

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL VALLEY REGION

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ORDER NO. R5-2008-XXXX
NPDES NO. CA0078956

WASTE DISCHARGE REQUIREMENTS FOR THE CITY OF PLACERVILLE HANGTOWN CREEK WATER RECLAMATION FACILITY EL DORADO COUNTY

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

Table 1. Discharger Information

Discharger	City of Placerville (Owner/Land Owner/Operator)
Name of Facility	Hangtown Creek Water Reclamation Facility
Facility Address	2300 Coolwater Creek Road, Placerville, CA 95667 El Dorado County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.	

The discharge by the City of Placerville from the discharge points 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	Treated Municipal Wastewater	38° 43' 40" N	120° 51' 04" W	Hangtown Creek

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	<Adoption Date>
This Order shall become effective on:	50 Days After Permit Adoption Date
This Order shall expire on:	<Expiration Date>
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:	<u>180 days prior to the Order expiration date</u>

IT IS HEREBY ORDERED, that this Order supercedes Order No. 5-01-045 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 Clean Water Act (CWA), and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

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>**.

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 Placerville (Owner/Property Owner/Operator)	
Name of Facility	Hangtown Creek Water Reclamation Facility	
Facility Address	2300 Coolwater Creek Road	
	Placerville, CA 95667	
	El Dorado County	
Facility Contact, Title, and Phone	Randy Pesses, Public Works Director Dan Yaroch, Plant Supervisor	(530) 642-5250 (530) 642-5244
Mailing Address	3101 Center Street Placerville, CA 95667	
Type of Facility	Publicly Owned Treatment Works (POTW) (Standard Industrial Classification: 4952)	
Facility Design Flow:	2.3 mgd Average Dry Weather Flow 5.7 mgd Maximum Wet Weather Flow	

II. FINDINGS

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

A. Background. The City of Placerville (hereinafter Discharger) is currently discharging pursuant to Order No. 5-01-045 (National Pollutant Discharge Elimination System (NPDES) Permit No. CA0078956. The Discharger submitted a Report of Waste Discharge, dated 27 September 2005, and supplemental information on 5 May 2006, and applied for a NPDES permit renewal to discharge up to 2.3 million gallons per day (mgd) average dry weather flow (ADWF) of wastewater from the Hangtown Creek Water Reclamation Facility, hereinafter Facility. The application was deemed complete on 5 May 2006.

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

B. Facility Description. The Discharger owns and operates a municipal wastewater treatment system that provides sewerage service for a population of approximately 10,335 in the community of Placerville and a small portion of El Dorado County. The existing treatment system consists of primary, secondary, and tertiary treatment processes. The wastewater treatment facilities include headworks, primary clarifiers,

flow equalization, an anoxic selector, aeration basins, secondary clarifiers, ballast ponds, tertiary pressure filters, chlorination, dechlorination with sulfur dioxide, and addition of defoamant.

In 2004, a new rotary screw screen was installed to replace the mechanically cleaned bar screen at the headworks. The addition of sodium hydroxide to the effluent of the primary clarifiers was initiated to provide the alkalinity necessary for nitrification. The addition of sodium hydroxide to the effluent from the secondary clarifiers was also initiated to assist with compliance with effluent and receiving water pH limitations.

The solids processing facilities include aerobic digesters for waste activated sludge and anaerobic digesters for primary sludge. Digested sludge is dewatered with a belt filter press and disposed off-site at a permitted land disposal facility or by application to agricultural land. The Discharger has begun construction on treatment system improvements. The new treatment system is scheduled to begin discharge by 1 March 2009 and will include upgraded primary, secondary, and tertiary treatment processes, effluent cooling, and anaerobic digesters for processing waste activated sludge.

Wastewater is discharged from Discharge Point 001 (see table on cover page) to Hangtown Creek, a water of the United States, and tributary to Weber Creek, which then flows into the South Fork American River (between Placerville and Folsom Lake), Folsom Lake, the Sacramento River, and eventually the Delta. Attachment B provides maps and layouts of the area in and around the Facility. Attachment C provides flow schematics of the Facility.

- C. Legal Authorities.** This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California 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 Regional 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 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 (CFR)¹ 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 Part 133. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).

G. Water Quality-based Effluent Limitations. Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as technology equivalence requirements, ~~that are necessary to achieve water quality standards. more stringent than secondary treatment requirements that are necessary to meet applicable water quality standards.~~ The Regional Water Board has considered the factors listed in CWC 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 Section IV.C.2.

Section 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, water quality-based effluent limitations (WQBELs) must be established using: (1) EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed State criterion or policy interpreting the State's narrative criterion, supplemented with other relevant information, as provided in 40 CFR section 122.44(d)(1)(vi).

H. Water Quality Control Plans. The Regional Water Board adopted a *Water Quality Control Plan, Fourth Edition (Revised August 2006), 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.*” The Basin Plan does not specifically identify beneficial uses for Hangtown Creek, but does identify present and potential uses for the South Fork American River, from Placerville to Folsom Lake, to which Hangtown Creek, via Weber Creek, is tributary. These beneficial uses are as follows: municipal and domestic supply; agricultural supply for irrigation; hydropower generation; water contact recreation, including canoeing and rafting; non-contact water recreation; warm freshwater habitat; cold freshwater habitat; and wildlife habitat.

¹ All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

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 (Section IV.C.2.a), the beneficial uses that are applicable to Hangtown Creek are as follows:

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Uses
001	Hangtown Creek	Municipal and Domestic Supply (MUN); Warm Freshwater Habitat (WARM); Cold Freshwater Habitat (COLD); Agricultural Supply (AGR) for irrigation; Wildlife Habitat (WILD); Hydropower Generation (POW); Water Contact Recreation (REC-1); Non-contact Water recreation (REC-2);
	Groundwater	Municipal and Domestic Supply (MUN); Agricultural Supply (AGR), Industrial Service Supply (IND), and Industrial Process Supply (PRO)

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 Basin Plan also states, "Additional treatment beyond minimum federal standards will be imposed on dischargers to WQLSs. Dischargers will be assigned or allocated a maximum allowable load of critical pollutants so that water quality objectives can be met in the segment." Hangtown Creek is a tributary of the American River. The American River and downstream water bodies are listed as WQLSs for mercury. Because of the bioaccumulative nature of mercury, a mass-based Effluent Limitation for mercury is included in this Order.

Requirements of this Order implement the Basin Plan.

- I. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on 22 December 1992, and later amended it on 4 May 1995 and 9 November 1999. About forty 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 the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on 18 May 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on 24 February 2005 that became effective on 13 July 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

K. Compliance Schedules and Interim Requirements. In general, an NPDES permit must include final effluent limitations that are consistent with Clean Water Act section 301 and with 40 CFR 122.44(d). There are exceptions to this general rule. The State Water Board has concluded that where the Regional Water Board's Basin Plan allows for schedules of compliance and the Regional Water Board is newly interpreting a narrative standard, it may include schedules of compliance in the permit to meet effluent limits that implement a narrative standard. See *In the Matter of Waste Discharge Requirements for Avon Refinery* (State Board Order WQ 2001-06 at pp. 53-55). See also *Communities for a Better Environment et al. v. State Water Resources Control Board*, 34 Cal.Rptr.3d 396, 410 (2005). The Basin Plan for the Sacramento and San Joaquin Rivers includes a provision that authorizes the use of compliance schedules in NPDES permits for water quality objectives that are adopted after the date of adoption of the Basin Plan, which was 25 September 1995 (See Basin Plan at page IV-16). Consistent with the State Water Board's Order in the CBE matter, the Regional Water Board has the discretion to include compliance schedules in NPDES permits when it is including an effluent limitation that is a "new interpretation" of a narrative water quality objective. This conclusion is also consistent with the United States Environmental Protection Agency policies and administrative decisions. See, e.g., Whole Effluent Toxicity (WET) Control Policy. The Regional Water Board, however, is not required to include a schedule of compliance, but may issue a Time Schedule Order pursuant to Water Code section 13300 or a Cease and Desist Order pursuant to Water Code section 13301 where it finds that the discharger is violating or threatening to violate the permit. The Regional Water Board will consider the merits of each case in determining whether it is appropriate to include a compliance schedule in a permit, and, consistent with the Basin Plan, should consider the feasibility of achieving compliance, and must impose a schedule that is as short as practicable to achieve compliance with the objectives, criteria, or effluent limit based on the objective or criteria.

For CTR constituents, Section 2.1 of the SIP provides that, based on a Discharger's request and demonstration that it is infeasible for an existing Discharger to achieve immediate compliance with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in an NPDES permit. Unless an exception has been granted under section 5.3 of the SIP, a compliance schedule may not exceed 5 years from the date that the permit is issued or reissued, nor may it extend beyond 10 years from the effective date of the SIP (or 18 May 2010) to establish and comply with CTR criterion-based effluent limitations. Where a compliance schedule for a final effluent limitation that exceeds one 1 year, the Order must include interim numeric limitations for that constituent or parameter. Where allowed by the Basin Plan, compliance schedules and interim effluent limitations or discharge specifications may also be granted to allow time to implement a new or revised water quality objective.

This Order includes compliance schedules and interim effluent limitations. A detailed discussion of the basis for the compliance schedules and interim effluent limitations is included in the Fact Sheet.

L. Alaska Rule. On 30 March 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 C.F.R. § 131.21; 65 Fed. Reg. 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 and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD₅ and TSS. The water quality-based effluent limitations consist of restrictions on turbidity and pathogens. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order ~~contains effluent limitations more stringent than the minimum, federal technology-based requirements that are necessary to meet water quality standards. These limitations are more stringent than required by the CWA. Specifically, this Order~~ includes effluent limitations for BOD, TSS, turbidity and pathogens ~~that are more stringent than applicable federal standards, but that are nonetheless necessary~~ to meet numeric objectives or protect beneficial uses. ~~The rationale for including these limitations is explained in the Fact Sheet. In addition, the Regional Water Board has considered the factors in Water Code section 13241 in establishing these requirements. The Regional Water Board considered the requirements of CWC section 13241 during adoption of the previous NPDES permit which contained limitations above the federal secondary requirements for nitrate, turbidity, and total coliform organisms. The previous Order required a tertiary level of treatment, or equivalent, necessary to protect the beneficial uses of the receiving water.~~

Water quality-based effluent limitations 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 water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations are based on the CTR-SIP, which was approved by USEPA on 1 May 2001. 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 section 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.** Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 is consistent with 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 Regional 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 section 131.12 and State Water Board Resolution No. 68-16.
- O. Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations section 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 where limitations may be relaxed. All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order.
- P. Monitoring and Reporting.** Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.
- Q. Standard and Special Provisions.** Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.
- R. Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections IV.B, IV.C, V.B, and VI.C, Sections 2, 4, 5.a, 6, and 7, 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.
- S. Notification of Interested Parties.** The Regional 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. Details of notification are provided in the Fact Sheet of this Order.

- T. Consideration of Public Comment.** The Regional 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 of this Order.
- U. Salinity (Electrical Conductivity or EC).** This Order contains an interim EC effluent limitation that is to remain in effect for the term of the Order. A final EC effluent limitation based on 500 $\mu\text{mhos/cm}$ above the water supply EC level (Best Practical Treatment or Control or BPTC) is applicable for discharge to Hangtown Creek. However, water supply EC monitoring data is not available to establish a final EC effluent limitation. Therefore, this Order requires quarterly water supply EC monitoring data to be used for establishment of a final EC effluent limitation (based on BPTC) in the subsequent renewal of this Order. If there are multiple water supply sources, water quality shall be determined by a flow weighted average of sample sites located within each of the separate water supply systems.

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 nuisance as defined in Section 13050 of the California Water Code.
- D. The Discharger shall not allow pollutant-free wastewater to be discharged into the collection, treatment, and 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 001

1. Final Effluent Limitations – Discharge Point 001

The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001 as described in the attached MRP (Attachment E):

- a. The Discharger shall maintain compliance with the effluent limitations specified in Table 6:

Table 6. Final Effluent Limitations

Parameter	Units	Effluent Limitations					
		Average Yearly	Average Monthly	Average Weekly	Max. Daily	Inst. Min.	Inst. Max.
BOD 5-day @ 20°C	mg/L	--	10	15	30	--	--
	lbs/day ¹	--	192	288	575	--	--
Total Suspended Solids (TSS)	mg/L	--	10	15	30	--	--
	lbs/day ¹	--	192	288	575	--	--
pH	standard	--	--	--	--	6.5	8.0
Turbidity ⁴	NTU	--	--	--	--	--	10
Total Coliform Organisms ⁴	MPN/100 mL	--	--	--	--	--	240
Settleable Solids	mL/L-hr	--	0.1	--	0.2	--	--
MTBE ⁵	ug/L	--	5.0	--	--	--	--
Atrazine ⁵	ug/L	--	1.0	--	--	--	--
Dibromochloromethane ⁵	ug/L	--	0.41	--	0.98	--	--
Dichlorobromomethane ⁵	ug/L	--	0.56	--	0.96	--	--
Total Trihalomethanes (THMs) ⁵	ug/L	--	80	--	--	--	--
Total Ammonia ⁵ (as N)	mg/L	--	4.32 80	--	2.05 62	--	--
	lbs/day ¹	--	25.0 3.7	--	38.4 108	--	--
Total Nitrate + Nitrite (as N)	mg/L	--	10	--	43	--	--
Aluminum ⁵ (Total Recoverable)	ug/L	--	76.7	--	125	--	--
Copper ⁵ (Total Recoverable)	ug/L	--	3.95	--	5.41	--	--
Cyanide ⁵ (Total Recoverable)	ug/L	--	4.26	--	8.54	--	--
Lead (Total Recoverable)	ug/L	--	0.86	--	1.49	--	--
Zinc ⁵ (Total Recoverable)	ug/L	--	42.6 36.2	--	55.1	--	--
Iron (Total Recoverable)	ug/L	300	--	--	--	--	--
Manganese (Total Recoverable)	ug/L	50	--	--	--	--	--
Sulfide ⁵	mg/L	--	--	--	--	--	2.0
Persistent Chlorinated Hydrocarbon Pesticides ^{2, 3, 5}							
Beta-Endosulfan	ug/L	--	--	--	--	--	ND
Endrin	ug/L	--	--	--	--	--	ND
Endrin Aldehyde	ug/L	--	--	--	--	--	ND
Heptachlor	ug/L	--	--	--	--	--	ND
4,4'-DDD	ug/L	--	--	--	--	--	ND
Dalapon	ug/L	--	--	--	--	--	ND
Dinoseb	ug/L	--	--	--	--	--	ND
2,4,5-TP (Silvex)	ug/L	--	--	--	--	--	ND
2,4-D	ug/L	--	--	--	--	--	ND

¹ Based on the Average Dry Weather Flow of 2.3 mgd.

² The non-detectable (ND) limitation applies to each individual pesticide analyzed at the lowest possible detectable level that shall be equal to or less than the lowest minimum level published in Appendix 4 of the SIP.

³ Persistent in the environment.

⁴ See following page for additional Effluent Limitations.

⁵ See Interim Limitations below, Table 7a ~~and 7b through 7f~~.

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

- c. **Acute Whole Effluent Toxicity:** Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:
 - i. 70%, minimum for any one bioassay; and
 - ii. 90%, median for any three consecutive bioassays.
- d. **Total Residual Chlorine:** Effluent total residual chlorine shall not exceed:
 - i. 0.01 mg/L, as a 4-day average; and
 - ii. 0.02 mg/L, as a 1-hour average.
- e. **Turbidity:** Effluent turbidity shall not exceed:
 - i. 2 NTU, as a daily average; and
 - ii. 5 NTU, more than 5% of the time within a 24-hour period.
- 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; and
 - ii. 23 MPN/100 mL, more than once in any 30-day period.
- g. **Average Dry Weather Flow (ADWF):** The Average Dry Weather Flow shall not exceed 2.3 million gallons per day (mgd).
- h. **Mercury:** The total monthly mass discharge of total mercury to Hangtown Creek shall not exceed 0.014 pounds/month.

2. Interim Effluent Limitations

- a. During the period beginning with the **Effective Date** of this Order and ending on **31 May 2009**, the Discharger shall maintain compliance with the following limitations at Discharge Point 001 with compliance measured at Monitoring Location EFF-001, as described in the attached MRP (Attachment E). These interim effluent limitations in Table 7a shall apply in lieu of the corresponding final effluent limitations specified for the same parameters during the period indicated in this provision.

Table 7a. Interim Effluent Limitations for Ammonia, Coliform Organisms, Cyanide, MTBE, THMs, Dibromochloromethane, Dichlorobromomethane, MTBE, and Sulfide, and THMs.

Parameter	Units	Effluent Limitations					
		Ave. Monthly	<u>30-Day Median</u>	Ave. Weekly	Max. Daily	Inst. Min.	Inst. Max.
<u>Total Ammonia as N</u>	<u>mg/L</u>	--	--	--	<u>5.4</u>	--	--
<u>Total Coliform Organisms</u>	<u>MPN/100 mL</u>	--	<u>2.2</u>	--	--	--	--
Cyanide (Total Recoverable)	ug/L	--	--	--	30.5	--	--
Dibromochloro methane	ug/L	--	--	--	2.66	--	--
Dichlorobromo methane	ug/L	--	--	--	15.7	--	--
MTBE	ug/L	--	--	--	233	--	--
Sulfide	mg/L	--	--	--	3.81	--	--

Parameter	Units	Effluent Limitations					
		Ave. Monthly	30-Day Median	Ave. Weekly	Max. Daily	Inst. Min.	Inst. Max.
Total Trihalomethanes (THMs)	ug/L	--		--	285	--	--

- b. During the period beginning with the **Effective Date** of this Order and ending on **17 May 2010**, the Discharger shall maintain compliance with the following limitations at Discharge Point 001 with compliance measured at Monitoring Location EFF-001, as described in the attached MRP (Attachment E). These interim effluent limitations in Table 7b shall apply in lieu of the corresponding final effluent limitations specified for the same parameters during the period indicated in this provision.

Table 7b. Interim Effluent Limitations for Copper and Zinc (Priority Pollutants)

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Max. Daily	Inst. Min.	Inst. Max.
Copper (Total Recoverable)	ug/L	--	--	13.4	--	--
Zinc (Total Recoverable)	ug/L	--	--	87.3125	--	--

- c. During the period beginning with the **Effective Date** of this Permit and ending **17 May 2010**, the Discharger shall maintain compliance with the following limitations at Discharge Point 001 with compliance measured at Monitoring Location EFF-001, as described in the attached MRP (Attachment E). These interim effluent limitations in Table 7c shall apply in lieu of the corresponding final effluent limitations specified for the same parameters during the period indicated in this provision.

Table 7c. Interim Effluent Limitations for Pesticides that are also Priority Pollutants

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Max. Daily	Inst. Min.	Inst. Max.
Persistent Chlorinated Hydrocarbon Pesticides						
Beta-Endosulfan	ug/L	--	--	0.0277		--
Endrin	ug/L	--	--	0.342		--
Endrin Aldehyde	ug/L	--	--	0.159		--
Heptachlor	ug/L	--	--	0.289		--
4,4'-DDD	ug/L	--	--	0.0342		--

- d. During the period beginning on **18 May 2010** and ending **30 November 2011**, the Discharger shall maintain compliance with the following limitations at Discharge Point 001 with compliance measured at Monitoring Location EFF-001, as described in the attached MRP (Attachment E). These interim effluent

limitations [in Table 7d](#) shall apply in lieu of the corresponding final effluent limitations specified for the same parameters during the period indicated in this provision.

Table 7d. Interim Effluent Limitations for Priority Pollutants Pesticides with Final Effluent Limitations Based on the Basin Plan Water Quality Objective for Pesticides

Parameter	Units	Effluent Limitations					
		Average Yearly	Average Monthly	Average Weekly	Max. Daily	Inst. Min.	Inst. Max.
Persistent Chlorinated Hydrocarbon Pesticides							
Beta-Endosulfan ¹	ug/L	--	--	--	0.0277	--	--
Endrin ²	ug/L	--	--	--	0.029	--	--
Endrin Aldehyde ^{1,2}	ug/L	--	--	--	0. 159 76	--	--
Heptachlor ²	ug/L	--	--	--	0.00021	--	--
4,4'-DDD ²	ug/L	--	--	--	0.00083	--	--
¹ Performance-based interim limitation, which is less than the CTR/NTR criterion. ² Interim effluent limitation based on the CTR/NTR criterion, which is less than a performance-based limitation.							

- e. During the period beginning with the **Effective Date** of this Permit and ending **30 November 2011**, the Discharger shall maintain compliance with the following limitations at Discharge Point 001 with compliance measured at Monitoring Location EFF-001, as described in the attached MRP (Attachment E). These interim effluent limitations [in Table 7e](#) shall apply in lieu of the corresponding final effluent limitations specified for the same parameters during the period indicated in this provision.

