 Reasonable Potential Analysis (RPA). The SIP in Section 1.3 states, "The RWQCB shall…determine whether a discharge may: (1) cause, (2) have a reasonable potential to cause, or (3) contribute to an excursion above any applicable priority pollutant criterion or objective." Section 1.3 provides a step-by-step procedure for conducting the RPA. The procedure requires the comparison of the Maximum Effluent Concentration (MEC) and Maximum Ambient Background Concentration to the applicable criterion that has been properly adjusted for hardness. Unless otherwise noted, for the hardness-dependent CTR metals criteria the following procedures were followed for properly adjusting the criterion for hardness when conducting the RPA.

[3] 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.

[4] The CTR requires that, for waters with a hardness of 400 mg/L (as $CaCO_3$), or less, the actual ambient hardness of the surface water must be used. It further requires that the hardness values used must be consistent with the design discharge conditions for design flows and mixing zones.

[5] All effluent discharges will change the ambient downstream metals concentration and hardness. It is not possible to change the metals concentration without also changing the hardness.

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

b) The SIP requires WQBELs if the receiving water is impaired upstream (outside the influence) of the discharge, i.e., if the Maximum Ambient Background Concentration of a pollutant exceeds the applicable criterion, adjusted for hardness[6]. For comparing the Maximum Ambient Background Concentration to the applicable criterion, the reasonable worst-case upstream ambient hardness was used to adjust the criteria. This is appropriate, because this area is outside the influence of the discharge. Since the discharge does not impact the upstream hardness, the effect of the effluent hardness was not included in this evaluation.

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

A 2006 Study[7] developed procedures for calculating the effluent concentration allowance (ECA)[8] 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

[6] The pollutant must also be detected in the effluent.
[7] 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.
[8] 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.

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[9], is as follows:

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

Where:

H = hardness (as $CaCO_3$)[10]
WER = water-effect ratio
m, b = metal- and criterion-specific constants

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

The equation for the ECA is defined in Section 1.4, Step 2, of the SIP and is as follows:

$$\text{ECA} = C \qquad (\text{when } C \leq B)^{11} \qquad \text{(Equation 2)}$$

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

[9] 40 CFR § 131.38(b)(2).
[10] For this discussion, all hardness values are in mg/L as $CaCO_3$.
[11] The 2006 Study assumes the ambient background metals concentration is equal to the CTR criterion (i.e. C ≤ B)

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[12]. 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)[13]. Consequently, for Concave Down Metals, the CTR criteria have been calculated using the downstream ambient hardness under this condition.

A new package treatment plant was in place and on line by 1 January 2009. The effluent hardness ranged from 35 mg/L to 264 mg/L, based on 40 samples from January 2009 to December 2011. Five hundred feet upstream of the discharge point, at former monitoring point RSW-001U, the unnamed tributary of Smuthers Ravine is ephemeral. Only one hardness sample (31 mg/L) was collected upstream of the discharge point at former monitoring point RSW-001U. Two samples from the monitoring point downstream of the Discharge point (RSW-002D) were analyzed for hardness. The hardness values were 29 mg/L and 125 mg/L. Under the effluent dominated condition, the reasonable worst-case downstream ambient hardness is 35 mg/L. As demonstrated in the example shown in Table F 4, 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 nickel assumes the following conservative conditions for the upstream receiving water:

- Upstream receiving water <u>always</u> at the lowest observed upstream receiving water hardness (i.e., 31 mg/L)
- Upstream receiving water nickel concentration <u>always</u> at the CTR criteria (i.e., no assimilative capacity).

[12] 2006 Study, p. 5700

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

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.

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

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 nickel, for any receiving water flow condition (high flow to low flow), the fully-mixed downstream ambient nickel concentration is in compliance with the CTR criteria.[14].

Table F-4: Nickel ECA Evaluation

Lowest Observed Effluent Hardness	**35 mg/L (as $CaCO_3$)**
Lowest Observed Upstream Receiving Water Hardness	**31 mg/L (as $CaCO_3$)**
Highest Assumed Upstream Receiving Water Nickel Concentration	**19.4 µg/L[1]**
Nickel $ECA_{chronic}$[2]	**21.5 µg/L**

Effluent Fraction[6]		**Fully Mixed Downstream Ambient Concentration**			
		Hardness[3] (mg/L)	**CTR Criteria[4] (µg/L)**	**Nickel[5] (µg/L)**	**Complies with CTR Criteria**
High Flow	1%	31.04	19.4	19.4	**Yes**
	5%	31.2	19.5	19.5	**Yes**
	15%	31.6	19.7	19.7	**Yes**
	25%	32	19.9	19.9	**Yes**
	50%	33	20.4	20.4	**Yes**
	75%	34	20.9	20.9	**Yes**
Low Flow	100%	35	21.5	21.5	**Yes**

1 Highest assumed upstream receiving water nickel concentration calculated using Equation 1 for chronic criterion at a hardness of **31 mg/L**.

2 ECA calculated using Equation 1 for chronic criterion at a hardness of **35 mg/L**.

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

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

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

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

[14] 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-4 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.

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-5).

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

Where:

m, b = criterion specific constants (from CTR)

H_e = lowest observed effluent hardness

H_{rw} = reasonable worst-case upstream receiving water hardness

An example similar to the Concave Down Metals is shown for lead**,** a Concave Up Metal, in Table F-5, below. The effluent hardness ranged from 35 mg/L to 264 mg/L, based on 40 samples from January 2009 to December 2011. Only one hardness sample (31 mg/L) was collected upstream of the discharge point. Two samples from the monitoring point on the unnamed tributary of Smuthers Ravine downstream of the Discharge point were analyzed for hardness. The hardness values were 29 mg/L and 125 mg/L. In this case, the reasonable worst-case upstream receiving water hardness to use in Equation 4 to calculate the ECA is 31 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-5, for lead.

Table F-5: Lead ECA Evaluation

Lowest Observed Effluent Hardness					**35 mg/L**
Reasonable Worst-case Upstream Receiving Water Hardness					**31 mg/L**
Reasonable Worst-case Upstream Receiving Water Lead Concentration					**0.72 µg/L[1]**
Lead $ECA_{chronic}$[2]					**0.84 µg/L**
Effluent Fraction[6]		**Fully Mixed Downstream Ambient Concentration**			
		Hardness[3] (mg/L) (as $CaCO_3$)	**CTR Criteria[4] (µg/L)**	**Lead[5] (µg/L)**	**Complies with CTR Criteria**
High Flow	1%	31.04	0.72	0.72	**Yes**
	5%	31.2	0.72	0.72	**Yes**
	15%	31.6	0.73	0.73	**Yes**
	25%	32	0.75	0.75	**Yes**
	50%	33	0.78	0.78	**Yes**
Low Flow	75%	34	0.81	0.81	**Yes**
	100%	35	0.84	0.84	**Yes**

1 Reasonable worst-case upstream receiving water lead concentration calculated using Equation 1 for chronic criterion at a hardness of **31 mg/L**.

2 ECA calculated using Equation 4 for chronic criteria.

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

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

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

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

Based on the procedures discussed above, Table F-6 lists all the CTR hardness-dependent metals and the associated ECA used in this Order.

Table F-6. Summary of ECA Evaluations for CTR Hardness-dependent Metals

CTR Metals	ECA (µg/L, total recoverable)	
	acute	chronic
Copper	44.6	32.6
Chromium III	760	36
Cadmium	1.38	1.12
Lead	21.4	0.83
Nickel	150	21.5
Silver	0.66	--
Zinc	49	49

3. Determining the Need for WQBELs

a. In this Order the RPA procedures from the SIP section 1.3 were used to evaluate reasonable potential for CTR/NTR constituents based on information submitted as part of the application, in studies, and as directed by monitoring and reporting programs. Non-CTR constituents were evaluated on an individual basis and are described below.

Estimated concentrations (J-Flags or DNQ) are not quantifiable but do confirm the presence of a substance below the analytical method's minimum level. These analytical results (DNQ) are not sufficient to determine whether the discharge demonstrates reasonable potential to cause or contribute to an instream excursion above a water quality criterion. As described below, for the applicable constituents, DNQ data was considered in the RPA but was not used to establish effluent limitations because concentration are not quantifiable.

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. Additionally, Section 2.4 of the SIP allows the Central Valley Water Board to require in the permit that the discharger shall report the Reporting Level (RL) selected from the MLs listed in Appendix 4 of the SIP. Data that did not meet the MLs specified in the SIP for CTR constituents, or analytical methods not recommended by the USEPA in 40 CFR 136, was not used in the reasonable potential analysis. Therefore, this Order contains requirements for the Discharger to instruct the laboratories to achieve or continue to achieve specified Reporting Levels (see Attachment I).

b. Constituents with No Reasonable Potential. WQBELs are not included in this Order for constituents that do not demonstrate reasonable potential (e.g. constituents were not detected in the effluent or receiving water), including aluminum, bis (2-ethylhexyl) phthalate, copper, cyanide, iron, mercury, settleable solids, and salinity; however, monitoring for these 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.

Based on available data, the following constituents of concern were found to have no reasonable potential after assessment of the data. See Attachment G for a summary of the results of the reasonable potential analysis.

i. Aluminum. Aluminum is the third most abundant element in the earth's crust and is ubiquitous in both soils and aquatic sediments. When mobilized in surface waters, aluminum has been shown to be toxic to various fish species. However, the potential for aluminum toxicity in surface waters is directly related to the chemical form of aluminum present, and the chemical form is highly dependent on water quality characteristics that ultimately determine the mechanism of aluminum toxicity. Surface water characteristics, including pH, temperature, colloidal material, fluoride and sulfate concentrations, and total organic carbon, all influence aluminum speciation and its subsequent bioavailability to aquatic life. Calcium [hardness] concentrations in surface water may also reduce aluminum toxicity by competing with monomeric aluminum (Al^{3+}) binding to negatively charged fish gills.

(a) WQO. The Code of Federal Regulations promulgated criteria for priority toxic pollutants for California's surface waters as part of section 131.38 Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California (California Toxics Rule or CTR), including metals criteria. However, aluminum criteria were not promulgated as part of the CTR. Absent numeric aquatic life criteria for aluminum, WQBEL's in the Central Valley Region's NPDES permits are based on the Basin Plans' narrative toxicity objective. The Basin Plans' Policy for Application of Water Quality Objectives requires the Central Valley Water Board to consider, "*on a case-by-case basis, direct evidence of beneficial use impacts, all material and relevant information submitted by the discharger and other interested parties, and relevant numerical criteria and guidelines developed and/or published by other agencies and organizations. In considering such criteria, the Board evaluates whether the specific numerical criteria which are available through these sources and through other information supplied to the Board, are relevant and appropriate to the situation at hand and, therefore, should be used in determining compliance with the narrative objective*." Relevant information includes, but is not limited to (1) USEPA Ambient Water Quality Criteria (AWQC) and subsequent Correction, (2) site-specific conditions of the unnamed tributary of Smuthers Ravine, the

receiving water, and (3) site-specific aluminum studies conducted by dischargers within the Central Valley Region. (Basin Plan, p. IV.-17.00; see also, 40 CFR 122.44(d)(vi).)

USEPA AWQC. USEPA recommended the AWQC aluminum acute criterion at 750 µg/L based on test waters with a pH of 6.5 to 9.0. USEPA also recommended the AWQC aluminum chronic criterion at 87 µg/L based upon the following two toxicity tests. All test waters contained hardness at 12 mg/L as $CaCO_3$.

1) Acute toxicity tests at various aluminum doses were conducted in various acidic waters (pH 6.0 – 7.2) on 159- and 160-day old striped bass. The 159-day old striped bass showed no mortality in waters with pH at 6.5 and aluminum doses at 390 µg/L, and the 160-day old striped bass showed 58% mortality at a dose of 174.4 µg/L in same pH waters. However, the 160-day old striped bass showed 98% mortality at aluminum dose of 87.2 µg/L in waters with pH at 6.0, which is USEPA's basis for the 87 µg/L chronic criterion. The varied results of this study draw into question the applicability of the AWQC chronic criterion of 87 µg/L.

2) Chronic toxicity effects on 60-day old brook trout were evaluated in pH waters (6.5-6.9 pH) in five cells at various aluminum doses (4, 57, 88, 169, and 350 µg/L). Chronic evaluation started upon hatching of eyed eggs of brook trout, and their weight and length were measure after 45 days and 60 days. The 60-day old brook trout showed 24% weight loss at 169 µg/L of aluminum and 4% weight loss at 88 µg/L of aluminum, which is the basis for USEPA's chronic criteria. Though this test study shows chronic toxic effects (4% reduction in weight) after exposure for 60-days, the chronic criterion is based on 4-day exposure; so again, the applicability of the AWQC chronic criterion of 87 µg/L is questionable.

Site-specific Conditions. The discharge point is near the headwaters of the unnamed tributary of Smuthers Ravine, which is an ephemeral stream containing water only during and for a short time after precipitation events. Based on 40 effluent samples obtained between January 2009 and December 2011, the hardness ranged between 35 mg/L and 264 mg/L as $CaCO_3$. For the same period, out of 886 readings the effluent daily average pH ranged from 6.4 to 8.17. Downstream monitoring data was obtained from the unnamed tributary of Smuthers Ravine from January 2009 through December 2011; from 150 readings the pH ranged between 6.83 and 8.45. Two monitoring samples obtained during this period indicated that the receiving water hardness was 29 mg/L and 125 mg/L as $CaCO_3$.

Parameter	Units	Test Conditions for Applicability of Chronic Criterion	Effluent	Unnamed Tributary of Smuthers Ravine - Downstream
pH	standard units	6.0 – 6.5	6.4 – 8.17	6.83 – 8.45
Hardness, Total (as $CaCO_3$)	mg/L	12	35 – 264	29 – 125
Aluminum, Total Recoverable	µg/L	87.2 - 390	6.4 – 82.2	--

Local Environmental Conditions and Studies. Twenty-one site-specific aluminum toxicity tests have been conducted within the Central Valley Region. The pH and hardness of the unnamed tributary of Smuthers Ravine are similar, as shown in the table below, and thus the results of these site-specific aluminum toxicity tests are relevant and appropriate for the unnamed tributary of Smuthers Ravine. As shown in the following table, all EC_{50} toxicity study result values are at concentrations of aluminum above 5000 µg/L. Thus, the toxic effects of aluminum in surface waters within the Central Valley Region, including the unnamed tributary of Smuthers Ravine, is less toxic (or less reactive) to aquatic species than demonstrated in the toxicity tests that USEPA used for the basis of establishing the chronic criterion of 87 µg/L. This new information, and review of the toxicity tests USEPA used to establish the chronic criterion, indicates that 87 µg/L is overly stringent and not applicable to the unnamed tributary of Smuthers Ravine.

Central Valley Region Site-Specific Toxicity Data

Discharger (City)	Species	Test Waters	Hardness Value	Total Aluminum EC_{50} Value	pH	WER
Auburn	*Ceriodaphnia dubia*	Effluent	99	>5270	7.44	>19.3
	" "	Surface Water	16	>5160	7.44	>12.4
Manteca	" "	Surface Water/Effluent	124	>8800	9.14	N/C
	" "	Effluent	117	>8700	7.21	>27.8
	" "	Surface Water	57	7823	7.58	25.0
	" "	Effluent	139	>9500	7.97	>21.2
	" "	Surface Water	104	>11000	8.28	>24.5
	" "	Effluent	128	>9700	7.78	>25.0
	" "	Surface Water	85	>9450	7.85	>25.7
	" "	Effluent	106	>11900	7.66	>15.3
	" "	Surface Water	146	>10650	7.81	>13.7
Modesto	" "	Surface Water/Effluent	120/156	31604	8.96	211
Yuba City	" "	Surface Water/Effluent	114/164[1]	>8000	7.60/7.46	>53.5
Placer County	" "	Effluent	150	>5000	7.4 – 8.7	>13.7
Manteca	*Daphnia magna*	Surface Water/Effluent	124	>8350	9.14	N/C
Modesto	" "	Surface Water/Effluent	120/156	>11900	8.96	>79.6
Yuba City	" "	Surface Water/Effluent	114/164[1]	>8000	7.60/7.46	>53.5
Manteca	*Oncorhynchus mykiss* (rainbow trout)	Surface Water/Effluent	124	>8600	9.14	N/C
Auburn	" "	Surface Water	16	>16500	7.44	N/C

Discharger (City)	Species	Test Waters	Hardness Value	Total Aluminum EC_{50} Value	pH	WER
Modesto	" "	Surface Water/Effluent	120/156	>34250	8.96	>229
Yuba City	" "	Surface Water/Effluent	114/164[1]	>8000	7.60/7.46	>53.5

[1] Hardness values may be biased high because the EDTA titrimetic method is subject to interferences that measure as hardness (barium, cadmium, lead, manganese, strontium, and zinc will be measured as hardness) producing hardness numbers that are likely to be greater than the calculation of hardness based upon the ICP analysis of calcium and magnesium. Upstream receiving water hardness ranged from 30 to 50.9 mg/L as $CaCO_3$ between January 2008 and August 2011. Furthermore, the upstream receiving water hardness was 37 mg/L as $CaCO_3$ on 4 October 2005, 7 days prior to the Feasibility Assessment (first phase of a Water Effects Ratio study) sample collection date of 11 October 2005. It is likely that matrix interferences from other metals were responsible for the unexpected hardness values reported by Pacific EcoRisk.

State of California Department of Public Health (DPH) has established secondary maximum contaminant levels (MCLs) to assist public drinking water systems in managing their drinking water for aesthetic conditions such as taste, color, and odor. The secondary MCL for aluminum is 200 µg/L.

(b) RPA Results. Sixty-five effluent samples collected between January 2009 and November 2012 indicated a maximum effluent concentration for aluminum of 82.2 µg/L. In the same period, the upstream receiving water aluminum concentration was not measured because as previously stated, the unnamed tributary of Smuthers Ravine only contains water for short-periods during rain events, and therefore was likely dry. Based on this data, the discharge does not demonstrate reasonable potential to cause or contribute to an in-stream excursion above USEPA recommended AWQC acute criterion of 750 µg/L for protection of aquatic life, or above the Department of Public Health Secondary MCL of 200 µg/L for drinking water aesthetic conditions. Therefore, the discharge complies with the Basin Plan's narrative toxicity objective. Thus, WQBEL's for aluminum are not contained in this Order. Previous Order R5-2007-0130 contained effluent limitations for aluminum as an Average Monthly Effluent Limitation (AMEL) of 71 µg/L and a Maximum Daily Effluent Limitations (MDEL) of 143 µg/L. Removal of the effluent limitations is in accordance with federal anti-backsliding regulations (see section IV.D.3 of the Fact Sheet).

The discharge point is near the headwaters of the unnamed tributary of Smuthers Ravine. The upstream monitoring point RSW-001, in Previous Order R5-2007-0130, was located approximately 500 feet upstream on an ephemeral segment that contains water only during and for a short time after precipitation events. There was no water at RSW-001 on sampling dates during the term of the previous Order. Therefore measurement of upstream concentrations was not practicable or applicable during the permit cycle for this Order. In this Order, the upstream monitoring point RSW-001 has been relocated to a point that is approximately 100 feet upstream of the discharge point and contains water almost year round.

ii. Bis(2-ethylhexyl)phthalate

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

RPA Results. Between 1 January 2009 and 30 November 2012, forty-six monthly effluent samples were analyzed for bis (2-ethylhexyl) phthalate. Thirty-two of the samples had a minimum method detection limit of 0.7 µg/L or 0.9 µg/L which are below the criterion of 1.8 µg/L. The remaining 15 samples had a minimum detection level of 4.8 µg/L.

Thirty-two of the 46 analytical results did not show concentrations of bis (2-ethylhexyl) phthalate and fourteen samples were estimated by the laboratory to contain concentrations of bis (2-ethylhexyl)phthalate (J-Flags). Two of the J-Flags were estimated at concentrations exceeding the criterion. As shown in the table below, in March 2011, bis(2-ethylhexyl)phthalate was detected in the effluent at a concentration estimated to be greater than zero, up to 5.3 µg/L and in March 2012 bis(2-ethylhexyl)phthalate was detected at a concentration greater than zero, up to 3.4 µg/L. However, these two concentrations were not quantifiable and therefore, Central Valley Water Board staff could not determine if concentrations exceeded the criterion for bis(2-ethylhexyl)phthalate; these analytical results are not sufficient to determine whether the discharge demonstrates reasonable potential to cause or contribute to an instream excursion above the bis(2-ethylhexyl)phthalate water quality criterion. Based on the data set, the Central Valley Water Board determined that bis(2-ethylhexyl)phthalate in the discharge does not demonstrate reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for the protection of human health. WQBEL's for bis (2-ethylhexyl) phthalate are not contained in this Order.

Previous Order R5-2007-0130 contained effluent limitations for bis (2-ethylhexyl) phthalate as an Average Monthly Effluent Limitation (AMEL) of 1.8 µg/L and a Maximum Daily Effluent Limitation (MDEL) of 3.6 µg/L. Based on new information in the monitoring data, removal of the effluent limitations is in accordance with federal anti-backsliding regulations (see section IV.D.3 of the Fact Sheet).

Bis (2-ethylhexyl) phthalate Data

Date	Effluent (µg/L)	Method Detection Limit (µg/L)	Reporting Level (µg/L)	SIP Minimum Level (µg/L)	Criterion (µg/L)
Jan 2009	1 DNQ	4.8	5	5	1.8
Feb 2009	1 DNQ	4.8	5	5	1.8
Mar 2009	1 DNQ	4.8	5	5	1.8
Apr 2009	1 DNQ	0.9	5	5	1.8
May 2009	1 DNQ	0.9	5	5	1.8

Date	Effluent (µg/L)	Method Detection Limit (µg/L)	Reporting Level (µg/L)	SIP Minimum Level (µg/L)	Criterion (µg/L)
Jun 2009	ND	0.9	5	5	1.8
Jul 2009	ND	0.9	5	5	1.8
Aug 2009	ND	0.9	5	5	1.8
Sep 2009	ND	0.9	5	5	1.8
Oct 2009	ND	0.9	5	5	1.8
Nov 2009	ND	4.8	5	5	1.8
Dec 2009	ND	4.8	5	5	1.8
Jan 2010	ND	4.8	5	5	1.8
Feb 2010	ND	4.8	5	5	1.8
Mar 2010	ND	4.8	5	5	1.8
Apr 2010	ND	4.8	5	5	1.8
May 2010	ND	4.8	5	5	1.8
Jun 2010	ND	4.8	5	5	1.8
Jul 2010	ND	4.8	5	5	1.8
Aug 2010	ND	4.8	5	5	1.8
Sep 2010	ND	4.8	5	5	1.8
Oct 2010	ND	4.8	5	5	1.8
Nov 2010	ND	0.7	5	5	1.8
Dec 2010	ND	0.7	5	5	1.8
Jan 2011	ND	0.7	5	5	1.8
Feb 2011	ND	0.7	5	5	1.8
Mar 2011	5.3 DNQ	0.7	6	5	1.8
Apr 2011	ND	0.7	6	5	1.8
May 2011	ND	0.7	6	5	1.8
Jun 2011	ND	0.7	6	5	1.8
Jul 2011	ND	0.7	6	5	1.8
Aug 2011	ND	0.7	6	5	1.8
Sep 2011	ND	0.7	6	5	1.8
Oct 2011	ND	0.7	5	5	1.8
Nov 2011	NS	NS	NS	5	1.8
Dec 2011	ND	0.7	6	5	1.8
Jan 2012	0.8 DNQ	0.7	5	5	1.8
Feb 2012	1.2 DNQ	0.7	5	5	1.8
Mar 2012	3.4 DNQ	0.7	5	5	1.8
Apr 2012	ND	0.7	5	5	1.8
May 2012	1 DNQ	0.7	5	5	1.8
Jun 2012	ND	0.7	5	5	1.8
Jul 2012	1.4 DNQ	0.7	5	5	1.8
Aug 2012	ND	0,7	5	5	1.8
Sep 2012	0.7 DNQ	0.7	5	5	1.8
Oct 2012	0.7 DNQ	0.7	5	5	1.8
Nov 2012	1 DNQ	0.7	5	5	1.8

ND = Not Detected
NS = Not Sampled (No discharge to surface water)
DNQ = Detected but not quantified

The discharge point is near the headwaters of the unnamed tributary of Smuthers Ravine. The upstream monitoring point RSW-001, in Previous Order R5-2007-0130, was located approximately 500 feet upstream on an ephemeral segment that contains water only during and for a short time after precipitation events. There was no water at

RSW-001 on sampling dates during the term of the previous Order. Therefore measurement of upstream concentrations was not practicable or applicable during the permit cycle for this Order. In this Order, the upstream monitoring point RSW-001 has been relocated to a point that is approximately 100 feet upstream of the discharge point and contains water almost year round.

iii. Copper

(a) WQO. The CTR includes hardness dependent criteria for the protection of freshwater aquatic life for copper. Using the minimum effluent hardness of 35 mg/L as $CaCO_3$, the minimum upstream receiving water hardness of 31 mg/L as $CaCO_3$, and the default conversion factors (0.96 for acute and chronic), as described in section IV.C.2.e of this Fact Sheet, the applicable acute (1-hour average) criterion is 5.2 µg/L as $CaCO_3$ and the applicable chronic (4-day average) criterion is 3.8 µg/L as $CaCO_3$, as total recoverable.

The Discharger completed a copper Water Effects Ratio (WER) study, using the Streamlined WER Procedure for Discharges of Copper (EPA 822-R-01-005), that was submitted to the Central Valley Water Board in January 2012. The Copper WER study was approved by the Executive Officer in a letter dated 19 July 2012. The final WER study determined the site-specific dissolved copper WER to be 8.82 and the total recoverable copper WER to be 8.57.

The site-specific WER-adjusted total recoverable copper criteria are:

Adjusted CMC (acute) = 5.2 µg/L x 8.57 = 44.6 µg/L
Adjusted CCC (chronic) = 3.8 µg/L x 8.57 = 32.6 µg/L

(b) RPA Results. The Discharger collected fifty-six samples for copper analysis between 1 January 2009 and 30 November 2012. The maximum effluent concentration (MEC) for copper was 13.1 µg/L (as total recoverable), which is lower than the WER-adjusted criteria. Therefore, copper in the discharge does not demonstrate reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for the protection of freshwater aquatic life, and in accordance with section 1.3 of the SIP, WQBEL's are not required for copper. Previous Order R5-2007-0130 contained an AMEL and MDEL for total recoverable copper of 2.7 µg/L and 5.5 µg/L, respectively. This Order does not contain effluent limitations for copper. Based on the new information provided by the Copper WER study, removal of the effluent limitations is in accordance with federal anti-backsliding regulations (see section IV.D.3 of the Fact Sheet).

The discharge point is near the headwaters of the unnamed tributary of Smuthers Ravine. The upstream monitoring point RSW-001, in

Previous Order R5-2007-0130, was located approximately 500 feet upstream on an ephemeral segment that contains water only during and for a short time after precipitation events. There was no water at RSW-001 on sampling dates during the term of the previous Order. Therefore measurement of upstream concentrations was not practicable or applicable during the permit cycle for this Order. In this Order, the upstream monitoring point RSW-001 has been relocated to a point that is approximately 100 feet upstream of the discharge point and contains water almost year round.

iv. 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 total recoverable cyanide for the protection of freshwater aquatic life.

(b) RPA Results. The Discharger collected fifty samples for cyanide analysis between 1 January 2009 and 30 November 2012. The maximum effluent concentration (MEC) for cyanide was 5 µg/L (as total recoverable), which is below the criteria. Therefore, cyanide in the discharge does not demonstrate reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for the protection of freshwater aquatic life, and in accordance with section 1.3 of the SIP, WQBEL's are not required for cyanide. Previous Order R5-2007-0130 contained an AMEL and MDEL for cyanide of 4.3 µg/L and 8.5 µg/L, respectively. This Order does not contain effluent limitations for cyanide. Based on new information in the monitoring reports, removal of the effluent limitations is in accordance with federal anti-backsliding regulations (see section IV.D.3 of the Fact Sheet).

The discharge point is near the headwaters of the unnamed tributary of Smuthers Ravine. The upstream monitoring point RSW-001, in Previous Order R5-2007-0130, was located approximately 500 feet upstream on an ephemeral segment that contains water only during and for a short time after precipitation events. There was no water at RSW-001 on sampling dates during the term of the previous Order. Therefore measurement of upstream concentrations was not practicable or applicable during the permit cycle for this Order. In this Order, the upstream monitoring point RSW-001 has been relocated to a point that is approximately 100 feet upstream of the discharge point and contains water almost year round.

v. Iron

(a) WQO. The Secondary MCL – Consumer Acceptance Limit for iron is 300 µg/L, assessed as an annual average, which is used to implement the Basin Plan's chemical constituent objective for the protection of municipal and domestic supply.

(b) RPA Results. The Discharger collected sixty-five samples for iron analysis between 1 January 2009 and 30 November 2012. The maximum effluent concentration for iron was 334 µg/L, however, the maximum annual average was 66.54 µg/L in 2012, which does not exceed the criterion. Therefore, iron in the discharge does not demonstrate reasonable potential to cause or contribute to an in-stream excursion above the secondary MCL and WQBEL's are not required for iron. Previous Order R5-2007-0130 contained an annual effluent limitation of 300 µg/L for iron for the protection of municipal and domestic supply. This Order does not contain an effluent limitation for iron. Based on new information collected between January 2009 and November 2012 iron was not detected in the effluent above the applicable water quality criteria, therefore, removal of the effluent limitation is in accordance with federal anti-backsliding regulations (see section IV.D.3 of the Fact Sheet).

The discharge point is near the headwaters of the unnamed tributary of Smuthers Ravine. The upstream monitoring point RSW-001, in Previous Order R5-2007-0130, was located approximately 500 feet upstream on an ephemeral segment that contains water only during and for a short time after precipitation events. There was no water at RSW-001 on sampling dates during the term of the previous Order. Therefore measurement of upstream concentrations was not practicable or applicable during the permit cycle for this Order. In this Order, the upstream monitoring point RSW-001 has been relocated to a point that is approximately 100 feet upstream of the discharge point and contains water almost year round.

vi. Mercury

(a) WQO. The current USEPA Ambient Water Quality Criteria for Protection of Freshwater Aquatic Life, continuous concentration, for mercury is 0.77 µg/L (30-day average, chronic criteria). The CTR contains a human health criterion (based on a one-in-a-million cancer risk) of 0.050 µg/L for waters from which both water and aquatic organisms are consumed. Both values are controversial and subject to change. In 40 CFR Part 131, USEPA acknowledges that the human health criteria may not be protective of some aquatic or endangered species and that "…*more stringent mercury limits may be determined and implemented through use of the State's narrative criterion.*" In the CTR, USEPA reserved the mercury criteria for freshwater and aquatic life and may adopt new criteria at a later date.

No TMDL for mercury is scheduled for the unnamed tributary of Smuthers Ravine, Smuthers Ravine, or Bunch Canyon.

(b) RPA Results. The Discharger collected 45 methyl mercury samples and 15 total mercury samples for analysis. None of the 45 methyl

mercury samples exceeded the criteria with an MEC of 1.07 ng/L. Of the 15 total recoverable mercury samples, two were Non-Detect with MDLs of 0.02 µg/L and 0.07 µg/L and both with RLs of 0.2 µg/L. Of the remaining 13 samples, the MEC was 0.0131 µg/L. Neither the methyl mercury nor the total mercury MECs exceeded any of the mercury criteria. No TMDL is proposed for the unnamed tributary of Smuthers Ravine, Smuthers Ravine itself, or Bunch Canyon, therefore, no mercury effluent limitations are proposed in this Order. If mercury toxicity is detected or USEPA develops new water quality standards for mercury, this permit may be reopened and effluent limitations imposed.

Previous Order R5-2007-0130 contained an interim performance-based mass effluent limitation of 0.000761 lbs/month total recoverable mercury to maintain the mercury loading at the existing level until a TMDL could be established or USEPA develops mercury standards that are protective of human health. Using the ADWF of 0.275 mgd, 2.01 ng/L calculates to 0.000138 lbs/month, which does not exceed the 0.000761 lbs/month limitation. Based on new information collected between January 2009 and November 2012 total recoverable mercury and methyl mercury were not detected in the effluent above the applicable water quality criteria, therefore, removal of the interim effluent limitation for total recoverable mercury is in accordance with federal anti-backsliding regulations (see section IV.D.3 of the Fact Sheet).

The discharge point is near the headwaters of the unnamed tributary of Smuthers Ravine. The upstream monitoring point RSW-001, in Previous Order R5-2007-0130, was located approximately 500 feet upstream on an ephemeral segment that contains water only during and for a short time after precipitation events. There was no water at RSW-001 on sampling dates during the term of the previous Order. Therefore measurement of upstream concentrations was not practicable or applicable during the permit cycle for this Order. In this Order, the upstream monitoring point RSW-001 has been relocated to a point that is approximately 100 feet upstream of the discharge point and contains water almost year round.

vii. Salinity

(a) WQO. The Basin Plan contains a chemical constituent objective that incorporates state MCLs, contains a narrative objective, and contains numeric water quality objectives for certain specified water bodies for electrical conductivity, total dissolved solids, sulfate, and chloride. The USEPA Ambient Water Quality Criteria for Chloride recommends acute and chronic criteria for the protection of aquatic life. There are no USEPA water quality criteria for the protection of aquatic life for electrical conductivity, total dissolved solids, and sulfate. Additionally, there are no USEPA numeric water quality criteria for the protection of

agricultural, industrial, and livestock uses. Numeric values for the protection of these uses are typically based on site-specific conditions and evaluations to determine the appropriate constituent threshold necessary to interpret the narrative chemical constituent Basin Plan objective.

Table F-7. Salinity Water Quality Criteria/Objectives

Parameter	Secondary MCL[3]	USEPA NAWQC	Effluent	
			Average	Maximum
EC (µmhos/cm)	900, 1600, 2200	N/A	385 [2]	761
TDS (mg/L)	500, 1000, 1500	N/A	220 [2]	406
Sulfate (mg/L)	250, 500, 600	N/A	--	--
Chloride (mg/L)	250, 500, 600	860 1-hr 230 4-day	36.8	58.6

(1) Chloride. The Secondary MCL for chloride is 250 mg/L, as a recommended level, 500 mg/L as an upper level, and 600 mg/L as a short-term maximum.

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

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

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

(3) Sulfate. The Secondary MCL for sulfate is 250 mg/L as a recommended level, 500 mg/L as an upper level, and 600 mg/L as a short-term maximum.

(4) Total Dissolved Solids. The Secondary MCL for TDS is 500 mg/L as a recommended level, 1000 mg/L as an upper level, and 1500 mg/L as a short-term maximum assessed as annual averages.

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

(b) RPA Results.

(1) Chloride. Samples collected by the Discharger from January 2009 through December 2012 indicate chloride concentrations in the effluent ranged from 17.5 mg/L to 72.2 mg/L, with an average of 37 mg/L. These levels do not exceed the agricultural water goal or the Secondary MCL. Background samples were collected from the receiving water; chloride was not detected in the 30 upstream receiving water samples.

(2) Electrical Conductivity. The new treatment facility went on-line in January 2009. Effluent monitoring results obtained after January 2009 show annual average EC concentrations decreasing as shown in the table below:

Year	Annual Average EC	Yearly Maximum EC
2008	647 µmhos/cm	988 µmhos/cm
2009	390 µmhos/cm	761 µmhos/cm
2010	388 µmhos/cm	531 µmhos/cm
2011	378 µmhos/cm	691 µmhos/cm
2012	332 µmhos/cm	748 µmhos/cm

Over 700 Samples collected by the Discharger from January 2009 through November 2012 indicate an average effluent EC of 372 µmhos/cm, with a range from 167 µmhos/cm to 761 µmhos/cm. The maximum annual average of 402 µmhos/cm occurred during the year 2012, which does not exceed the agricultural water goal or the Secondary MCL. These levels do not exceed the applicable water quality objectives. Thirty background receiving water samples were collected with a minimum concentration of 45 µmhos/cm and a maximum concentration of 110 µmhos/cm.

Previous Order R5-2007-0130 contained an interim performance-based effluent limitation for EC of 993 µmhos/cm but no final

effluent limitation because of insufficient data. The Discharger has implemented the Salinity Evaluation and Minimization plan and has reduced salinity, including EC, discharged in the effluent. This Order does not contain an effluent limitation for electrical conductivity, based on the new information that was not available at the time Order R5-2007-0130 was adopted. Removal of the effluent limitation is in accordance with federal anti-backsliding regulations (see section IV.D.3 of the Fact Sheet).

(3) Sulfate. Samples were not collected from the effluent or receiving water. This Order requires monitoring of the effluent and the receiving water for sulfate. See Attachment I.

(4) Total Dissolved Solids. Samples collected by the Discharger from January 2009 through November 2012 indicate the average TDS effluent concentration was 239 mg/L with concentrations ranging from 68 mg/L to 937 mg/L, which was reported on 28 December 2010. The corresponding EC concentration on the same date was 311 µmhos/cm. The maximum effluent concentration of TDS exceeded the MCL of 500 mg/L, however, the average concentration does not exceed the applicable water quality objectives. In addition, 188 TDS samples were collected between January 2009 and November 2012 and no other TDS sample exceeded 432 mg/L. See the discussion of EC directly above. The Discharger did not collect TDS samples at the former upstream monitoring point approximately 500 feet upstream of the discharge point. In this Order, the upstream monitoring point RSW-001 has been relocated to a point that is approximately 100 feet upstream of the discharge point and contains water almost year round.

In order to ensure that the Discharger will continue to control the discharge of salinity, this Order requires continued implementation of a salinity evaluation and minimization plan. The Discharger submitted a Salinity Evaluation and Minimization Plan in August 2009, and has implemented some of the measures identified in the Plan to reduce salinity. The Discharger replaced the chlorine disinfection system with Ultraviolet Light disinfection and installed a new package treatment plant that reduces salinity in the effluent compared to the old treatment facility. What remains of the Plan includes community outreach and continued plant improvements. This Order also requires water supply monitoring to evaluate the relative contribution of salinity from the drinking water source water to the effluent.

viii. Settleable Solids

(a) WQO. For inland surface waters, the Basin Plan contains the settleable material water quality objective which states that "[w]*ater shall not contain substances in concentrations that result in the*

deposition of material that causes nuisance or adversely affects beneficial uses."

(b) RPA Results. Previous Order R5-2007-0130 contained effluent limits for settleable solids of 0.1 ml/L as a monthly average and 0.2 ml/L as a daily maximum. New data collected between 1 January 2009 and 30 November 2012 indicates that the effluent has not exceeded the effluent limitations in Order R5-2007-0130. Because settleable solids were not detected in the effluent above existing effluent limitations and because the Discharger provides tertiary treatment, the discharge does not demonstrate reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan narrative objective. Removal of the effluent limitations is in accordance with federal anti-backsliding regulations (see section IV.D.3 of the Fact Sheet).

This Order contains a receiving water limitation for settleable materials and a requirement to continue weekly effluent monitoring.

c. Constituents with Limited or Insufficient Data. 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. Reasonable potential cannot be determined for the following constituents because effluent and/or receiving water data are unavailable or insufficient. The Discharger is required to continue to monitor for these constituents in the effluent and/or receiving water using analytical methods that provide the best feasible detection limits. When additional data become available, a reasonable potential analysis will be conducted. Constituents with limited or insufficient data include cadmium, lead, MBAS, pentachlorophenol, persistent chlorinated hydrocarbon pesticides (aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, chlordane, 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, dieldrin, alpha-endosulfan, beta-endosulfan, endosulfan sulfate, endrin, endrin aldehyde, heptachlor, heptachlor epoxide, and toxaphene), and silver.

i. Cadmium

(a) WQO. The CTR includes hardness dependent criteria for the protection of freshwater aquatic life for cadmium. Using the default conversion factors, lowest observed effluent hardness of 35 mg/L $CaCO_3$, and reasonable worst-case upstream receiving water hardness of 31 mg/L $CaCO_3$, as described in section IV.C.2.e of this Fact Sheet, the applicable acute (1-hour average) criterion is 1.38 µg/L and the applicable chronic (4-day average) criterion is 1.12 µg/L, as total recoverable.

(b) RPA Results. Between 1 January 2009 and 30 November 2012, two effluent samples were collected and cadmium concentrations were reported by the laboratory to be not detected (ND). However, the reporting levels for the two analyses were 10 µg/L and 5 µg/L, which

are both higher than the criteria. Therefore, it is not possible to determine whether there is reasonable potential to cause or contribute to an instream excursion above the CTR criteria. Additionally, the two monitoring results were analyzed with methods that achieved Reporting Levels that exceeded the Minimum Level (ML) listed in Appendix 4 of the SIP. 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. Additionally, Section 2.4 of the SIP allows the Central Valley Water Board to require in the permit that the discharger shall report the Reporting Level (RL) selected from the MLs listed in Appendix 4 of the SIP. Therefore, this Order requires the Discharger to conduct quarterly sampling of cadmium for one year and to instruct the laboratories to establish calibration standards so that the ML value for cadmium is 0.5 µg/L. Should monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality standard, then this Order may be reopened and modified by adding an appropriate effluent limitation.

Cadmium Data

Date	Effluent (µg/L)	Method Detection Limit (µg/L)	Reporting Level (µg/L)	SIP Minimum Level (µg/L)	Criterion (µg/L)
Mar 2010	ND	0.4	10	0.25	1.12
Jul 2011	ND	0.7	5	0.25	1.12

The discharge point is near the headwaters of the unnamed tributary of Smuthers Ravine. The upstream monitoring point RSW-001, in Previous Order R5-2007-0130, was located approximately 500 feet upstream on an ephemeral segment that contains water only during and for a short time after precipitation events. There was no water at RSW-001 on sampling dates during the term of the previous Order. Therefore measurement of upstream concentrations was not practicable or applicable during the permit cycle for this Order. In this Order, the upstream monitoring point RSW-001 has been relocated to a point that is approximately 100 feet upstream of the discharge point and contains water almost year round.

ii. Lead

(a) WQO. The CTR includes hardness dependent criteria for the protection of freshwater aquatic life for lead. Using the default conversion factors, lowest observed effluent hardness of 35 mg/L $CaCO_3$, and reasonable worst-case upstream receiving water hardness of 31 mg/L $CaCO_3$, as described in section IV.C.2.e of this Fact Sheet, the applicable acute (1-hour average) criterion is 21.4 µg/L and the applicable chronic (4-day average) criterion is 0.83 µg/L, as total recoverable.

(c) RPA Results. Between 1 January 2009 and 30 November 2012, three effluent samples were collected and lead concentrations were estimated by the laboratory to be 0.4 µg/L, 3.6 µg/L, and 1.3 µg/L (all J-Flags or DNQ). Estimated concentrations are not quantifiable but do confirm the presence of the substance below the analytical method's minimum level. (See accompanying table of lead data below.) But because the concentrations of lead in the effluent are undetermined (e.g. not quantifiable), these analytical results are not sufficient to determine whether the discharge demonstrates reasonable potential to cause or contribute to an instream excursion above the CTR criterion. Additionally, two of the three monitoring results were analyzed with methods that achieved Reporting Levels that exceeded the Minimum Level (ML) listed in Appendix 4 of the SIP. 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. Additionally, Section 2.4 of the SIP allows the Central Valley Water Board to require in the permit that the discharger shall report the Reporting Level (RL) selected from the MLs listed in Appendix 4 of the SIP. Therefore, this Order requires the Discharger to conduct quarterly sampling of lead for one year and to instruct the laboratories to establish calibration standards so that the ML value for lead is 0.5 µg/L. Should monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality standard, then this Order may be reopened and modified by adding an appropriate effluent limitation.

Lead Data

Date	Effluent (µg/L)	Method Detection Limit (µg/L)	Reporting Level (µg/L)	SIP Minimum Level (µg/L)	Criterion (µg/L)
Jan 2009	0.4 DNQ	0.1	7	0.5	0.83
Mar 2010	3.6 DNQ	2.2	10	0.5	0.83
Jul 2011	1.3 DNQ	1.3	7	0.5	0.83

The discharge point is near the headwaters of the unnamed tributary of Smuthers Ravine. The upstream monitoring point RSW-001, in Previous Order R5-2007-0130, was located approximately 500 feet upstream on an ephemeral segment that contains water only during and for a short time after precipitation events. There was no water at RSW-001 on sampling dates during the term of the previous Order. Therefore measurement of upstream concentrations was not practicable or applicable during the permit cycle for this Order. In this Order, the upstream monitoring point RSW-001 has been relocated to a point that is approximately 100 feet upstream of the discharge point and contains water almost year round.

iii. Methylene Blue Activated Substances (MBAS) (Foaming Agents)

(a) WQO. The Secondary MCL – Consumer Acceptance Limit for MBAS is 500 µg/L, which is used to implement the Basin Plan's chemical constituent objective for the protection of municipal and domestic water supply.