Table 7e. Interim Effluent Limitations for non-Priority Pollutant Pesticides with Final Effluent Limitations Based on the Basin Plan Water Quality Objective for Pesticides

Parameter	Units	Effluent Limitations					
		Average Yearly	Average Monthly	Average Weekly	Max. Daily	Inst. Min.	Inst. Max.
Persistent Chlorinated Hydrocarbon Pesticides							
Dalapon	ug/L	--	--	--	12.1	--	--
Dinoseb	ug/L	--	--	--	0.156	--	--
2,4,5-TP (Silvex)	ug/L	--	--	--	0.277	--	--
2,4-D	ug/L	--	--	--	0.715	--	--

- f. During the period beginning with the **Effective Date** of this Order and ending **5 years** from the date of permit adoption, the Discharger shall maintain compliance with the following limitations at Discharge Point 001 with compliance measured at Monitoring Location EFF-001, as described in the attached MRP

(Attachment E). These interim effluent limitations in Table 7f shall apply in lieu of the corresponding final effluent limitations specified for the same parameters during the period indicated in this provision.

Table 7f. Interim Effluent Limitations for Aluminum, Atrazine, and Electrical Conductivity

Parameter	Units	Effluent Limitations					
		Average Yearly	Average Monthly	Average Weekly	Max. Daily	Inst. Min.	Inst. Max.
Electrical Conductivity @ 25°C	umho/cm	8250	--	--	--	--	--
Aluminum (Total Recoverable)	ug/L	--	-112	--	112	--	--
Atrazine	ug/L	--	--	--	4.35	--	--

B. Land Discharge Specifications – Not Applicable

C. Reclamation Specifications – Not Applicable

~~1. All uses of reclaimed water shall be in accordance with a Master Reclamation Permit issued in accordance with Title 22 and the California Water Code.~~

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 Hangtown Creek:

1. **Bacteria:** The fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, to exceed a geometric mean of 200 MPN/100 mL, nor more than ten 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, raised above 8.5, nor changed by more than 0.5 units on an annual average basis.
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 California Code of Regulations, Title 22, Division 4, Chapter 15.
 - g. Thiobencarb to be present in excess of 1.0 ug/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 specified in Table 4 (MCL Radioactivity) 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 annual average ambient temperature to be increased by more than 5°F and the discharge to cause exceedance of the following limitations in Hangtown Creek:

Dates	Instantaneous Maximum	Weekly Average
1 December through 30 April	--	58 °F
1 May through 31 May	--	67 °F
1 June through 15 October	77 °F	72 °F
16 October through 30 November	--	67 °F

- 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:** The turbidity to increase as follows:
 - a. More than 1 Nephelometric Turbidity Unit (NTU) where natural turbidity is between 0 and 5 NTUs. (When wastewater is treated to a tertiary level, including coagulation, a one-month averaging period may be used when determining compliance with Receiving Water Limitation ~~18.a~~17.a for turbidity.)
 - b. More than 20 percent where natural turbidity is between 5 and 50 NTUs.
 - c. More than 10 NTU where natural turbidity is between 50 and 100 NTUs.
 - d. More than 10 percent where natural turbidity is greater than 100 NTUs.

B. Groundwater Limitations

- 1. The discharge shall not cause the groundwater to exceed water quality objectives, unreasonably affect beneficial uses, or cause a condition of pollution or nuisance.

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.
2. The Discharger shall comply with the following provisions:
 - 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 Clean Water Act, 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 Code of Federal Regulations (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 Regional Water Board may review and revise this Order at any time upon application of any affected person or the Regional 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 Regional 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. The discharge of any radiological, chemical or biological warfare agent or high-level, radiological waste is prohibited.
- i. 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.
- j. 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 Regional 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 five 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 Regional Water Board.
- iii. Should the treatment works not include safeguards against reduction, loss, or failure of electric power, or should the Regional Water Board not approve the existing safeguards, the Discharger shall, within ninety days of having been advised in writing by the Regional Water Board that the existing safeguards are inadequate, provide to the Regional 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 Regional Water Board, become a condition of this Order.
- k. The Discharger, upon written request of the Regional 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 Regional Water Board Standard Provision VI.A.2.m.

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 Regional Water Board, after review of the technical report, may establish conditions that 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.

- I. A publicly owned treatment works (POTW) 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 three 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 four years, the Discharger shall notify the Regional 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 Regional Water Board may extend the time for submitting the report.
- m. 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.
 - n. Laboratories that perform sample analyses must be identified in all monitoring reports submitted to the Regional Water Board and USEPA.
 - o. 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.
 - p. 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.
 - q. All monitoring and analysis 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.
 - r. The Discharger shall file with the Regional Water Board technical reports on self-monitoring performed according to the detailed specifications contained in the Monitoring and Reporting Program attached to this Order.
 - s. The results of all monitoring required by this Order shall be reported to the Regional 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.

- t. The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the CWC, including, but not limited to, sections 13385, 13386, and 13387.
- u. For POTWs, prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Discharger must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. (CWC section 1211).
- v. 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 Regional Water Board by telephone (916) 464-3291 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Water Board waives confirmation. The written notification shall include the information required by Attachment D, Section V.E.1 [40 CFR section 122.41(l)(6)(i)].

B. Monitoring and Reporting Program (MRP) Requirements

- 1. The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order.

C. Special Provisions

1. Reopener Provisions

- a. 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.
- b. Conditions that necessitate a major modification of a permit are described in 40 CFR section 122.62, including:
 - 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.

- c. **Mercury:** If mercury is found to be causing toxicity based on acute or chronic toxicity test results, or if a TMDL program is adopted, this Order shall be reopened and the interim mass effluent limitation modified (higher or lower) or an effluent concentration limitation imposed. If the Regional Water Board determines that a mercury offset program is feasible for Dischargers subject to a NPDES permit, then this Order may be reopened to reevaluate the interim mercury mass loading limitation(s) and the need for a mercury offset program for the Discharger.
- d. **Pollution Prevention Plan:** This Order requires the Discharger to prepare a pollution prevention plan, following CWC section 13263.3(d)(3), for 2,4-D, 4,4'-DDD, 2,4,5-TP (Silvex), Aluminum, Ammonia, Atrazine, Beta-Endosulfan, Coliform Organisms, Copper, Cyanide, Dalapon, Dibromochloromethane, Dichlorobromomethane, Dinoseb, Endrin, Endrin Aldehyde, Heptachlor, MTBE, Persistent Chlorinated Hydrocarbon Pesticides, Sulfide, THMs, and Zinc. Based on a review of the pollution prevention plans, this Order may be reopened for addition and/or modification of effluent limitations and requirements for these constituents.
- e. **Whole Effluent Toxicity:** As the result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a 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.
- f. **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 constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable when developing effluent limitations for Aluminum, Copper, Lead, Mercury, and Zinc. 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.

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 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 exceeds the toxicity numeric monitoring trigger established in this Provision, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE), in accordance with an approved TRE Work Plan, and take actions to mitigate the impact of the discharge and

prevent reoccurrence of toxicity. A TRE is a site-specific study conducted in a stepwise process to identify the source(s) of toxicity and the effective control measures for effluent toxicity. TREs are designed to identify the causative agents and sources of whole effluent toxicity, evaluate the effectiveness of the toxicity control options, and confirm the reduction in effluent toxicity. This Provision includes requirements for the Discharger to develop and submit a TRE Work Plan and includes procedures for accelerated chronic toxicity monitoring and TRE initiation.

- i. **Initial Investigative Toxicity Reduction Evaluation (TRE) Work Plan.** **Within 90 days of the Effective Date of this Order**, the Discharger shall submit to the Regional Water Board an Initial Investigative TRE Work Plan for approval by the Executive Officer. This should be a one to two page document including, at 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 (i.e. an in-house expert or outside contractor).
- ii. **Accelerated Monitoring and TRE Initiation.** When the numeric toxicity monitoring trigger is exceeded during regular chronic toxicity monitoring, and the testing meets all test acceptability criteria, the Discharger shall initiate accelerated monitoring as required in the Accelerated Monitoring Specifications. WET testing results exceeding the monitoring trigger during accelerated monitoring demonstrates a pattern of toxicity and requires the Discharger to initiate a TRE to address the effluent toxicity.
- iii. **Numeric Monitoring Trigger.** The numeric toxicity monitoring trigger is $> 1 \text{ TUc}$ (where $\text{TUc} = 100/\text{NOEC}$). The monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Discharger is required to begin accelerated monitoring and initiate a TRE.
- iv. **Accelerated Monitoring Specifications.** If the monitoring trigger is exceeded during regular chronic toxicity testing, within 14-days of notification by the laboratory of the test results, the Discharger shall initiate accelerated monitoring. Accelerated monitoring shall consist of four (4) chronic toxicity tests in a six-week period (i.e. one test every two weeks) using the species that exhibited toxicity. The following protocol shall be used for accelerated monitoring and TRE initiation:

- a) If the results of four (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 adequate evidence of a pattern of effluent toxicity, the Executive Officer may require that the Discharger initiate a TRE.
- b) If the source(s) of the toxicity is easily identified (i.e. 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, and the source(s) of the toxicity are not easily identified as described in item b of this subsection, the Discharger shall cease accelerated monitoring and initiate 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 the test results exceeding the monitoring trigger during accelerated monitoring, the Discharger shall submit a TRE Action Plan to the Regional Water Board including, at minimum:
 - 1) Specific actions the Discharger will take to investigate and identify the cause(s) of toxicity, including TRE Whole Effluent Toxicity (WET) monitoring schedule;
 - 2) Specific actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and
 - 3) A schedule for these actions.

Within sixty (60) days of notification by the laboratory of the test results, the Discharger shall submit to the Regional Water Board a TRE Work Plan for approval by the Executive Officer. The TRE Work Plan shall outline the procedures for identifying the source(s) of, and reducing or eliminating effluent toxicity. The TRE Work Plan must be developed in accordance with EPA guidance².

- b. Best Practicable Treatment or Control (BPTC) Evaluation Tasks.** If groundwater monitoring or sampling shows that any constituent concentrations are increased above background groundwater quality, the Discharger shall propose a work plan and schedule for providing BPTC as required by State

² See Attachment F (Fact Sheet) Section VII.B.2.a. for a list of EPA guidance documents that must be considered in development of the TRE Workplan.

Water Board Resolution No. 68-16. The technical report describing the work plan and schedule shall contain a preliminary evaluation of each component and propose a time schedule for completing the comprehensive technical evaluation.

Following completion of the comprehensive technical evaluation, the Discharger shall submit a technical report describing the evaluation’s results and critiquing each evaluated component with respect to BPTC and minimizing the discharge’s impact on groundwater quality. Where deficiencies are documented, the technical report shall provide recommendations for necessary modifications (e.g., new or revised salinity source control measures, WWTP component upgrade and retrofit) to achieve BPTC and identify the source of funding and proposed schedule for modifications. The schedule shall be as short as practicable but in no case shall completion of the necessary modifications exceed four years past the Executive Officer’s determination of the adequacy of the comprehensive technical evaluation, unless the schedule is reviewed and specifically approved by the Regional Water Board. The technical report shall include specific methods the Discharger proposes as a means to measure processes and assure continuous optimal performance of BPTC measures. The Discharger shall comply with the following compliance schedule in implementing the work required by this Provision:

<u>Task</u>	<u>Compliance Date</u>
1. Submit technical report: work plan and schedule for comprehensive evaluation.	Within six (6) months following sampling results indicating constituent concentration(s) above background groundwater quality.
2. Begin comprehensive evaluation.	30 days following Executive Officer approval of Task 1.
3. Complete comprehensive evaluation.	As established by Task 1, and/or two (2) years following Task 2, whichever is sooner.
4. Submit technical report: comprehensive evaluation results.	60 days following completion of Task 3.
5. Submit annual report describing the overall status of BPTC implementation and compliance with groundwater limitations over the past reporting year.	To be submitted in accordance with the MRP (Attachment E, Section X.D.1.).

- c. **Supplemental Evaluation of Temperature and the Fish and Benthic Macroinvertebrate Communities of Hangtown Creek:** Effluent from the Facility has been shown to be warmer than the receiving water and to have a reasonable potential to cause or contribute to an exceedance of water quality objectives. The Discharger has conducted two temperature studies within the last ten years and is in the process of installing effluent coolers. After the effluent coolers become operational, the Discharger shall comply with the following

schedule in conducting a followup study to assess the effects of the coolers on the effluent and receiving water:

<u>Task</u>	<u>Compliance Date</u>
1. Submit technical report —work plan and schedule for comprehensive evaluation	1 March 2009
2. Commence comprehensive one-year evaluation	1 October 2009
3. Complete comprehensive one-year evaluation	1 October 2010
4. Submit technical report: comprehensive evaluation results	1 March 2010₁

d. Groundwater Monitoring. Not Applicable.

3. Best Management Practices and Pollution Prevention

~~a. **Pollutant Minimization Program.** The Discharger shall develop and conduct a Pollutant Minimization Program (PMP) as further described below when there is evidence (e.g., sample results reported as DNQ (Detected but Not Quantified) when the effluent limitation is less than the MDL (Minimum Detectable Level); sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either: 1) A sample result is reported as DNQ and the effluent limitation is less than the RL; or 2) A sample result is reported as ND (Non-Detect) and the effluent limitation is less than the MDL, using definitions described in Attachment A and reporting protocols described in MRP section X.~~

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

- ~~i. An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;~~
- ~~ii. Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system;~~
- ~~iii. Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;~~
- ~~iv. Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and~~

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

~~(1) All PMP monitoring results for the previous year;~~

~~(2) A list of potential sources of the reportable priority pollutant(s);~~

~~(3) A summary of all actions undertaken pursuant to the control strategy; and~~

~~(4) A description of actions to be taken in the following year.~~

b.a. Salinity Evaluation and Minimization Plan. The Discharger shall prepare and implement a salinity evaluation and minimization plan to address sources of salinity from the municipal wastewater treatment system. The plan shall be completed and submitted to the Regional Water Board **within 9 months of the adoption date of this Order for approval by the Executive Officer.**

e.b. Salinity Reduction Goal. The Discharger shall provide annual reports demonstrating reasonable progress in the reduction of salinity in its discharge to Hangtown Creek. The annual reports shall be submitted in accordance with the Monitoring and Reporting Program (Attachment E, Section X.D.1.).

4. Construction, Operation and Maintenance Specifications

a. **Treatment Pond Operating Requirements. Not Applicable**

b. **Construction Progress Updates:** The Discharger shall provide monthly updates regarding the ongoing construction process, including but not limited to; milestones achieved, construction completed, construction started, interrupted processes, processes put on-line, and processes taken off-line. The monthly updates shall be submitted in accordance with the Monitoring and Reporting Program (Attachment E, Section X.B).

5. Special Provisions for Municipal Facilities

a. **Pretreatment Requirements – Not Applicable**

b. **Sludge/Biosolids Discharge Specifications**

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, disposal, or reuse at sites (i.e., landfill, composting sites, soil amendment sites) that are operated in accordance with valid waste discharge requirements issued by a regional water quality control 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 Groundwater Limitations V.B. In addition, the storage of residual sludge, solid waste, and biosolids on Facility property shall be temporary and controlled, and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate Groundwater Limitations V.B.
- iv. The use and disposal of biosolids shall comply with existing Federal and State laws and regulations, including permitting requirements and technical standards included in 40 CFR 503. If the State Water Board and the Regional Water Board are given the authority to implement regulations contained in 40 CFR 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 503 whether or not they have been incorporated into this Order.

c. Biosolids Disposal Requirements

- i. The Discharger shall comply with the Monitoring and Reporting Program for biosolids disposal contained in Attachment E.
- ii. Any proposed change in biosolids use or disposal practice from a previously approved practice shall be reported to the Executive Officer and U.S. EPA Regional Administrator at least **90 days** in advance of the change.
- iii. The Discharger is encouraged to comply with the “Manual of Good Practice for Agricultural Land Application of Biosolids” developed by the California Water Environment Association.

d. Biosolids Storage Requirements

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

- iv. Biosolids storage facilities shall be designed, maintained, and operated to minimize the generation of leachate.

- e. **Collection System.** On 2 May 2006, the State Water Board adopted State Water Board Order 2006-0003, a Statewide General WDR for Sanitary Sewer Systems. The Discharger shall be subject to the requirements of Order 2006-0003 and any future revisions thereto. Order 2006-0003 requires that all public agencies that currently own or operate sanitary sewer systems apply for coverage under the General WDR. By 2 November 2006, the Discharger is required by that Order, not incorporated by reference herein, to apply for coverage under State Water Board Order 2006-0003 for operation of its wastewater collection system.

Regardless of the coverage obtained under Order 2006-0003, the Discharger's collection system is part of the treatment system that is subject to this Order. As such, pursuant to federal regulations, the Discharger must properly operate and maintain its collection system [40 CFR section 122.41(e)], report any non-compliance [40 CFR section 122.41(l)(6) and (7)], and mitigate any discharge from the collection system in violation of this Order [40 CFR. section 122.41(d)].

6. Other Special Provisions

- a. Wastewater shall be oxidized, coagulated, filtered, and adequately disinfected ~~pursuant to the DPH (Department of Public Health) reclamation criteria, California Code of Regulations, Title 22, Division 4, Chapter 3, (Title 22), or equivalent, for the Discharger to comply with the Department of Public Health Title 22-level effluent limitations in this Order.~~

- b. 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 Regional 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 Regional 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 California Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

7. **Compliance Schedules for Final Effluent Limitations for 2,4-D, 4,4'-DDD, 2,4,5-TP (Silvex), Aluminum, Ammonia, Atrazine, Beta-Endosulfan, Coliform**

Organisms (Instantaneous Maximum), Copper, Cyanide, Dalapon, Dibromochloromethane, Dichlorobromomethane, Dinoseb, Endrin, Endrin Aldehyde, Heptachlor, MTBE, Sulfide, THMs, and Zinc.

i.a. In an Infeasibility Report dated 29 September 2006, the Discharger submitted a compliance schedule justification for Copper, Cyanide, Dibromochloromethane, Dichlorobromomethane, MTBE, Persistent Chlorinated Hydrocarbon Pesticides, Sulfide, THMs, and Zinc. In a Supplemental Infeasibility Report [information](#) dated 31 August [2007](#) and [31 March 2008](#), the Discharger submitted a compliance schedule justification for [Aluminum, ammonia, and Atrazine and coliform organisms \(instantaneous maximum\)](#). The compliance schedule justifications included all items specified in Paragraph 3, items (a) through (d), of section 2.1 of the SIP.

ii.b. The Discharger shall comply with the following schedule to ensure compliance with Final Effluent Limitations IV.A.1.a for [Aluminum, Atrazine, Copper, Cyanide, Dibromochloromethane, Dichlorobromomethane, Persistent Chlorinated Hydrocarbon Pesticides, MTBE, Sulfide, THMs, and Zinc](#) [the above listed constituents](#):

<u>Task</u>	<u>Compliance Date</u>
1. Submit a Pollution Prevention Plan (PPP) pursuant to CWC section 13263.3 for 2,4-D, 2,4,5-TP, 4,4'-DDD , Aluminum, Atrazine, Beta Endosulfan , Copper, Cyanide, Dalapon , Dibromochloromethane, Dichlorobromomethane, Dinoseb, Endrin, Endrin Aldehyde, Heptachlor , MTBE, Pesticides , Sulfide, THMs, and Zinc. ¹	60 days following the Effective Date of this Order
2.- Submit Progress Reports.	1 June , annually, until final compliance
3. Complete construction of plant upgrades.	1 March 2009
4. Achieve full compliance with the Final Effluent Limitations for Ammonia, Coliform Organisms , Cyanide, Dibromochloromethane, Dichlorobromomethane, MTBE, Sulfide, and THMs.	1 June 2009
5.a. Achieve full compliance with the Final Effluent Limitations for Copper and Zinc, and b. Achieve compliance with the Interim Effluent Limitations (IV.A.2.c and Table 7.c) for the following Persistent Chlorinated Hydrocarbon Pesticides that are also Priority Pollutants: (Beta Endosulfan, Endrin, Endrin Aldehyde, Heptachlor, and 4,4'-DDD, 4,4'-DDD, Beta Endosulfan, Endrin, Endrin Aldehyde, and Heptachlor) .	18 May 2010
6. Achieve full compliance with the Final Effluent Limitations for the following Persistent Chlorinated Hydrocarbon Pesticides: (2,4-D, 2,4,5-TP, 4,4'-DDD, Beta Endosulfan, Dalapon, Dinoseb, Endrin, Endrin Aldehyde, and Heptachlor) .	1 December 2011

<u>Task</u>	<u>Compliance Date</u>
7. Achieve full compliance with the Final Effluent Limitations for Aluminum and Atrazine.	5 years from the Effective Date of this Order
¹ The PPP shall be prepared and implemented for final effluent limitations for Aluminum, Ammonia , Atrazine, Coliform Organisms , Copper, Cyanide, Dibromochloromethane, Dichlorobromomethane, MTBE, Pesticides, 2,4-D, 2,4,5-TP, 4,4'-DDD, Beta Endosulfan, Dalapon, Dinoseb, Endrin, Endrin Aldehyde, Heptachlor , Sulfide, THMs, and Zinc, as appropriate, and shall meet the requirements specified in CWC section 13263.3, including section 13263.3 (d)(3).	

iii.c. For the compliance schedules required by this Order, the Discharger shall submit to the Regional Water Board on or before each compliance due date, the specified document or a written report detailing compliance with the specific task and date. If noncompliance is being reported, the reasons for the noncompliance shall be stated and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Water Board by letter when it returns to compliance with the compliance schedule.