(b) RPA Results. The Discharger only obtained one effluent sample during the term of Order R5-2007-0130 with a result of 0.1 mg/L, which is below the criterion of 0.5 mg/L. Due to the small MBAS dataset, it is not possible to determine whether MBAS is causing foaming. In January 2012, Central Valley Water Board received complaints from the downstream property owner that foam was on the receiving water downstream of the Facility. In May 2012, a plant upset reported by the Discharger, resulted in the formation and release of foam to the receiving stream. Therefore, in lieu of establishing an MBAS effluent limitation based on staff's professional judgment in consideration of all available information, this Order requires the Discharger to monitor MBAS in the effluent quarterly for one year.

iv. Pentachlorophenol

(a) WQO. The CTR includes a criterion of 0.28 µg/L for pentachlorophenol for the protection of human health for waters from which both water and organisms are consumed.

(b) RPA Results. Between 1 January 2009 and 30 November 2012, three samples were collected and analyzed for pentachlorophenol. Two of the samples were ND, however, the Reporting Level (RL) of 10 µg/L for the two samples was higher than the minimum level required in the SIP (1 µg/L). For the third sample, the laboratory estimated that pentachlorophenol was present at concentrations of 0.3 µg/L (J-flag) and the RL was 1 µg/L. MDLs ranged between 0.2 and 2.4 µg/L. However, one estimated sample result is not sufficient data to establish effluent limitations. 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. Section 2.4 of the SIP states that the Regional Water Board shall require in the permit that the discharger shall report the Reporting Level (RL) selected from the MLs listed in Appendix 4 of the SIP. Therefore, this Order requires the Discharger to conduct quarterly sampling of pentachlorophenol with the Priority Pollutant sampling, and in accordance with the SIP, section 2.4, the Discharger is required to instruct the laboratories to establish calibration standards so that the ML value for pentachlorophenol is 1 µg/L. Should monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality standard, then this Order may be reopened and modified by adding an appropriate effluent limitation.

Pentachlorophenol Data

Date	Effluent (µg/L)	Method Detection Limit (µg/L)	Reporting Level (µg/L)	SIP Minimum Level (µg/L)	Criterion (µg/L)
Jan 2009	0.3 DNQ	0.2	1	1	0.28
Mar 2010	ND	0.4	10	1	0.28
Jul 2011	ND	2.4	10	1	0.28

The discharge point is near the headwaters of the unnamed tributary of Smuthers Ravine. The upstream monitoring point RSW-001, in Previous Order R5-2007-0130, was located approximately 500 feet upstream on an ephemeral segment that contains water only during and for a short time after precipitation events. There was no water at RSW-001 on sampling dates during the term of the previous Order. Therefore measurement of upstream concentrations was not practicable or applicable during the permit cycle for this Order. In this Order, the upstream monitoring point RSW-001 has been relocated to a point that is approximately 100 feet upstream of the discharge point and contains water almost year round.

v. 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; gamma-BHC; delta-BHC; chlordane; 4,4'-DDD; 4,4'-DDE; 4,4'-DDT; dieldrin; alpha-endosulfan; beta-endosulfan; endosulfan sulfate; endrin; endrin aldehyde; heptachlor; heptachlor epoxide; and toxaphene. The CTR also contains individual criteria for these pesticides.

(b) RPA Results. Previous Order R5-2007-0130 contained an effluent limitation of ND (non-detect) for persistent chlorinated hydrocarbon pesticides as a group based on the Basin Plan objective of no detectable concentrations. However, in this Order, there is no effluent limitation for the persistent chlorinated hydrocarbon pesticides as a group. Instead, this Order contains an assessment of each pesticide to determine whether reasonable potential exists on a constituent by constituent basis. Removal of the effluent limitation for persistent chlorinated hydrocarbon pesticides as a group is in accordance with federal anti-backsliding regulations (see section VI.C.4 of the Fact Sheet).

The laboratory data for each individual pesticide was reviewed to determine whether individual limitations were necessary in this Order. Twenty-one samples were collected by the Discharger and submitted to the laboratory for analysis of the 18 organochlorine pesticides listed in the CTR.

Section 2.4.1 of the SIP states "*The RWQCB shall require in the permit that the discharger shall report with each sample result…The Reporting Level (RL) (selected from the MLs listed in Appendix 4…)*". Table 2d of Appendix 4 of the SIP contains the Minimum Levels (in µg/L) for each of the 18 organochlorine (chlorinated hydrocarbon) pesticides as shown in the table below:

Constituent	SIP ML
4,4'-DDD	0.05
4,4'-DDE	0.05
4,4'-DDT	0.01
α-Endosulfan	0.02
α-BHC	0.01
Aldrin	0.005
β-Endosulfan	0.01
β-BHC	0.005
Chlordane	0.1
δ-BHC	0.005
Dieldrin	0.01
Endosulfan Sulfate	0.05
Endrin	0.01
Endrin Aldehyde	0.01
Heptachlor	0.01
Heptachlor Epoxide	0.01
γ-BHC (Lindane)	0.02
Toxaphene	0.5

Twenty-one effluent samples were obtained between January 2009 and November 2012, for each of the 18 pesticides. Two sample events, 19 October and 21 June 2010, had split samples analyzed at different laboratories. The sample event on 6 January 2009 was analyzed using USEPA Method 8081; six sample events were analyzed with USEPA Method 8081A; the remaining 14 sample events were analyzed with USEPA Method 608. (See Attachment K.)

USEPA Methods 8081 and 8081A are not included in 40 CFR 136 and their test procedures are not able to quantify concentrations in municipal wastewater at least at the applicable Minimum Level listed in Appendix 4 of the SIP. In addition, USEPA Methods 8081 and 8081A are susceptible to matrix interference with samples of municipal wastewater during the analytical procedures which can lead to false

positives. As shown in Attachment K of this Order, there were several reported detections of pesticides that were DNQ or J-Flags (estimated values) detected with analytical method 8081A.

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. Instances where such consideration is warranted include, but are not limited to, the following: evidence that a sample has been erroneously reported or is not representative of effluent or ambient receiving water quality; questionable quality control/quality assurance practices; and varying seasonal conditions*. Methods 8081 and 8081A are not appropriate for analysis of pesticides in municipal wastewater. Therefore, the Central Valley Water Board did not consider the samples analyzed by USEPA Methods 8081 and 8081A in the reasonable potential analysis.

USEPA Method 608 is listed in 40 CFR 136, and is specifically designed for analysis of chlorinated hydrocarbon pesticides in municipal and industrial wastewaters. USEPA Method 608 uses a second gas chromatographic column that is used to confirm measurements made with the primary gas chromatographic column. This method is able to achieve the minimum levels (MLs) required in the SIP.

Fourteen sample events were analyzed with a minimum level that conforms to the SIP-required minimum levels and with EPA Method 608, which is applicable under the Clean Water Act, 40 CFR Part 136. Pesticide concentrations were detected during one sample event at levels that were estimated by the laboratory (J Flags or DNQ). See Attachment K for all pesticide sample results. Estimated chemical concentrations (J-Flags) may not be valid due to possible matrix interferences during the analytical procedure. Though estimated chemical concentrations (J-Flags) are not quantifiable they do confirm the presence of a substance below the analytical method's minimum level. However, these analytical results are not sufficient to determine whether the discharge demonstrates reasonable potential to cause or contribute to an instream excursion above the applicable water quality criterion/objective. Therefore, this Order does not contain effluent limits for these pesticides, however, it does contain <u>a reopener provision and</u> a pesticide study that requires monthly pesticide monitoring for one year in addition to the Priority Pollutant analyses.

The discharge point is near the headwaters of the unnamed tributary of Smuthers Ravine. The upstream monitoring point RSW-001, in Previous Order R5-2007-0130, was located approximately 500 feet upstream on an ephemeral segment that contains water only during and for a short time after precipitation events. There was no water at RSW-001 on sampling dates during the term of the previous Order.

Therefore measurement of upstream concentrations was not practicable or applicable during the permit cycle for this Order. In this Order, the upstream monitoring point RSW-001 has been relocated to a point that is approximately 100 feet upstream of the discharge point and contains water almost year round.

vi. Silver

(a) WQO. The CTR includes hardness dependent criteria for the protection of freshwater aquatic life for silver. Using the default conversion factors, lowest observed effluent hardness of 35 mg/L $CaCO_3$, and reasonable worst-case upstream receiving water hardness of 31 mg/L $CaCO_3$, as described in section IV.C.2.e of this Fact Sheet, the applicable instantaneous maximum criterion is 0.66 µg/L, as total recoverable.

(b) RPA Results. Between 1 January 2009 and 30 November 2012, three effluent samples were collected. Silver was reported by the laboratory to be not detected (ND) in one sample. The remaining two samples were estimated by the laboratory to be 0.23 µg/L and 0.6 µg/L (both J-Flags). Estimated concentrations are not quantifiable but do confirm the presence of the substance below the analytical method's minimum level. (See accompanying table of silver data below.) But because the concentration of silver in the sample is undetermined (e.g. not quantifiable), this analytical result is not sufficient to determine whether the discharge demonstrates reasonable potential to cause or contribute to an instream excursion above the CTR criterion. Additionally, the three monitoring results were analyzed with methods that achieved Reporting Levels that exceeded the Minimum Level (ML) listed in Appendix 4 of the SIP. 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. Additionally, Section 2.4 of the SIP allows the Central Valley Water Board to require in the permit that the discharger shall report the Reporting Level (RL) selected from the MLs listed in Appendix 4 of the SIP. Therefore, this Order requires the Discharger to conduct quarterly sampling of silver for one year and to instruct the laboratories to establish calibration standards so that the ML value for lead is 0.25 µg/L. Should monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality standard, then this Order may be reopened and modified by adding an appropriate effluent limitation.

Silver Data

Date	Effluent (µg/L)	Method Detection	Reporting Level (µg/L)	SIP Minimum	Criterion (µg/L)

		Limit (µg/L)		Level (µg/L)	
Jan 2009	0.23 DNQ	0.1	0.5	0.25	0.66
Mar 2010	0.6 DNQ	0.4	10	0.25	0.66
Jul 2011	ND	0.5	5	0.25	0.66

The discharge point is near the headwaters of the unnamed tributary of Smuthers Ravine. The upstream monitoring point RSW-001, in Previous Order R5-2007-0130, was located approximately 500 feet upstream on an ephemeral segment that contains water only during and for a short time after precipitation events. There was no water at RSW-001 on sampling dates during the term of the previous Order. Therefore measurement of upstream concentrations was not practicable or applicable during the permit cycle for this Order. In this Order, the upstream monitoring point RSW-001 has been relocated to a point that is approximately 100 feet upstream of the discharge point and contains water almost year round.

d. Constituents with Reasonable Potential. The Central Valley Water Board finds that the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for ammonia, arsenic, BOD, chlorine residual, manganese, nitrate plus nitrite, pathogens (total coliform organisms), pH, and TSS**.** WQBELs for these constituents are included in this Order. A summary of the RPA is provided in Attachment G, and a detailed discussion of the RPA for each constituent is provided below.

i. Ammonia

(a) WQO. The NAWQC for the protection of freshwater aquatic life for total ammonia, recommends acute (1-hour average; criteria maximum concentration or CMC) standards based on pH and chronic (30-day average; criteria continuous concentration or CCC) standards based on pH and temperature. USEPA also recommends that no 4-day average concentration should exceed 2.5 times the 30-day CCC. USEPA found that as pH increased, both the acute and chronic toxicity of ammonia increased. Salmonids were more sensitive to acute toxicity effects than other species. However, while the acute toxicity of ammonia was not influenced by temperature, it was found that invertebrates and young fish experienced increasing chronic toxicity effects with increasing temperature. Because the unnamed tributary of Smuthers Ravine has a beneficial use of cold freshwater habitat and cold spawning, the recommended criteria for waters where salmonids and early life stages are present were used.

The maximum permitted effluent pH is 8.5, as the Basin Plan objective for pH in the receiving stream is the range of 6.5 to 8.5. In order to protect against the worst-case short-term exposure of an organism, a

pH value of 8.5 was used to derive the acute criterion. The resulting acute criterion is 2.1 mg/L.

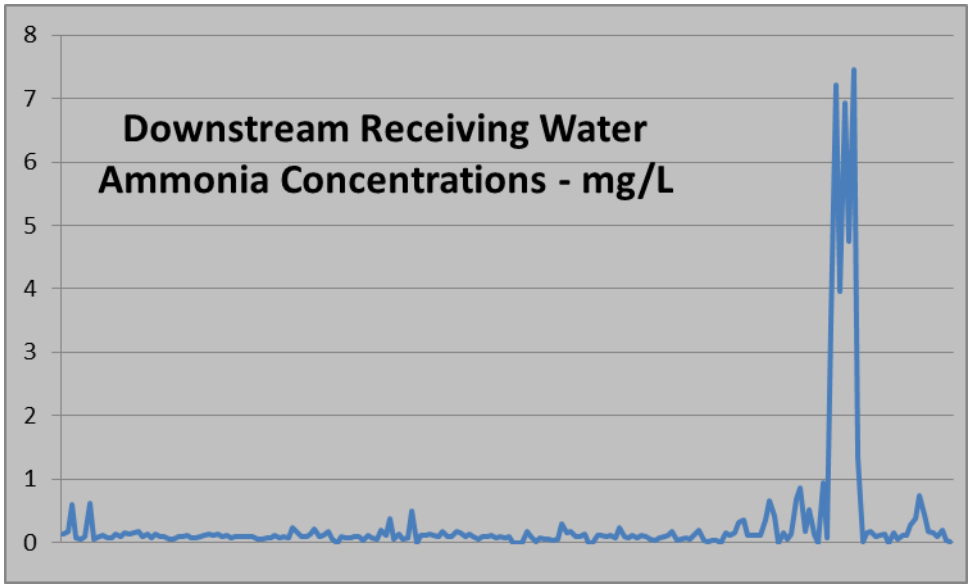
Between January 2009 and November 2012, weekly temperature and pH data were collected at the downstream monitoring point RSW-002D on the unnamed tributary of Smuthers Ravine. The 30-day CCC was calculated for each pair of data. From the four years of data, the rolling 30-day-average was calculated and the 99.9th percentile was selected as the 30-day CCC; 1.12 mg/L (as N). 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 1.12 mg/L (as N), the 4-day average concentration that should not be exceeded is 2.80 mg/L (as N).

(b) RPA Results. Federal regulations at 40 C.F.R. §122.44(d)(1)(i) requires that, "*Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.*" For priority pollutants, the SIP dictates the procedures for conducting the RPA. Ammonia is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent.

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

The maximum effluent concentration for ammonia was 11.7 mg/L, which exceeds all three of the criteria calculated above for this receiving water. The upstream monitoring point was near the headwaters of the unnamed tributary of Smuthers Ravine, which is an ephemeral stream containing upstream water only during and for a short time after precipitation events. Therefore, measurement of upstream concentrations was not practicable or applicable.



The above graph is a representation of the downstream receiving water ammonia concentrations in the unnamed tributary of Smuthers Ravine at monitoring point RSW-002D. There are 198 sample data points between January 2009 and November 2012. The maximum

ammonia concentration is 7.46 mg/L. On 15 May 2012, a discharge by an industrial user caused a plant upset that lasted until early July 2012. Between late May 2012 and early July 2012, the Facility experienced an increase in the ammonia concentration in the effluent that was reflected in the downstream receiving water and shown by the spikes on the above graph. When the Facility is operating properly, the ammonia concentrations at RSW-002D are below 1 mg/L.

(c) WQBELs. This Order contains a final AMEL and MDEL for ammonia of 0.8 mg/L and 2.1 mg/L, respectively, carried over from the previous Order R5-2007-0130. Applying 40 CFR CFR section 122.44(d)(1)(vi)(B), effluent limitations for ammonia were calculated based on U.S. EPA's Ambient Water Quality Criteria for the protection of the beneficial use of freshwater aquatic habitat. The calculated AMEL and MDEL were 0.7 mg/L and 2.1 mg/L, respectively. Because the values were so close to the effluent limitations from the previous permit, aside from the plant upset in June 2012 the downstream receiving water ammonia concentration never exceeded 1 mg/L, and the existing limitations are stringent, using professional judgment, the effluent limits were left unchanged.

(d) Plant Performance and Attainability. The new treatment plant went on line on 1 January 2009. Based on data between 1 March 2009 and December 2011, it appears the Discharger can meet these limitations.

ii. Arsenic

(a) WQO. DPH has adopted a Primary MCL for arsenic of 10 µg/L, which is protective of the Basin Plan's chemical constituent objective. The CTR includes a 4-Day average criterion concentration of 150 µg/L and a 1-Hour average criterion concentration of 340 µg/L for the protection of aquatic life.

(b) RPA Results. Between January 2009 and November 2012, two samples were collected for analysis of arsenic. One sample was reported to be ND with a reporting level of 10 µg/L and a method detection limit of 0.9 µg/L. The other sample was reported to contain a concentration of 12.7 µg/L arsenic with a reporting level of 10 and a method detection limit of 2.8 µg/L. The maximum effluent concentration (MEC) for arsenic was 12.7 µg/L. Therefore, arsenic in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the primary MCL.

The discharge point is near the headwaters of the unnamed tributary of Smuthers Ravine. The upstream monitoring point RSW-001, in Previous Order R5-2007-0130, was located approximately 500 feet upstream on an ephemeral segment that contains water only during and for a short time after precipitation events. There was no water at

RSW-001 on sampling dates during the term of the previous Order. Therefore measurement of upstream concentrations was not practicable or applicable during the permit cycle for this Order. In this Order, the upstream monitoring point RSW-001 has been relocated to a point that is approximately 100 feet upstream of the discharge point and contains water almost year round.

(c) WQBELs. Due to no assimilative capacity in the ephemeral receiving water, dilution credits are not allowed for development of the WQBELs for arsenic. This Order contains a final average monthly effluent limitation (AMEL) and maximum daily effluent limitation (MDEL) for arsenic of 10 µg/L and 20 µg/L, respectively, based on the primary MCL of 10 µg/L.

(d) Plant Performance and Attainability. Analysis of the effluent data shows that the MEC of 12.7 µg/L is greater than applicable WQBELs. Based on the sample results for the effluent, the limitations appear to put the Discharger in immediate non-compliance. 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 arsenic are a new regulatory requirement within this permit, which becomes applicable to the waste discharge with the adoption of this Order, which was adopted after 1 July 2000.

The Discharger submitted an Arsenic Infeasibility Analysis, dated 18 January 2013, which included a compliance schedule justification for arsenic. The compliance schedule justification included all items specified in Paragraph 3, items (a) through (d), of section 2.1 of the SIP. Therefore, interim effluent limitations and a compliance time schedule for compliance with the arsenic effluent limitations is established in CDO R5-2013-XXXX in accordance with Water Code section 13300, that requires preparation and implementation of a pollution prevention plan in compliance with Water Code section 13263.3.

iii. Chlorine Residual

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

(b) RPA Results. Federal regulations at 40 C.F.R. §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)

Previous Order R5-2007-0130 contained an average 1-hour effluent limitation of 0.02 mg/L and an average 4-day effluent limitation of 0.01 mg/L for chlorine residual for the chlorine disinfection system. The Discharger installed a new Ultraviolet Light disinfection system in January 2009 and no longer uses chlorine for disinfection. However, the Discharger's monitoring reports continue to show occasional detections of up to 0.48 mg/L of chlorine with no explanation from the Discharger in the monitoring reports about the source of the chlorine and/or false readings on the meter. The Discharger subsequently reported that when the probe of the chlorine sensor is cleaned and calibrated, false positive readings have occurred. In the future the Discharger will note the timing of the chlorine sensor calibrations/maintenance as possible explanations for the chlorine readings. Chlorine is known to cause toxicity to aquatic organisms in surface waters. Discharges of chlorine in concentrations that produce detrimental physiological responses to plant, animal, or aquatic life

would violate the Basin Plan narrative toxicity objective. Although the Discharger does not use chlorine for disinfection, the Discharger continues to use chlorine for maintenance purposes and when there are filamentous algae problems in the aeration basin of the package plant, which creates the potential for chlorine to be discharged and provides the basis for the discharge to have a reasonable potential to cause or contribute to an in-stream excursion above the NAWQC. Therefore, the Central Valley Water Board finds the discharge has reasonable potential for chlorine and WQBELs are required. The Discharger shall monitor chlorine residual continuously for one year. If monitoring results indicate that the chlorine effluent limitations have been met, then the Discharger may reduce chlorine residual monitoring to continuous when chlorine is in use at the Facility.

(c) WQBELs. This Order contains an average 1-hour effluent limitation of 0.02 mg/L and an average 4-day effluent limitation of 0.01 mg/L for chlorine residual.

(d) Plant Attainability. Analysis of the effluent data shows the Facility can meet these WQBELs.

iv. Manganese

(a) WQO. The Secondary MCL – Consumer Acceptance Limit for manganese is 50 µg/L, assessed as an annual average, which is used to implement the Basin Plan's chemical constituent objective for the protection of municipal and domestic supply.

(b) RPA Results. Sixty-five effluent samples were collected and analyzed for manganese between 1 January 2009 and 30 December 2012. In 2012, there were four individual exceedances of the criterion at 80.2 µg/L, 80.1 µg/L, 341 µg/L, and 72.6 µg/L. The maximum effluent concentration was 341 µg/L. Annual averages of the data for 2009, 2010, and 2011 did not exceed the annual average criterion of 50 µg/L. However, the annual average for 2012 was 64 µg/L, which exceeds the criterion. Therefore, based upon the effluent monitoring samples, manganese in the discharge does demonstrate reasonable potential to cause or contribute to an in-stream excursion above the secondary MCL, and WQBEL's are included in this Order for manganese.

The discharge point is near the headwaters of the unnamed tributary of Smuthers Ravine. The upstream monitoring point RSW-001, in Previous Order R5-2007-0130, was located approximately 500 feet upstream on an ephemeral segment that contains water only during and for a short time after precipitation events. There was no water at RSW-001 on sampling dates during the term of the previous Order. Therefore measurement of upstream concentrations was not practicable or applicable during the permit cycle for this Order. In this

Order, the upstream monitoring point RSW-001 has been relocated to a point that is approximately 100 feet upstream of the discharge point and contains water almost year round.

(e) WQBELs. This Order contains an effluent limitation for manganese of 50 µg/L, assessed as an annual average, for the protection of municipal and domestic supply.

(f) Plant Attainability. Analysis of the effluent data shows that the annual average for manganese in 2012 is greater than applicable WQBEL. Based on the sample results for the effluent, the limitations, as an annual average, appear to put the Discharger in danger of non-compliance.

v. Nitrate and Nitrite

(a) WQO. DPH has adopted Primary MCLs for the protection of human health for nitrite and nitrate that are equal to 1 mg/L and 10 mg/L (measured as nitrogen), respectively. DPH has also adopted a primary MCL of 10 mg/L for the sum of nitrate and nitrite, measured as nitrogen.