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in section IV of this Order will be determined as specified below:

- A. Persistent Chlorinated Hydrocarbon Pesticides Effluent Limitations.** The non--detectable (ND) limitation applies to each individual pesticide ([2,4-D, 2,4,5-TP, 4,4'-DDD, Beta Endosulfan, Dalapon, Dinoseb, Endrin, Endrin Aldehyde, and Heptachlor](#)). No individual pesticide may be present in the discharge at detectable concentrations. The Discharger shall use USEPA standard analytical techniques with the lowest possible detectable level for persistent chlorinated hydrocarbon pesticides with a minimum acceptable reporting level as indicated in appendix 4 of the SIP. If the analytical result of a single effluent grab sample is detected for any persistent chlorinated hydrocarbon pesticide, a violation will be flagged and the discharger will be considered out of compliance for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of non--compliance with the instantaneous maximum effluent limitation).
- B. Total Trihalomethanes Limitations.** Total Trihalomethanes include the sum of concentrations of bromoform, chloroform, dibromochloromethane, and dichlorobromomethane.
- C. BOD and TSS Effluent Limitations.** Compliance with the final effluent limitations for BOD and TSS that are required in section IV.A.1.a (Table 6) shall be ascertained by 24-hour composite samples. Compliance with effluent limitations in sections IV.A.1.b for percent removal, shall be calculated using the arithmetic mean of 20°C BOD (5-day) and total suspended solids 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.

- D. Aluminum Effluent Limitations.** Compliance with the final effluent limitations for aluminum can be demonstrated using either total or acid-soluble (inductively coupled plasma/atomic emission spectrometry or inductively coupled plasma/mass spectrometry) analysis methods, as supported by US EPA's Ambient Water Quality Criteria for Aluminum document (EPA 440/5-86-008), or other standard methods that exclude aluminum silicate particles, as approved by the Executive Officer.
- E. Total Mercury Mass Loading Effluent Limitations (Section IV.A.1.j).** The procedures for calculating mass loadings are as follows:
1. The total pollutant mass load for each individual calendar month shall be determined using an average of all concentration data collected that month and the corresponding total monthly flow. All monitoring data collected under the monitoring and reporting program, pretreatment program and any special studies shall be used for these calculations.
 2. In calculating compliance, the Discharger shall count all non-detect measures at one-half of the detection level. If compliance with the effluent limitation is not attained due to the non-detect contribution, the Discharger shall improve and implement available analytical capabilities and compliance shall be evaluated with consideration of the detection limits.
- F. Average Dry Weather Flow Effluent Limitations (Section IV.A.1.ig).** The Average Dry Weather 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).
- G. 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 seven days for which analyses have been completed. 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 for that parameter for that 1 day only within the reporting period.
- H. Total Residual Chlorine Effluent Limitations (Section IV.A.1.d).** Continuous monitoring analyzers for chlorine residual or for dechlorination agent residual in the effluent are appropriate methods for compliance determination. A positive residual dechlorination agent in the effluent indicates that chlorine is not present in the discharge, which demonstrates compliance with the effluent limitations. This type of monitoring can also be used to prove that some chlorine residual exceedances are false positives. Continuous monitoring data showing either a positive dechlorination agent residual or a chlorine residual at or below the prescribed limit are sufficient to show compliance with the total residual chlorine effluent limitations, as long as the

instruments are maintained and calibrated in accordance with the manufacturer's recommendations.

Any excursion above the 1-hour average or 4-day average total residual chlorine effluent limitations is a violation. If the Discharger conducts continuous monitoring and the Discharger can demonstrate, through data collected from a back-up monitoring system, that a chlorine spike recorded by the continuous monitor was not actually due to chlorine, then any excursion resulting from the recorded spike will not be considered an exceedance, but rather reported as a false positive.

- I. **Mass Effluent Limitations.** Compliance with the mass effluent limitations will be determined during average dry weather periods only when groundwater is at or near normal and runoff is not occurring.

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (u), 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 = $u = \Sigma x / n$ where: Σx is the sum of the measured ambient water concentrations, and
 n is the number of samples

Average Dry Weather Flow: the daily average flow when groundwater is at or near normal and runoff is not occurring.

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

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

Best Practicable Treatment or Control (BPTC): BPTC is a requirement of State Water Resources Control Board Resolution 68-16 – “Statement of Policy with Respect to Maintaining High Quality of Waters in California” (referred to as the “Antidegradation Policy”). BPTC is the treatment or control of a discharge necessary to assure that, “(a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.” Pollution is defined in CWC Section 13050(I). In general, an exceedance of a water quality objective in the Basin Plan constitutes “pollution”.

Bioaccumulative pollutants are 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) is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

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

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

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

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

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

Enclosed Bays 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 is the estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the **MRL** value.

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.

Group A Pesticides: The Basin Plan contains references to “Group A Pesticides”, which is a list contained in the “*Water Quality Criteria*” also known as “The Green Book”, a Report of the National Technical Advisory Committee to the Secretary of the Interior, 1 April 1968, and published by the Federal Water Pollution Control Administration (predecessor to the U.S. EPA). In The Green Book, Pesticide Group A consists of the following:

“GROUP A - ORGANOCHLORIDE PESTICIDES”

Aldrin	Heptachlor	Dieldrin	Perthane
BHC	Lindane	Endosulfan	TDE (DDE)
Chlordane	DDT	Methoxychlor	Toxaphene
Endrin			

Inland Surface Waters are 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) means 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 is 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) 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 title 40 of the Code of Federal Regulations, Part 136, Attachment B, revised as of 3 July 1999.

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

Mixing Zone 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) are those sample results less than the laboratory’s MDL.

Ocean Waters are 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 are substances that are not easily transformed by processes such as photolysis, oxidation, hydrolysis, volatilization, sorption, biotransformation, and/or biodegradation, and therefore degradation or decomposition in the environment is nonexistent or very slow.

Persistent Chlorinated Hydrocarbon Pesticides: For the purposes of this Order, a persistent chlorinated hydrocarbon pesticide is a chlorinated hydrocarbon pesticide, and its breakdown products, that are persistent within the environment and/or bioaccumulative. Persistent chlorinated hydrocarbon pesticides include but are not limited to the following:

PERSISTENT CHLORINATED HYDROCARBON PESTICIDES

Aldrin *	Dicamba	Isodrin (an isomer of Aldrin)
Alpha BHC *	Dichloran	Kepone (Chlordecone)
Beta BHC *	Dichloroprop	MCPA
Gamma BHC (Lindane) *	Dicofol	MCPP
Delta BHC *	Dieldrin *	Methoxychlor
Captan	Dinoseb	Mirex
Chlordane *	Endosulfan I (Alpha) *	PCNB (Pentachloronitrobenzene)
2,4-D	Endosulfan II (Beta) *	Pentachlorophenol *
2,4-DB	Endosulfan Sulfate *	Perthane
2,4-D compounds	Endrin *	Strobane
DDD (TDE) *	Endrin Aldehyde *	2,4,5-T
DDE *	Heptachlor *	2,4,5,TP (Silvex)
DDT *	Heptachlor Epoxide *	2,4,5-T compounds
Dalapon	Hexachlorobenzene *	Toxaphene *

* California Toxics Rule Priority Pollutants

~~**Pollutant Minimization Program (PMP)** means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted.~~

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) is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP.

Resolution 68-16: State Water Resources Control Board Resolution No. 68-16, Statement of Policy with Respect to Maintaining High Quality of Water in California.

Satellite Collection System is 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 is any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

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

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

where:

x is the observed value;

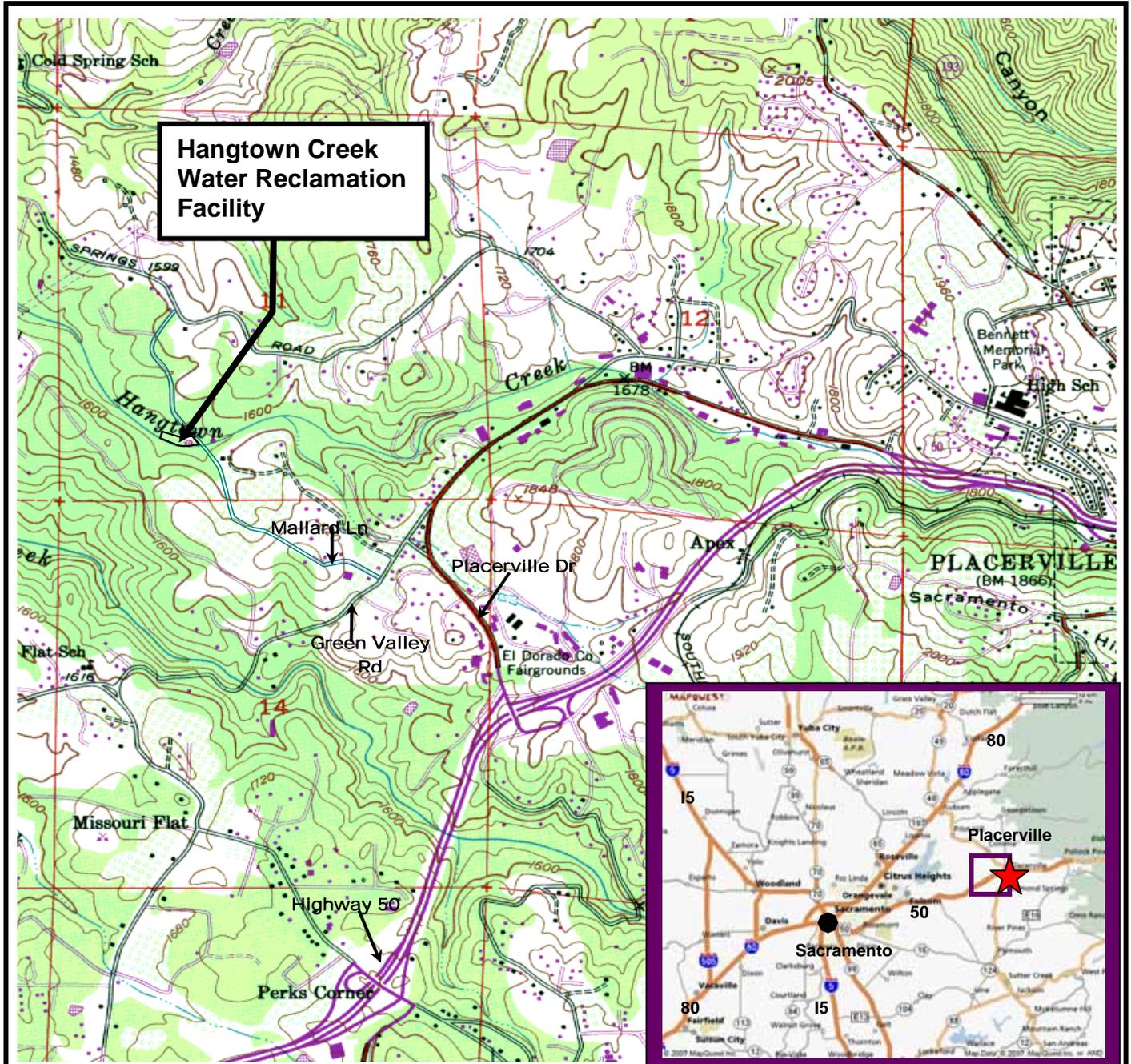
u is the arithmetic mean of the observed values; and

n is the number of samples.

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

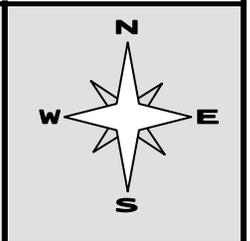
ATTACHMENT B – MAPS AND LAYOUTS

FIGURE B-1 – TOPOGRAPHIC MAP



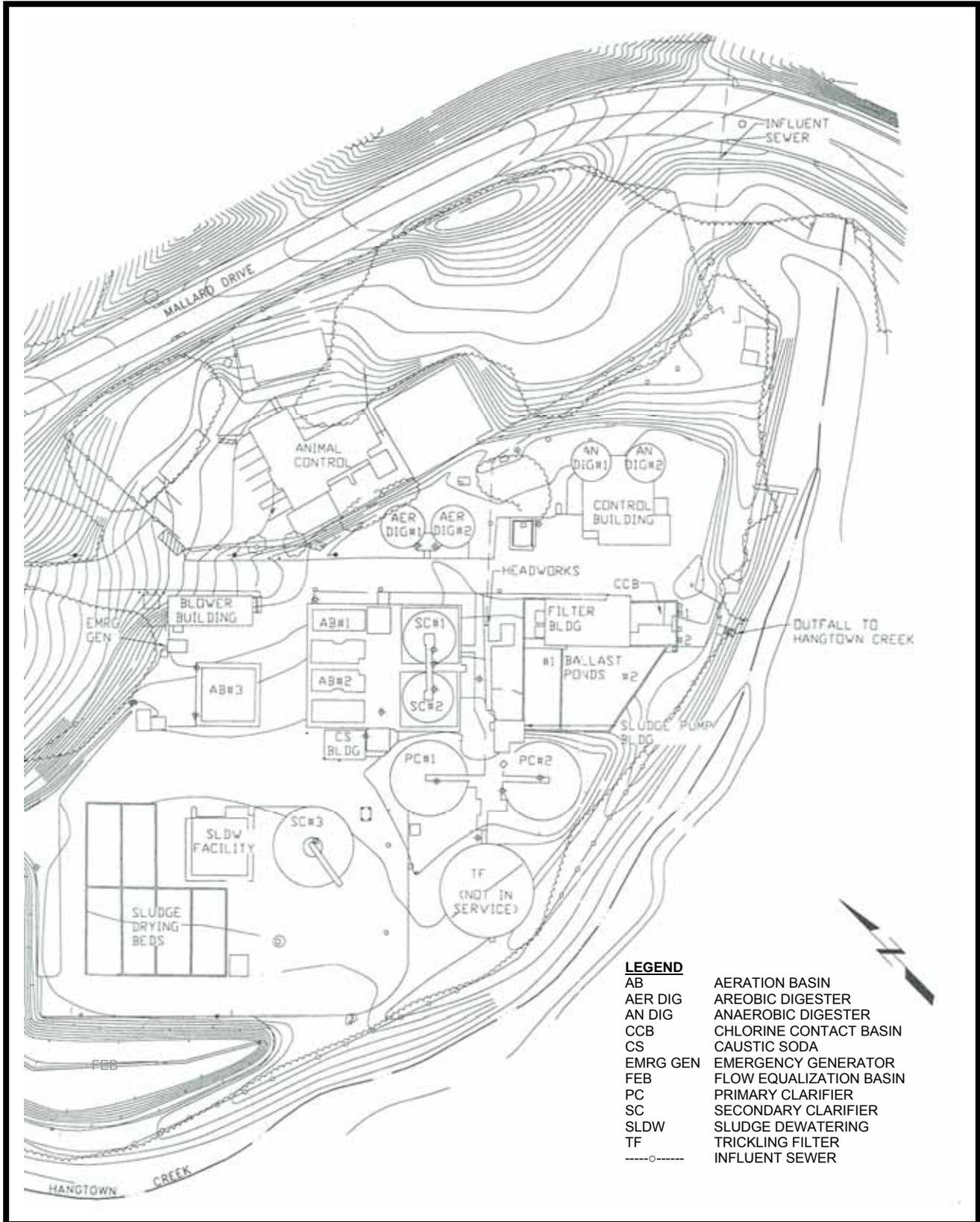
PLACERVILLE
 U.S.G.S TOPOGRAPHIC MAP
 7.5 MINUTE QUADRANGLE
 SECTION 11, T10N, R10E, MDB&M
 Photorevised 1973
 Not to scale