USEPA has developed a primary MCL and an MCL goal of 1,000 µg/L for nitrite (as nitrogen). For nitrate, USEPA has developed Drinking Water Standards (10,000 µg/L as Primary MCL) and NAWQC for protection of human health (10,000 µg/L for non-cancer health effects). Recent toxicity studies have indicated a possibility that nitrate is toxic to aquatic organisms.

(b) RPA Results. Federal regulations at 40 C.F.R. §122.44(d)(1)(i) requires that, "*Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.*" For priority pollutants, the SIP dictates the procedures for conducting the RPA. Nitrate and nitrite are not priority pollutants. 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 these 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 Facility is a POTW that treats domestic wastewater. Untreated domestic wastewater contains ammonia and this Order requires removal of ammonia (i.e., nitrification). Nitrification is a biological process that converts ammonia to nitrite and nitrite to nitrate. Denitrification is a process that converts nitrate to nitrite or nitric oxide and then to nitrous oxide or nitrogen gas, which is then released to the atmosphere. The Discharger currently uses nitrification/denitrification to remove ammonia, nitrite, and nitrate from the waste stream. Inadequate or incomplete denitrification may result in the discharge of nitrate and/or nitrite to the receiving stream. Discharges of wastewater containing nitrate plus nitrite provides the basis for the discharge to have a reasonable potential to cause or contribute to an in-stream excursion above the primary MCL and violate the Basin Plan narrative chemical constituents objective. Therefore, the Central Valley Water Board finds the discharge has reasonable potential for nitrate plus nitrite and WQBELs are required.

The new package activated sludge Facility went on line on 1 January 2009 and includes nitrification and denitrification. Using the data from January 2009 through December 2011, the maximum effluent concentration for nitrate was 11.2 mg/L, while the upstream receiving water concentration was not measured because the unnamed tributary of Smuthers Ravine was dry on the dates of sampling.

(c) WQBELs. Previous Order R5-2007-0130 contained an effluent limitation for nitrate of 10 mg/L based on the DPH Primary MCL. This Order contains a final average monthly effluent limitation (AMEL) for nitrate plus nitrite of 10 mg/L, based on the Primary MCL. This effluent limitation is included in this Order to assure the treatment process adequately nitrifies and denitrifies the waste stream to protect the beneficial use of municipal and domestic supply.

(d) Plant Performance and Attainability. The new treatment plant went on line on 1 January 2009. Based on data collected between 1 March 2009 and December 2011, it appears the Discharger can meet the new limitations for nitrate plus nitrite.

vi. Pathogens

(a) WQO. DPH has developed reclamation criteria, CCR, Division 4, Chapter 3 (Title 22), for the reuse of wastewater. Title 22 requires that for spray irrigation of food crops, parks, playgrounds, schoolyards, and other areas of similar public access, wastewater be adequately disinfected, oxidized, coagulated, clarified, and filtered, and that the effluent total coliform levels not exceed 2.2 MPN/100 mL as a 7-day median; 23 MPN/100 mL, not to be exceeded more than once in a 30-day period; and 240 MPN/100 mL, at any time.

Title 22 also requires that recycled water used as a source of water supply for non-restricted recreational impoundments be disinfected tertiary recycled water that has been subjected to conventional treatment. A non-restricted recreational impoundment is defined as *"…an impoundment of recycled water, in which no limitations are imposed on body-contact water recreational activities.*" Title 22 is not directly applicable to surface waters; however, the Central Valley Water Board finds that it is appropriate to apply an equivalent level of treatment to that required by the DPH's reclamation criteria because the receiving water is used for irrigation of agricultural land and for contact recreation purposes. The stringent disinfection criteria of Title 22 are appropriate since the undiluted effluent may be used for the irrigation of food crops and/or for body-contact water recreation. Coliform organisms are intended as an indicator of the effectiveness of the entire treatment train and the effectiveness of removing other pathogens.

(b) RPA Results. Raw domestic wastewater inherently contains human pathogens that threaten human health, and constitute a threatened pollution or nuisance under CWC section 13050 if discharged untreated to the receiving water. Reasonable potential therefore exists and WQBELs are required.

Federal regulations at 40 C.F.R. §122.44(d)(1)(i) requires that, "*Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.*" For priority pollutants, the SIP dictates the procedures for conducting the RPA. Pathogens are not priority pollutants. Therefore, the Central Valley Water Board is not restricted to one

particular RPA method. Due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent.

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

The beneficial uses of the unnamed tributary of Smuthers Ravine include municipal and domestic supply, water contact recreation, and agricultural irrigation supply, and there is, at times, less than 20:1 dilution. To protect these beneficial uses, the Central Valley Water Board finds that the wastewater must be disinfected and adequately treated to prevent disease. Although the Discharger provides disinfection, inadequate or incomplete disinfection creates the potential for pathogens to be discharged and provides the basis for the discharge to have a reasonable potential to cause or contribute to an exceedance of the Basin Plan's narrative toxicity objective. Therefore, the Central Valley Water Board finds the discharge has reasonable potential for pathogens and WQBELs are required.

(c) WQBELs. In accordance with the requirements of Title 22, this Order includes effluent limitations for total coliform organisms of 2.2 MPN/100 mL as a 7-day median. To more effectively regulate total coliform organisms, this Order also contains additional effluent limitations; effluent total coliform organisms shall not exceed 23 MPN/100 mL, more than once in any 30-day period and 240 MPN/100 mL, at any time.

In addition to coliform effluent limitations, operating specifications for turbidity have been included as a second indicator of the effectiveness of the treatment process and to assure compliance with the required level of treatment. The Facility uses cloth media filtration, which are

capable of reliably meeting a turbidity of 2 nephelometric turbidity units (NTU) as a daily average. The Title 22 tertiary treatment process, or equivalent, is capable of reliably meeting a turbidity limitation of 2 nephelometric turbidity units (NTU) as a daily average. Failure of the filtration system such that virus removal is impaired would normally result in increased particles in the effluent, which result in higher effluent turbidity. Turbidity has a major advantage for monitoring filter performance, allowing immediate detection of filter failure and rapid corrective action. Coliform testing, by comparison, is not conducted continuously and requires several hours, to days, to identify high coliform concentrations. Therefore, to ensure compliance with equivalency to DPH recommended Title 22 disinfection criteria, this Order includes operating specifications for turbidity of 2 NTU as a daily average; 5 NTU, not to be exceeded more than 5% of the time within a 24-hour period; and 10 NTU as an instantaneous maximum.

This Order contains effluent limitations for BOD_5, total coliform organisms, and TSS, and requires a tertiary level of treatment, or equivalent, necessary to protect the beneficial uses of the receiving water. The Central Valley Water Board has previously considered the factors in Water Code Section 13241 in establishing these requirements.

Final WQBELs for BOD_5 and TSS are based on the technical capability of the tertiary process, which is necessary to protect the beneficial uses of the receiving water. BOD_5 is a measure of the amount of oxygen used in the biochemical oxidation of organic matter. The tertiary treatment standards for BOD_5 and TSS are indicators of the effectiveness of the tertiary treatment process. The principal design parameter for wastewater treatment plants is the daily BOD_5 and TSS loading rates and the corresponding removal rate of the system. The application of tertiary treatment processes results in the ability to achieve lower levels for BOD_5 and TSS than the secondary standards currently prescribed. Therefore, this Order requires compliance with AMELs for BOD_5 and TSS of 10 mg/L and compliance with average weekly effluent limitations of 15 mg/L, which is based on the technical capability of a tertiary system. In addition to the average weekly and average monthly effluent limitations, a daily maximum effluent limitation for BOD_5 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. This Order contains effluent limitations for total coliform organisms, BOD_5 and TSS that are carried over from previous Order R5-2007-0130. Since the new Facility went on-line in January 2009, it appears the Discharger can meet these limitations. This Order also contains operational specifications for turbidity.

vii. pH

(a) WQO. The Basin Plan includes a water quality objective for surface waters (except for Goose Lake) that the *"…pH shall not be depressed below 6.5 nor raised above 8.5.*

(b) RPA Results. Federal regulations at 40 C.F.R. §122.44(d)(1)(i) requires that, "*Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.*" For priority pollutants, the SIP dictates the procedures for conducting the RPA. pH is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent.

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

In the self-monitoring reports the Discharger reports a minimum pH reading, a maximum pH reading and an average pH reading daily. Using the data from January 2009 through December 2011, there were 887 average pH readings reported. On 28 February 2009, the Discharger reported an average pH of 1.8, while the minimum pH was 6.63 and the maximum pH was 6.76. The new treatment system had just come on line in December 2008 and was still within the shakedown period. It appears that the Discharger's industrial control system or SCADA (supervisory control and data acquisition) system was in error and has since been corrected. This data point was not

used in the reasonable potential analysis and when discounted, the minimum average pH is 6.4.

The minimum pH of 3.83 on 29 October 2011 indicates a potential plant upset. However, the average pH reported for the same date was 7.27.

(c) WQBELs. Effluent limitations for pH of 6.5 as an instantaneous minimum and 8.5 as an instantaneous maximum are included in this Order based on protection of the Basin Plan objectives for pH.

(d) Plant Performance and Attainability. This Order contains effluent limitations for pH that are carried over from previous Order R5-2007-0130. Since the new Facility went on-line in January 2009, it appears the Discharger can meet these limitations.

4. WQBEL Calculations

a. This Order includes WQBELs for ammonia, arsenic, BOD_5, nitrate plus nitrite, pathogens (total coliform organisms), pH, and TSS. The general methodology for calculating WQBELs based on the different criteria/objectives is described in subsections IV.C.4.b through e, below. See Attachment H for the WQBEL calculations.

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

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

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 limitations, depending on the averaging period of the objective.

d. **Aquatic Toxicity Criteria.** WQBELs based on acute and chronic aquatic toxicity criteria are calculated in accordance with Section 1.4 of the SIP. The ECAs are converted to equivalent long-term averages (i.e. LTAacute and LTAchronic) using statistical multipliers and the lowest LTA is used to calculate the AMEL and MDEL using additional statistical multipliers.

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

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

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

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

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

Summary of Water Quality-Based Effluent Limitations
Discharge Point No. 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
Ammonia	mg/L	0.8	--	2.1	--	--
Arsenic	µg/L	10	--	20	--	--
Biochemical Oxygen Demand (5-day @ 20 ºC)	mg/L	10	15	25	--	--
	lbs/day	23	34	57	--	--
Chlorine Residual	mg/L	--	0.01 [4]	0.02 [5]	--	--
Manganese	µg/L	50 [3]	--	--	--	--
Nitrate plus Nitrite	mg/L	10	--	--	--	--
pH	--	--	--	--	6.5	8.5

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Total Coliform Organisms	MPN/100 mL	23 [1]	2.2 [2]	--	--	240

1 Not to be exceeded more than once in any 30-day period.
2 Expressed as a 7-day median.
3 Applied as an annual average.
4 Applied as a 4-day average.
5 Applied as a 1-hour average.

5. Whole Effluent Toxicity (WET)

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

a. Acute Aquatic Toxicity. The Basin Plan contains a narrative toxicity objective that states, "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life." (Basin Plan at page III-8.00) The Basin Plan also states that, "…effluent limits based upon acute biotoxicity tests of effluents will be prescribed where appropriate…".

For priority pollutants, the SIP dictates the procedures for conducting the RPA. Acute toxicity is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Acute whole effluent toxicity is not a priority pollutant. Therefore, due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA. USEPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states, "*State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available…A permitting authority might also determine that WQBELs are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBELs for pathogens in all permits for POTWs discharging to contact recreational waters).*" Although the discharge has been consistently in compliance with the acute effluent limitations, the Facility is a POTW that treats domestic wastewater containing ammonia and other acutely toxic pollutants. Acute toxicity effluent limits are required to ensure compliance with the Basin Plan's narrative toxicity objective.

USEPA Region 9 provided guidance for the development of acute toxicity effluent limitations in the absence of numeric water quality objectives for toxicity in its document titled "Guidance for NPDES Permit Issuance", dated February 1994. In section B.2 "Toxicity Requirements" (pgs. 14-15) it states

that, "In the absence of specific numeric water quality objectives for acute and chronic toxicity, the narrative criterion 'no toxics in toxic amounts' applies. Achievement of the narrative criterion, as applied herein, means that ambient waters shall not demonstrate for acute toxicity: 1) less than 90% survival, 50% of the time, based on the monthly median, or 2) less than 70% survival, 10% of the time, based on any monthly median. For chronic toxicity, ambient waters shall not demonstrate a test result of greater than 1 TUc." Accordingly, effluent limitations for acute toxicity have been included in this Order as follows:

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

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

b. Chronic Aquatic Toxicity. The Basin Plan contains a narrative toxicity objective that states, "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" (Basin Plan at page III-8.00) Based on chronic WET testing performed by the Discharger from January 2009 through August 2011, the discharge does not have reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan's narrative toxicity objective, as shown in Table F-9 below.

Table F-9: Whole Effluent Chronic Toxicity Testing Results

	Fathead Minnow *Pimephales promelas*		**Water Flea** *Ceriodaphnia dubia*		**Green Algae** *Selenastrum capricornutum*
Date	Survival (TUc)	Growth (TUc)	Survival (TUc)	Reproduction (TUc)	Growth (TUc)
01/06/2009	1	1	1	1	>1
02/03/2009	1	1	1	1	1
03/12/2009	--	--	--	--	1
08/04/2009	1	1	1	1	1
04/13/2010	1	1	1	1	1
09/14/2010	1	>1	1	1	1
03/15/2011	1	1	1	1	1
08/09/2011	1	1	1	1	1

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

Numeric chronic WET effluent limitations have not been included in this Order. The SIP contains implementation gaps regarding the appropriate form and

implementation of chronic toxicity limits. This has resulted in the petitioning of a NPDES permit in the Los Angeles Region[15] that contained numeric chronic toxicity effluent limitations. To address the petition, the State Water Board adopted WQO 2003-012 directing its staff to revise the toxicity control provisions in the SIP. The State Water Board states the following in WQO 2003-012, "*In reviewing this petition and receiving comments from numerous interested persons on the propriety of including numeric effluent limitations for chronic toxicity in NPDES permits for publicly-owned treatment works that discharge to inland waters, we have determined that this issue should be considered in a regulatory setting, in order to allow for full public discussion and deliberation. We intend to modify the SIP to specifically address the issue. We anticipate that review will occur within the next year. We therefore decline to make a determination here regarding the propriety of the final numeric effluent limitations for chronic toxicity contained in these permits."* The process to revise the SIP is currently underway. Proposed changes include clarifying the appropriate form of effluent toxicity limits in NPDES permits and general expansion and standardization of toxicity control implementation related to the NPDES permitting process. Since the toxicity control provisions in the SIP are under revision it is infeasible to develop numeric effluent limitations for chronic toxicity. Therefore, this Order requires that the Discharger meet best management practices for compliance with the Basin Plan's narrative toxicity objective, as allowed under 40 CFR 122.44(k).

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

D. Final Effluent 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.

[15] 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)

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 temperature, and when the applicable standards are expressed in terms of concentration (e.g., CTR criteria and MCLs) and mass limitations are not necessary to protect the beneficial uses of the receiving water.

Mass-based effluent limitations were calculated based upon the design flow (Average Dry Weather Flow) permitted in section IV.A.1.a 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 arsenic 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 ammonia, weekly average effluent limitations have been replaced or supplemented with effluent limitations utilizing shorter averaging periods. The rationale for using shorter averaging periods for these constituents is discussed in section IV.C.3 of this Fact Sheet.

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

3. Satisfaction of Anti-Backsliding Requirements

The Clean Water Act specifies that a revised permit may not include effluent limitations that are less stringent than the previous permit unless a less stringent limitation is justified based on exceptions to the anti-backsliding provisions contained in Clean Water Act sections 402(o) or 303(d)(4), or, where applicable, 40 CFR 122.44(l).

The effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order R5-2007-0130, with the exception of effluent

limitations for aluminum, bis (2-ethylhexyl) phthalate, copper, cyanide, EC (salinity), iron, mercury, persistent chlorinated hydrocarbon pesticides as a group, settleable solids, and turbidity. The effluent limitations for these pollutants are less stringent than those in Order R5-2007-0130. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

a. CWA sections 402(o)(1) and 303(d)(4). CWA section 402(o)(1) specifies that, in the case of effluent imitations established on the basis of CWA section 301(b)(1)(C) (i.e., WQBELs), a permit may not be renewed, reissued, or modified to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit except in compliance with CWA section 303(d)(4). The effluent limitations for aluminum, bis (2-ethylhexyl) phthalate, copper, cyanide, EC (salinity), iron, mercury, persistent chlorinated hydrocarbon pesticides as a group, settleable solids, and turbidity established in Order R5-2007-0130 are WQBELs and may be relaxed if the requirements of CWA section 303(d)(4) are satisfied.

CWA section 303(d)(4) has two parts: paragraph (A) which applies to non-attainment waters and paragraph (B) which applies to attainment waters.

i. **Non-Attainment Waters.** For waters where standards are not attained, CWA section 304(d)(4)(A) specifies that any effluent limitation based on a TMDL or other WLA may be revised only if the cumulative effect of all such revised effluent limits based on such TMDLs or WLAs will assure the attainment of such water quality standards. There are no 303(d) listings applicable to the unnamed tributary of Smuthers Ravine, Smuthers Ravine, or Bunch Canyon.

ii. **Attainment Waters.** For attainment waters, CWA section 303(d)(4)(B) specifies that a limitation based on a water quality standard may be relaxed where the action is consistent with the antidegradation policy. The receiving water, the unnamed tributary of Smuthers Ravine, is an attainment water for aluminum, bis (2-ethylhexyl) phthalate, copper, cyanide, EC, iron, mercury, persistent chlorinated hydrocarbon pesticides as a group, settleable solids, and turbidity. As discussed in section IV.D.4, the removal of WQBELs for these pollutants is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16. Therefore, the modifications to these effluent limitations do not violate anti-backsliding requirements.

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

As described further in section IV.C.3.b of this Fact Sheet, updated information that was not available at the time Order R5-2007-0130 was issued indicates that aluminum, bis (2-ethylhexyl) phthalate, copper, cyanide, EC (salinity), iron, mercury, persistent chlorinated hydrocarbon pesticides as a group, settleable solids, and turbidity do not exhibit reasonable potential to cause or contribute to an exceedance of water quality objectives in the receiving water. The updated information that supports the relaxation or removal of effluent limitations for these constituents includes the following:

i. **Aluminum.** Previous Order R5-2007-0130 contained effluent limitations for aluminum. The toxic effects of aluminum in surface waters within the Central Valley Region, including the unnamed tributary of Smuthers Ravine, is less toxic (or less reactive) to aquatic species than demonstrated in the toxicity tests that USEPA used for the basis of establishing the chronic criterion of 87 µg/L. This new information, and review of the toxicity tests USEPA used to establish the chronic criterion, indicates that 87 µg/L is overly stringent and not applicable to the unnamed tributary of Smuthers Ravine. See Fact Sheet section IV,C.3.b.i for additional discussion of aluminum.

   Sixty-five effluent samples collected between January 2009 and November 2012 indicated a maximum effluent concentration for aluminum of 82.2 µg/L. In the same period, the upstream receiving water aluminum concentration was not measured because the unnamed tributary of Smuthers Ravine was dry on sample dates. Based on this data, the discharge does not demonstrate reasonable potential to cause or contribute to an in-stream excursion above USEPA recommended acute criterion of 750 µg/L for protection of aquatic life, or above the Department of Public Health Secondary MCL of 200 µg/L for drinking water aesthetic conditions. Based on new data collected between January 2009 and November 2012, aluminum was not detected in the effluent above the applicable water quality criteria. Therefore, effluent limitations for aluminum are not contained in this Order. This is consistent with the federal anti-backsliding regulations, because the new data represents new information that was not available at the time the previous Order was adopted.

ii. **Bis (2-ethylhexyl) phthalate.** Previous Order R5-2007-0130 contained effluent limitations for bis (2-ethylhexyl) phthalate. Between 1 January 2009 and 30 November 2012, 46 monthly effluent samples were analyzed for bis (2-ethylhexyl) phthalate. Thirty-two of the samples had a minimum method detection limit of 0.7 µg/L or 0.9 µg/L which are below the criterion of 1.8 µg/L. The remaining 15 samples had a minimum detection level of 4.8 µg/L, which is above the criterion. 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. Instances where such consideration is warranted include, but are not limited to, the following: evidence that a sample has been erroneously reported or is not*

representative of effluent or ambient receiving water quality; questionable quality control/quality assurance practices; and varying seasonal conditions. See the accompanying table of bis (2-ethylhexyl) phthalate data below.

Thirty-two of the 46 analytical results did not show concentrations of bis (2-ethylhexyl) phthalate and fourteen samples were estimated by the laboratory to contain concentrations of bis (2-ethylhexyl)phthalate (J-Flags). Two of the J-Flags were estimated at concentrations exceeding the criterion. In March 2011, bis(2-ethylhexyl)phthalate was detected in the effluent at a concentration estimated to be greater than zero, up to 5.3 µg/L and in March 2012 bis(2-ethylhexyl)phthalate was detected at a concentration greater than zero, up to 3.4 µg/L. However, these two concentrations were not quantifiable and therefore, Central Valley Water Board staff could not determine if concentrations exceeded the criterion for bis(2-ethylhexyl)phthalate; these analytical results are not sufficient to determine whether the discharge demonstrates reasonable potential to cause or contribute to an instream excursion above the bis(2-ethylhexyl)phthalate water quality criterion. Based on the data set, the Central Valley Water Board determined that bis(2-ethylhexyl)phthalate in the discharge does not demonstrate reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for the protection of human health. Therefore, effluent limitations for bis (2-ethylhexyl) phthalate are not contained in this Order. This is consistent with the federal anti-backsliding regulations, because the new data represents new information that was not available at the time the previous Order was adopted.

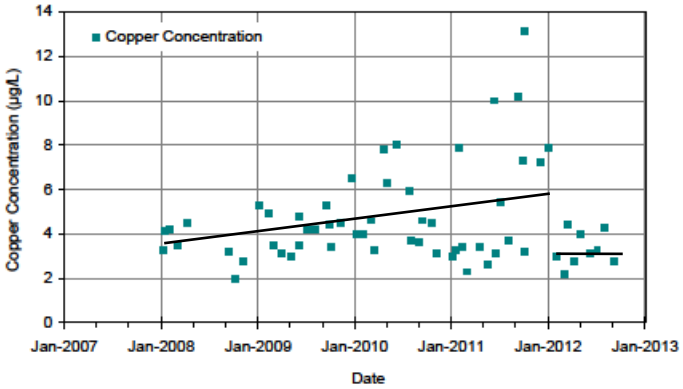
iii. **Copper.** Previous Order R5-2007-0130 contained effluent limitations for copper. A copper effluent limitation is no longer necessary based on new information. The Discharger completed a copper Water Effects Ratio (WER) study that was submitted to the Central Valley Water Board in January 2012. Using the Streamlined WER Procedure for Discharges of Copper (EPA-822-R-01-005), the final WER study determined the site-specific total recoverable copper WER to be 8.57. Monitoring data indicated concentrations in the receiving water and effluent below this site-specific criterion. Therefore, copper in the discharge does not demonstrate reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for the protection of freshwater aquatic life, and in accordance with section 1.3 of the SIP, WQBEL's are not required for copper.