SITE LOCATION MAP
 CITY OF PLACERVILLE
 HANGTOWN CREEK
 WATER RECLAMATION FACILITY
 EL DORADO COUNTY



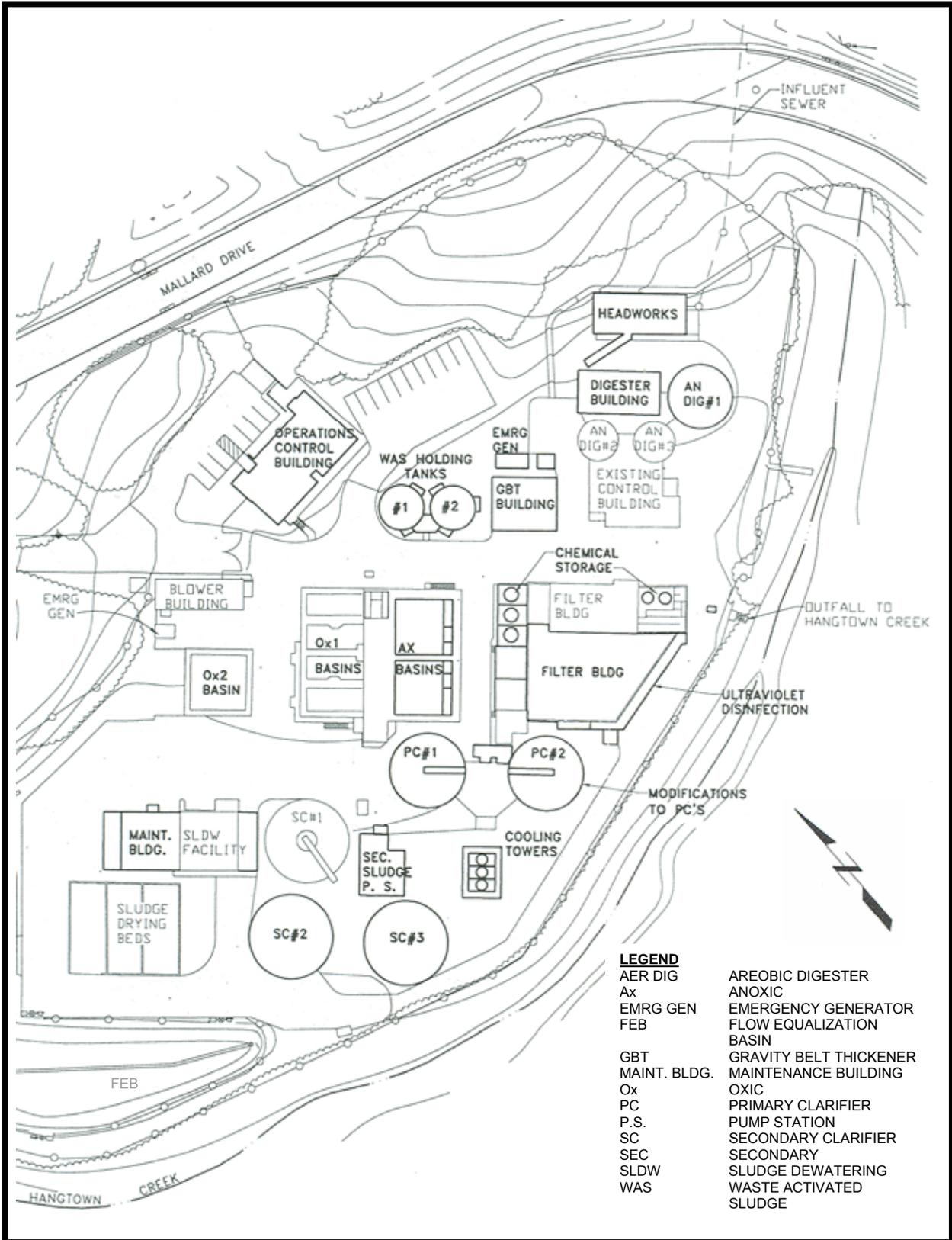
ATTACHMENT B – MAPS AND LAYOUTS

FIGURE B-2 – EXISTING FACILITY LAYOUT



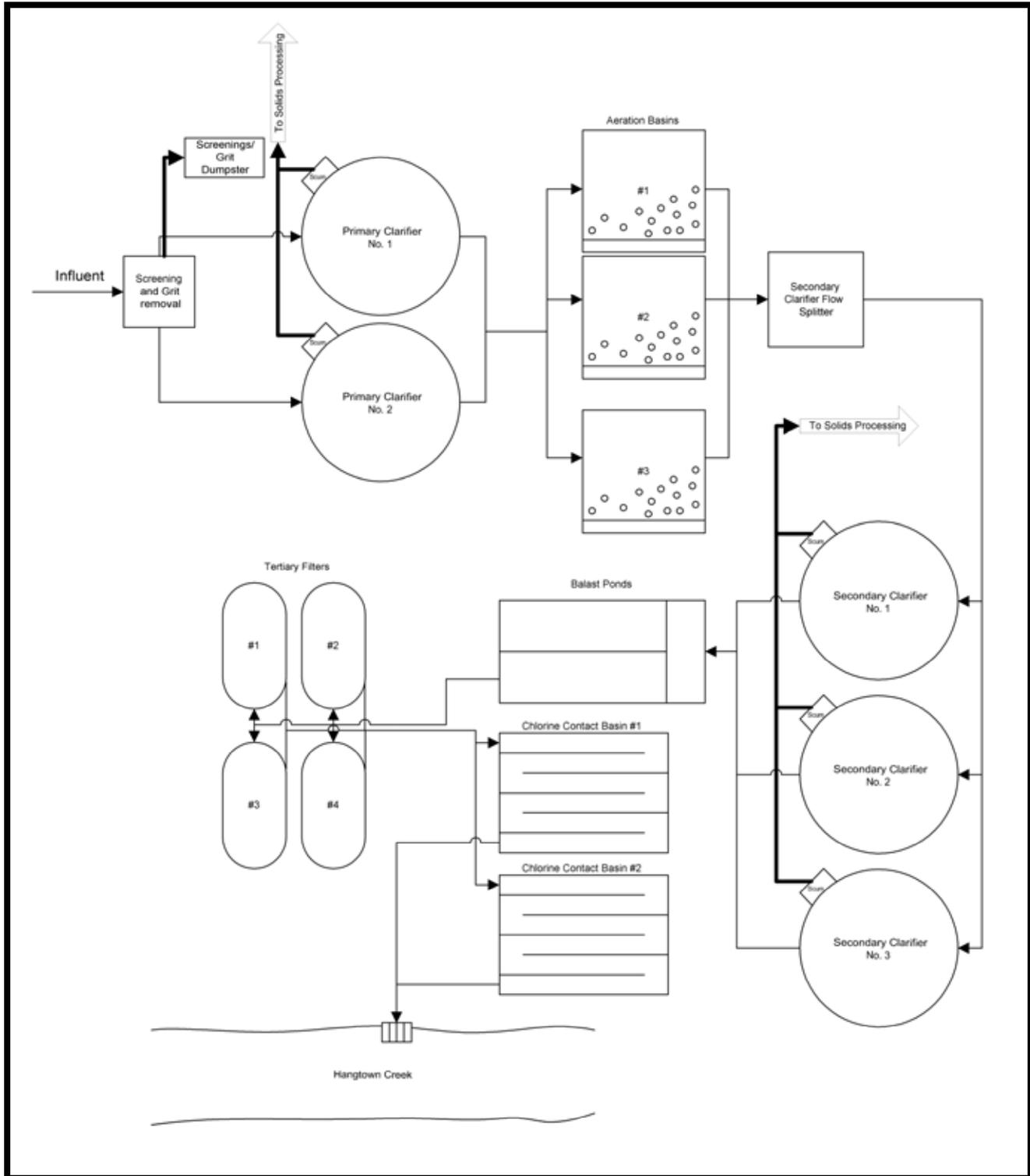
ATTACHMENT B – MAPS AND LAYOUTS

FIGURE B-3 – NEW FACILITY LAYOUT



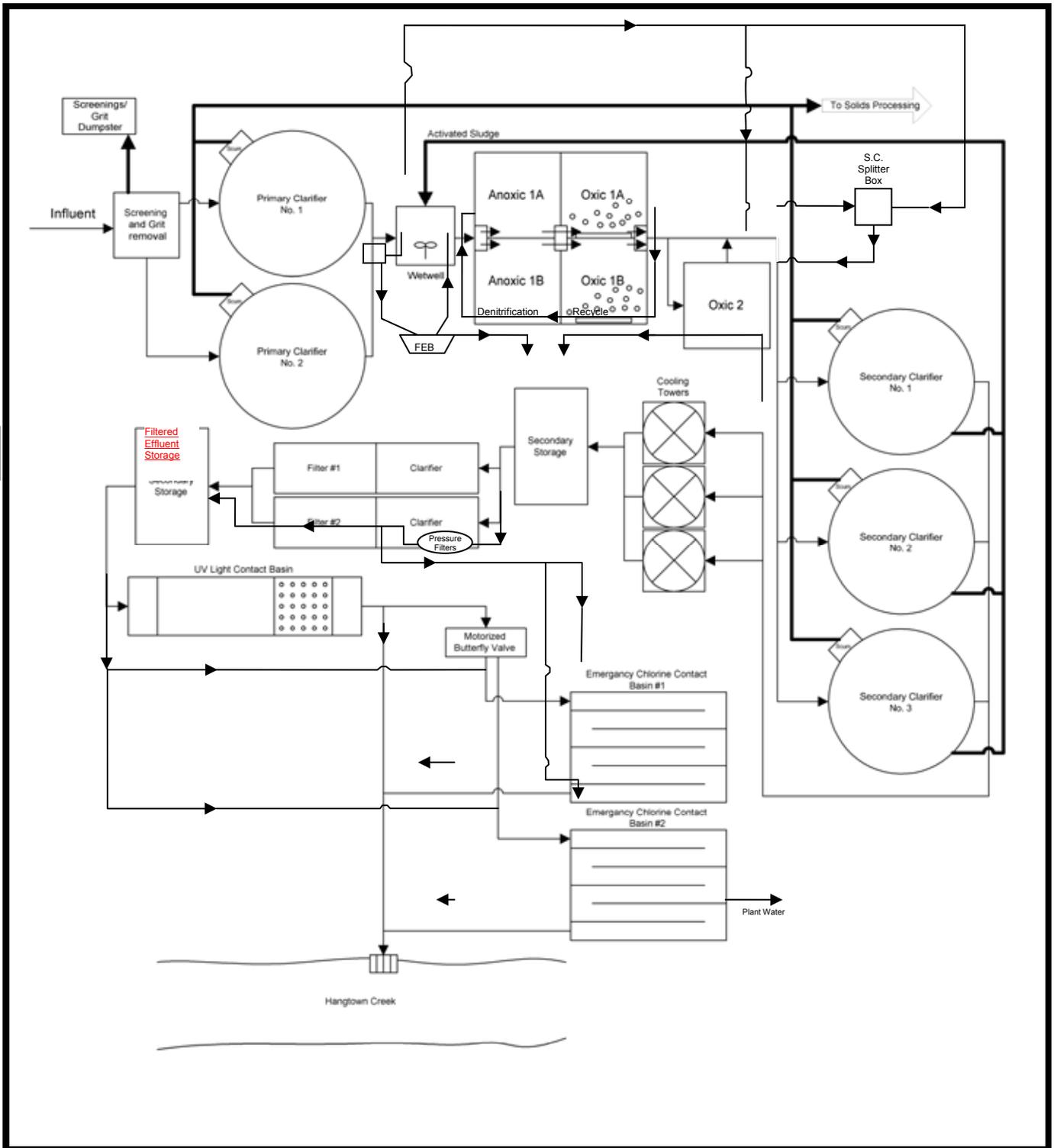
ATTACHMENT C – FLOW SCHEMATICS

FIGURE C-1 – EXISTING FACILITY FLOW SCHEMATIC



ATTACHMENT C – FLOW SCHEMATICS

FIGURE C-2 – NEW FACILITY FLOW SCHEMATIC



ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 C.F.R. § 122.41(a))
2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

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

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

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

E. Property Rights

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

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

F. Inspection and Entry

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

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 122.41(m)(1)(i).)
 - b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2))

3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));
 - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and
 - c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C))
4. The 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 C.F.R. § 122.41(m)(4)(ii))
5. Notice
 - a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i))
 - b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting section V.E below (24-hour notice). (40 C.F.R. § 122.41(m)(3)(ii))

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. § 122.41(n)(1))

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was

caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2))

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):
 - a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));
 - b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));
 - c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and
 - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv))
3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

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

III. STANDARD PROVISIONS – MONITORING

- A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)
- B. Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. (40 C.F.R. § 122.41(j)(4); § 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

- A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 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 C.F.R. § 122.41(j)(2).)

B. Records of monitoring information shall include:

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

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

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

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the 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 C.F.R. § 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 C.F.R. § 122.41(k))
2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 C.F.R. § 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 C.F.R. § 122.22(b)(1));
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and
 - c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3))
4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall

operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the 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 C.F.R. § 122.22(c))

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.” (40 C.F.R. § 122.22(d))

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in Special Provisions, Section VI.C and in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.22(l)(4))
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) 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 C.F.R. § 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 C.F.R. § 122.41(l)(6)(i))
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):
 - a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A))
 - b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B))
3. The 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 C.F.R. § 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 C.F.R. § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 C.F.R. § 122.41(l)(1)(ii).)
3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in this Order, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R. § 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the 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 C.F.R. § 122.41(l)(2))

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 C.F.R. § 122.41(l)(7))

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. § 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 C.F.R. § 122.42(b)):

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 C.F.R. § 122.42(b)(1)); and
2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order. (40 C.F.R. § 122.42(b)(2))
3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 C.F.R. § 122.42(b)(3))

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations section 122.48 requires that all NPDES permits specify monitoring and reporting requirements. Water Code Sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and state 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 this Regional Water Board.
- B. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the State Department of Public Health. In the event a certified laboratory is not available to the Discharger, 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 must be kept in the laboratory and shall be available for inspection by Regional Water Board staff. The Quality Assurance-Quality Control Program must conform to USEPA guidelines or to procedures approved by the Regional Water Board.
- C. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Public Health. Laboratories that perform sample analyses shall be identified in all monitoring reports.
- 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 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.

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	Composite sampler after grit chamber and before the Parshall flume.
001	EFF-001	Downstream from the last connection through which wastes can be admitted into the outfall. (Discharge point 001 is at Latitude 38° 43' 40" N and Longitude 120° 51' 04" W.)
--	RSW-001	100 feet upstream from the point of discharge and not influenced by the discharge of effluent.
--	RSW-002	4320 1000 feet downstream from the point of discharge.
--	BIO-001	Sludge cake from Sludge Belt Presses #1 and #2.
--	SPL-001	Inside tap on pre-deionized water before the filters. <u>Municipal water supply tap in Operations Control Building.</u>

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
BOD 5-day 20°C	mg/L	24-hr Composite ¹	2/week	--
Suspended Solids	mg/L	24-hr Composite ¹	2/week	--
Flow	mgd	Meter	Continuous	--

¹ 24-hour flow proportional composite

2. Samples shall be collected at approximately the same time as effluent samples and should be representative of the influent for the period sampled.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. The Discharger shall monitor treated wastewater at Effluent Monitoring Point EFF-001 as follows in Table E-3. If more than one analytical test method is listed

for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level.

Table E-3. Effluent Monitoring

Parameter	Units	Sample Type ⁶	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Flow	mgd	Meter	Continuous	--
Total Residual Chlorine ¹	mg/L	Meter	Continuous	--
Turbidity	NTU	Meter	Continuous	--
Temperature ^{2, 7, 9}	°F	Grab	1/day	--
Settleable Solids	mL/L	Grab	1/day	--
BOD 5-day 20°C	mg/L	24-hr Composite ⁸	5 days/week	--
Total Suspended Solids	mg/L	24-hr Composite ⁸	5 days/week	--
Total Coliform Organisms	MPN/100 mL	Grab	5 days/week	--
pH ^{7, 9}	--	Grab	5 days/week	--
Total Dissolved Solids	mg/L	Grab	2 days/week	--
Electrical Conductivity @ 25°C	umhos/cm	Grab	2 days/week	--
Hardness ^{7, 13, 4}	mg/L	Grab	2 days/week	--
Ammonia (as N) ^{3, 4, 7, 9}	mg/L	Grab	1/week	--
Nitrate and Nitrite (as N) ⁹	mg/L	Grab	1/week	--
Sulfide	mg/L	Grab	1/quarter	--
Aluminum, Total ¹²	ug/L	Grab	1/quarter	--
Mercury, Total ⁵	lbs/day	Grab	1/quarter	--
Methyl Mercury ^{4, 2}	ng/L	Grab	1/quarter	--
Copper, Total ^{5, 13}	ug/L	Grab	1/quarter	--
Cyanide, Total ⁵	ug/L	Grab	1/quarter	--
Iron, Total ¹²	ug/L	Grab	1/quarter	--
Lead, Total ^{5, 13}	ug/L	Grab	1/quarter	--
Manganese, Total ¹²	ug/L	Grab	1/quarter	--
Zinc Total ^{5, 13}	ug/L	Grab	1/quarter	--
MTBE ¹²	ug/L	Grab	1/quarter	--
Dibromochloromethane ⁵	ug/L	Grab	1/quarter	--
Dichlorobromomethane ⁵	ug/L	Grab	1/quarter	--
Total Trihalomethanes ⁵	ug/L	Grab	1/quarter	--
Bis (2-ethyl-hexyl) phthalate ^{5, 8}	ug/L	Grab	2/year	--
Atrazine ¹²	ug/L	Grab	2/year	--
4,4'-DDD ^{5, 40, 12, 16}	ug/L	Grab	2/year	--
Beta-Endosulfan ^{5, 40, 12, 16}	ug/L	Grab	2/year	--
Endrin ^{5, 40, 12, 16}	ug/L	Grab	2/year	--
Endrin Aldehyde ^{5, 40, 12, 16}	ug/L	Grab	2/year	--
Heptachlor ^{5, 40, 12, 16}	ug/L	Grab	2/year	--
Dalapon ^{10, 12}	ug/L	Grab	2/year	--
Dinoseb ^{10, 12}	ug/L	Grab	2/year	--
2,4,5-TP (Silvex) ^{10, 12}	ug/L	Grab	2/year	--
2,4-D ^{10, 12}	ug/L	Grab	2/year	--
CTR Priority Pollutants and Non-CTR Constituents of Concern ^{5, 7, 8, 11, 13, 14,}	As Appropriate	As Appropriate	15	--
<i>See Footnotes on following page.</i>				

Parameter	Units	Sample Type ⁶	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
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Footnotes for Table E.3

- 1 Total chlorine residual must be monitored with a method sensitive to and accurate at the permitted level of 0.01 mg/L.
- 2 Effluent Temperature monitoring shall be at the Outfall location.
- 3 Concurrent with biotoxicity monitoring.
- 4 Report as total.
- 5 For priority pollutant constituents with effluent limitations, detection limits shall be below the effluent limitations. If the lowest minimum level (ML) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Plan or SIP) is not below the effluent limitation, the detection limit shall be the lowest ML. For priority pollutant constituents without effluent limitations, the detection limits shall be equal to or less than the lowest ML published in Appendix 4 of the SIP.
- 6 Grab samples shall not be collected at the same time every day.
- 7 Concurrent with receiving surface water sampling.
- 8 Volatile samples and phthalate esters shall be grab samples, the remainder shall be 24-hour flow proportioned composite samples.
- 9 Temperature and pH samples shall be collected concurrently with ammonia samples.
- 10 ~~Sampling and analyses for compliance with Interim Effluent Limitations only.~~ A p~~Persistent Chlorinated Hydrocarbon Pesticide~~
- 11 Units are ug/L and lbs/day unless the units are not appropriate for individual constituents.
- 12 Detection limits shall be below the effluent limitations.
- 13 Hardness samples shall be collected concurrently with metals samples.
- 14 See Attachment H for the list of CTR Priority Pollutants and Non-CTR Constituents of Concern.
- 15 1/quarter (for 1 full year) during the 3rd year of the Permit Term.
- 16 ~~Persistent Chlorinated Hydrocarbon Pesticide and~~ CTR Priority Pollutants.

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 quarterly acute toxicity testing, concurrent with effluent ammonia sampling.
2. Sample Types – For static non-renewal and static renewal testing, the samples shall be grab samples and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at the effluent monitoring location EFF-001.
3. Test Species – Test species shall be rainbow trout (*Oncorhynchus mykiss*).
4. Methods – The acute toxicity testing samples shall be analyzed using EPA ~~821-R-02-012~~, Fifth Edition, and its subsequent amendments or revisions. 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 quarterly three species chronic toxicity testing.
2. Sample Types – Effluent samples shall be grab samples and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at the effluent monitoring location specified in the Monitoring and Reporting Program. The receiving water control shall be a grab sample obtained from the RSW-001 sampling location, as identified in the 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, and its subsequent amendments or revisions.
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 Table E-5, below. The receiving water control shall be used as the diluent, (unless the receiving water is toxic or there is ~~no~~ dry upstream water) of the discharge. In such cases, laboratory control water may be used as the diluent.

If the receiving water is toxic, ~~laboratory control water may be used as the diluent, in which case,~~ the receiving water should still be sampled and tested to provide evidence of its toxicity.

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 Special Provisions VI.C.2.a.iii.)

Table E-5. 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 ¹	0	25	50	75	87.5	100	0
% Laboratory Water	0	0	0	0	0	0	100
¹ <u>If receiving water is toxic, laboratory water will be used for the dilution series as described in EPA method 821-R-02-013, Section 7.12.</u>							

C. WET Testing Notification Requirements. The Discharger shall notify the Regional Water Board within 24-hrs 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 Regional Water Board within 30 days following completion of the test, and shall contain, at minimum:
 - a. The results expressed in TUC, measured as 100/NOEC, and also measured as 100/LC₅₀, 100/EC₂₅, 100/IC₂₅, and 100/IC₅₀, as appropriate.

- b. The statistical methods used to calculate endpoints;
- c. The statistical output page, which includes the calculation of the percent minimum significant difference (PMSD);
- d. The dates of sample collection and initiation of each toxicity test; and
- e. The results compared to the numeric toxicity monitoring trigger.

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

2. **Acute WET Reporting.** Acute toxicity test results shall be submitted with the monthly discharger self-monitoring reports and reported as percent survival.
3. **TRE Reporting.** Reports for Toxicity Reduction Evaluations shall be submitted in accordance with the schedule contained in the Discharger's approved TRE Work Plan.
4. **Quality Assurance (QA).** The Discharger must provide the following information for QA purposes:
 - a. Results of the applicable reference toxicant data with the statistical output page giving the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD, and dates tested.
 - b. The reference toxicant control charts for each endpoint, which include summaries of reference toxicant tests performed by the contracting laboratory.
 - c. Any information on deviations or problems encountered and how they were dealt with.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECLAMATION MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER

A. Monitoring Location RSW-001

1. The Discharger shall monitor Hangtown Creek at monitoring location RSW-001 as follows:

Table E-8a. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type ¹⁰	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Meter	Continuous	--
Temperature ^{3, 6}				
1 June through 15 October	°F (°C)	Grab	5 days/week	--
16 October through 31 May	°F (°C)	Grab	2 days/week	--
Dissolved Oxygen	mg/L	Grab	2 days/week	--
Turbidity	NTU	Grab	2 days/week	--
pH ^{3, 6}	--	Grab	2 days/week	--
Electrical Conductivity @ 25°C	umhos/cm	Grab	2 days/week	--
Hardness ^{3, 7}	mg/L	Grab	1/month	--
Fecal Coliform Organisms	MPN/100 ml	Grab	1/month	--
Radionuclides	pCi/L	Grab	1/year	--
CTR Priority Pollutants and Non-CTR Constituents of Concern ^{1, 2, 3, 4, 5, 6, 7, 8}	As Appropriate	As Appropriate	⁹	--

¹ For priority pollutant constituents with effluent limitations, detection limits shall be below the effluent limitations. If the lowest minimum level (ML) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Plan or SIP) is not below the effluent limitation, the detection limit shall be the lowest ML. For priority pollutant constituents without effluent limitations, the detection limits shall be equal to or less than the lowest ML published in Appendix 4 of the SIP.

² See Attachment H for list of CTR Priority Pollutants and Non-CTR Constituents of Concern.

³ Concurrent with effluent sampling.

⁴ Units are ug/L and lbs/day unless the units are not appropriate for individual constituents.

⁵ Detection limits shall be below the effluent limitations.

⁶ Temperature and pH samples shall be collected concurrently with ammonia effluent samples.

⁷ Hardness samples shall be collected concurrently with metals samples.

⁸ Volatile samples and phthalate esters shall be grab samples, the remainder shall be 24-hour flow proportioned composite samples.

⁹ 1/quarter (for 1 full year) during the 3rd year of the Permit Term.

¹⁰ Grab samples shall not be collected at the same time every day.

B. Monitoring Location RSW-002

1. The Discharger shall monitor Hangtown Creek at Monitoring Location RSW-002 as follows:

Table E-8b. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Grab	Daily	--
Temperature ^{1, 3}				
1 June through 15 October	°F (°C)	Grab	5 days/week	--
16 October through 31 May	°F (°C)	Grab	2 days/week	--
Dissolved Oxygen	mg/L	Grab	2 days/week	--
Turbidity	NTU	Grab	2 days/week	--
PH ^{1, 3}	--	Grab	2 days/week	--
Electrical Conductivity @ 25°C	umhos/cm	Grab	2 days/week	--
Hardness ^{2, 3}	mg/L	Grab	1/month	--
Fecal Coliform Organisms	MPN/100 ml	Grab	1/quarter	--
Radionuclides	pCi/L	Grab	1/year	--
¹ Temperature and pH samples shall be collected concurrently with ammonia effluent samples. ² Hardness samples shall be collected concurrently with metals samples. ³ Concurrent with receiving effluent sampling.				

IX. OTHER MONITORING REQUIREMENTS

A. Biosolids

1. Monitoring Location BIO-001

a. A composite sample of sludge shall be collected annually at Monitoring Location BIO-001 in accordance with EPA's POTW Sludge Sampling and Analysis Guidance Document, August 1989, and tested for the following metals:

- | | | |
|----------|--------|--------|
| Cadmium | Lead | Silver |
| Chromium | Nickel | Zinc |
| Copper | | |

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.

B. Municipal Water Supply

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. Municipal water supply samples shall be collected at approximately the same time as effluent samples.

Table E-9. Municipal Water Supply Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Electrical Conductivity @ 25°C	umhos/cm	Grab	1/quarter	--
Standard Minerals ²	mg/L	Grab	1/year	--
¹ If the water supply is from more than one source, the EC 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).				