The new tertiary-level treatment plant went on line in 2009 and is considered best practicable treatment and control (BPTC). Further analysis of the copper data shows that there has been an increase in copper concentrations every year since 2009. While increasing, the concentrations are well below the adjusted criteria. However, the 2012

data to date indicate that the annual average appears to have dropped back below 4 µg/L.

Year	Annual Average Copper Concentration
2008	3.54 µg/L
2009	4.33 µg/L
2010	4.88 µg/L
2011	5.57 µg/L
2012	3.85 µg/L (Jan – Nov 2012)

The following graph shows the copper concentrations from January 2008 through September 2012. The graph shows the increasing concentrations through 2011, when the concentrations show a decrease in 2012. The Discharger reported that in December 2011 they began to use "ultraclean" techniques for sample handling. It appears that the copper concentrations have decreased since the Discharger improved copper collection and analysis techniques. For 2012, the average copper concentration is below 4 µg/L.



This Discharger does not use any copper-containing coagulants within the treatment process and treats the effluent to a tertiary level, which is BPTC. Copper effluent limits are not contained in this Order, which is consistent with the federal antibacksliding regulations, because the new WER study and resultant copper criterion represents new information that was not available at the time the previous Order was adopted. The removal of copper effluent limits is consistent with the state and federal Antidegradation requirements.

iv. Cyanide. Previous Order R5-2007-0130 contained effluent limitations for cyanide. Based on fifty samples collected between January 2009 and November 2012, cyanide was not detected in the effluent above the applicable water quality criteria. The maximum effluent concentration

(MEC) for cyanide was 5 µg/L (as total recoverable), which is below the criteria. Therefore, cyanide in the discharge does not demonstrate reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for the protection of freshwater aquatic life, and in accordance with section 1.3 of the SIP, WQBEL's are not required for cyanide. In the same period, no receiving water samples were collected because the upstream segment of the unnamed tributary of Smuthers Ravine was dry on sample dates. Therefore, effluent limitations for cyanide are not contained in this Order. This is consistent with the federal anti-backsliding regulations, because the new data represents new information that was not available at the time the previous Order was adopted.

v. **Iron.** Previous Order R5-2007-0130 contained effluent limitations for iron. The Discharger collected sixty-five samples for iron analysis between 1 January 2009 and 31 December 2011. The maximum effluent concentration for iron was 334 µg/L, which exceeds the criterion. However, the highest annual average, in 2012, was 66.54 which is well below the criterion. Therefore, iron in the discharge does not demonstrate reasonable potential to cause or contribute to an in-stream excursion above the secondary MCL. In the same period, no receiving water samples were collected because the upstream segment of the unnamed tributary of Smuthers Ravine was dry on sample dates. Based on new data collected between January 2009 and November 2012, iron was not detected in the effluent above the applicable water quality criteria. Therefore, effluent limitations for iron are not contained in this Order. This is consistent with the federal anti-backsliding regulations, because the new data represents new information that was not available at the time the previous Order was adopted.

vi. **Mercury.** Previous Order R5-2007-0130 contained an interim performance-based mass effluent limitation of 0.000761 lbs/month for mercury for the effluent discharged to the receiving water. This limitation was based on maintaining the mercury loading at the existing level until a total maximum daily load (TMDL) could be established and USEPA developed mercury standards that are protective of human health. There is no reasonable potential for mercury based on current criteria and 45 methyl mercury samples and 15 total mercury samples. No TMDL is proposed for the unnamed tributary of Smuthers Ravine, Smuthers Ravine itself, or for Bunch Canyon. Therefore, a performance based effluent limitation for mercury is not contained in this Order. This is consistent with the federal anti-backsliding regulations, because the new information was not available at the time the previous Order was adopted. The removal of the interim mercury performance-based effluent limits is consistent with the state and federal Antidegradation requirements.

vii. Persistent Chlorinated Hydrocarbon Pesticides. Previous Order R5-2007-0130 contained effluent limitations for persistent chlorinated hydrocarbon pesticides as a group based on the Basin Plan objective of no detectable concentrations. The effluent limitation for persistent chlorinated hydrocarbon pesticides as a group is not included in this Order. Laboratory results for aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, chlordane, 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, dieldrin, alpha-endosulfan, beta-endosulfan, endosulfan sulfate, endrin, endrin aldehyde, heptachlor, heptachlor epoxide, and toxaphene were reviewed to determine whether there was reasonable potential for the individual pesticides to exceed criteria. All samples that had minimum levels in accordance with the SIP and were analyzed with a method approved by the Clean Water Act, were considered in the RPA. Pesticide concentrations were detected during one sample event at levels that were estimated by the laboratory (J Flags or DNQ). Though estimated chemical concentrations (J-Flags) are not quantifiable they do confirm the presence of a substance below the analytical method's minimum level. However, these analytical results are not sufficient to determine whether the discharge demonstrates reasonable potential to cause or contribute to an instream excursion above the applicable water quality criterion/objective. Therefore, this Order does not contain effluent limits for the individual pesticides, however, it does contain a reopener provision and pesticide study that requires monthly pesticide monitoring for one year in addition to the Priority Pollutant analyses. Monitoring of the pesticides will also continue along with the other Priority Pollutants. This is consistent with the federal antibacksliding regulations, because the new data represents new information that was not available at the time the previous Order was adopted.

viii. Salinity (Electrical Conductivity). Previous Order R5-2007-0130 contained an interim performance-based effluent limitation for EC of 993 µmhos/cm but no final effluent limitation because of insufficient data. Over 700 samples collected by the Discharger from January 2009 through November 2012 indicate an average effluent EC of 398 µmhos/cm, with a range from 167 µmhos/cm to 761 µmhos/cm. The maximum annual average of 402 µmhos/cm occurred during the year 2012, which does not exceed the agricultural water goal of 700 µmhos/cm as a long-term average or the Secondary MCL of 900 µmhos/cm. Effluent limitations for EC are no longer necessary based on new information. This is consistent with the federal antibacksliding regulations, because the new data represents new information that was not available at the time the previous Order was adopted.

The Discharger submitted a Salinity Evaluation and Minimization Plan in August 2009. The Plan has not been approved, however, the Discharger has already implemented some of the measures they identified in the Plan to reduce salinity. The Discharger replaced the chlorine disinfection

system with Ultraviolet Light disinfection, installed a new package treatment plant that includes nitrogen removal, has an ongoing collection system improvement project to reduce infiltration and inflow to the collection system, and they have installed a high density polyethylene liner in the storage reservoir to eliminate infiltration and inflow to the storage reservoir. What remains of the Plan includes community outreach and continued plant improvements.

The new treatment facility went on-line in January 2009. Since the new treatment facility went on line, the EC data have shown a decrease between 2008 and 2009 as shown in the table below:

Year	Annual Average EC	Yearly Maximum EC
2008	647 µmhos/cm	988 µmhos/cm
2009	390 µmhos/cm	761 µmhos/cm
2010	388 µmhos/cm	531 µmhos/cm
2011	378 µmhos/cm	691 µmhos/cm
2012	402 µmhos/cm	748 µmhos/cm

ix. **Settleable Solids.** Previous Order R5-2007-0130 contained effluent limitations for settleable solids. New data collected between 1 January 2009 and 30 November 2012 indicates that the effluent has not exceeded the effluent limitations in Order R5-2007-0130. Because settleable solids were not detected above existing effluent limitations and because the Facility provides tertiary treatment, the discharge does not demonstrate reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan objective. Therefore, the settleable solids effluent limits are not contained in this Order. This is consistent with the federal antibacksliding regulations, because the new data represents new information that was not available at the time the previous Order was adopted. The removal of settleable solids effluent limits is consistent with the state and federal Antidegradation requirements.

x. **Turbidity.** Previous Order R5-2007-0130 contained effluent limitations for turbidity. The prior limitations were used as an operational check to ensure the treatment system was functioning properly and could meet the limits for solids and coliform. The prior effluent limitations were not intended to regulate turbidity in the receiving water. In this Order, turbidity is an operational parameter to determine proper system functioning and not a WQBEL.

Higher effluent turbidity measurements do not necessarily indicate that the effluent discharge exceeds the water quality criteria/objectives for pathogens (i.e., bacteria, parasites, and viruses), which are the principal infectious agents that may be present in raw sewage. Since turbidity is not a valid indicator parameter for pathogens, the turbidity effluent limitations in the previous Order No. R5-2007-0130 were not imposed to protect the receiving water from excess turbidity. The former turbidity limitations were

not technology-based effluent limitations or WQBELs for either pathogens or turbidity. WQBELs for turbidity are not required because the effluent does not have a reasonable potential to cause or contribute to an exceedance of the applicable water quality objectives for turbidity.

This Order contains performance-based operational turbidity specifications to be met prior to disinfection in lieu of effluent limitations. This Order does not include effluent limitations for turbidity. However, the performance-based specification in this Order is equivalent, and therefore does not constitute backsliding. (See Special Provisions VI.C.4.a, Construction Operation, and Maintenance Specifications for turbidity specifications.) This Order moves the point of compliance from the final effluent after disinfection to an internal compliance point prior to disinfection. These revisions are consistent with State regulations implementing recycled water requirements.

The revision in the turbidity limitation is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution 68-16 because this Order imposes equivalent or more stringent requirements than Order No. R5-2007-0130 and therefore does not allow degradation.

This Order 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. This Order does not allow for an increase in flow or mass of pollutants to the receiving water. Therefore, a complete antidegradation analysis is not necessary. The Order requires compliance with applicable federal technology-based standards and with WQBELs where the discharge could have the reasonable potential to cause or contribute to an exceedance of water quality standards. The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.

b. Groundwater. The Discharger uses a new (2009) package treatment plant, Ultraviolet Light disinfection, two lined aeration ponds, and a newly lined (2012) storage reservoir with an approximate capacity of 64 million gallons. Domestic wastewater contains constituents such as total dissolved solids (TDS), specific conductivity, pathogens, nitrates, organics, metals and oxygen demanding substances (BOD). While some small amount of percolation from the treatment plant, ponds, and storage reservoir may still occur and result in an increase in the concentration of these constituents in groundwater, the new plant and newly lined storage reservoir should reduce the possibility of percolation.

Groundwater is protected more with the new treatment plant and liner than it was before installation.

Any increase in the concentration of these constituents in groundwater must be consistent with the Antidegradation, Resolution No. 68-16. The Antidegradation Policy provides that where a regional board is permitting activity that may produce waste that may produce waste that will discharge into existing high quality waters, a regional board may permit such activity if it (1) is consistent with the maximum benefit to the people of the state; (2) will not unreasonably affect beneficial uses; and (3) will not violate water quality standards. The discharge to high quality water must also be required to undergo best practicable treatment or control of the discharge necessary to assure that no pollution or nuisance will occur, and the highest water quality consistent with the maximum benefit to the people of the state will be maintained.

In this case, assuming there is any discharge of waste to groundwater as a result of construction of the new plant, lined aeration ponds, and newly lined storage reservoir, such a discharge is consistent with maximum benefit to the people of the State because and any degradation will allow wastewater utility service necessary to accommodate housing and economic expansion in the area. Second, beneficial uses of the groundwater will not be unreasonably affected. The Discharger has constructed a plant that provides for UV treatment and newly lined its storage reservoir with a high density polyethylene liner. Consequently, the likelihood of any degradation to the groundwater is minimal and will not violate water quality standards. Finally, construction of the plant that provides for UV treatment and a storage reservoir with a high density polyethylene liner constitutes best practicable treatment or control of the discharge to assure that no pollution or nuisance will occur and the highest water quality consistent with the maximum benefit to the people of the state will be maintained. The new liner is expected to eliminate inflow of groundwater into the pond and flow of wastewater out of the storage reservoir.

The Discharger has three groundwater monitoring wells on site. Groundwater Monitoring Well RGW-001 is sometimes dry during dry weather periods, RGW-002 is almost always dry, and RGW-003 almost always contains enough water for sampling. The Discharger has conducted groundwater monitoring for DO, pH, EC, TDS, nitrate, Total Kjeldahl Nitrogen, ammonia, total coliform, and fecal coliform. Based on regular quarterly monitoring conducted between 1 January 2005 and 31 December 2011 from Monitoring Wells RGW-001 and RGW-003, it appears that pH, EC, and ammonia concentrations are higher in the downgradient well RGW-003 than in the upgradient well RGW-001. RGW-003 is also downgradient of the storage reservoir, which was unlined until November 2012. It is difficult to discern any trends in groundwater concentrations for other constituents.

The storage reservoir was lined with a high density polyethylene liner during the summer, fall, and early winter of 2012, thus potentially removing a major source

of groundwater contamination. After one year of quarterly monitoring (samples to be collected from the Second Quarter 2013 through the First Quarter 2014), the groundwater monitoring results will be assessed to determine whether impacts from the storage reservoir has been reduced/eliminated due to the new liner. The content of, and due date for, the *Groundwater Quality Assessment Report* is described in Section VI.C.2.d.ii of the Order. If the Executive Officer agrees in writing that groundwater quality is improving, then the monitoring schedule may be reduced to semiannually (with samples to be collected during the first quarter and third quarter each year). If the Executive Officer does not agree that the groundwater quality is improving, then samples shall continue to be collected quarterly and the Discharger may be required to install additional monitoring wells.

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, TSS, and flow. The WQBELs consist of restrictions on ammonia, arsenic, nitrate plus nitrite, pathogens (total coliform organisms), and pH. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order includes new effluent limitations for arsenic 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 No. 001

Table F-10. Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations					Basis[1]
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Ammonia	mg/L	0.8	--	2.1	--	--	NRWQC
Arsenic	µg/L	10	--	20	--	--	CTR
Biochemical Oxygen Demand (5-day @ 20 ºC)	mg/L	10	15	25	--	--	TTC
	lbs/day	23	34	57	--	--	TTC
Flow	mgd	0.275 [2]	--	--	--	--	DC
Chlorine Residual	mg/L	--	0.01 [6]	0.02 [7]	--	--	BP
Manganese	µg/L	50 [5]	--	--	--	--	SMCL
Nitrate plus Nitrite	mg/L	10	--	--	--	--	MCL
pH	--	--	--	--	6.5	8.5	BP
Total Coliform Organisms	MPN/100 mL	23 [3]	2.2 [4]	--	--	240	Title 22
Total Suspended Solids	mg/L	10	15	25	--	--	TTC
	lbs/day	23	34	57	--	--	TTC

1 DC – Based on the design capacity of the Facility.
BP – Based on water quality objectives contained in the Basin Plan.
TTC – Based on tertiary treatment capability. These effluent limitations reflect the capability of a properly operated tertiary treatment plant.
Title 22 – Based on CA Department of Public Health Reclamation Criteria, CCR, Division 4, Chapter 3 (Title 22).
NRWQC – Based on USEPA's National Recommended Water Quality Criteria for the protection of freshwater aquatic life.
CTR – Based on water quality criteria contained in the California Toxics Rule and applied as specified in the SIP.
SMCL – Based on the Secondary Maximum Contaminant Level.
MCL – Based on the Primary Maximum Contaminant Level.

2 Average Dry Weather Flow (ADWF)

3 Not to be exceeded more than once in any 30-day period.

4 Expressed as a 7-day median.

5 Applied as an annual average.

6 Applied as a 4-day average.

7 Applied as a 1-hour average.

E. Interim Effluent Limitations – Not Applicable

F. Land Discharge Specifications – Not Applicable

G. Reclamation Specifications – Not Applicable

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

B. Groundwater

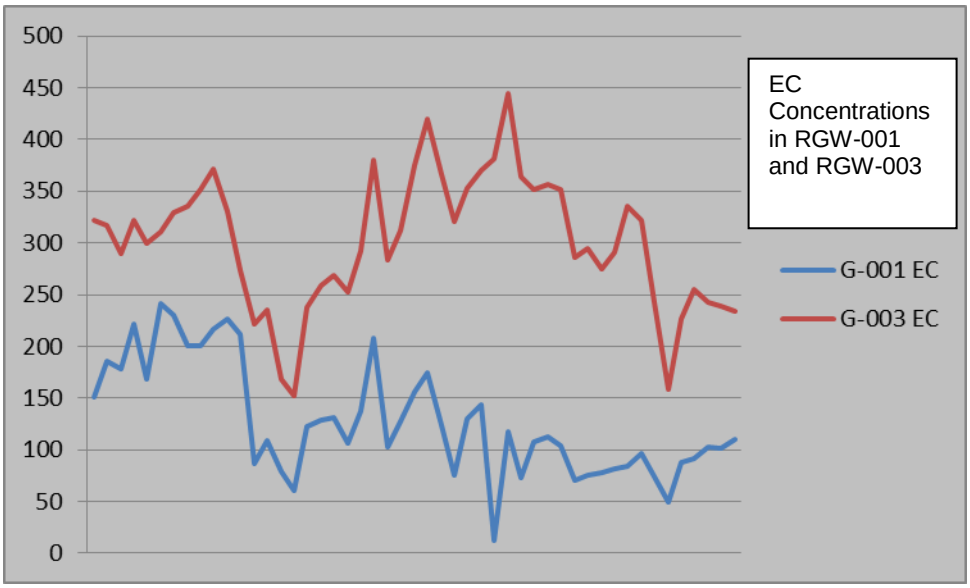
1. Release of waste constituents from any storage, treatment, or disposal component associated with the Facility, in combination with other sources, shall not cause the underlying groundwater to contain waste constituents greater than background quality or Water Quality Objectives, whichever is greater.

2. The beneficial uses of the underlying groundwater are municipal and domestic supply, industrial service supply, industrial process supply, and agricultural supply.

3. Basin Plan water quality objectives include narrative objectives for chemical constituents, tastes and odors, and toxicity of groundwater. The toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants, animals, or aquatic life. The chemical constituent objective states groundwater shall not contain chemical constituents in concentrations that adversely affect any beneficial use. The tastes and odors objective prohibits taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan also establishes numerical water quality objectives for chemical

constituents and radioactivity in groundwaters designated as municipal supply. These include, at a minimum, compliance with MCLs in Title 22 of the CCR. The bacteria objective prohibits coliform organisms at or above 2.2 MPN/100 mL. The Basin Plan requires the application of the most stringent objective necessary to ensure that waters do not contain chemical constituents, toxic substances, radionuclides, taste- or odor-producing substances, or bacteria in concentrations that adversely affect municipal or domestic supply, agricultural supply, industrial supply or some other beneficial use.

4. Monitoring well RGW-003 is downgradient of the the entire treatment system and immediately downgradient of the storage reservoir. RGW-003 contains concentrations of pH, electrical conductivity (EC), and ammonia that are generally higher than the upgradient monitoring well RGW-001. RGW-002 has been dry for several years. See the graph below showing EC concentrations in RGW-001 and RGW-003 versus time (January 2005 to December 2011). The Storage Reservoir may have been contributing to groundwater contamination. However, the Storage Reservoir was lined with a high density polyethylene liner in November 2012. The new liner is expected to eliminate inflow of groundwater into the pond and flow of wastewater out of the storage reservoir. This Order contains a requirement for continued Groundwater Monitoring. If the pH, EC, ammonia and other indicator levels do not go down, then the Discharger may be required to install additional monitoring wells to determine the extent of groundwater impact.



5. 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 Regional Water Boards 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_5 and TSS reduction requirements). The monitoring frequencies for BOD5, TSS, and flow (2/month, 2/month, and continuous) have been retained from Order R5-2007-0130.

B. Effluent Monitoring

1. Pursuant to the requirements of 40 CFR 122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. Effluent monitoring is necessary to assess compliance with effluent limitations, assess the effectiveness of the treatment process, and to assess the impacts of the discharge on the receiving stream and groundwater.

2. Effluent monitoring frequencies and sample types for flow, BOD5, TSS, pH, ammonia, chloride, chlorine residual, dissolved oxygen, EC, hardness, manganese, settleable solids, standard minerals, temperature, total coliform organisms, and TDS have been retained from Order R5-2007-0130 to determine compliance with effluent limitations for these parameters. Monitoring frequencies have been reduced for mercury and methyl mercury. Total nitrate nitrogen, as N, monitoring has been replaced with total nitrate plus nitrite, as N, monitoring. Priority Pollutant monitoring is described in Attachment I.

3. Monitoring data collected over the previous permit term for cyanide, aluminum, and iron did not demonstrate reasonable potential to exceed water quality objectives/criteria. A site-specific copper WER demonstrated that there is no reasonable potential to exceed copper water quality objectives/criteria. Monitoring for persistent chlorinated hydrocarbon pesticides as a group, as defined in the Basin Plan, has been replaced with individual pesticides. Thus, specific monitoring requirements for copper, cyanide, aluminum, iron, and persistent chlorinated hydrocarbon pesticides have not been retained from Order R5-2007-0130.

4. California Water Code section 13176, subdivision (a), states: “The analysis of any material required by [Water Code sections 13000-16104] shall be performed by a laboratory that has accreditation or certification pursuant to Article 3 (commencing with Section 100825) of Chapter 4 of Part 1 of Division 101 of the Health and

Safety Code." The Department of Public Health certifies laboratories through its Environmental Laboratory Accreditation Program (ELAP).

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

C. Whole Effluent Toxicity Testing Requirements

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

2. **Chronic Toxicity.** Semi-annual chronic whole effluent toxicity testing is required in order to demonstrate compliance with the Basin Plan's narrative toxicity objective.

D. Receiving Water Monitoring

1. Surface Water

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

The existing upstream monitoring point (RSW-001U) is located approximately 500 feet upstream of the discharge point on the unnamed tributary of Smuthers Ravine. The existing upstream monitoring point is in a location where the unnamed tributary is an ephemeral segment at the headwaters that is predominately dry year round except for stormwater runoff. Approximately 100 feet upstream of the Discharge Point, the unnamed tributary contains water most of the time fed by a natural spring. At the downstream monitoring point (RSW-002D) approximately 100 feet downstream of the discharge point, the unnamed tributary of Smuthers Ravine is effluent-dominated, except under storm conditions. Previous Order R5-2007-0130 contained a monitoring point approximately 500 feet upstream of the discharge point (RSW-001U) on the unnamed tributary of Smuthers Ravine; however, because this upstream monitoring point was dry most of the time, very few water samples were collected from the small segment located at the head of the unnamed tributary of Smuthers Ravine. Therefore, very few (e.g. one hardness result of 31 mg/L) upstream receiving water monitoring results were available for review during the analysis of the monitoring data and determination of effluent limitations.

Receiving water monitoring is implemented in NPDES permits to determine ambient water quality conditions, compliance with Basin Plan Objectives, and that its Beneficial Uses are protected. As explained, Previous Order R5-2007-0130 contained a monitoring location upstream of the discharge point located in a small segment at the head of the unnamed tributary that was dry during most sampling events under the duration of the permit. Consequently, staff has moved the upstream monitoring point (RSW-001U) to approximately 100 feet upstream of the discharge point, where there is flowing water nearly year round; in dry years it may go dry also

2. Groundwater

a. Water Code section 13267 states, in part, "*(a) A Regional Water Board, in establishing…waste discharge requirements… may investigate the quality of any waters of the state within its region" and "(b) (1) In conducting an investigation…, the Regional Water Board may require that any person who… discharges… waste…that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the Regional Water Board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports.*" The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, a Regional Water Board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports. The Monitoring and Reporting Program is issued pursuant to Water Code section 13267. The groundwater monitoring and reporting program required by this Order and the Monitoring and Reporting Program are necessary to assure compliance with these waste discharge requirements. The Discharger is responsible for the discharges of waste at the facility subject to this Order.

b. Monitoring of the groundwater must be conducted to determine if the discharge has caused an increase in constituent concentrations, when compared to background. The monitoring must, at a minimum, require a complete assessment of groundwater impacts including the vertical and lateral extent of degradation, an assessment of all wastewater-related constituents which may have migrated to groundwater, an analysis of whether additional or different methods of treatment or control of the discharge are necessary to provide best practicable treatment or control to comply with Resolution No. 68-16. Economic analysis is only one of many factors considered in determining best practicable treatment or control. If monitoring indicates that the discharge has incrementally increased constituent concentrations in groundwater above background, this permit may be reopened and modified. Until groundwater monitoring is sufficient, this Order contains Groundwater Limitations that allow groundwater quality to be degraded for certain constituents when compared to background groundwater quality, but not to exceed water quality objectives. If groundwater quality has been degraded by the discharge, the incremental

change in pollutant concentration (when compared with background) may not be increased. If groundwater quality has been or may be degraded by the discharge, this Order may be reopened and specific numeric limitations established consistent with Resolution No. 68-16 and the Basin Plan.

c. Groundwater monitoring reports are necessary to evaluate impacts to waters of the State to assure protection of beneficial uses and compliance with Central Valley Water Board plans and policies, including Resolution No. 68-16. Evidence in the record includes effluent monitoring data that indicates the presence of constituents that may degrade groundwater and surface water.

d. This Order requires the Discharger to continue quarterly groundwater monitoring for one year after which groundwater monitoring and reporting frequency may be reduced to 2/year. However, if the groundwater constituents have not been reduced, continued quarterly monitoring and/or additional wells may be necessary. See Section VI.C.2.d.

E. Other Monitoring Requirements

1. Biosolids Monitoring

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

2. Water Supply Monitoring

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

3. Ultraviolet Light Disinfection System Monitoring

Ultraviolet Light disinfection system specifications and monitoring and reporting are required to ensure that adequate Ultraviolet Light dosage is applied to the wastewater to inactivate pathogens in the wastewater. Ultraviolet Light disinfection system monitoring is imposed pursuant to requirements established by the California Department of Public Health (DPH), and the National Water Research Institute (NWRI), and American Water Works Association Research Foundation NWRI/AWWARF's *"Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse."*

4. Pond Monitoring

Consistent with the requirements contained in the previous Order, weekly storage reservoir monitoring for dissolved oxygen, pH, and odors, and daily monitoring for freeboard and pond elevation, is required to ensure compliance with the treatment and storage pond operating requirements (Special Provision VI.C.4.a). In addition, these same monitoring requirements have been included for Treatment Ponds 1

and 2 to ensure compliance with the treatment and storage pond operating requirements (Special Provision VI.C.4.a).

5. Effluent and Receiving Water Characterization Study.

An effluent and receiving water monitoring study is required to ensure adequate information is available for the next permit renewal. During the third year of this permit term, the Discharger is required to conduct quarterly monitoring of the effluent at EFF-001 and of the receiving water at RSW-001 for all priority pollutants and other constituents of concern as described in Attachment I. Dioxin and furan sampling shall be performed, as described in Attachment J.

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. Mercury. This provision allows the Central Valley Water Board to reopen this Order in the event mercury is found to be causing toxicity based on acute or chronic toxicity test results, or if a TMDL program is adopted. If USEPA develops new water quality standards for mercury, this permit may be reopened and effluent limitations imposed. In addition, this Order may be reopened if the Central Valley Water Board determines that a mercury offset program is feasible for dischargers subject to NPDES permits.

b. Whole Effluent Toxicity. This Order requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity through a Toxicity Reduction Evaluation (TRE). This Order may be reopened

to include a numeric chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if a numeric chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened to include a numeric chronic toxicity limitation based on that objective.

c. **Water Effects Ratio (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating CTR criteria for applicable priority pollutant inorganic constituents, except for copper. A site-specific WER has been established for copper.

d. **Hardness.** During the previous permit term one receiving water hardness sample was obtained upstream of the discharge point and two samples were obtained downstream. Receiving water hardness is necessary for calculating the CTR criteria for the hardness-dependent metals, cadmium, chromium III, copper, lead, nickel, silver, and zinc. This Order requires the Discharger to monitor the effluent and upstream receiving water for hardness. Based on review of the monitoring results and reassessment of the reasonable worst-case ambient hardness, this Order may be reopened for modification or imposition of effluent limitations for CTR hardness dependent metals.

e. **Pesticides.** If individual pesticides are found to be causing exceedances above the applicable water quality criteria, this Order may be reopened to add effluent limitations for individual pesticides.

f. **Pretreatment**. This Order may be reopened to impose a Pretreatment Program for the City of Colfax if the Central Valley Water Board determines that future plant upsets and/or effluent limitation violations indicate that a Pretreatment Program is necessary to control industrial user discharges.

g. **Ultraviolet Light**. If the Discharger conducts a site-specific UV Engineering study that identifies site-specific UV operating specifications that will achieve the virus inactivation equivalent to Title 22 disinfected tertiary recycled water, this Order may be reopened to modify the UV operating specifications, in accordance with Reopener Provision VI.C.1.a.

h. **Regional Monitoring Program.** The State and Regional Water Boards are committed to creation of a coordinated Regional Monitoring Program to address receiving water monitoring for all Water Board regulatory and research programs. When a Regional Monitoring Program becomes functional, this permit may be reopened to make appropriate adjustments in permit-specific monitoring to coordinate with the Regional Monitoring Program.

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

a. **Chronic Whole Effluent Toxicity Requirements.** The Basin Plan contains a narrative toxicity objective that states, “All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological

responses in human, plant, animal, or aquatic life." (Basin Plan at page III-8.00.) Based on whole effluent chronic toxicity testing performed by the Discharger from January 2009 through December 2011, the discharge does not have reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan's narrative toxicity objective.

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

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

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

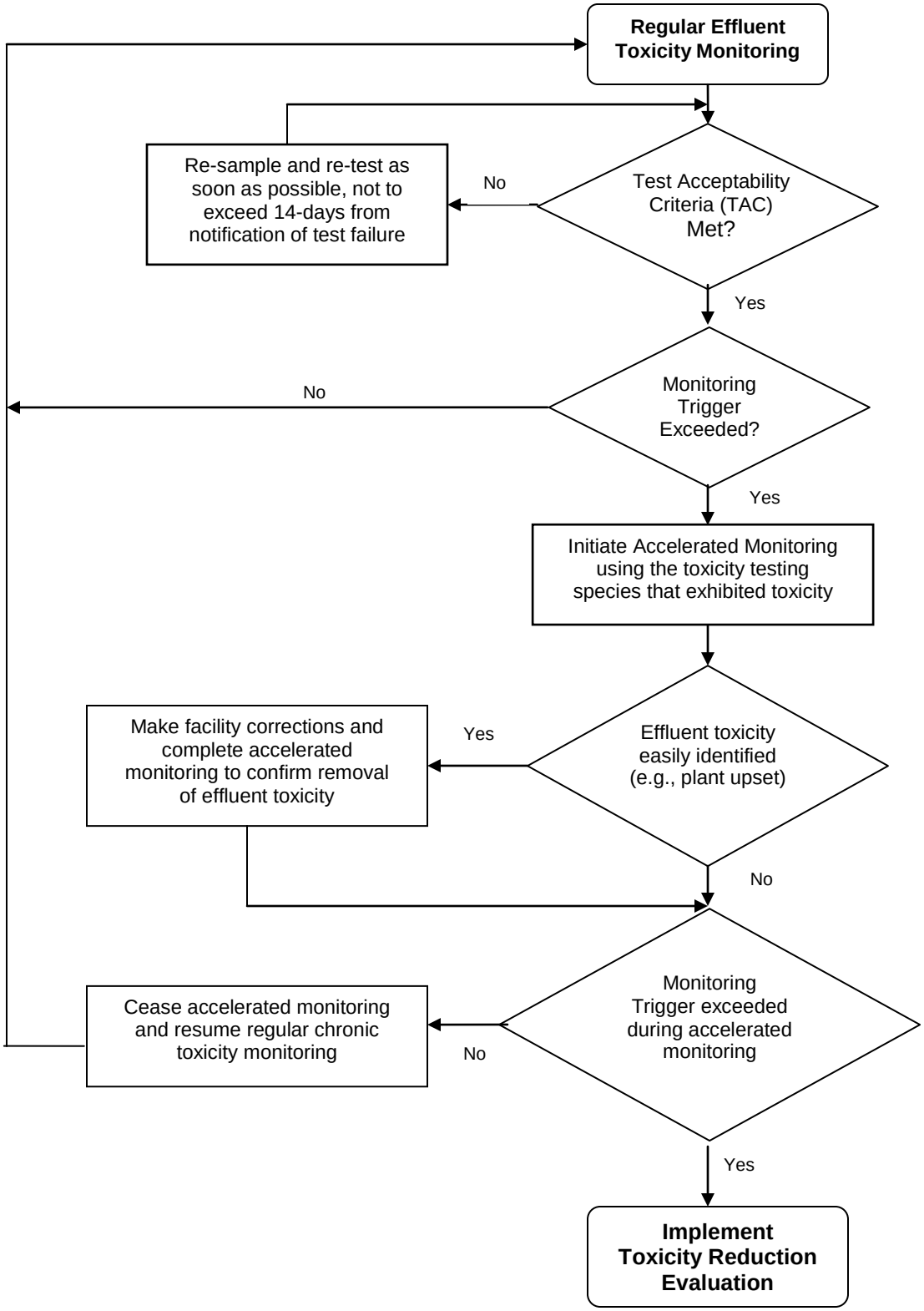
The provision requires accelerated monitoring consisting of four chronic toxicity tests in a six-week period (i.e., one test every two weeks) using the species that exhibited toxicity. Guidance regarding accelerated monitoring and TRE initiation is provided in the *Technical Support Document for Water Quality-based Toxics Control,* EPA/505/2-90-001, March 1991 (TSD). The TSD at page 118 states, "*EPA recommends if toxicity is repeatedly or periodically present at levels above effluent limits more than 20 percent of the time, a TRE should be required.*" Therefore, four accelerated monitoring tests are required in this provision. If no toxicity is demonstrated in the four accelerated tests, then it demonstrates that toxicity is not present at levels above the monitoring trigger more than 20 percent of the time (only 1 of 5 tests are toxic, including the initial test). However, notwithstanding the accelerated monitoring results, if there is adequate evidence of effluent toxicity (i.e. toxicity present exceeding the monitoring trigger more than 20 percent of the time), the Executive Officer may require that the Discharger initiate a TRE.

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

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

- 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



a. Groundwater Quality Assessment Report

i. By **1 June 2015**, the Discharger shall submit a *Groundwater Quality Assessment Report,* which evaluates the constituents found in groundwater monitoring well RGW-003 and the effectiveness of lining the storage reservoir (Pond 3) to ensure unauthorized discharges are not occurring. The evaluation shall include an assessment of the concentrations of electrical conductivity, nitrate, and ammonia, and changes in pH, with respect to background conditions (if able to determine) and/or water quality trends within monitoring well RGW-003. The evaluation, should also include graphical representation of the chemistry of water samples where the mineral cations and anions are shown by separate plots (e.g. piper or stiff diagrams), and a test using the electrical resistivity technique to assess the integrity of the high density polyethylene liner. The report shall be prepared by a California Registered Engineer or Professional Geologist as required by Section VI.A.2.l.

3. Best Management Practices and Pollution Prevention

a. Salinity Evaluation and Minimization Plan. A Salinity Evaluation and Minimization Plan was submitted on 14 August 2009 to ensure adequate measures are developed and implemented by the Discharger to reduce the discharge of salinity to the unnamed tributary of Smuthers Ravine. The Discharger implemented portions of plan.

The Discharger replaced the chlorine disinfection system with Ultraviolet Light disinfection, installed a new package treatment plant that includes nitrogen removal, has an ongoing collection system improvement project to reduce infiltration and inflow to the collection system, and they have installed a high density polyethylene liner in the storage reservoir to eliminate infiltration and inflow to the storage reservoir. What remains of the Plan includes community outreach and continued plant improvements.

4. Construction, Operation, and Maintenance Specifications

a. Turbidity and UV Disinfection System Operating Specifications. This Order requires disinfection at a level equivalent to Title 22 disinfected tertiary recycled water to protect the public from contact with undiluted treated municipal wastewater. The Discharger uses tertiary filtration and UV disinfection to meet this level of disinfection.

The California Department of Public Health (DPH) developed requirements for turbidity and total coliform organisms to demonstrate that the desired pathogen removal is achieved for Title 22 disinfected tertiary recycled water. Therefore, this Order includes turbidity operational specifications and total coliform organism effluent limits. DPH developed the total coliform organisms levels

based on the use of chlorine disinfection. UV disinfection does not disinfect the wastewater in the same manner as chlorine. For facilities that use UV disinfection, DPH requires compliance with additional operating specifications to ensure adequate disinfection is provided. Therefore, in addition to turbidity specifications and total coliform organisms effluent limits, this Order includes UV disinfection system operating specifications (e.g., UV dose, UV transmittance, etc.) as recommended by DPH.

UV disinfection system specifications and monitoring and reporting requirements are required to ensure that adequate UV dosage is applied to the wastewater to inactivate pathogens (e.g., viruses) in the wastewater. UV dosage is dependent on several factors such as UV transmittance, UV power setting, wastewater turbidity, and wastewater flow through the UV disinfection system. Monitoring and reporting of these parameters is necessary to determine compliance with minimum dosage requirements established by the DPH and the NWRI and AWWARF's "Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse" first published in December 2000 revised as a Second Edition dated May 2003. In addition, a memorandum dated 1 November 2004 issued by DPH to Central Valley Water Board executive officers recommended that provisions be included in permits to water recycling treatment plants employing UV disinfection requiring dischargers to establish fixed cleaning frequency of quartz sleeves as well as include provisions that specify minimum delivered UV dose that must be maintained (as recommended by the NWRI/AWWARF UV Disinfection Guidelines).

This Order includes an operating specification for a minimum hourly average UV dose of 100 mJ/cm^2, which is recommended by the NWRI Guidelines for UV disinfection following granular media filtration to achieve the virus inactivation equivalent to Title 22 disinfected tertiary recycled water. A minimum hourly average UV transmittance of 55%, per the NWRI Guidelines, and operating specifications to require proper maintenance of the lamp sleeves are also required. If the Discharger conducts a site-specific UV Engineering study that identifies site-specific UV operating specifications that will achieve the virus inactivation equivalent to Title 22 disinfected tertiary recycled water, this Order may be reopened to modify the UV operating specifications, in accordance with Reopener Provision VI.C.1.a.

b. Storage and Treatment Ponds. The operation and maintenance specifications for the storage and treatment ponds are necessary for proper operation of the ponds. In addition, reporting requirements for the ponds are included in this Order to monitor their use.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 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.

b. Pretreatment Requirements

i. The federal CWA section 307(b), and federal regulations, 40 CFR Part 403 requires all large Publicly Owned Treatment Works (POTWs) (those designed to treat flows of more than 5 million gallons per day) and smaller POTWs (that accept wastewater from industrial users that could affect the treatment plant or its discharges) to establish local pretreatment programs and to enforce all national pretreatment standards and requirements in addition to any more stringent local requirements necessary to protect site-specific conditions at the Facility. Because this Order permits the Facility flow of 0.275 mgd, the City of Colfax is not required to establish a pretreatment program per the requirements contained in 40 CFR Part 403.

ii. However, in June 2012, the Facility experienced an upset caused by an industrial user discharge of biological material (yeast). The City of Colfax has the ability to regulate industrial users under the City of Colfax municipal code. Section 13.08.030 of the City of Colfax Municipal Code classifies the industry that caused the upset as an Industrial User due to the BOD load and that this industry has the potential to cause process interference at the Facility. The City of Cofax is in the process of issuing an industrial wastewater permit to this Industrial User, and is also reviewing all industries/businesses in the City of Colfax to determine whether any additional industrial users require industrial wastewater permits. Upsets have not occurred since this single incident in June 2012, and therefore, Central Valley Water Board is reasonably confident that the Discharger's local pretreatment program is effective and thus a Facility upset is unlikely to occur again. Therefore this Order does not require the Discharger to establish a pretreatment program per the requirements contained in 40 CFR Part 403.

6. Other Special Provisions

a. Ownership Change. To maintain the accountability of the operation of the Facility, the Discharger is required to notify the succeeding owner or operator of the existence of this Order by letter if, and when, there is any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger.

7. Compliance Schedules – Not Applicable

VIII. PUBLIC PARTICIPATION

The Central Valley Water Board is considering the issuance of WDRs that will serve as an NPDES permit for the Facility. As a step in the WDR adoption process, the Central Valley Water Board staff has developed tentative 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 the following **[Describe Notification Process (e.g., newspaper name and date)]**

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 Office at the Central Valley Water Board at the address above on the cover page of this Order.

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

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:	**<Public Hearing Date>**
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 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 (916) 464-3291.

F. Register of Interested Persons

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

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Elizabeth Thayer at 916-464-4671 or ethayer@waterboards.ca.gov.

ATTACHMENT G – SUMMARY OF REASONABLE POTENTIAL ANALYSIS FOR CONSTITUENTS OF CONCERN [1]

Constituent	Units	Max. Eff. Conc.	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential
Aluminum	µg/L	82.2	NA	50	750	87	NA	NA	NA	50	No
Ammonia	mg/L	11.7	NA	0.53	2.14	1.12	NA	NA	NA	NA	Yes
Arsenic	µg/L	12.7	NA	10	340	150	NA	NA	NA	10	Yes
Bis(2-ethylhexyl)Phthalate	µg/L	5.3 J	NA	1.8	NA	NA	1.8	5.9	NA	4	No
Total Chlorine Residual	mg/L	0.48	NA	0.01	0.019	0.011	NA	NA	NA	4	Yes
Cadmium	µg/L	ND	NA	0.93	1.12	0.93	NA	NA	NA	5	Uncertain
Chromium III	µg/L	ND	NA	75	630	75	NA	NA	NA	NA	No
Copper	µg/L	13.1	NA	3.8	5.2	3.8	1300	NA	NA	1000	No
Cyanide	µg/L	5	NA	5.2	22	5.2	700	220000	NA	150	No
EC	µmhos/cm	761	NA	900	NA	NA	NA	NA	NA	900	No
Aldrin	µg/L	ND	NA	ND	3	NA	0.00013	0.00014	ND	NA	Uncertain
alpha-BHC	µg/L	0.019 J	NA	ND	NA	NA	0.0039	0.013	ND	NA	Uncertain
alpha-Endosulfan	µg/L	0.066 J	NA	ND	0.22	0.056	110	240	ND	NA	Uncertain
beta-BHC	µg/L	0.068 J	NA	ND	NA	NA	0.014	0.046	ND	NA	Uncertain
beta-Endosulfan	µg/L	ND	NA	ND	0.22	0.056	110	240	ND	NA	Uncertain
Chlordane	µg/L	0.013 J	NA	ND	2.4	0.0043	0.00057	0.00059	ND	0.1	Uncertain
4,4'-DDD	µg/L	0.01 J	NA	ND	NA	NA	0.00083	0.00084	ND	NA	Uncertain
4,4'-DDE	µg/L	0.041 J	NA	ND	NA	NA	0.00059	0.00059	ND	NA	Uncertain
4,4'-DDT	µg/L	0.084 J	NA	ND	1.1	0.001	0.00059	0.00059	ND	NA	Uncertain
delta-BHC	µg/L	0.038 J	NA	ND	NA	NA	NA	NA	ND	NA	Uncertain
Dieldrin	µg/L	0.028 J	NA	ND	0.24	0.056	0.00014	0.00014	ND	NA	Uncertain
Endosulfan Sulfate	µg/L	0.029 J	NA	ND	NA	NA	110	240	ND	NA	Uncertain
Endrin	µg/L	0.054 J	NA	ND	0.086	0.036	0.76	0.81	ND	NA	Uncertain
Endrin Aldehyde	µg/L	0.029 J	NA	ND	NA	NA	0.76	0.81	ND	NA	Uncertain
gamma-BHC	µg/L	0.02 J	NA	ND	0.95	NA	0.019	0.063	ND	0.2	Uncertain
Heptachlor	µg/L	0.08 J	NA	ND	0.52	0.0038	0.00021	0.00021	ND	0.01	Uncertain
Heptachlor Epoxide	µg/L	0.026 J	NA	ND	0.52	0.0038	0.0001	0.00011	ND	0.01	Uncertain
Iron	µg/L	334	NA	300	NA	1000	NA	NA	NA	300	No
Lead	µg/L	3.6 J	NA	0.84	21	0.84	NA	NA	NA	15	Uncertain
Manganese	µg/L	341	NA	50	NA	NA	NA	100	NA	50	Yes
Methyl Mercury	µg/L	0.00107	NA	0.07	NA	NA	0.3	0.3	NA	NA	No
Mercury, Total	µg/L	0.0131	NA	0.77	NA	0.77	0.050	0.051	NA	NA	No
Nickel	µg/L	1.9	NA	18	160	18	610	4600	NA	100	No

Constituent	Units	Max. Eff. Conc.	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential
Nitrate plus Nitrite	mg/L	11.2	NA	10.00	NA	NA	10	NA	NA	10	Yes
Pentachlorophenol	µg/L	0.3 J	NA	0.28	5.20	4.05	0.28	8.2	NA	1	Uncertain
Persistent Chlorinated Hydrocarbon Pesticides	µg/L	NA	NA	ND	NA	NA	NA	NA	ND	NA	No
pH	--	8.48	NA	6.5-8.5	NA	NA	NA	NA	6.5-8.5	NA	Yes
MBAS	mg/L	0.1	NA	0.5	NA	NA	NA	NA	NA	0.5	Uncertain
Settleable Solids	ml/L	0.05	NA	WQO	NA	NA	NA	NA	WQO	NA	No
Silver	µg/L	0.6 J	NA	0.48	0.48	NA	NA	NA	NA	100	Uncertain
Total Coliform Organisms	MPN/100 ml	1600	NA	23	NA	NA	NA	NA	NA	NA	Yes
Toxaphene	µg/L	ND	NA	ND	0.73	0.0002	0.00073	0.00075	ND	3	Uncertain
Turbidity	NTU	10	NA	10	NA	NA	NA	NA	10	NA	No
Zinc	µg/L	36.1	NA	42	42	42	NA	NA	NA	5000	No

General Note: All inorganic concentrations are given as a total recoverable.
MEC = Maximum Effluent Concentration
B = Maximum Receiving Water Concentration or lowest detection level, if non-detect
C = Criterion used for Reasonable Potential Analysis
CMC = Criterion Maximum Concentration (CTR or NTR)
CCC = Criterion Continuous Concentration (CTR or NTR)
Water & Org = Human Health Criterion for Consumption of Water & Organisms (CTR or NTR)
Org. Only = Human Health Criterion for Consumption of Organisms Only (CTR or NTR)
Basin Plan = Numeric Site-specific Basin Plan Water Quality Objective
MCL = Drinking Water Standards Maximum Contaminant Level
NA = Not Available
ND = Non-detect

Footnotes:
(1) Data from January 2009 through November 2012.