C. Hangtown Creek Conditions at RSW-001 and RSW-002

1. While conducting the receiving water sampling at RSW-001 and RSW-002, the Discharger shall also keep a log of the receiving water conditions within the reach bounded by Monitoring Locations RSW-001 and RSW-002. The log and notes shall be submitted with the SMRs as described in the Reporting Requirements in Section X. The presence or absence of each parameter below shall be noted and the presence shall be described:

Condition	Present?		If yes, provide a short description:
	No	Yes	
Aquatic Life			
Bottom Deposits			
Coatings, Films, or Sheens			
Discoloration			
Floating or Suspended Matter			
Objectionable Growths, Fungi, Slimes, or Other			
Potential Nuisance Conditions			

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 Regional 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 Regional Water Board, on or before each compliance due date, the specified document or a written report detailing compliance or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Water Board by letter when it returns to compliance with the compliance time schedule.
4. The Discharger shall report to the Regional 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.
5. **Reporting Protocols.** The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in Part 136.

The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

- a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be; percent accuracy (\pm a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

- c. 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 ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from *extrapolation* beyond the lowest point of the calibration curve.
6. **Multiple Sample Data.** When determining compliance with an AMEL, AWEL, or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not

Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

- a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
- b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.
2. Monitoring results shall be submitted to the Regional Water Board by the **first day** of the second month following sample collection. Quarterly and annual monitoring results shall be submitted by the **first day of the second month following each calendar quarter, semi-annual period, and year**, respectively.
3. 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. The data shall be summarized in such a manner to illustrate clearly whether the discharge complies with waste discharge requirements. The highest daily maximum for the month, monthly and weekly averages, and medians, and removal efficiencies (%) for BOD and Total Suspended Solids, shall be determined and recorded as needed to demonstrate compliance.
4. With the exception of flow, all constituents monitored on a continuous basis (metered), shall be reported as daily maximums, daily minimums, and daily averages; flow shall be reported as the total volume discharged per day for each day of discharge.
5. If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be included in the calculation and reporting of the values required in the discharge monitoring report form. Such increased frequency shall be indicated on the discharge monitoring report form.

6. A letter transmitting the self-monitoring reports shall accompany each report. Such a letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain the penalty of perjury statement by the Discharger, or the Discharger's authorized agent, as described in the Standard Provisions.
7. SMRs must be submitted to the Regional 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

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

Table E-10. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins	Monitoring Period	SMR Due Date
Continuous	First day of calendar month following Permit Effective Date	All	Submit with monthly SMR
Daily	First day of calendar month following 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
Weekly	First day of calendar month following Permit Effective Date	Sunday through Saturday	Submit with monthly SMR
Monthly	First day of calendar month following Permit Effective Date	First day of calendar month through last day of calendar month	45 days from the end of the monitoring period
Quarterly	Closest of 1 January, 1 April, 1 July, or 1 October following Permit Effective Date	1 January through 31 March 1 April through 30 June 1 July through 30 September 1 October through 31 December	45 days from the end of the monitoring period
Semiannually	Closest of 1 January or 1 July following Permit Effective Date	1 January through 30 June 1 July through 31 December	45 days from the end of the monitoring period
Annually	1 January following Permit Effective Date	1 January through 31 December	45 days from the end of the monitoring period
Once in five years	1 January 2011	1 January 2011 through 31 December 2011	1 April 2012

C. Discharge Monitoring Reports (DMRs)

1. As described in Section X.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.
2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharger shall submit the original DMR and one copy of the DMR to the address listed below:

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

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated cannot be accepted unless they follow the exact same format as EPA form 3320-1.

D. Other Reports

1. **Progress Reports.** As specified in the compliance time schedules required in Special Provisions VI, progress reports shall be submitted in accordance with the following reporting requirements. At minimum, the progress reports shall include a discussion of the status of final compliance, whether the Discharger is on schedule to meet the final compliance date, and the remaining tasks to meet the final compliance date.

Table E-11. Reporting Requirements for Special Provisions Progress Reports

Special Provision	Reporting Requirements
BPTC Evaluation Tasks (Special Provisions, Section VI.C.2. eb)	1 February , annually, following completion of Task 4 of BPTC Evaluation Compliance Schedule
Pollution Minimization Program Status Report (Special Provisions, Section VI.C.3.a)	1 February, annually, following initiation of a PMP
Salinity Reduction Goal Progress Report (Special Provisions, Section VI.C.3.c)	1 February , annually

Special Provision	Reporting Requirements
<p>Pollution Prevention Plan for</p> <ul style="list-style-type: none"> • <u>2,4-D, 4,4'-DDD, 2,4,5-TP (Silvex), Total Coliform Organisms, Aluminum, Ammonia, Atrazine, Beta Endosulfan, Copper, Cyanide, Dalapon, Dibromochloromethane, Dichlorobromomethane, Dinoseb, Endrin, Endrin Aldehyde, Heptachlor, MTBE, Sulfide, THMs, and Zinc.</u> <p>(Special Provisions, Section VI.C.7.a.iii)</p>	<p>1 June, annually, <u>after approval of work plan</u> until final compliance</p>
<p>Treatment Feasibility Study for Priority Pollutants; Copper, Cyanide, Dibromochloromethane, Dichlorobromomethane, Zinc, Beta-Endosulfan, 4,4'-DDD, Endrin, Endrin Aldehyde, and Heptachlor.</p> <p>(Special Provisions, Section VI.C.7.a.iv)</p>	<p>1 June, annually, after approval of work plan until final compliance</p>
<p>Compliance Schedules for Final Effluent Limitations for Aluminum, Atrazine, MTBE, Persistent Chlorinated Hydrocarbon Pesticides (2,4,3-TP [Silvex], 2,4-D, Dalapon, 4,4'-DDD, Beta-Endosulfan, Endrin Aldehyde, and Heptachlor and Dinoseb), THMs, and Sulfide.</p> <p>(Special Provisions, Section VI.C.7.a.i)</p>	<p>1 June, annually, until final compliance</p>
<p>Pollution Prevention Plan for Aluminum, Atrazine, MTBE, Persistent Chlorinated Hydrocarbon Pesticides (2,4,3-TP [Silvex], 2,4-D, Dalapon, 4,4'-DDD, Beta-Endosulfan, Endrin Aldehyde, and Heptachlor and Dinoseb), THMs, and Sulfide.</p> <p>(Special Provisions, Section VI.C.7.a.iii)</p>	<p>1 June, annually, after approval of work plan until final compliance</p>
<p>Treatment Feasibility Study for Aluminum, Atrazine, MTBE, Persistent Chlorinated Hydrocarbon Pesticides (2,4,3-TP [Silvex], 2,4-D, Dalapon, 4,4'-DDD, Beta-Endosulfan, Endrin Aldehyde, and Heptachlor and Dinoseb), THMs, and Sulfide.</p> <p>(Special Provisions, Section VI.C.7.a.iv)</p>	<p>1 June, annually, after approval of work plan until final compliance</p>

2. Within **60 days** of the Effective Date of this Order, the Discharger shall submit a report outlining minimum levels, method detection limits, and analytical methods for approval, with a goal to achieve detection levels below applicable water quality criteria. At a minimum, the Discharger shall comply with the monitoring requirements for CTR constituents as outlined in Section 2.3 and 2.4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*, adopted 2 March 2000 by the State Water Resources Control Board. All peaks identified by analytical methods shall be reported.
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. **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 Regional 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.

5. **Annual Pretreatment Reporting Requirements – Not Applicable**

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ATTACHMENT F – FACT SHEET

As described 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	5A090100001
Discharger	City of Placerville (Owner/Land Owner/Operator)
Name of Facility	Hangtown Creek Water Reclamation Facility
Facility Address	2300 Coolwater Creek Road
	Placerville, CA 95667
	El Dorado County
Facility Contact, Title and Phone	Dan Yaroch, Plant Supervisor (530) 642-5244
Authorized Person to Sign and Submit Reports	Randy Pesses, Public Works Director (530) 642-5250
Mailing Address	3101 Center Street Placerville, CA 95667
Billing Address	3101 Center Street Placerville, CA 95667
Type of Facility	Publicly Owned Treatment Works (POTW) (Standard Industrial Classification: 4952)
Major or Minor Facility	Major Facility
Threat to Water Quality	2
Complexity	B
Pretreatment Program	No
Reclamation Requirements	City of Placerville, Hangtown Creek Water Reclamation Facility (Producer and User) Not Applicable
Facility Permitted Flow	2.3 mgd Average Dry Weather Flow
Facility Design Flow	2.3 mgd Average Dry Weather Flow 5.7mgd Peak Wet Weather Flow
Watershed	Sacramento Hydrologic Basin American River Hydrologic Unit (HU 514.00) South Fork American Hydrologic Area (HA 514.30) Weber Creek Hydrologic Subarea (HSA 514.31)
Receiving Water	Hangtown Creek
Receiving Water Type	Inland Surface Water

- A.** The City of Placerville (hereinafter Discharger) is the owner and operator of the Hangtown Creek Water Reclamation Facility (hereinafter Facility), a municipal wastewater treatment plant.

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

- B.** The Facility discharges wastewater to Hangtown Creek, a water of the United States, and is currently regulated by Waste Discharge Requirements Order No. 5-01-045, which was originally adopted on 16 March 2001, amended on 31 January 2003, and expired on 16 March 2006. The terms and conditions of the current Order have been automatically continued and remain in effect until new Waste Discharge Requirements and 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 27 September 2005, and submitted supplemental information on 5 May 2006. A site visit was conducted on 21 June 2006, to observe operations and collect additional data to develop permit limitations and conditions.

II. FACILITY DESCRIPTION

The Discharger provides sewerage service for a population of approximately 10,335 in the community of Placerville and a small portion of El Dorado County. The Facility design average dry weather flow is 2.3 mgd.

A. Description of Wastewater and Biosolids Treatment or Controls

The layout of the existing treatment system is shown in Appendix B (Figure B-2). The existing treatment system includes primary, secondary, and tertiary treatment processes. The wastewater treatment facilities include headworks, primary clarifiers, flow equalization, an anoxic selector, aeration basins, secondary clarifiers, ballast ponds, tertiary pressure filters, chlorination, dechlorination with sulfur dioxide, and addition of defoamant. In 2004, a new rotary screw screen replaced the existing mechanically cleaned bar screen at the headworks. Sodium hydroxide is added to the effluent from the primary clarifiers provides the alkalinity necessary for nitrification, and added to the effluent from the secondary clarifiers allows compliance with effluent and receiving water pH limits. In 2005, the annual average daily dry weather flow rate was approximately 1.5 mgd and the maximum observed flow rate was 5.2 mgd. The solids processing facilities include aerobic digesters for waste activated sludge and anaerobic digesters for primary sludge. Digested sludge is dewatered with a belt filter press and disposed off-site at a permitted land disposal facility or by application to agricultural land.

The Report of Waste Discharge describes the wastewater as follows:

Design Flow (dry weather):	2.3	mgd
Design Flow (wet weather):	5.7	mgd
Annual Average Daily Flow Rate (2005):	1.5	mgd
Maximum Daily Flow Rate (2005):	5.2	mgd
Average Temperature, Summer:	76	°F
Average Temperature, Winter:	57	°F
Average Daily BOD ¹ :	3.1	mg/L

¹ 5-day, 20°C biochemical oxygen demand

The existing treatment and disposal system is currently undergoing major construction to improve existing treatment processes, add a cooling system, and add Ultraviolet (UV) Disinfection to replace chlorination. The new treatment system is discussed below in section II.E.

B. Discharge Points and Receiving Waters

1. The Facility is located in Section 11, T10N, R10E MDB&M, as shown in Attachment B (Figure B-1), a part of this Order.
2. Treated municipal wastewater is discharged at Discharge Point EFF-001, to Hangtown Creek, a water of the United States and tributary to the South Fork American River via Weber Creek, at a point Latitude 38° 43' 40" N and Longitude 120° 51' 04".
3. Treated wastewater is discharged from Discharge Point EFF-001 to Hangtown Creek, a water of the United States, and tributary to Weber Creek, which then flows into the South Fork American River, between Placerville and Folsom Lake. Hangtown Creek is in the Weber Creek Hydrologic Subarea (HSA 514.31), a portion of the South Fork American Hydrologic Area (HA 514.30), within the American River Hydrologic Unit (HU 514.00) of the Sacramento Hydrologic Basin. Hangtown Creek is a small, perennial creek of the western Sierra Nevada range. Its headwaters originate at an elevation of approximately 2400 ft above mean sea level, near the City of Placerville in El Dorado County. Hangtown Creek transitions from a cold headwater creek dominated by rainbow trout (elevation 2400 ft) to a cool foothill creek dominated by California roach and Sacramento suckers at its confluence with Weber Creek 7.4 miles downstream and at an elevation of about 1400 ft. The aquatic communities of Hangtown Creek are more diverse in the reach upstream of the City of Placerville and in the reach that is downstream of the treatment plant. In contrast, the reach that flows through the City of Placerville and past the treatment plant has less diversity. More diversity of species indicates better environmental conditions than is indicated by less diversity.

The South Fork of the American River is heavily used for whitewater kayaking and rafting during high flows. In May 2007, the 50-year-old federal utility license for Sacramento Municipal Utility District (SMUD) was renewed. The license gives SMUD control of how much water is released from dams on the South Fork American River. The renewed license requires that SMUD provide enough water to more closely mimic a natural flow, which will improve rafting and should provide some restoration of environmental conditions.

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

Effluent Limitations and Discharge Specifications contained in the previous Amended Order No. 5-01-045 for discharges from EFF-001 and representative monitoring data from the term of the previous Order are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data

Parameter (units)	Effluent Limitation				Monitoring Data (From January 2002 To January 2005)		
	Monthly Average	Weekly Average	Daily Average	Daily Max.	Highest Monthly Average Discharge	Highest Weekly Average Discharge	Highest Daily Discharge
Ammonia (mg N/L)	Calculated Floating Ammonia Limit	---	---	Calculated Floating Ammonia Limit	<u>2.4</u>	<u>4.6</u>	<u>5.4</u>
BOD ¹ (mg/L and lbs/day ³)	10 ² 192	15 ² 288	---	30 ² 575	<u>6.2</u> <u>64</u>	<u>7.3</u> <u>90</u>	<u>20</u> <u>738</u>
TSS (mg/L and lbs/day ³)	10 ² 192	15 ² 288	---	30 ² 575	<u>3.5</u> <u>108</u>	<u>11</u> <u>417</u>	<u>24</u> <u>965</u>
Nitrate (mgN/L and lbs/day ³)	10 192	---	---	---	<u>20.8</u> <u>229</u>	<u>27.0</u> <u>273</u>	<u>27.0</u> <u>273</u>
Settleable Solids (ml/L)	0.1	---	---	0.2	<u>0.1</u>	<u>0.2</u>	<u>1</u>
Turbidity ⁴ (NTU)	---	---	2	5	<u>9.7</u>	<u>36</u>	<u>70</u>
Chlorine (mg/L and lbs/day)	0.02 <u>0.38</u>	0.01 <u>0.19</u>	---	---	<u>0.13</u> <u>1.45</u>	<u>0.49</u> <u>5.6</u>	<u>3.4</u> <u>38.7</u>
Total Coliform (MPN/100ml)	---	---	2.2 ⁵	23	<u>50</u> ⁶	<u>33.5</u> ⁵	<u>300</u>

¹ 5-day, 20°C biochemical oxygen demand (BOD)
² To be ascertained by a 24-hour composite
³ Based on the average dry weather flow of 2.3 mgd.
⁴ Effluent Limitations for nitrates and turbidity (went into effect on 16 March 2003).
⁵ 7-day median based on previous seven daily sample results (effective 16 March 2003). A 30-day median of 2.2 MPN/100 ml applied from the Effective Date of this Order to 16 March 2003.
⁶ Monthly median

D. Compliance Summary

On 16 March 2001, the Regional Water Board adopted Waste Discharge Requirements (WDR) Order No. 5-01-045 (renewing NPDES Permit No. CA0078956) and Cease and Desist Order (CDO) No. 5-01-046.

WDR Order No. 5-01-045, Provision G.5 included a compliance schedule for the Discharger to meet the final effluent limitations for turbidity, nitrates, and total coliform organisms by 16 March 2003.

CDO No. 5-01-046 included a compliance schedule to complete a study of the temperature effects in Hangtown Creek, implement corrective measures, and comply with the receiving water limitation for temperature by 15 January 2006.

In a letter to the Regional Water Board, dated 5 September 2002, the Discharger reported that additional time was necessary to finance, design, and construct the required plant improvements and to perform the required additional study of the aquatic ecosystem. On 31 January 2003, the Regional Water Board adopted Amendment of WDR Order No. 5-01-045-A01 and Amendment of CDO No. 5-01-046-A01. The WDR Amendment contained an amended compliance schedule for completion of facility upgrades to achieve full compliance with the effluent limitations for turbidity, nitrates, and total coliform organisms. The CDO Amendment contained an amended compliance schedule for a supplemental temperature study and full compliance with the receiving water limitation for temperature. Both the amended WDR and amended CDO required full compliance by 16 March 2006.

As required in the amended Orders, treatment plant improvements were to have been completed by 1 January 2006 and full compliance with final effluent and receiving water limitations was to have been achieved by 16 March 2006. Construction was delayed due to a temporary suspension of funding from the State Revolving Fund. Construction started in March 2006 and, as reported by the Discharger, the improvements that affect nitrate, turbidity, total coliform organisms, and temperature are scheduled for completion by 28 February 2009. Construction continues in accordance with the Discharger's proposed completion schedule.

E. Planned Changes

In order to comply with effluent limitations for turbidity, nitrates, and total coliform in the existing NPDES Permit (Amended Order No. 5-01-045) and with the receiving water temperature limit in the existing Permit and Cease and Desist Order, the Discharger proposed treatment system improvements. The Facility capacity will remain the same but treatment processes will be improved. Construction began in March 2006 and involves new facilities and modification of existing facilities at an approximate cost of \$40 Million. The new treatment system is scheduled to begin discharge by 1 March 2009 and will include primary, secondary, and tertiary treatment processes, and effluent cooling. The new treatment process will include the following components:

- New headworks with improved grit removal;
- 2 primary clarifiers (renovated and enlarged);
- 6 anoxic selector basins;
- 5 aeration basins (3 existing, 2 new);
- 3 secondary clarifiers (1 existing, 2 new);
- 3 secondary effluent cooling towers;
- 6 tertiary filters (4 existing pressure filters, 2 new gravity filters);
- 1 tertiary filter wet well and 1 filtered effluent storage basin (converted from existing ballast ponds);
- Ultraviolet disinfection;
- Post-disinfection effluent aeration facilities;
- 2 Waste Activated Sludge (WAS) holding basins (converted from existing aerobic sludge digesters);
- 1 gravity belt thickener for WAS before conveyance to anaerobic digesters;
- 3 anaerobic digesters (2 renovated, 1 new); and
- 2 belt filter presses (1 existing, 1 new).

It is unknown at this time, whether the Discharger will cease all use of chlorine within the treatment plant after the Ultraviolet disinfection system replaces the chlorine disinfection system. Chlorine-related effluent limitations may not be necessary if all chlorine use is discontinued.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this Order are based on the applicable plans, policies, and regulations identified in section II of the Limitations and Discharge Requirements (Findings). This section provides supplemental information, where appropriate, for the plans, policies, and regulations relevant to the discharge.

A. Legal Authority

See Limitations and Discharge Requirements - Findings, Section II.C.

B. California Environmental Quality Act (CEQA)

See Limitations and Discharge Requirements - Findings, Section II.E.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Regional Water Board adopted a *Water Quality Control Plan, Fourth Edition (Revised August 2006)*, for the Sacramento and San Joaquin River Basins (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. In addition, State Water Board Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan. The beneficial uses of the South Fork

American River downstream of the discharge are MUN, AGR (for irrigation), POW, REC-1, REC-2, WARM, COLD, and WILD.

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.

Similar to the previous NPDES permit, this Order contains Effluent Limitations requiring a tertiary level of treatment, or equivalent, which is necessary to protect the beneficial uses of the receiving water. The Regional Water Board has considered the factors listed in CWC section 13241 in establishing these requirements, as discussed in more detail below in Section IV.

2. **Thermal Plan – Not Applicable**
3. **Bay-Delta Plan – Not Applicable**
4. **Antidegradation Policy.** Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California’s antidegradation policy in State Water Board Resolution 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 water quality be maintained unless degradation is justified based on specific findings. The Regional 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 (Attachment F, section IV.D.4), the discharge is consistent with the antidegradation provisions of 40 CFR section 131.12 and State Water Board Resolution 68-16.

5. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. Compliance with the Anti-Backsliding requirements is discussed in Section IV.D.3.
6. **Emergency Planning and Community Right to Know Act.** Section 13263.6(a), California 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) (EPCrKA) 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 Regional Water Board has adopted numeric water quality objectives in the Water Quality Control Plan for the Sacramento and San Joaquin River Basins (Basin Plan) for the following constituents: Arsenic and Barium. As detailed elsewhere in this Permit, available effluent quality data indicate that neither of these constituents has a 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 CWC Section 13263.6(a).