ATTACHMENT H – CALCULATION OF WQBELS

Parameter	Units	Most Stringent Criteria			Dilution Factors			HH Calculations			Aquatic Life Calculations									Final Effluent Limitations	
		HH	CMC	CCC	HH	CMC	CCC	ECA_{HH} = $AMEL_{HH}$	AMEL/MDEL $Multiplier_{HH}$	$MDEL_{HH}$	ECA $Multiplier_{acute}$	LTA_{acute}	ECA $Multiplier_{chronic}$	$LTA_{chronic}$	Lowest LTA	AMEL $Multiplier_{95}$	$AMEL_{AL}$	MDEL $Multiplier_{99}$	$MDEL_{AL}$	Lowest AMEL	Lowest MDEL
Ammonia Nitrogen, Total (as N)	mg/L	--	2.14	1.64	--	--	--	--	--	--	0.12	0.25	0.47	0.25	0.25	2.76	0.7	8.44	2.1	0.7	2.1
Arsenic, Total Recoverable	µg/L	10	340	150	--	--	--	10	2.01	20	--	--	--	--	--	--	--	--	--	10	20
Nitrate plus Nitrite	mg/L	10	--	--	--	--	--	10	2.01	20	--	--	--	--	--	--	--	--	--	10	20

ATTACHMENT I – EFFLUENT AND RECEIVING WATER CHARACTERIZATION STUDY

I. Background. Sections 2.4.1 through 2.4.4 of the SIP provide minimum standards for analyses and reporting. (Copies of the SIP may be obtained from the State Water Resources Control Board, or downloaded from http://www.waterboards.ca.gov/iswp/index.html). To implement the SIP, effluent and receiving water data are needed for all priority pollutants. Effluent and receiving water pH and hardness are required to evaluate the toxicity of certain priority pollutants (such as heavy metals) where the toxicity of the constituents varies with pH and/or hardness. Section 3 of the SIP prescribes mandatory monitoring of dioxin congeners. In addition to specific requirements of the SIP, the Central Valley Water Board is requiring the following monitoring:

A. Drinking water constituents. Constituents for which drinking water Maximum Contaminant Levels (MCLs) have been prescribed in the California Code of Regulation are included in the *Water Quality Control Plan, Fourth Edition, for the Sacramento and San Joaquin River Basins* (Basin Plan). The Basin Plan defines virtually all surface waters within the Central Valley Region as having existing or potential beneficial uses for municipal and domestic supply. The Basin Plan further requires that, at a minimum, water designated for use as domestic or municipal supply shall not contain concentrations of chemical constituents in excess of the MCLs contained in the California Code of Regulations.

B. Effluent and receiving water temperature. This is both a concern for application of certain temperature-sensitive constituents, such as fluoride, and for compliance with the Basin Plan's thermal discharge requirements.

C. Effluent and receiving water hardness and pH. These are necessary because several of the CTR constituents are hardness and pH dependent.

D. Dioxin and furan sampling. Section 3 of the SIP has specific requirements for the collection of samples for analysis of dioxin and furan congeners, which are detailed in Attachment J. Briefly, dischargers classified as minor must collect and analyze one wet season and one dry season sample. Pursuant to Section 13267 of the California Water Code, this Order includes a requirement for the Discharger to submit monitoring data for the effluent and receiving water as described in Attachment J.

II. Monitoring Requirements.

A. Quarterly Monitoring. Quarterly priority pollutant samples shall be collected from the effluent and upstream receiving water (EFF-001 and RSW-001) and analyzed for the constituents listed in Table I-1. Quarterly monitoring shall be conducted for 1 year; 4 consecutive samples, evenly distributed throughout the year) and the results of such monitoring be submitted to the Central Valley Water Board, during the third year of the permit term. Each individual monitoring event shall provide representative sample results for the effluent and upstream receiving water.

B. Semi-annual Monitoring (dioxins and furans only). Semi-annual monitoring is required for dioxins and furans, as specified in Attachment J. The results of dioxin and furan monitoring shall be submitted to the Central Valley Water Board with the quarterly priority data at the completion of the Effluent and Receiving Water Characterization Study, and during the third year of the permit term.

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

D. Sample type. All effluent samples shall be taken as 24-hour flow proportioned composite samples. All receiving water samples shall be taken as grab samples.

E. Additional Monitoring/Reporting Requirements. The Discharger shall conduct the monitoring and reporting in accordance with the General Monitoring Provisions and Reporting Requirements in Attachment E.

Table I-1. Priority Pollutants and Other Constituents of Concern

CTR #	Constituent	CAS Number	Maximum Reporting Level µg/L or noted
28	1,1-Dichloroethane	75343	1
30	1,1-Dichloroethene	75354	0.5
41	1,1,1-Trichloroethane	71556	2
42	1,1,2-Trichloroethane	79005	0.5
37	1,1,2,2-Tetrachloroethane	79345	0.5
75	1,2-Dichlorobenzene	95501	2
29	1,2-Dichloroethane	107062	0.5
	cis-1,2-Dichloroethene	156592	--
31	1,2-Dichloropropane	78875	0.5
101	1,2,4-Trichlorobenzene	120821	1
76	1,3-Dichlorobenzene	541731	2
32	1,3-Dichloropropene	542756	0.5
77	1,4-Dichlorobenzene	106467	2
17	Acrolein	107028	2
18	Acrylonitrile	107131	2
19	Benzene	71432	0.5
20	Bromoform	75252	0.5
34	Bromomethane	74839	2
21	Carbon tetrachloride	56235	0.5
22	Chlorobenzene (mono chlorobenzene)	108907	2
24	Chloroethane	75003	2
25	2- Chloroethyl vinyl ether	110758	1

CTR #	Constituent	CAS Number	Maximum Reporting Level µg/L or noted
26	Chloroform	67663	0.5
35	Chloromethane	74873	2
23	Dibromochloromethane	124481	0.5
27	Dichlorobromomethane	75274	0.5
36	Dichloromethane	75092	2
33	Ethylbenzene	100414	2
88	Hexachlorobenzene	118741	1
89	Hexachlorobutadiene	87683	1
91	Hexachloroethane	67721	1
94	Naphthalene	91203	1
38	Tetrachloroethene	127184	0.5
39	Toluene	108883	2
40	trans-1,2-Dichloroethylene	156605	1
43	Trichloroethene	79016	0.5
44	Vinyl chloride	75014	0.5
	Methyl-tert-butyl ether (MTBE)	1634044	--
	Trichlorofluoromethane	75694	--
	1,1,2-Trichloro-1,2,2-Trifluoroethane	76131	--
	Styrene	100425	--
	Xylenes	1330207	--
60	1,2-Benzanthracene	56553	5
85	1,2-Diphenylhydrazine	122667	1
45	2-Chlorophenol	95578	2
46	2,4-Dichlorophenol	120832	1
47	2,4-Dimethylphenol	105679	2
49	2,4-Dinitrophenol	51285	5
82	2,4-Dinitrotoluene	121142	5
55	2,4,6-Trichlorophenol	88062	10
83	2,6-Dinitrotoluene	606202	5
50	2-Nitrophenol	25154557	10
71	2-Chloronaphthalene	91587	10
78	3,3'-Dichlorobenzidine	91941	5
62	3,4-Benzofluoranthene	205992	10
52	4-Chloro-3-methylphenol	59507	5
48	4,6-Dinitro-2-methylphenol	534521	10
51	4-Nitrophenol	100027	10
69	4-Bromophenyl phenyl ether	101553	10

CTR #	Constituent	CAS Number	Maximum Reporting Level µg/L or noted
72	4-Chlorophenyl phenyl ether	7005723	5
56	Acenaphthene	83329	1
57	Acenaphthylene	208968	10
58	Anthracene	120127	10
59	Benzidine	92875	5
61	Benzo(a)pyrene (3,4-Benzopyrene)	50328	2
63	Benzo(g,h,i)perylene	191242	5
64	Benzo(k)fluoranthene	207089	2
65	Bis(2-chloroethoxy) methane	111911	5
66	Bis(2-chloroethyl) ether	111444	1
67	Bis(2-chloroisopropyl) ether	39638329	10
68	Bis(2-ethylhexyl) phthalate	117817	5
70	Butyl benzyl phthalate	85687	10
73	Chrysene	218019	5
81	Di-n-butylphthalate	84742	10
84	Di-n-octylphthalate	117840	10
74	Dibenzo(a,h)-anthracene	53703	0.1
79	Diethyl phthalate	84662	2
80	Dimethyl phthalate	131113	2
86	Fluoranthene	206440	10
87	Fluorene	86737	10
90	Hexachlorocyclopentadiene	77474	5
92	Indeno(1,2,3-c,d)pyrene	193395	0.05
93	Isophorone	78591	1
98	N-Nitrosodiphenylamine	86306	1
96	N-Nitrosodimethylamine	62759	5
97	N-Nitrosodi-n-propylamine	621647	5
95	Nitrobenzene	98953	1
53	Pentachlorophenol	87865	1
99	Phenanthrene	85018	5
54	Phenol	108952	1
100	Pyrene	129000	10
	Aluminum	7429905	--
1	Antimony	7440360	5
2	Arsenic	7440382	2
15	Asbestos	1332214	--
	Barium	7440393	--

CTR #	Constituent	CAS Number	Maximum Reporting Level µg/L or noted
3	Beryllium	7440417	1
4	Cadmium	7440439	0.5
5a	Chromium (total)	7440473	10
5b	Chromium (VI)	18540299	5
6	Copper	7440508	0.5
14	Cyanide	57125	5
	Fluoride	7782414	--
	Iron	7439896	--
7	Lead	7439921	0.5
8	Mercury	7439976	0.2
	Manganese	7439965	--
	Molybdenum	7439987	--
9	Nickel	7440020	5
10	Selenium	7782492	2
11	Silver	7440224	0.25
12	Thallium	7440280	1
	Tributyltin	688733	--
13	Zinc	7440666	10
110	4,4'-DDD	72548	0.05
109	4,4'-DDE	72559	0.05
108	4,4'-DDT	50293	0.01
112	alpha-Endosulfan	959988	0.02
103	alpha-Hexachlorocyclohexane (BHC)	319846	0.01
	Alachlor	15972608	--
102	Aldrin	309002	0.005
113	beta-Endosulfan	33213659	0.01
104	beta-Hexachlorocyclohexane	319857	0.005
107	Chlordane	57749	0.1
106	delta-Hexachlorocyclohexane	319868	0.005
111	Dieldrin	60571	0.01
114	Endosulfan sulfate	1031078	0.05
115	Endrin	72208	0.01
116	Endrin Aldehyde	7421934	0.01
117	Heptachlor	76448	0.01
118	Heptachlor Epoxide	1024573	0.01
105	Lindane (gamma-Hexachlorocyclohexane)	58899	0.02
119	PCB-1016	12674112	0.5

CTR #	Constituent	CAS Number	Maximum Reporting Level µg/L or noted
120	PCB-1221	11104282	0.5
121	PCB-1232	11141165	0.5
122	PCB-1242	53469219	0.5
123	PCB-1248	12672296	0.5
124	PCB-1254	11097691	0.5
125	PCB-1260	11096825	0.5
126	Toxaphene	8001352	0.5
	Atrazine	1912249	--
	Bentazon	25057890	--
	Carbofuran	1563662	--
	2,4-D	94757	--
	Dalapon	75990	--
	1,2-Dibromo-3-chloropropane (DBCP)	96128	--
	Di(2-ethylhexyl)adipate	103231	--
	Dinoseb	88857	--
	Diquat	85007	--
	Endothal	145733	--
	Ethylene Dibromide	106934	--
	Glyphosate	1071836	--
	Methoxychlor	72435	--
	Methylene Blue Activated Substances (MBAS)	--	--
	Molinate (Ordram)	2212671	--
	Oxamyl	23135220	--
	Picloram	1918021	--
	Simazine (Princep)	122349	--
	Thiobencarb	28249776	--
16	2,3,7,8-TCDD (Dioxin)	1746016	--
	2,4,5-TP (Silvex)	93765	--
	Diazinon	333415	--
	Chlorpyrifos	2921882	--
	Ammonia (as N)	7664417	--
	Chloride	16887006	--
	Flow	--	--
	Hardness (as $CaCO_3$)	--	--
	Nitrate (as N)	14797558	--
	Nitrite (as N)	14797650	--
	pH	--	--

CTR #	Constituent	CAS Number	Maximum Reporting Level µg/L or noted
	Phosphorus, Total (as P)	7723140	--
	Specific conductance (EC)	--	--
	Sulfate	--	--
	Sulfide (as S)	--	--
	Sulfite (as SO_3)	--	--
	Temperature	--	---
	Total Disolved Solids (TDS)	--	--

ATTACHMENT J – DIOXIN AND FURAN SAMPLING

The CTR includes criteria for 2,3,7,8-tetrachlorodibenzo-pdioxin (2,3,7,8-TCDD). In addition to this compound, there are many congeners of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) that exhibit toxic effects similar to those of 2,3,7,8-TCDD. The USEPA has published toxic equivalency factors (TEFs) for 17 of the congeners. The TEFs express the relative toxicities of the congeners compared to 2,3,7,8-TCDD (whose TEF equals 1.0). In June 1997, participants in a World Health Organization (WHO) expert meeting revised TEF values for 1,2,3,7,8-PentaCDD, OctaCDD, and OctaCDF. The current TEFs for the 17 congeners, which include the three revised values, are shown below:

Toxic Equivalency Factors (TEFs) for 2,3,7,8-TCDD Equivalents

Congener	TEF
2,3,7,8-TetraCDD	1
1,2,3,7,8-PentaCDD	1.0
1,2,3,4,7,8-HexaCDD	0.1
1,2,3,6,7,8-HexaCDD	0.1
1,2,3,7,8,9-HexaCDD	0.1
1,2,3,4,6,7,8-HeptaCDD	0.01
OctaCDD	0.0001
2,3,7,8-TetraCDF	0.1
1,2,3,7,8-PentaCDF	0.05
2,3,4,7,8-PentaCDF	0.5
1,2,3,4,7,8-HexaCDF	0.1
1,2,3,6,7,8-HexaCDF	0.1
1,2,3,7,8,9-HexaCDF	0.1
2,3,4,6,7,8-HexaCDF	0.1
1,2,3,4,6,7,8-HeptaCDF	0.01
1,2,3,4,7,8,9-HeptaCDF	0.01
OctaCDF	0.0001

The Discharger shall conduct effluent and receiving water monitoring for the 2,3,7,8-TCDD congeners listed above to assess the presence and amounts of the congeners being discharged and already present in the receiving water. Effluent and upstream receiving water shall be monitored for the presence of the 17 congeners once during dry weather and once during wet weather for 1 year within the term of the study.

The Discharger shall report, for each congener, the analytical results of the effluent and receiving water monitoring, including the quantifiable limit and the method detection limit, and the measured or estimated concentration.

In addition, the Discharger shall multiply each measured or estimated congener concentration by its respective TEF value and report the sum of these values.

ATTACHMENT K – PESTICIDE SAMPLE DATA

Pesticide	Sample Date	Result	Reporting Limit (RL)	Method Detection Limit (MDL)	Units	Analytical Method	SIP Minimum Level (ML)
Aldrin	11/20/12	ND	0.005	0.004	ug/L	EPA 608	0.005
	10/03/12	ND	0.005	0.004	ug/L	EPA 608	
	09/19/12	ND	0.005	0.004	ug/L	EPA 608	
	08/01/12	ND	0.005	0.004	ug/L	EPA 608	
	07/05/12	ND	0.005	0.004	ug/L	EPA 608	
	06/06/12	ND	0.01	0.004	ug/L	EPA 608	
	05/02/12	ND	0.005	0.004	ug/L	EPA 608	
	04/10/12	ND	0.005	0.004	ug/L	EPA 608	
	03/06/12	ND	0.005	0.004	ug/L	EPA 608	
	02/01/12	ND	0.005	0.004	ug/L	EPA 608	
	12/06/11	ND	0.004	0.005	ug/L	EPA 608	
	10/19/10	ND	0.005	0.004	ug/L	EPA 608	
	10/19/10	ND	0.1	0.011	ug/L	EPA 8081A	
	06/21/10	ND	0.1	0.011	ug/L	EPA 8081A	
	06/21/10	ND	0.005	0.004	ug/L	EPA 608	
	06/08/10	ND	0.1	0.011	ug/L	EPA 8081A	
	05/03/10	ND	0.1	0.011	ug/L	EPA 8081A	
	04/14/10	ND	0.1	0.011	ug/L	EPA 8081A	
	03/16/10	ND	0.1	0.011	ug/L	EPA 8081A	
	01/06/09	ND	0.005	0.002	ug/L	EPA 8081	
alpha-BHC	11/20/12	ND	0.01	0.005	ug/L	EPA 608	0.01
	10/03/12	ND	0.01	0.005	ug/L	EPA 608	
	09/19/12	ND	0.01	0.005	ug/L	EPA 608	
	08/01/12	ND	0.01	0.005	ug/L	EPA 608	
	07/05/12	ND	0.01	0.005	ug/L	EPA 608	
	06/06/12	ND	0.01	0.005	ug/L	EPA 608	
	05/02/12	ND	0.01	0.005	ug/L	EPA 608	
	04/10/12	ND	0.01	0.005	ug/L	EPA 608	
	03/06/12	ND	0.01	0.005	ug/L	EPA 608	
	02/01/12	ND	0.01	0.005	ug/L	EPA 608	
	12/06/11	ND	0.005	0.01	ug/L	EPA 608	
	10/19/10	ND	0.01	0.005	ug/L	EPA 608	
	10/19/10	0.019 J	0.1	0.011	ug/L	EPA 8081A	
	06/21/10	ND	0.1	0.011	ug/L	EPA 8081A	
	06/21/10	ND	0.01	0.005	ug/L	EPA 608	
	06/08/10	ND	0.1	0.011	ug/L	EPA 8081A	
	05/03/10	ND	0.1	0.011	ug/L	EPA 8081A	
	04/14/10	ND	0.1	0.011	ug/L	EPA 8081A	
	03/16/10	ND	0.1	0.011	ug/L	EPA 8081A	
	01/06/09	ND	0.01	0.002	ug/L	EPA 8081	

Pesticide	Sample Date	Result	Reporting Limit (RL)	Method Detection Limit (MDL)	Units	Analytical Method	SIP Minimum Level (ML)
beta-BHC	11/20/12	ND	0.005	0.004	ug/L	EPA 608	0.005
	10/03/12	ND	0.005	0.004	ug/L	EPA 608	
	09/19/12	ND	0.005	0.004	ug/L	EPA 608	
	08/01/12	ND	0.005	0.004	ug/L	EPA 608	
	07/05/12	ND	0.005	0.004	ug/L	EPA 608	
	06/06/12	ND	0.005	0.004	ug/L	EPA 608	
	05/02/12	ND	0.005	0.004	ug/L	EPA 608	
	04/10/12	ND	0.005	0.004	ug/L	EPA 608	
	03/06/12	ND	0.01	0.005	ug/L	EPA 608	
	02/01/12	ND	0.005	0.004	ug/L	EPA 608	
	12/06/11	ND	0.004	0.005	ug/L	EPA 608	
	10/19/10	ND	0.005	0.004	ug/L	EPA 608	
	10/19/10	ND	0.1	0.011	ug/L	EPA 8081A	
	06/21/10	ND	0.1	0.011	ug/L	EPA 8081A	
	06/21/10	ND	0.005	0.004	ug/L	EPA 608	
	06/08/10	ND	0.1	0.011	ug/L	EPA 8081A	
	05/03/10	ND	0.1	0.011	ug/L	EPA 8081A	
	04/14/10	ND	0.1	0.011	ug/L	EPA 8081A	
	03/16/10	0.068 J	0.1	0.011	ug/L	EPA 8081A	
	01/06/09	ND	0.005	0.002	ug/L	EPA 8081	
gamma-BHC (Lindane)	11/20/12	ND	0.01	0.004	ug/L	EPA 608	0.02
	10/03/12	ND	0.01	0.004	ug/L	EPA 608	
	09/19/12	ND	0.01	0.004	ug/L	EPA 608	
	08/01/12	ND	0.01	0.004	ug/L	EPA 608	
	07/05/12	ND	0.01	0.004	ug/L	EPA 608	
	06/06/12	ND	0.01	0.004	ug/L	EPA 608	
	05/02/12	ND	0.01	0.004	ug/L	EPA 608	
	04/10/12	ND	0.01	0.004	ug/L	EPA 608	
	03/06/12	ND	0.01	0.004	ug/L	EPA 608	
	02/01/12	ND	0.01	0.004	ug/L	EPA 608	
	12/06/11	ND	0.004	0.01	ug/L	EPA 608	
	10/19/10	ND	0.01	0.004	ug/L	EPA 608	
	10/19/10	ND	0.1	0.013	ug/L	EPA 8081A	
	06/21/10	ND	0.1	0.013	ug/L	EPA 8081A	
	06/21/10	ND	0.01	0.004	ug/L	EPA 608	
	06/08/10	ND	0.1	0.013	ug/L	EPA 8081A	
	05/03/10	ND	0.1	0.013	ug/L	EPA 8081A	
	04/14/10	ND	0.1	0.013	ug/L	EPA 8081A	
	03/16/10	0.02 J	0.1	0.013	ug/L	EPA 8081A	
	01/06/09	ND	0.01	0.002	ug/L	EPA 8081	