The Regional Water Board has adopted numeric receiving water objectives for Copper, Cyanide, Iron, Manganese, Zinc, and Total Dissolved Solids in the Water Quality Control Plan for the Sacramento and San Joaquin River Basins (Basin Plan). As detailed elsewhere in this Permit, available effluent quality data indicate that effluent concentrations of Copper, Cyanide, Iron, Manganese and Zinc do have a reasonable potential to cause or contribute to an excursion above numeric water quality objectives included within the Basin Plan. The Emergency Planning and Community Right to Know Act (EPCrKA) Section 313 toxic chemical release data report indicates that Copper, Cyanide, Iron, Manganese, and Zinc discharge into the Discharger’s collection system. Effluent limitations for Copper, Cyanide, Iron, Manganese, and Zinc are included in this permit pursuant to CWC Section 13263.6(a).

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 EPCrKA report cannot be conducted. Based on information from EPCrKA, 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 CWC 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.

7. **Stormwater 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 stormwater program and are obligated to comply with the Federal Regulations.
8. **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.

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

1. Under Section 303(d) of the 1972 Clean Water Act, 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 25 July 2003 USEPA gave final approval to California's 2002 Section 303(d) List of Water Quality Limited Segments. The Basin Plan references this list of Water Quality Limited Segments (WQLSs), which are defined as "*...those sections of lakes, streams, rivers or other fresh water bodies where water quality does not meet (or is not expected to meet) water quality standards even after the application of appropriate limitations for point sources (40 CFR 130, et seq.)*." The Basin Plan also states, "*Additional treatment beyond minimum federal standards will be imposed on dischargers to [WQLSs]. Dischargers will be assigned or allocated a maximum allowable load of critical pollutants so that water quality objectives can be met in the segment.*" The water from Hangtown Creek eventually flows into the American River. The listing for the American River and other downstream waterbodies includes mercury, which is bioaccumulative. A mercury mass limit is included in this Order.
2. **Total Maximum Daily Loads.** The US EPA requires the Regional Water Board to develop total maximum daily loads (TMDLs) for each 303(d) listed pollutant and water body combination. Hangtown Creek is not an impaired water body. TMDLs are not required for Hangtown Creek.

E. Other Plans, Polices and Regulations

1. 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.
2. The State Water Board adopted the *Water Quality Control Policy for the Enclosed Bays and Estuaries of California*. The requirements within this Order are consistent with the Policy.

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 Clean Water Act (CWA) and amendments thereto are applicable to the discharge.

The Federal 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 Section 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 discharges 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:

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 water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where numeric water quality objectives have not been established. The Regional Water Board's Basin Plan, page IV-17.00, contains an implementation policy ("Policy for Application of Water Quality Objectives" that specifies that the Regional 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 Regional Water Board must establish effluent limitations using one or more of three specified sources, including (1) EPA's published water quality criteria, (2) a proposed state criterion (*i.e.*, water quality objective) or an explicit state policy interpreting its narrative water quality criteria (*i.e.*, the Regional 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 contains a narrative objective requiring that: "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life*" (narrative toxicity objective). The Basin Plan requires the application of the most stringent objective necessary to ensure that surface water and groundwater do not contain chemical constituents, discoloration, toxic substances, radionuclides, or taste and odor producing substances that adversely affect beneficial uses. 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 Basin Plan also limits chemical constituents in concentrations that adversely affect surface water beneficial uses. For waters designated as municipal, the Basin Plan specifies that, at a minimum, waters shall not contain concentrations of constituents that exceed Maximum Contaminant Levels (MCL) of CCR Title 22. The Basin Plan further states that, to protect all beneficial uses, the Regional Water Board may apply limits more stringent than MCLs.

A. Discharge Prohibitions

1. *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.*

B. Technology-Based Effluent Limitations

1. Scope and Authority

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

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

Based on this statutory requirement, USEPA developed secondary treatment regulations, which are specified in Part 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of biochemical oxygen demand (BOD₅), total suspended solids (TSS), and pH.

2. Applicable Technology-Based Effluent Limitations

- a. **BOD₅ and TSS.** Federal Regulations, 40 CFR, Part 133, establish the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for BOD₅ and TSS. Tertiary treatment is necessary to protect the beneficial uses of the receiving stream and the final effluent limitations for BOD₅ and TSS are based on the technical capability of the tertiary process. BOD₅ is a measure of the amount of oxygen used in the biochemical oxidation of organic matter. The secondary and tertiary treatment standards for BOD₅ and TSS are indicators of the effectiveness of the treatment processes. The principal design parameter for wastewater treatment plants is the daily BOD₅ and TSS loading rates and the corresponding removal rate of the system. In applying 40 CFR Part 133 for weekly and monthly average BOD₅ and TSS limitations, the application of tertiary treatment processes results in the ability to achieve lower levels for BOD₅ and TSS than the secondary standards currently prescribed; the 30-day average BOD₅ 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 BOD₅ and TSS are included in the Order to ensure that the treatment works are not organically overloaded and operate in accordance with design capabilities. See Table F-3 for final technology-based effluent limitations required by this Order. 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 BOD₅ 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 BOD₅ and TSS over each calendar month.
- b. **Flow.** The Hangtown Creek Facility was designed to provide a tertiary level of treatment for up to the design flow of 2.3 mgd (average dry weather) and 5.7 mgd (maximum wet weather). This Order contains an effluent flow limitation of 2.3 mgd as the Average Dry Weather Flow.

Summary of Technology-based Effluent Limitations Discharge Point 001

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

Discharge Point 001					
Parameter	Units	Effluent Limitations			
		Monthly Average	Weekly Average	Daily Maximum	Daily Average
5-Day BOD @ 20 °C ¹	mg/L	10 ²	15 ²	30 ²	
	lbs/day ³	192	288	575	
Total Suspended Solids (TSS)	mg/L	10 ²	15 ²	30 ²	
	lbs/day ³	192	288	575	
Average Dry Weather Flow	mgd	--	--	--	2.3

- ¹ 5-Day, 20 °C biochemical oxygen demand (BOD)
- ² To be ascertained by a 24-hour composite
- ³ Based on the Average Dry Weather Flow of 2.3 mgd

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

As specified in section 122.44(d)(1)(i), permits are required to include WQBELs for pollutants (including toxicity) that are or may be discharged at levels that cause, have reasonable potential to cause, or contribute to an in-stream excursion above any state water quality standard. 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

- a. **Receiving Water.** The Basin Plan does not specifically identify beneficial uses for Hangtown Creek. However, the Basin Plan does identify existing and potential beneficial uses for the South Fork American River, from Placerville to Folsom Lake, to which Hangtown Creek, via Weber Creek, is tributary. These beneficial uses are as follows: Municipal and Domestic Supply; Agricultural Supply (for irrigation); Hydropower Generation; Water Contact Recreation; Non-contact Water Recreation; Warm Freshwater Habitat; Cold Freshwater Habitat; and Wildlife Habitat. See Findings, Section II.H and Attachment F, Section III.C for additional discussion of beneficial uses.
- b. **Hardness.** While no effluent limitation for hardness is necessary in this Order, hardness is critical to the assessment of the need for, and the development of, effluent limitations for certain metals. The *California Toxics Rule*, at (c)(4), states the following:

“Application of metals criteria. (i) *For purposes of calculating freshwater aquatic life criteria for metals from the equations in paragraph (b)(2) of this section, for waters with a hardness of 400 mg/L or less as calcium carbonate, the actual ambient hardness of the surface water shall be used in those equations.*”
[emphasis added]

The State Water Board, in footnote 19 to Water Quality Order No. 2004-0013, stated: “*We note that...the Regional Water Board...applied a variable hardness value whereby effluent limitations will vary depending on the actual, current hardness values in the receiving water. We recommend that the Regional Water Board establish either fixed or seasonal effluent limitations for metals, as provided in the SIP, rather than ‘floating’ effluent limitations.*”

Effluent limitations for the discharge must be set to protect the beneficial uses of the receiving water for all discharge conditions. In the absence of the option of including condition-dependent, “floating” effluent limitations that are reflective of actual conditions at the time of discharge, effluent limitations must be set using a reasonable worst-case condition in order to protect beneficial uses for all discharge conditions. For purposes of establishing water quality-based effluent limitations, a reported receiving water hardness value of 40 mg/L as CaCO₃ was used.

In water, the toxicity of some metals (cadmium, chromium III, copper, lead, nickel, silver and zinc) is dependent on the hardness of the water. In general, the lower the hardness the more toxic metals become. Worst-case conditions will occur when hardness is lowest.

A recent paper titled “*Developing Protective Hardness-Based Metal Effluent Limitations*” by Robert Emerick and John Pedri, describes methodologies for assigning fixed effluent limitations for hardness based metals that will be protective under all dilution conditions when the final mixed receiving water/effluent hardness is less than 400 mg/L.

The equations presented in the paper were developed for occasional effluent dominated conditions (i.e., an effluent discharge can constitute up to 100 percent of stream flow at times), no use of assimilative capacity, and where the hardness of both the receiving water and effluent discharge are typically different and variable, with neither always having the higher value. The CTR and NTR describe water quality standards for metals that vary as a function of hardness. The relationship between the relative toxicity criteria and constituent concentration as a function of hardness can be either concave upward or concave downward. The most appropriate and protective methodology is dependent on the relationship.

For those metals whereby the criteria exhibit a **concave downward** relationship as a function of hardness (acute and chronic copper, chromium III, nickel, and zinc, and chronic cadmium), use of effluent hardness for establishing water quality objectives is fully protective of all beneficial uses regardless of whether the effluent

or receiving water hardness is higher. The lowest recorded effluent hardness will be used in this Order to establish effluent limitations for metals with a concave downward relationship as a function of hardness.

For those metals whereby the regulatory criteria exhibit a **concave upward** relationship as a function of hardness (acute cadmium, acute and chronic lead, and acute silver), an effluent limitation that accounts for both the hardness of the receiving water and effluent is required. When effluent hardness is higher than receiving water hardness, use of the lowest recorded effluent hardness and the highest recorded receiving water hardness will result in a protective effluent limitation. When effluent hardness is lower than receiving water hardness, it is necessary to use the highest recorded receiving water metal concentration, the lowest recorded effluent hardness, and the lowest recorded receiving water hardness, to develop a protective effluent limit.

For purposes of conducting the reasonable potential analysis for metals, the lowest recorded (between June 2004 and June 2007) effluent hardness value of 40 mg/L as CaCO₃ was used. At this hardness, copper and zinc indicate reasonable potential to exceed metals criteria. Also at a hardness of 40 mg/L as CaCO₃, the receiving water concentration of lead exceeded the criterion; therefore, an effluent limitation for lead is included in this Order. This Order contains Effluent Limitations for copper, lead, and zinc based on a hardness of 40 mg/L (for additional information regarding copper, lead, and zinc, see below.)

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

3. Determining the Need for WQBELs

- a. CWA section 301 (b)(1) requires NPDES permits to include effluent limitations that achieve technology-based standards and any more stringent limitations necessary to meet water quality standards. Water quality standards include Regional Water Board Basin Plan beneficial uses and narrative and numeric water quality objectives, State Water Board-adopted standards, and federal standards, including the CTR and NTR. The Basin Plan includes numeric site-specific water quality objectives and narrative objectives for toxicity, chemical constituents, 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.) With regards to the narrative chemical constituents objective, the Basin Plan 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 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.”

- b. Federal regulations require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numerical water quality standard. Based on information submitted as part of the application, in studies, and as directed by monitoring and reporting programs, the Regional 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 the following constituents:

2,4-D	Electrical Conductivity (EC)
4,4'-DDD	Endosulfan (sum of Alpha and Beta)
2,4,5-TP	Endrin
Aluminum	Endrin Aldehyde
Ammonia	Heptachlor
Atrazine	MTBE
Beta Endosulfan	Pathogens (Total Coliform Organisms)
Chlorine Residual	Persistent Chlorinated Hydrocarbon Pesticides
Copper	Settleable Solids
Cyanide	Sulfide
Dalapon	Total Nitrate + Nitrite as N
Dibromochloromethane	Total Trihalomethanes
Dichlorobromomethane	Turbidity
Dinoseb	Zinc

Water quality-based effluent limitations (WQBELs) for these constituents are included in this Order. A detailed discussion of the reasonable potential analysis (RPA) for each constituent is provided below.

- c. The Regional Water Board conducted the RPA in accordance with Section 1.3 of the SIP. Although the SIP applies directly to the control of CTR priority pollutants, the State Water Board has held that the Regional Water Board may use the SIP as guidance for water quality-based toxics control.³ The SIP states in the introduction “*The goal of this Policy is to establish a standardized approach for permitting discharges of toxic pollutants to non-ocean surface waters in a manner that promotes statewide consistency.*” Therefore, in this Order the RPA procedures from the SIP were used to evaluate reasonable potential for both CTR and non-CTR constituents.
- d. WQBELs were calculated in accordance with section 1.4 of the SIP, as described in Attachment F, Section IV.C.4.
- e. **Aluminum.** USEPA developed National Recommended Ambient Water Quality Criteria for protection of freshwater aquatic life for aluminum. The recommended

³ See, Order WQO 2001-16 (Napa) and Order WQO 2004-0013 (Yuba City)

four-day average (chronic) and one-hour average (acute) criteria for aluminum are 87 ug/L and 750 ug/L, respectively, for waters with a pH of 6.5 to 9.0. USEPA recommends that the ambient criteria are protective of the aquatic beneficial uses of receiving waters in lieu of site-specific criteria. However, due to the effluent dominated nature of Hangtown Creek, the most protective effluent limitations would be based on the lowest reported hardness and pH in effluent or receiving water. The lowest reported hardness was 40 mg/L as CaCO₃ and the pH ranges between 6.3 and 8.5. These conditions are supportive of the applicability of the ambient water quality criteria for aluminum, according to USEPA's development document.

The MEC for aluminum was 95 ug/L, based on 14 samples collected between February 2002 and June 2007. The maximum observed upstream receiving water aluminum concentration was 859 ug/L, based on 14 samples collected between February 2002 and January 2007. The MEC exceeded the four-day average criterion of 87 ug/L. Therefore, aluminum in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above Ambient Water Quality Criteria for protection of freshwater aquatic life, resulting in a violation of the Basin Plan's narrative toxicity objective. In addition, the maximum concentration of aluminum in the receiving water exceeded the acute and chronic toxicity criteria, therefore, no assimilative capacity for aluminum is available, and effluent limitations are necessary.

This Order contains final Average Monthly Effluent Limitations (AMEL) and Maximum Daily Effluent Limitations (MDEL) for aluminum of 76.7 ug/L and 125 ug/L, respectively, based on the Recommended Ambient Water Quality Criteria for protection of freshwater aquatic (See Attachment F, Table F-6 for WQBEL calculations).

In USEPA's *Ambient Water Quality Criteria for Aluminum—1988* [EPA 440/5-86-008], USEPA states that “[a]cid-soluble aluminum...is probably the best measurement at the present...”; however, USEPA has not yet approved an acid-soluble test method for aluminum. Replacing the ICP/AES portion of the analytical procedure with ICP/MS would allow lower detection limits to be achieved. Based on USEPA's discussion of aluminum analytical methods, this Order allows the use of the alternate aluminum testing protocol described above to meet monitoring requirements.

Based on the sample results in the effluent, it appears that the Discharger may be in immediate non-compliance upon issuance of the permit. 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. The Basin Plan for the Sacramento and San Joaquin River Basins includes a provision that authorizes the use of compliance schedules in NPDES permits for water quality objectives adopted after 25 September 1995 (See Basin Plan at page IV-16). The water quality-based effluent limitations for aluminum are based on a new interpretation of the narrative standard for protection of receiving water beneficial uses.

Therefore, a schedule for compliance with the aluminum effluent limitations is established in this Order.

An interim performance-based ~~maximum daily average monthly~~ effluent limitation for aluminum of 112 ug/L has been established in this Order. The interim limitation was determined as described in Section IV.E.13 of this Fact Sheet, and is in effect from the Effective Date of this Order to five (5) years from the Effective Date. As part of the compliance schedule, this Order requires the Discharger to ~~submit a corrective action plan and implementation schedule to assure compliance with the final aluminum effluent limitations. In addition, the Discharger shall submit an engineering treatment feasibility study and~~ prepare and implement a pollution prevention plan in compliance with CWC section 13263.3(d)(3).

- f. **Ammonia.** 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. 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 would violate the Basin Plan narrative toxicity objective. Applying 40 CFR section 122.44(d)(1)(vi)(B), it is appropriate to use USEPA's Ambient National Water Quality Criteria for the Protection of Freshwater Aquatic Life for ammonia, which was developed to be protective of aquatic organisms.

USEPA's *Ambient Water Quality Criteria 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. It also recommends a maximum four-day average concentration of 2.5 times the 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 Hangtown Creek has a beneficial use of cold freshwater habitat and the presence of salmonids and early fish life stages is well documented, the recommended criteria for waters where salmonids and early life stages are present were used. USEPA's recommended criteria are shown below:

$$CCC_{30\text{-day}} = \left(\frac{0.0577}{1 + 10^{7.688 - pH}} + \frac{2.487}{1 + 10^{pH - 7.688}} \right) \times \text{MIN}(2.85, 1.45 \cdot 10^{0.028(25 - T)}), \text{ and}$$

$$CMC = \left(\frac{0.275}{1 + 10^{7.204 - pH}} + \frac{39.0}{1 + 10^{pH - 7.204}} \right),$$

where T is in degrees Celsius.

Effluent limitations for ammonia in this Order are fixed year-round limitations that are based on reasonable worst-case conditions. Hangtown Creek is an effluent dominated waterbody, therefore, effluent T temperature and pH data, from the Discharger's monthly monitoring reports between June 2004 and June 2007, were used for the calculation of the new "fixed" effluent limitations.

The Discharger's data show that the highest pH values occur in the receiving water in February and March and the highest temperatures occur in the effluent in August. The highest reported receiving water pH was 9.3 in March 2007 and the highest reported effluent temperature was 79.1 °F (22.17 °C) from August 2005.

The CMC for ammonia varies only with pH. The Basin Plan objective for pH in the receiving stream is the range of 6.5 to 8.5. However, the treatment facility discharge has never exceeded a pH of 8.0. To calculate an effluent limitation based on acute criteria, the pH of 8.0 was used to determine the CMC for ammonia is 5.62 mg N/L as a 1-Hour Average.

The CCC for ammonia varies with pH and temperature. As a chronic criterion, long-term conditions were assessed. The highest 30-day rolling average effluent temperature was 78.2 °F (25.67 °C).

—Because The pH scale has been devised to express the concentration of H_3O^+ in logarithmic form. By definition,

$$\underline{\text{pH} = -\log[H_3O^+]} \quad \text{or} \quad \underline{[H_3O^+] = 10^{-\text{pH}}}$$

is expressed as a logarithm, direct calculation of an average pH is not mathematically possible cannot be calculated directly. —In order to represent chronic conditions, the 1/10th percentile of the calculated chronic criteria was determined to assure protection at the 99.9 percentile level. This approach represents a "reasonable worst-case" scenario that is consistent with the 1-in-3 year average frequency for criteria excursions recommended by the USEPA and is an approach used in other Orders recently adopted by the Regional Water Board. For this method, the CCC for ammonia was calculated for each day that temperature and pH data were collected. The 30-day average CCC was calculated and the lowest 99.9% 30-day average was selected, which is 2.86 mg/L. The effluent pH has never exceeded a pH of 8.0. The pH of 8.0 and the maximum 30-day rolling average

~~temperature result in a CCC for ammonia of 1.19 mg N/L as a 30-Day Average.~~
The USEPA recommended maximum 4-Day Average concentration is 2.5 times the CCC or ~~2.987.16~~ mg N/L as a 4-Day Average.

Concentration-based effluent limitations for ammonia are included in this Order to assure the treatment process adequately nitrifies the waste stream to protect the aquatic habitat beneficial uses. The effluent limitations were calculated using the CMC, CCC, and 2.5 times the CCC. The ammonia effluent limitations are ~~1.302.80~~ mg/L (as N) as the AMEL and ~~2.005.62~~ mg N/L as the MDEL. (See Attachment F, Table F-7 for WQBEL calculations.)

The nitrification process that changes ammonia to nitrate requires oxygen. Depleted oxygen in the receiving stream is detrimental to aquatic life. Therefore, a mass-based Effluent Limitation is also included in this Order in accordance with the Code of Federal Regulations, 40 CFR 122.45(f). The mass-based Effluent Limitations were calculated using the AMEL and MDEL and the Average Dry Weather Flow of 2.3 mgd.

~~The ammonia data reported by the Discharger's monthly monitoring reports between June 2004 and June 2007 contain an MEC of 5.4 mg/l, consisted of 12 samples collected for 12 months in 2002 and 2003. The MEC was 0.56 mg/L, which is less than exceeds the chronic criteria and the proposed AMEL effluent limitations. Based on the sample results in the effluent, it appears that the Discharger is able to comply with the effluent limitations for ammonia. Based on the sample results in the effluent, it appears that the Discharger may not be able to immediately comply with the effluent limitations for ammonia upon issuance of the permit. Therefore, no interim effluent limitations are appropriate in this Order. 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. The Basin Plan includes a provision that authorizes the use of compliance schedules in NPDES permits for water quality objectives adopted after 25 September 1995 (See Basin Plan at page IV-16). The water quality-based effluent limitations for ammonia are based on a new interpretation of the narrative standard for protection of receiving water beneficial uses. Therefore, a compliance schedule and the requirement for the Discharger to prepare and implement a pollution prevention plan (in accordance with CWC section 13263.3(d)(3)) is established in the Order.~~

- g. **Atrazine.** Information submitted by the Discharger indicates that the effluent contains atrazine, a triazine pesticide (not a chlorinated hydrocarbon). The Basin Plan contains the narrative "chemical constituent" objective that requires, at a minimum, that waters with a designated MUN use not exceed California MCLs. The California primary MCL for atrazine is 1 ug/L.

The MEC for atrazine was 1.4 ug/l, based on 5 samples collected between February 2002 and January 2003. Therefore, atrazine in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a

level necessary to protect drinking water standards and for the protection of freshwater aquatic life per the Basin Plan's narrative toxicity objective. This Order contains a final annual average Effluent Limitation for atrazine of 1.0 ug/L based on the MCL.

Based on the sample results in the effluent, it appears that the Discharger may be in immediate non-compliance upon issuance of the permit. 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. The Basin Plan includes a provision that authorizes the use of compliance schedules in NPDES permits for water quality objectives adopted after 25 September 1995 (See Basin Plan at page IV-16). The water quality-based effluent limitations for atrazine are based on a new interpretation of the narrative standard for protection of receiving water beneficial uses. Therefore, a compliance schedule for compliance with the atrazine effluent limitations is established in the Order.

An interim performance-based maximum daily effluent limitation of 4.35 ug/L has been established in this Order. The interim limitation was determined as described in Section IV.E.31. of this Fact Sheet, and is in effect from the Effective Date of this Order to five (5) years from the Effective Date. As part of the compliance schedule, this Order requires the Discharger to ~~submit a corrective action plan and implementation schedule to assure compliance with the final atrazine effluent limitations. In addition, the Discharger shall submit an engineering treatment feasibility study and~~ prepare and implement a pollution prevention plan in compliance with CWC section 13263.3(d)(3).

- h. **Bis (2-ethylhexyl) phthalate.** Bis (2-ethyl-hexyl) phthalate is used primarily as one of several plasticizers in polyvinyl chloride (PVC) resins for fabricating flexible vinyl products. According to the Consumer Product Safety Commission, USEPA, and the Food and Drug Administration, these PVC resins are used to manufacture many products, including soft squeeze toys, balls, raincoats, adhesives, polymeric coatings, components of paper and paperboard, defoaming agents, animal glue, surface lubricants, and other products that must stay flexible and noninjurious for the lifetime of their use. The State MCL for bis(2 ethylhexyl)phthalate is 4 ug/L and the USEPA MCL is 6 ug/L. The NTR criterion for Human health protection for consumption of water and aquatic organisms is 1.8 ug/L and for consumption of aquatic organisms only is 5.9 ug/L.

Based on 6 samples collected between February 2002 and June 2007, the MEC for bis (2-ethyl-hexyl) phthalate is 30 ug/L. The MEC exceeded the State MCL, the USEPA MCL, and the NTR criterion for protection of human health. The 2 ~~two~~ samples collected from the upstream receiving water during the same period had no detectable bis (2-ethyl--hexyl) phthalate with a detection level of 3.21 ug/L. In the receiving stream the laboratory detection limit exceeded several criteria.

Sample collection and analytical techniques may involve the use of flexible plastics. Composite sampling uses plastic tubing that may contaminate the samples and result in erroneous data. Using Grab sample collection methods may avoid the bis (2-ethyl-hexyl) phthalate contamination and provide more accurate data. This Order does not contain effluent limitations for bis (2-ethylhexyl) phthalate. This Order requires priority pollutant monitoring, including bis (2-ethyl-hexyl) phthalate [grab samples monitoring using ultra-clean techniques](#), which will verify whether bis (2-ethyl-hexyl) phthalate is in the effluent. If necessary, this Order may be reopened and a bis (2-ethyl-hexyl) phthalate effluent limitation may be included.

- i. **Chlorine Residual.** The Discharger uses chlorine for disinfection, which is extremely toxic to aquatic organisms. The Discharger uses a sulfur dioxide process to dechlorinate the effluent prior to discharge to Hangtown Creek. Due to the existing chlorine use and the potential for chlorine to be discharged, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan's narrative toxicity objective.

The USEPA Technical Support Document for Water Quality-Based Toxics Control [EPA/505/2-90-001] contains statistical methods for converting chronic (four-day) and acute (one-hour) aquatic life criteria to average monthly and maximum daily effluent limitations based on the variability of the existing data and the expected frequency of monitoring. However, because chlorine is an acutely toxic constituent that can and will be monitored continuously, an average one-hour limitation is considered more appropriate than an average daily limitation. Average one-hour and four-day limitations for chlorine, based on these criteria, are included in this Order.

The chlorine effluent limitations in this Order are the same as the limitations in the existing NPDES permit. Therefore, the Discharger can immediately comply with these existing effluent limitations for chlorine residual.

The chlorine residual limitations required in this Order are protective of aquatic organisms in the undiluted discharge. If compliance is maintained, the Regional Water Board does not anticipate residual chlorine impacts to benthic organisms.

- j. **Copper.** The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for copper. The criteria for copper are presented in dissolved concentrations. USEPA recommends conversion factors to translate dissolved concentrations to total concentrations. The USEPA default conversion factors for copper in freshwater are 0.96 for both the acute and the chronic criteria. Using the reasonable worst-case measured hardness from the effluent and receiving water (40 mg/L as CaCO₃) and the USEPA recommended dissolved-to-total translator, the applicable chronic criterion (maximum four-day average concentration) is 5.90 ug/L and the applicable acute criterion (maximum one-hour average concentration) is 4.26 ug/L, as total recoverable copper.

The MEC for total recoverable copper was 12.2 ug/L, based on 15 samples collected between February 2002 and June 2007, while the maximum observed upstream receiving water total copper concentration was 5.46 ug/L, based on 12 samples collected between February 2002 and January 2003. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for copper. An AMEL and MDEL for total recoverable copper of 3.95 ug/L and 5.41 ug/L, respectively, are included in this Order based on CTR criteria for the protection of freshwater aquatic life (See Table F-8 for WQBEL calculations).

The Discharger is unable to comply with these limitations. Section 2.1 of the SIP allows for compliance schedules within the permit for existing discharges where it is demonstrated that it is infeasible for a Discharger to achieve immediate compliance. Using the statistical methods for calculating interim effluent limitations described in Attachment F, Section IV.D.1., an interim performance-based maximum daily limitation of 13.34 ug/L was calculated.

Section 2.1 of the SIP provides that: *“Based on an existing discharger’s request and demonstration that it is infeasible for the discharger to achieve immediate compliance with a CTR criterion, or with an effluent limitation based on a CTR criterion, the RWQCB may establish a compliance schedule in an NPDES permit.”* Section 2.1, further states that compliance schedules may be included in NPDES permits provided that the following justification has been submitted: *...“(a) documentation that diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream; (b) documentation of source control measures and/or pollution minimization measures efforts currently underway or completed; (c) a proposal for additional or future source control measures, pollutant minimization actions, or waste treatment (i.e., facility upgrades); and (d) a demonstration that the proposed schedule is as short as practicable.”* The Discharger provided this information on 2 October 2006. The new water quality-based effluent limitations for copper become effective on 18 May 2010.

~~This Order requires the Discharger to submit a corrective action plan and implementation schedule to assure compliance with the final copper effluent limitations.~~ The interim effluent limitations are in effect from the Effective Date of this Order through 17 May 2010. As part of the compliance schedule for copper, the Discharger shall develop a pollution prevention program in compliance with CWC section 13263.3(d)(3) ~~and submit an engineering treatment feasibility study.~~

- k. **Cyanide.** The CTR includes maximum 1-hour average and 4-day average cyanide concentrations of 22 ug/L and 5.2 ug/L, respectively, for the protection of freshwater aquatic life. The MEC for cyanide was 9.8 ug/L, based on 14 samples collected between February 2002 and September 2006, while cyanide was not detected (detection limit 4.7 ug/L) in the upstream receiving water based on 2 samples collected between February 2002 and January 2003. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream

excursion above the CTR criteria for cyanide. An AMEL and MDEL for cyanide of 4.26 ug/L and 8.54 ug/L, respectively, are included in this Order based on CTR criteria for the protection of freshwater aquatic life (See Table F-9 for WQBEL calculations).

The Discharger is unable to comply with these limitations. Section 2.1 of the SIP allows for compliance schedules within the permit for existing discharges where it is demonstrated that it is infeasible for a Discharger to achieve immediate compliance. Using the statistical methods for calculating interim effluent limitations described in Section IV.D.1. of this Fact Sheet, an interim performance-based maximum daily limitation of 30.5 ug/L was calculated.

Section 2.1 of the SIP provides that: *“Based on an existing discharger’s request and demonstration that it is infeasible for the discharger to achieve immediate compliance with a CTR criterion, or with an effluent limitation based on a CTR criterion, the RWQCB may establish a compliance schedule in an NPDES permit.”* Section 2.1, further states that compliance schedules may be included in NPDES permits provided that the following justification has been submitted: *... “(a) documentation that diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream; (b) documentation of source control measures and/or pollution minimization measures efforts currently underway or completed; (c) a proposal for additional or future source control measures, pollutant minimization actions, or waste treatment (i.e., facility upgrades); and (d) a demonstration that the proposed schedule is as short as practicable.”* The Discharger provided this information on 2 October 2006. The new water quality-based effluent limitations for cyanide become effective on 18 May 2010.

~~This Order requires the Discharger to submit a corrective action plan and implementation schedule to assure compliance with the cyanide final effluent limitations.~~ The interim effluent limitations are in effect from the Effective Date of this Order through 31 May 2009. As part of the compliance schedule for cyanide, the Discharger shall develop a pollution prevention program in compliance with CWC section 13263.3(d)(3) ~~and submit an engineering treatment feasibility study.~~

- I. **Dibromochloromethane.** The CTR includes a dibromochloromethane criterion of 0.41 ug/L for the protection of human health that is based on a one-in-a-million cancer risk for waters from which both water and organisms are consumed. The MEC for dibromochloromethane was 2.5 ug/L, based on 15 samples collected between February 2002 and June 2007, while dibromochloromethane was not detected (detection limit 0.049 ug/L) in the upstream receiving water, based on 4 samples collected between February 2002 and January 2003. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for dibromochloromethane.

An AMEL and MDEL for dibromochloromethane of 0.41 ug/L and 0.98 ug/L, respectively, are included in this Order based on the CTR criterion for the

protection of human health (See Table F-10 for WQBEL calculations).

The Discharger is unable to comply with these limitations. Section 2.1 of the SIP allows for compliance schedules within the permit for existing discharges where it is demonstrated that it is infeasible for a Discharger to achieve immediate compliance. Using the statistical methods for calculating interim effluent limitations described in Section IV.D.1. of this Fact Sheet, an interim performance-based maximum daily limitation of 2.7466 ug/L was calculated.

Section 2.1 of the SIP provides that: “*Based on an existing discharger’s request and demonstration that it is infeasible for the discharger to achieve immediate compliance with a CTR criterion, or with an effluent limitation based on a CTR criterion, the RWQCB may establish a compliance schedule in an NPDES permit.*” Section 2.1, further states that compliance schedules may be included in NPDES permits provided that the following justification has been submitted: ...“(a) documentation that diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream; (b) documentation of source control measures and/or pollution minimization measures efforts currently underway or completed; (c) a proposal for additional or future source control measures, pollutant minimization actions, or waste treatment (i.e., facility upgrades); and (d) a demonstration that the proposed schedule is as short as practicable.” The Discharger provided this information on 2 October 2006. The new water quality-based effluent limitations for dibromochloromethane become effective on 1 June 2009.

~~This Order requires the Discharger to submit a corrective action plan and implementation schedule to assure compliance with the final dibromochloromethane effluent limitations.~~ The interim effluent limitations are in effect from the Effective Date of this Order through 31 May 2009. As part of the compliance schedule for dibromochloromethane, the Discharger shall develop a pollution prevention program in compliance with CWC section 13263.3(d)(3) ~~and submit an engineering treatment feasibility study.~~

Dibromochloromethane is one the four halomethanes that comprise the Total Trihalomethanes. The other three compounds are bromoform, chloroform, and dichlorobromomethane. This Order also contains effluent limitations for the Total Trihalomethanes, as described below.

- m. **Dichlorobromomethane.** The CTR includes a dichlorobromomethane criterion of 0.56 ug/L for the protection of human health and is based on a one-in-a-million cancer risk for waters from which both water and organisms are consumed. The MEC for dichlorobromomethane was 11 ug/L, based on 15 samples collected between February 2002 and September 2006, while dichlorobromomethane was not detected (detection limit 0.031 ug/L) in upstream receiving water, based on 4 samples collected between February 2002 and September 2006. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for dichlorobromomethane.

An AMEL and MDEL for dichlorobromomethane of 0.56 ug/L and 0.96 ug/L, respectively, are included in this Order based on the CTR criterion for the protection of human health (See Table F-11 for WQBEL calculations).

The Discharger is unable to comply with these limitations. Section 2.1 of the SIP allows for compliance schedules within the permit for existing discharges where it is demonstrated that it is infeasible for a Discharger to achieve immediate compliance. Using the statistical methods for calculating interim effluent limitations described in Section IV.D.1. of this Fact Sheet, an interim performance-based maximum daily limitation of ~~2.74~~15.7 ug/L was calculated.

Section 2.1 of the SIP provides that: *“Based on an existing discharger’s request and demonstration that it is infeasible for the discharger to achieve immediate compliance with a CTR criterion, or with an effluent limitation based on a CTR criterion, the RWQCB may establish a compliance schedule in an NPDES permit.”* Section 2.1, further states that compliance schedules may be included in NPDES permits provided that the following justification has been submitted: *...“(a) documentation that diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream; (b) documentation of source control measures and/or pollution minimization measures efforts currently underway or completed; (c) a proposal for additional or future source control measures, pollutant minimization actions, or waste treatment (i.e., facility upgrades); and (d) a demonstration that the proposed schedule is as short as practicable.”* The Discharger provided this information on 2 October 2006. The new water quality-based effluent limitations for dichlorobromomethane become effective on 1 June 2009.

~~This Order requires the Discharger to submit a corrective action plan and implementation schedule to assure compliance with the final dichlorobromomethane effluent limitations.~~ The interim effluent limitations are in effect from the Effective Date of this Order through 31 May 2009. As part of the compliance schedule for dichlorobromomethane, the Discharger shall develop a pollution prevention program in compliance with CWC section 13263.3(d)(3) ~~and submit an engineering treatment feasibility study.~~

Dichlorobromomethane is one the four halomethanes that comprise the Total Trihalomethanes. The other three compounds are bromoform, chloroform, and dibromochloromethane. This Order also contains effluent limitations for the Total Trihalomethanes, as described below.

n. **Electrical Conductivity. (see Subsection x. Salinity)**

- o. **Iron.** The Secondary MCL - Consumer Acceptance Limit for iron is 300 µg/L. The MEC for iron was 81.3 ug/L, based on 13 samples collected between February 2002 and January 2005, while the maximum observed upstream receiving water iron concentration was 1570 ug/L, based on 12 samples collected between February 2002 and January 2003. The receiving water concentration exceeds the water quality criteria. ~~Therefore, the discharge has a reasonable potential to cause~~

~~or contribute to an in-stream excursion above the MCL for iron. Because the maximum receiving water concentration of iron exceeded the MCL and iron was detected in the effluent, an effluent limitation for iron is required.~~

This Order contains an effluent limitation of 300 mg/L as an annual average, based on the MCL for protection of municipal beneficial uses. Based on the sample results in the effluent, it appears the Discharger can meet this new limitation.

- p. **Lead.** The CTR includes hardness-dependent standards for the protection of freshwater aquatic life for lead. The standards for metals are presented in dissolved concentrations. USEPA recommends conversion factors to translate dissolved concentrations to total concentrations. The conversion factors for lead in freshwater are $1.46203 - [0.145712 \times \ln(\text{hardness})]$ for both the acute and the chronic criteria. Using the reasonable worst-case measured hardness from the effluent and receiving water (40 mg/L), the applicable chronic criterion (maximum four-day average concentration) is 0.99 ug/L and the applicable acute criterion (maximum one-hour average concentration) is 25 ug/L, as total recoverable lead.

The MEC for total recoverable lead was 0.45 ug/L, based on 14 samples collected between February 2002 and September 2006. The maximum observed upstream receiving water lead concentration was 2.53 ug/L, as total recoverable lead, based on 12 samples collected between February 2002 and January 2003. The total recoverable lead concentration in the receiving water exceeded the chronic criterion. ~~Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for lead. Because the maximum receiving water concentration of lead exceeded the MCL and lead was detected in the effluent, an effluent limitation for lead is required.~~

The lead concentration in the receiving water exceeded the chronic criterion and no dilution is allowed due to periods of no flow in the receiving water. An AMEL and MDEL for total lead of 0.86 ug/L and 1.49 ug/L, respectively, are included in this Order based on CTR criteria for the protection of freshwater aquatic life (See Table F-12 for WQBEL calculations). Based on the sample results in the effluent, it appears the Discharger can meet these new limitations.

- q. **Manganese.** The Secondary MCL - Consumer Acceptance Limit for manganese is 50 µg/L. The MEC for manganese was 23.5 ug/L, based on 13 samples collected between February 2002 and January 2005, while the maximum observed upstream receiving water manganese concentration was 354 ug/L, based on 12 samples collected between February 2002 and January 2003. The receiving water concentration exceeds the water quality criteria. ~~Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the MCL for manganese. Because the maximum receiving water concentration of manganese exceeded the MCL and manganese was detected in the effluent, an effluent limitation for manganese is required.~~

This Order contains an effluent limitation of 50 mg/L as an annual average, based on protection of municipal beneficial uses. Based on the sample results in the effluent, it appears the Discharger can meet these new limitations.

- r. **Mercury.** The current USEPA Ambient Water Quality Criteria for Protection of Freshwater Aquatic Life, continuous concentration, for mercury is 0.77 ug/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 ug/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. The maximum observed effluent mercury concentration was 0.02359 ug/L. The South Fork American River, below Slab Creek Reservoir to Folsom Lake, has been listed as an impaired water body pursuant to Section 303(d) of the Clean Water Act because of mercury. Hangtown Creek is tributary to the South Fork American River via Weber Creek.

Mercury bioaccumulates in fish tissue and, therefore, discharge of mercury to the receiving water is likely to contribute to exceedances of the narrative toxicity objective and impacts on beneficial uses. Because the downstream waterbody has been listed as an impaired water body for mercury, the discharge must not cause or contribute to increased mercury levels.

The SIP, Section 1.3, requires the establishment of an effluent limitation for a constituent when the receiving stream background water quality exceeds an applicable criterion or objective. This Order contains a performance-based mass Effluent Limitation of 0.014 lbs/month for mercury for the effluent discharge to Hangtown Creek. This limitation is based on maintaining the mercury loading at the current level until a TMDL can be established and USEPA develops mercury standards that are protective of human health. The mass limitation was derived using the maximum observed effluent mercury concentration and the Average Dry Weather Flow of 2.3 mgd.

Compliance time schedules have not been included since the mass limitation is a performance-based limit and can continue to be met through implementation measures and/or by limiting new sewer discharges containing mercury concentrations. If USEPA develops new water quality standards for mercury, or a new TMDL allocation is assigned to Hangtown Creek, this permit may be reopened and the Effluent Limitations adjusted.

- s. **Methyl tert butyl ether (MTBE).** The Secondary Maximum Contaminant Level (MCL)-Consumer Acceptance Limit for MTBE is 5 ug/L. The MEC for MTBE was 200 ug/L. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the Secondary MCL for MTBE. No dilution is allowed due to periods of no flow in the receiving water. An effluent

limitation of 5 ug/L as an annual average, for MTBE is included in this Order based on protection of the Basin Plan's narrative chemical constituents objective.

Based on the sample results in the effluent, it appears that the Discharger may be in immediate non-compliance upon issuance of the permit. 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. The Basin Plan includes a provision that authorizes the use of compliance schedules in NPDES permits for water quality objectives adopted after 25 September 1995 (See Basin Plan at page IV-16). The water quality-based effluent limitations for MTBE are based on a new interpretation of the narrative standard for protection of receiving water beneficial uses. Therefore, a compliance schedule for compliance with the MTBE effluent limitations is established in the Order.

An interim performance-based maximum daily effluent limitation for MTBE of 233 ug/L has been established in this Order. The interim limitation was determined as described in Section IV.E.31. of this Fact Sheet, and is in effect from the Effective Date of this Order through 31 May 2009. As part of the compliance schedule, this Order requires the Discharger to ~~submit a corrective action plan and implementation schedule to assure compliance with the final MTBE effluent limitations. In addition, the Discharger shall submit an engineering treatment feasibility study and~~ prepare and implement a pollution prevention plan ~~that is~~ in compliance with CWC section 13263.3(d)(3).