Pesticide	Sample Date	Result	Reporting Limit (RL)	Method Detection Limit (MDL)	Units	Analytical Method	SIP Minimum Level (ML)
delta-BHC	11/20/12	ND	0.005	0.004	ug/L	EPA 608	0.005
	10/03/12	ND	0.005	0.004	ug/L	EPA 608	
	09/19/12	ND	0.005	0.004	ug/L	EPA 608	
	08/01/12	ND	0.005	0.004	ug/L	EPA 608	
	07/05/12	ND	0.005	0.004	ug/L	EPA 608	
	06/06/12	ND	0.005	0.004	ug/L	EPA 608	
	05/02/12	ND	0.005	0.004	ug/L	EPA 608	
	04/10/12	ND	0.005	0.004	ug/L	EPA 608	
	03/06/12	ND	0.005	0.004	ug/L	EPA 608	
	02/01/12	ND	0.005	0.004	ug/L	EPA 608	
	12/06/11	ND	0.004	0.005	ug/L	EPA 608	
	10/19/10	ND	0.005	0.004	ug/L	EPA 608	
	10/19/10	0.028 J	0.1	0.021	ug/L	EPA 8081A	
	06/21/10	ND	0.1	0.021	ug/L	EPA 8081A	
	06/21/10	ND	0.005	0.004	ug/L	EPA 608	
	06/08/10	ND	0.1	0.021	ug/L	EPA 8081A	
	05/03/10	ND	0.1	0.021	ug/L	EPA 8081A	
	04/14/10	ND	0.1	0.021	ug/L	EPA 8081A	
	03/16/10	0.038 J	0.1	0.021	ug/L	EPA 8081A	
	01/06/09	ND	0.005	0.002	ug/L	EPA 8081	
Chlordane	11/20/12	ND	0.05	0.005	ug/L	EPA 608	0.1
	10/03/12	ND	0.05	0.005	ug/L	EPA 608	
	09/19/12	ND	0.05	0.005	ug/L	EPA 608	
	08/01/12	ND	0.05	0.005	ug/L	EPA 608	
	07/05/12	ND	0.05	0.005	ug/L	EPA 608	
	06/06/12	ND	0.05	0.005	ug/L	EPA 608	
	05/02/12	ND	0.05	0.005	ug/L	EPA 608	
	04/10/12	ND	0.05	0.004	ug/L	EPA 608	
	03/06/12	ND	0.05	0.005	ug/L	EPA 608	
	02/01/12	0.013 J	0.05	0.005	ug/L	EPA 608	
	12/06/11	ND	0.005	0.05	ug/L	EPA 608	
	10/19/10	ND	0.05	0.005	ug/L	EPA 608	
	10/19/10	ND	1	1	ug/L	EPA 8081A	
	06/21/10	ND	1	1	ug/L	EPA 8081A	
	06/21/10	ND	0.05	0.005	ug/L	EPA 608	
	06/08/10	ND	1	1	ug/L	EPA 8081A	
	05/03/10	ND	1	1	ug/L	EPA 8081A	
	04/14/10	ND	1	1	ug/L	EPA 8081A	
	03/16/10	ND	1	1	ug/L	EPA 8081A	
	01/06/09	ND	0.05	0.003	ug/L	EPA 8081	

Pesticide	Sample Date	Result	Reporting Limit (RL)	Method Detection Limit (MDL)	Units	Analytical Method	SIP Minimum Level (ML)
4,4'-DDT	11/20/12	ND	0.01	0.004	ug/L	EPA 608	0.01
	10/03/12	ND	0.01	0.004	ug/L	EPA 608	
	09/19/12	ND	0.01	0.004	ug/L	EPA 608	
	08/01/12	ND	0.01	0.004	ug/L	EPA 608	
	07/05/12	ND	0.01	0.004	ug/L	EPA 608	
	06/06/12	ND	0.01	0.004	ug/L	EPA 608	
	05/02/12	ND	0.01	0.004	ug/L	EPA 608	
	04/10/12	ND	0.01	0.004	ug/L	EPA 608	
	03/06/12	ND	0.01	0.004	ug/L	EPA 608	
	02/01/12	0.006 J	0.01	0.004	ug/L	EPA 608	
	12/06/11	ND	0.004	0.01	ug/L	EPA 608	
	10/19/10	ND	0.01	0.004	ug/L	EPA 608	
	10/19/10	0.008 J	0.1	0.004	ug/L	EPA 8081A	
	06/21/10	ND	0.1	0.004	ug/L	EPA 8081A	
	06/21/10	ND	0.01	0.004	ug/L	EPA 608	
	06/08/10	ND	0.1	0.004	ug/L	EPA 8081A	
	05/03/10	0.028 J	0.1	0.004	ug/L	EPA 8081A	
	04/14/10	0.048 J	0.1	0.004	ug/L	EPA 8081A	
	03/16/10	0.084 J	0.1	0.004	ug/L	EPA 8081A	
	01/06/09	ND	0.01	0.002	ug/L	EPA 8081	
4,4'-DDE	11/20/12	ND	0.01	0.003	ug/L	EPA 608	0.05
	10/03/12	ND	0.01	0.003	ug/L	EPA 608	
	09/19/12	ND	0.01	0.003	ug/L	EPA 608	
	08/01/12	ND	0.01	0.003	ug/L	EPA 608	
	07/05/12	ND	0.01	0.003	ug/L	EPA 608	
	06/06/12	ND	0.01	0.003	ug/L	EPA 608	
	05/02/12	ND	0.01	0.003	ug/L	EPA 608	
	04/10/12	ND	0.01	0.003	ug/L	EPA 608	
	03/06/12	ND	0.01	0.003	ug/L	EPA 608	
	02/01/12	0.008 J	0.01	0.003	ug/L	EPA 608	
	12/06/11	ND	0.003	0.01	ug/L	EPA 608	
	10/19/10	ND	0.01	0.003	ug/L	EPA 608	
	10/19/10	0.041 J	0.1	0.005	ug/L	EPA 8081A	
	06/21/10	ND	0.1	0.005	ug/L	EPA 8081A	
	06/21/10	ND	0.01	0.003	ug/L	EPA 608	
	06/08/10	ND	0.1	0.005	ug/L	EPA 8081A	
	05/03/10	ND	0.1	0.005	ug/L	EPA 8081A	
	04/14/10	ND	0.1	0.005	ug/L	EPA 8081A	
	03/16/10	ND	0.1	0.005	ug/L	EPA 8081A	
	01/06/09	ND	0.01	0.002	ug/L	EPA 8081	

Pesticide	Sample Date	Result	Reporting Limit (RL)	Method Detection Limit (MDL)	Units	Analytical Method	SIP Minimum Level (ML)
4,4'-DDD	11/20/12	ND	0.01	0.004	ug/L	EPA 608	0.05
	10/03/12	ND	0.01	0.004	ug/L	EPA 608	
	09/19/12	ND	0.01	0.004	ug/L	EPA 608	
	08/01/12	ND	0.01	0.004	ug/L	EPA 608	
	07/05/12	ND	0.01	0.004	ug/L	EPA 608	
	06/06/12	ND	0.01	0.004	ug/L	EPA 608	
	05/02/12	ND	0.01	0.004	ug/L	EPA 608	
	04/10/12	ND	0.01	0.004	ug/L	EPA 608	
	03/06/12	ND	0.01	0.004	ug/L	EPA 608	
	02/01/12	0.01 J	0.01	0.004	ug/L	EPA 608	
	12/06/11	ND	0.004	0.01	ug/L	EPA 608	
	10/19/10	ND	0.01	0.004	ug/L	EPA 608	
	10/19/10	0.01 J	0.1	0.006	ug/L	EPA 8081A	
	06/21/10	ND	0.1	0.006	ug/L	EPA 8081A	
	06/21/10	ND	0.01	0.004	ug/L	EPA 608	
	06/08/10	ND	0.1	0.006	ug/L	EPA 8081A	
	05/03/10	ND	0.1	0.006	ug/L	EPA 8081A	
	04/14/10	ND	0.1	0.006	ug/L	EPA 8081A	
	03/16/10	0.007 J	0.1	0.006	ug/L	EPA 8081A	
	01/06/09	ND	0.02	0.002	ug/L	EPA 8081	
Dieldrin	11/20/12	ND	0.01	0.004	ug/L	EPA 608	0.01
	10/03/12	ND	0.01	0.004	ug/L	EPA 608	
	09/19/12	ND	0.01	0.004	ug/L	EPA 608	
	08/01/12	ND	0.01	0.004	ug/L	EPA 608	
	07/05/12	ND	0.01	0.004	ug/L	EPA 608	
	06/06/12	ND	0.01	0.004	ug/L	EPA 608	
	05/02/12	ND	0.01	0.004	ug/L	EPA 608	
	04/10/12	ND	0.01	0.004	ug/L	EPA 608	
	03/06/12	ND	0.01	0.004	ug/L	EPA 608	
	02/01/12	ND	0.01	0.004	ug/L	EPA 608	
	12/06/11	ND	0.004	0.01	ug/L	EPA 608	
	10/19/10	ND	0.01	0.004	ug/L	EPA 608	
	10/19/10	0.028 J	0.1	0.006	ug/L	EPA 8081A	
	06/21/10	ND	0.1	0.006	ug/L	EPA 8081A	
	06/21/10	ND	0.01	0.004	ug/L	EPA 608	
	06/08/10	ND	0.1	0.006	ug/L	EPA 8081A	
	05/03/10	ND	0.1	0.006	ug/L	EPA 8081A	
	04/14/10	ND	0.1	0.006	ug/L	EPA 8081A	
	03/16/10	0.016 J	0.1	0.006	ug/L	EPA 8081A	
	01/06/09	ND	0.01	0.002	ug/L	EPA 8081	

Pesticide	Sample Date	Result	Reporting Limit (RL)	Method Detection Limit (MDL)	Units	Analytical Method	SIP Minimum Level (ML)
Endosulfan I	11/20/12	ND	0.01	0.004	ug/L	EPA 608	0.02
	10/03/12	ND	0.01	0.004	ug/L	EPA 608	
	09/19/12	ND	0.01	0.004	ug/L	EPA 608	
	08/01/12	ND	0.01	0.004	ug/L	EPA 608	
	07/05/12	ND	0.01	0.004	ug/L	EPA 608	
	06/06/12	ND	0.01	0.004	ug/L	EPA 608	
	05/02/12	ND	0.01	0.004	ug/L	EPA 608	
	04/10/12	ND	0.01	0.004	ug/L	EPA 608	
	03/06/12	ND	0.01	0.004	ug/L	EPA 608	
	02/01/12	ND	0.01	0.004	ug/L	EPA 608	
	12/06/11	ND	0.004	0.01	ug/L	EPA 608	
	10/19/10	ND	0.01	0.004	ug/L	EPA 608	
	10/19/10	0.032 J	0.1	0.007	ug/L	EPA 8081A	
	06/21/10	ND	0.1	0.007	ug/L	EPA 8081A	
	06/21/10	ND	0.01	0.004	ug/L	EPA 608	
	06/08/10	ND	0.1	0.007	ug/L	EPA 8081A	
	05/03/10	ND	0.1	0.007	ug/L	EPA 8081A	
	04/14/10	ND	0.1	0.007	ug/L	EPA 8081A	
	03/16/10	0.066 J	0.1	0.007	ug/L	EPA 8081A	
	01/06/09	ND	0.01	0.002	ug/L	EPA 8081	
Endosulfan II	11/20/12	ND	0.01	0.005	ug/L	EPA 608	0.01
	10/03/12	ND	0.01	0.005	ug/L	EPA 608	
	09/19/12	ND	0.01	0.005	ug/L	EPA 608	
	08/01/12	ND	0.01	0.005	ug/L	EPA 608	
	07/05/12	ND	0.01	0.005	ug/L	EPA 608	
	06/06/12	ND	0.01	0.005	ug/L	EPA 608	
	05/02/12	ND	0.01	0.005	ug/L	EPA 608	
	04/10/12	ND	0.01	0.005	ug/L	EPA 608	
	03/06/12	ND	0.01	0.005	ug/L	EPA 608	
	02/01/12	ND	0.01	0.005	ug/L	EPA 608	
	12/06/11	ND	0.005	0.01	ug/L	EPA 608	
	10/19/10	ND	0.01	0.005	ug/L	EPA 608	
	10/19/10	ND	0.1	0.021	ug/L	EPA 8081A	
	06/21/10	ND	0.1	0.021	ug/L	EPA 8081A	
	06/21/10	ND	0.01	0.005	ug/L	EPA 608	
	06/08/10	ND	0.1	0.021	ug/L	EPA 8081A	
	05/03/10	ND	0.1	0.021	ug/L	EPA 8081A	
	04/14/10	ND	0.1	0.021	ug/L	EPA 8081A	
	03/16/10	ND	0.1	0.021	ug/L	EPA 8081A	
	01/06/09	ND	0.01	0.002	ug/L	EPA 8081	

Pesticide	Sample Date	Result	Reporting Limit (RL)	Method Detection Limit (MDL)	Units	Analytical Method	SIP Minimum Level (ML)
Endosulfan sulfate	11/20/12	ND	0.01	0.005	ug/L	EPA 608	0.05
	10/03/12	ND	0.01	0.005	ug/L	EPA 608	
	09/19/12	ND	0.01	0.005	ug/L	EPA 608	
	08/01/12	ND	0.01	0.005	ug/L	EPA 608	
	07/05/12	ND	0.01	0.005	ug/L	EPA 608	
	06/06/12	ND	0.01	0.005	ug/L	EPA 608	
	05/02/12	ND	0.01	0.005	ug/L	EPA 608	
	04/10/12	ND	0.01	0.005	ug/L	EPA 608	
	03/06/12	ND	0.01	0.005	ug/L	EPA 608	
	02/01/12	ND	0.01	0.005	ug/L	EPA 608	
	12/06/11	ND	0.005	0.01	ug/L	EPA 608	
	10/19/10	ND	0.01	0.005	ug/L	EPA 608	
	10/19/10	0.029 J	0.1	0.005	ug/L	EPA 8081A	
	06/21/10	ND	0.1	0.005	ug/L	EPA 8081A	
	06/21/10	ND	0.01	0.005	ug/L	EPA 608	
	06/08/10	ND	0.1	0.005	ug/L	EPA 8081A	
	05/03/10	ND	0.1	0.005	ug/L	EPA 8081A	
	04/14/10	ND	0.1	0.005	ug/L	EPA 8081A	
	03/16/10	0.01 J	0.1	0.005	ug/L	EPA 8081A	
	01/06/09	ND	0.02	0.002	ug/L	EPA 8081	
Endrin	11/20/12	ND	0.01	0.005	ug/L	EPA 608	0.01
	10/03/12	ND	0.01	0.005	ug/L	EPA 608	
	09/19/12	ND	0.01	0.005	ug/L	EPA 608	
	08/01/12	ND	0.01	0.005	ug/L	EPA 608	
	07/05/12	ND	0.01	0.005	ug/L	EPA 608	
	06/06/12	ND	0.01	0.005	ug/L	EPA 608	
	05/02/12	ND	0.01	0.005	ug/L	EPA 608	
	04/10/12	ND	0.01	0.005	ug/L	EPA 608	
	03/06/12	ND	0.01	0.005	ug/L	EPA 608	
	02/01/12	ND	0.01	0.005	ug/L	EPA 608	
	12/06/11	ND	0.005	0.01	ug/L	EPA 608	
	10/19/10	ND	0.01	0.005	ug/L	EPA 608	
	10/19/10	0.018 J	0.1	0.007	ug/L	EPA 8081A	
	06/21/10	ND	0.1	0.007	ug/L	EPA 8081A	
	06/21/10	ND	0.01	0.005	ug/L	EPA 608	
	06/08/10	ND	0.1	0.007	ug/L	EPA 8081A	
	05/03/10	0.054 J	0.1	0.007	ug/L	EPA 8081A	
	04/14/10	0.041 J	0.1	0.007	ug/L	EPA 8081A	
	03/16/10	0.029 J	0.1	0.007	ug/L	EPA 8081A	
	01/06/09	ND	0.01	0.003	ug/L	EPA 8081	

Pesticide	Sample Date	Result	Reporting Limit (RL)	Method Detection Limit (MDL)	Units	Analytical Method	SIP Minimum Level (ML)
Endrin aldehyde	11/20/12	ND	0.01	0.005	ug/L	EPA 608	0.01
	10/03/12	ND	0.01	0.005	ug/L	EPA 608	
	09/19/12	ND	0.01	0.005	ug/L	EPA 608	
	08/01/12	ND	0.01	0.005	ug/L	EPA 608	
	07/05/12	ND	0.01	0.005	ug/L	EPA 608	
	06/06/12	ND	0.01	0.005	ug/L	EPA 608	
	05/02/12	ND	0.01	0.005	ug/L	EPA 608	
	04/10/12	ND	0.01	0.005	ug/L	EPA 608	
	03/06/12	ND	0.01	0.005	ug/L	EPA 608	
	02/01/12	ND	0.01	0.005	ug/L	EPA 608	
	12/06/11	ND	0.005	0.01	ug/L	EPA 608	
	10/19/10	ND	0.01	0.005	ug/L	EPA 608	
	10/19/10	0.029 J	0.1	0.006	ug/L	EPA 8081A	
	06/21/10	ND	0.1	0.006	ug/L	EPA 8081A	
	06/21/10	ND	0.01	0.005	ug/L	EPA 608	
	06/08/10	0.024 J	0.1	0.006	ug/L	EPA 8081A	
	05/03/10	ND	0.1	0.006	ug/L	EPA 8081A	
	04/14/10	ND	0.1	0.006	ug/L	EPA 8081A	
	03/16/10	0.028 J	0.1	0.006	ug/L	EPA 8081A	
	01/06/09	ND	0.01	0.005	ug/L	EPA 8081	
Heptachlor	11/20/12	ND	0.01	0.005	ug/L	EPA 608	0.01
	10/03/12	ND	0.01	0.005	ug/L	EPA 608	
	09/19/12	ND	0.01	0.005	ug/L	EPA 608	
	08/01/12	ND	0.01	0.005	ug/L	EPA 608	
	07/05/12	ND	0.01	0.005	ug/L	EPA 608	
	06/06/12	ND	0.01	0.005	ug/L	EPA 608	
	05/02/12	ND	0.01	0.005	ug/L	EPA 608	
	04/10/12	ND	0.01	0.005	ug/L	EPA 608	
	03/06/12	ND	0.01	0.005	ug/L	EPA 608	
	02/01/12	0.007 J	0.01	0.005	ug/L	EPA 608	
	12/06/11	ND	0.005	0.01	ug/L	EPA 608	
	10/19/10	ND	0.01	0.005	ug/L	EPA 608	
	10/19/10	0.08 J	0.1	0.016	ug/L	EPA 8081A	
	06/21/10	ND	0.1	0.016	ug/L	EPA 8081A	
	06/21/10	ND	0.01	0.004	ug/L	EPA 608	
	06/08/10	ND	0.1	0.016	ug/L	EPA 8081A	
	05/03/10	ND	0.1	0.016	ug/L	EPA 8081A	
	04/14/10	ND	0.1	0.016	ug/L	EPA 8081A	
	03/16/10	ND	0.1	0.016	ug/L	EPA 8081A	
	01/06/09	ND	0.01	0.002	ug/L	EPA 8081	

Pesticide	Sample Date	Result	Reporting Limit (RL)	Method Detection Limit (MDL)	Units	Analytical Method	SIP Minimum Level (ML)
Heptachlor epoxide	11/20/12	ND	0.01	0.004	ug/L	EPA 608	0.01
	10/03/12	ND	0.01	0.004	ug/L	EPA 608	
	09/19/12	ND	0.01	0.004	ug/L	EPA 608	
	08/01/12	ND	0.01	0.004	ug/L	EPA 608	
	07/05/12	ND	0.01	0.004	ug/L	EPA 608	
	06/06/12	ND	0.01	0.004	ug/L	EPA 608	
	05/02/12	ND	0.01	0.004	ug/L	EPA 608	
	04/10/12	ND	0.01	0.004	ug/L	EPA 608	
	03/06/12	ND	0.01	0.004	ug/L	EPA 608	
	02/01/12	ND	0.01	0.004	ug/L	EPA 608	
	12/06/11	ND	0.004	0.01	ug/L	EPA 608	
	10/19/10	ND	0.01	0.004	ug/L	EPA 608	
	10/19/10	ND	0.1	0.02	ug/L	EPA 8081A	
	06/21/10	ND	0.1	0.02	ug/L	EPA 8081A	
	06/21/10	ND	0.01	0.005	ug/L	EPA 608	
	06/08/10	0.023 J	0.1	0.02	ug/L	EPA 8081A	
	05/03/10	0.023 J	0.1	0.02	ug/L	EPA 8081A	
	04/14/10	ND	0.1	0.02	ug/L	EPA 8081A	
	03/16/10	0.026 J	0.1	0.02	ug/L	EPA 8081A	
	01/06/09	ND	0.01	0.002	ug/L	EPA 8081	
Toxaphene	11/20/12	ND	0.2	0.01	ug/L	EPA 608	0.5
	10/03/12	ND	0.2	0.01	ug/L	EPA 608	
	09/19/12	ND	0.2	0.01	ug/L	EPA 608	
	08/01/12	ND	0.2	0.01	ug/L	EPA 608	
	07/05/12	ND	0.2	0.01	ug/L	EPA 608	
	06/06/12	ND	0.2	0.01	ug/L	EPA 608	
	05/02/12	ND	0.2	0.01	ug/L	EPA 608	
	04/10/12	ND	0.2	0.01	ug/L	EPA 608	
	03/06/12	ND	0.2	0.01	ug/L	EPA 608	
	02/01/12	ND	0.2	0.01	ug/L	EPA 608	
	12/06/11	ND	0.2	0.01	ug/L	EPA 608	
	10/19/10	ND	0.5	0.2	ug/L	EPA 608	
	10/19/10	ND	1	1	ug/L	EPA 8081A	
	06/21/10	ND	1	1	ug/L	EPA 8081A	
	06/21/10	ND	0.5	0.2	ug/L	EPA 608	
	06/08/10	ND	1	1	ug/L	EPA 8081A	
	05/03/10	ND	1	1	ug/L	EPA 8081A	
	04/14/10	ND	1	1	ug/L	EPA 8081A	
	03/16/10	ND	1	1	ug/L	EPA 8081A	
	01/06/09	ND	0.5	0.02	ug/L	EPA 8081	