- t. **Nitrate and Nitrite.** 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. Nitrate and nitrite are known to cause adverse health effects in humans. The California Department of Public Health (DPH) has adopted Primary MCLs at Title 22 of the California Code of Regulations (CCR), Table 64431-A, 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. Title 22 CCR, Table 64431-A, also includes a primary MCL of 10,000 µg/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 Maximum Contaminant Level) and Ambient Water Quality Criteria 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.

Inadequate or incomplete denitrification may result in the discharge of nitrate and/or nitrite to the receiving stream. The conversion of ammonia to nitrites and the conversion of nitrites to nitrates present a reasonable potential for the

discharge to cause or contribute to an in-stream excursion above the Primary MCLs for nitrite and nitrate.

The MEC for nitrate was 18 mg/L based on 12 samples collected between February 2002 and January 2003. The maximum observed upstream receiving water nitrate concentration was 0.84 mg/L, based on 7 samples collected between February 2002 and January 2003. Nitrite was not detected in the effluent or receiving water.

The previous NPDES permit contains an effluent limitation, for nitrate as nitrogen, of 10 mg/L, that became effective 16 March 2006. This Order replaces the old effluent limitation for nitrate with a new effluent limitation for Total Nitrates ~~and plus~~ Nitrites; an AMEL ~~and MDEL~~ of 10 mg/L ~~and 13 mg/L, respectively~~, based on protection of the Basin Plan's narrative chemical constituents objective. The effluent limitations in this Order are essentially the same as the limit in the previous NPDES permit. Therefore, a compliance schedule is not appropriate in this Order. The new limits more accurately reflect the USEPA Primary MCL criteria for nitrate and nitrite. (See Attachment F, Table F-13 for WQBEL calculations).

These effluent limitations are 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.

- u. **Pathogens and Turbidity.** The beneficial uses of Hangtown Creek include municipal and domestic supply, water contact recreation, and agricultural irrigation supply, and at times, there is no dilution. To protect these beneficial uses, the Regional Water Board finds that the wastewater must be disinfected and adequately treated to prevent disease. The principal infectious agents (pathogens) that may be present in raw sewage may be classified into three broad groups: bacteria, parasites, and viruses. Tertiary treatment, consisting of chemical coagulation, sedimentation, and filtration, has been found to remove approximately 99.5% of viruses. Filtration is an effective means of reducing viruses and parasites from the waste stream. The wastewater must be treated to tertiary standards (filtered), or equivalent, to protect contact recreational and food crop irrigation uses.

The California Department of Public Health (DPH) has developed reclamation criteria, CCR, Division 4, Chapter 3 (Title 22), for the reuse of wastewater. Title 22 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. Coliform organisms are living and mobile, and therefore, it is impracticable to quantify an exact number of coliform organisms and to establish weekly average limitations. Instead, coliform organisms are measured as a most probable number and regulated based on a 7-day median limitation.

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.” The Regional Water Board finds that it is appropriate to apply an equivalent level of treatment to that required by 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. The method of treatment is not prescribed by this Order; however, wastewater must be treated to a level equivalent to that recommended by DPH.

In addition to coliform testing, a turbidity effluent limitation has been included as a second indicator of the effectiveness of the treatment process and to assure compliance with the required level of treatment. The 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 the DHS recommended Title 22 disinfection criteria, weekly average effluent limitations are impracticable for turbidity.

The Regional Water Board considered the requirements of CWC section 13241 during adoption of the previous NPDES permit which contained [tertiary level effluent](#) limitations [above the federal secondary requirements](#) for nitrate, turbidity, and total coliform organisms. This Order ~~contains~~ [continues to require effluent limitations and requires](#) a tertiary level of treatment, or equivalent, necessary to protect the beneficial uses of the receiving water.

The Facility is currently undergoing construction of improvements that will improve the [existing](#) tertiary treatment ~~level~~ [capability](#) and reliability of treatment [to comply with the previous Order requirements](#). [The Facility upgrades are scheduled for completion 1 March 2009](#). Additional improvements beyond the current construction will not be necessary to comply with [the](#) Title 22 ~~quality level~~ [effluent limitations included in this Order](#).

Effluent limitations for Total Coliform Organisms are included in this Order based on Title 22 requirements for tertiary treatment. The effluent limitations are 2.2 MPN/100mL as a 7-Day Median, exceedance of 23 MPN/100mL is permitted only once in 30 days, and 240 MPN/100mL as an Instantaneous Maximum. The existing Order required compliance, with the 2.2 MPN/100mL as a 7-Day Median

and 23 MPN/100mL as a Daily Maximum, by 16 March 2006. Therefore, a compliance schedule is not appropriate in this Order for the 7-Day Median and the Daily Maximum. However, it is appropriate to include a compliance schedule and interim limitation for the new and more stringent Instantaneous Maximum Final Effluent Limitation. The interim limitation for Total Coliform Organisms is 2.2 MPN/100 ml as a 30-Day Median based on other recent Orders and on the capability of the current treatment system. The interim limitation is in effect from the effective date of this Order through 31 May 2009. The Final Effluent Limitation is in effect beginning 1 June 2009.

The Regional Water Board finds that it is appropriate to apply Title 22 or equivalent effluent requirements directly to receiving water that is or may be used for irrigation of agricultural land and for contact recreation purposes. Coliform organisms are an indicator of the effectiveness of the entire treatment train and the effectiveness of removing other pathogens. The method of treatment is not prescribed by this Order; however, wastewater must be treated to a tertiary level or equivalent, as described in Title 22.

A turbidity effluent limitation has been included as a second indicator of the effectiveness of the treatment process and to assure compliance with the required level of treatment. The tertiary treatment process, or equivalent, is capable of reliably meeting a turbidity limitation of 2 nephelometric turbidity units (NTU) as a daily average. A failure of the filtration system that impaired the removal of viruses 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 coliform concentrations.

The Discharger is currently constructing new facilities to improve the tertiary treatment processes. This Order contains effluent limitations for total coliform organisms and turbidity, and requires a tertiary level of treatment, or equivalent, necessary to protect the beneficial uses of the receiving water. The existing Amended Order No. 5-01-045 required compliance, with the Turbidity Effluent Limitations, by 16 March 2006. The same effluent limitations for turbidity are included in this Order. Therefore, a compliance schedule is not appropriate in this Order.

- v. **Persistent Chlorinated Hydrocarbon Pesticides (PCHPs).** The Basin Plan water quality objective for pesticides requires that total persistent chlorinated hydrocarbon pesticides (PCHPs) shall not be present in the water column at detectable concentrations. PCHPs were detected in the effluent as follows:

Beta Endosulfan	0.0089 ug/L	(lab estimate)
Dalapon	3.9 ug/L	
2,4-D	0.23 ug/L	(lab estimate)
4,4'-DDD	0.011 ug/L	(lab estimate)
Dinoseb	0.050 ug/L	(lab estimate)
Endrin	0.11 ug/L	
Endrin Aldehyde	0.051 ug/L	
Heptachlor	0.093 ug/L	
2,4,5-TP	0.089 ug/L	(lab estimate)

Each of these constituents is a PCHP. Beta Endosulfan, 4,4'-DDD, Endrin, Endrin Aldehyde, and Heptachlor are also Priority Pollutants. See Attachment A – Definitions and Attachment H – Constituents of Concern, for further information on persistent chlorinated hydrocarbon pesticides.

The detection of beta endosulfan, dalapon, 2,4-D, 4,4'-DDD, dinoseb, endrin, endrin aldehyde, heptachlor, and 2,4,5-TP in the effluent presents a reasonable potential to cause or contribute to an in-stream excursion that exceeds the Basin Plan water quality objectives for PCHPs. The Basin Plan objective is no detectable concentrations for PCHPs, therefore, there can be no assimilative capacity. Effluent Limitations for PCHPs 2,4-D, 2,4,5-TP, 4,4'-DDD, Beta Endosulfan, Dalapon, Dinoseb, Endrin, Endrin Aldehyde, and Heptachlor are included in this Order based on the Basin Plan water quality objective applied to each individual listed pesticide as an instantaneous maximum.

The Basin Plan water quality objective for PCHPs is presented as an instantaneous maximum and there is no associated averaging period, therefore, it is not practicable to convert the standard to an average monthly effluent limitation, an average weekly effluent limitation, or a maximum daily effluent limitation. Also because of the instantaneous nature of the standard, there is no associated period of flow with which to calculate mass loading limitations, making it impracticable to include mass limitations for PCHPs in this Order.

The Discharger is unable to comply with this limitation. Section 2.1 of the SIP allows for compliance schedules within the permit for existing discharges where it is demonstrated that it is infeasible for a Discharger to achieve immediate compliance. Section 2.1 of the SIP provides that: *“Based on an existing discharger’s request and demonstration that it is infeasible for the discharger to achieve immediate compliance with a CTR criterion, or with an effluent limitation based on a CTR criterion, the RWQCB may establish a compliance schedule in an NPDES permit.”* Section 2.1, further states that compliance schedules may be included in NPDES permits provided that the following justification has been submitted: *...“(a) documentation that diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream; (b) documentation of source control measures and/or pollution minimization measures efforts currently underway or completed; (c) a proposal for additional or future source control measures, pollutant minimization actions, or waste treatment (i.e., facility upgrades); and (d) a demonstration that the*

proposed schedule is as short as practicable.” The Discharger provided this information on 2 October 2006.

This Order requires the Discharger to submit a corrective action plan and implementation schedule to assure compliance with the final effluent limitations for PCHPs. For the non-CTR pesticides that were detected (2,4-D, Dalapon, Dinoseb, and 2,4,5-TP), the individual interim performance-based effluent limitations are in effect from the Effective Date of this Order through 30 November 2011.

For the CTR pesticides that were detected (Beta Endosulfan, 4,4'-DDD, Endrin, Endrin Aldehyde, and Heptachlor), there are two compliance dates. The CTR requires compliance with the CTR criteria by 18 May 2010. Therefore, for the CTR pesticides, performance-based interim limitations are in effect from the Effective Date of this Order through 17 May 2010, ~~and from~~ 18 May 2010 through 30 November 2011, interim limitations are based on the CTR criteria or a performance-based interim limitation, whichever is lowest, ~~and final~~ final effluent limitations are based on the Basin Plan Water Quality Objective and are in effect 1 December 2011.

Using the statistical methods for calculating interim effluent limitations described in Attachment F, Section IV.D.1., interim performance-based maximum daily limitations were calculated. The performance-based interim limitations for all the PCHPs are based on the highest reported concentrations and the average dry weather flow (see Attachment F, Section IV.E). The interim limitations for the non-CTR pesticides are as follows: 12.1 ug/L for Dalapon, 0.156 ug/L for Dinoseb, 0.715 ug/L for 2,4-D, and 0.277 ug/L for 2,4,5-TP. The interim limits for the CTR Pesticides from the effective date of this Order to 17 May 2010 are 0.0277 ug/L for Beta Endosulfan, 0.0342 ug/L for 4,4'-DDD, 0.342 ug/L for Endrin, ~~0.159 ug/L for Endrin Aldehyde,~~ and 0.289 ug/L for Heptachlor. The interim effluent limitations for the CTR pesticides from 18 May 2010 through five years from the permit effective date are 0.0277 ug/L for Beta Endosulfan and ~~0.159 ug/L for Endrin Aldehyde~~ (performance-based effluent limitations are less than CTR-based limitations and continue), and 0.76 ug/L for Endrin Aldehyde, 0.00083 ug/L for 4,4'-DDD, 0.029 ug/L for Endrin, and 0.00021 ug/L for Heptachlor (the interim limitations based on CTR Criteria are less than the performance-based limitations). The final effluent limitation, of none detectable, for PCHPs goes into effect five years from the effective date of this Order.

As part of the compliance schedule, this Order requires the Discharger to ~~submit a corrective action plan and implementation schedule to assure compliance with the final effluent limitations. In addition, the Discharger shall submit an engineering treatment feasibility study and~~ prepare and implement a pollution prevention plan in compliance with CWC section 13263.3(d)(3).

- w. **pH.** 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. Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters*”

with designated COLD or WARM beneficial uses.” Effluent Limitations for pH were included in the existing Amended Order No. 5-01-045 Order and are included in this Order based on the Basin Plan objectives for pH and the capability of the treatment system, which has never produced a pH higher than 8.0.

- x. **Salinity.** The discharge contains total dissolved solids (TDS), chloride, sulfate, and electrical conductivity (EC). These water quality parameters are indicative of the salinity of the water. Their presence in water can be growth limiting to certain agricultural crops and can affect the taste of water for human consumption. There are no USEPA water quality criteria for the protection of aquatic organisms for these constituents. The Basin Plan contains a chemical constituent objective that incorporates State MCLs and contains a narrative objective.

Table F-4. Salinity Water Quality Criteria/Objectives

Parameter	Agricultural WQ Goal ¹	Secondary MCL ³	Effluent	
			Avg	Max
EC (umhos/cm)	Varies ²	900, 1600, 2200	708 <u>3722</u>	940 <u>1186</u>
TDS (mg/L)	Varies ²	500, 1000, 1500	465	550
Sulfate (mg/L)	N/A	250, 500, 600	43	52
Chloride (mg/L)	Varies ²	250, 500, 600	61.3	72

¹ Agricultural water quality goals based on *Water Quality for Agriculture*, Food and Agriculture Organization of the United Nations—Irrigation and Drainage Paper No. 29, Rev. 1 (R.S. Ayers and D.W. Westcot, Rome, 1985)

² The EC level in irrigation water that harms crop production depends on the crop type, soil type, irrigation methods, rainfall, and other factors. However, many crops are grown successfully with higher salinities.

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

- i. **Chloride.** The secondary MCL for chloride is 250 mg/L, as recommended level, 500 mg/L as an upper level, and 600 mg/L as a short-term maximum. The recommended agricultural water quality screening value for chloride, that would apply the narrative chemical constituent objective, is 106 mg/L as a long-term average based on *Water Quality for Agriculture*, Food and Agriculture Organization of the United Nations—Irrigation and Drainage Paper No. 29, Rev. 1 (R.S. Ayers and D.W. Westcot, Rome, 1985 Study). The 106 mg/L water quality goal is intended to protect against adverse effects on sensitive crops when irrigated via sprinklers.

Chloride concentrations in the effluent ranged from 48 mg/L to 72 mg/L, with an average of 61.3 mg/L, for 12 samples collected by the Discharger from February 2002 through January 2003. Background concentrations in Hangtown Creek ranged from 4.8 mg/L to 26 mg/L, with an average of 9.5 mg/L, for 7 samples collected by the Discharger from February 2002 through January 2003. Neither the receiving water nor the effluent exceeded the agricultural water quality goal of 106 mg/L. Therefore, no effluent limitations are included in this Order for chloride.

- ii. **Electrical Conductivity (EC).** The secondary MCL for EC is 900 umhos/cm as a recommended level, 1600 umhos/cm as an upper level, and 2200 umhos/cm

as a short-term maximum. The recommended agricultural water quality screening value, that would apply the narrative chemical constituents objective, is 700 umhos/cm as a long-term average based on the R.S. Ayers and D.W. Westcot, Rome, 1985 Study. The 700 μ umhos/cm agricultural water quality goal is intended to prevent reduction in crop yield, i.e. a restriction on use of water, for salt-sensitive crops, such as beans, carrots, turnips, and strawberries. These crops are either currently grown in the area or may be grown in the future. Most other crops can tolerate higher EC concentrations without harm, however, as the salinity of the irrigation water increases, more crops are potentially harmed by the EC, or extra measures must be taken by the farmer to minimize or eliminate any harmful impacts.

A review of the Discharger's monitoring reports from June 2002 through June 2007 shows an average effluent EC of 722 umhos/cm, with a range from 396 umhos/cm to 1186 umhos/cm. For the 12 month period between 1 July 2006 and 30 June 2007, the average effluent EC was 824 umhos/cm, with a range of 558 umhos/cm to 1186 umhos/cm. These maximum and average levels exceed the 700 umhos/cm agricultural water quality screening value and at times the effluent also exceeds the recommended MCL of 900 umhos/cm.

- iii. **Sulfate.** The secondary MCL for sulfate is 250 mg/L as recommended level, 500 mg/L as an upper level, and 600 mg/L as a short-term maximum. Sulfate concentrations in the effluent ranged from 35 mg/L to 52 mg/L, with an average of 43 mg/L, for 12 samples collected by the Discharger from February 2002 through January 2003. Background concentrations in Hangtown Creek ranged from 5.7 mg/L to 12 mg/L, with an average of 9.6 mg/L, for 7 samples collected by the Discharger from February 2002 through January 2003. Neither the receiving water nor the effluent exceeded the secondary MCL recommended level of 250 mg/L. Therefore, no effluent limitations are included in this Order for sulfate.
- iv. **Total Dissolved Solids (TDS).** The secondary MCL for TDS is 500 mg/L as a recommended level, 1000 mg/L as an upper level, and 1500 mg/L as a short-term maximum. The recommended agricultural water quality screening value for TDS, that would apply the narrative chemical constituent objective, is 450 mg/L as a long-term average based on the R.S. Ayers and D.W. Westcot, Rome, 1985 Study. The Study evaluates the impacts of salinity levels on crop tolerance and yield reduction, and establishes water quality goals that are protective of the agricultural uses. The 450 mg/L water quality goal is intended to prevent reduction in crop yield, i.e. a restriction on use of water, for salt-sensitive crops. Only the most salt sensitive crops require irrigation water of 450 mg/L or less to prevent loss of yield. Most other crops can tolerate higher TDS concentrations without harm, however, as the salinity of the irrigation water increases, more crops are potentially harmed by the TDS, or extra measures must be taken by the farmer to minimize or eliminate any harmful impacts.

The average TDS effluent concentration was 465 mg/L and ranged from 380 mg/L to 550 mg/L for 12 samples collected by the Discharger from February 2002 through January 2003. The background receiving water TDS ranged from 83 mg/L to 200 mg/L, with an average of 132 mg/L in 7 sampling events performed by the Discharger from February 2002 through January 2003. These data show that on average the effluent exceeds the most stringent criterion applied (450 mg/l) and on occasion, the effluent concentration exceeds the recommended MCL of 500 mg/l.

- v. **Salinity Effluent Limitations.** Hangtown Creek is an effluent dominated stream and no dilution is allowed due to periods of low flow. A review of the Discharger's monitoring reports from June 2002 through June 2007 shows an average effluent EC of 722 umhos/cm, with a range from 396 umhos/cm to 1186 umhos/cm. EC and TDS levels at times exceed the screening values, and therefore, an interim limitation for EC is included in this Order along with requirements to reduce the salinity of the discharge. To regulate salinity, this Order includes an interim annual average EC effluent limitation of 8250 umhos/cm based on the maximum annual average that occurred between June 2006 and June 2007 plus a small increase above the annual average to accommodate the recent increases in overall EC concentrations.

Effluent limitations based on the MCL or the agricultural water quality goal for EC or the Basin Plan water quality objective for TDS, would likely require construction and operation of a reverse osmosis treatment plant. The State Water Board, in Water Quality Order 2005-005 (for the City of Manteca), states, "...the State Board takes official notice [pursuant to Title 23 of California Code of Regulations, Section 648.2] of the fact that operation of a large-scale reverse osmosis treatment plant would result in production of highly saline brine for which an acceptable method of disposal would have to be developed. Consequently, any decision that would require use of reverse osmosis to treat the City's municipal wastewater effluent on a large scale should involve thorough consideration of the expected environmental effects." The State Water Board states in that Order, "Although the ultimate solutions to southern Delta salinity problems have not yet been determined, previous actions establish that the State Board intended for permit limitations to play a limited role with respect to achieving compliance with the EC water quality objectives in the southern Delta." The State Water Board goes on to say, "Construction and operation of reverse osmosis facilities to treat discharges...prior to implementation of other measures to reduce the salt load in the southern Delta, would not be a reasonable approach."

The Regional Water Board, with cooperation of the State Water Board, has begun the process to develop a new policy for the regulation of salinity in the Central Valley. In a statement issued at the 16 March 2006, Regional Water Board meeting, Board Member Dr. Karl Longley recommended that the Regional Water Board continue to exercise its authority to regulate discharges of salt to minimize salinity increases within the Central Valley. Dr. Longley stated, "The process of developing new salinity control policies does

not, therefore, mean that we should stop regulating salt discharges until a salinity Policy is developed. In the meantime, the Board should consider all possible interim approaches to continue controlling and regulating salts in a reasonable manner, and encourage all stakeholder groups that may be affected by the Regional Board's policy to actively participate in policy development."

The Antidegradation Policy (Resolution No. 68-16) requires that the Discharger implement best practicable treatment or control (BPTC) of its discharge. For salinity, the Regional Water Board is considering limiting effluent salinity of municipal wastewater treatment plants to an increment of 500 umhos/cm over the salinity of the municipal water supply as representing BPTC. This Order includes an interim performance-based effluent limitation of ~~82450~~ umhos/cm for EC to protect the receiving water from further salinity degradation, but no final effluent limitation because sufficient water supply information does not exist. Final effluent limitations for salinity based on BPTC will be established subsequent to the collection and submittal of EC water supply data. This Order requires quarterly monitoring of EC and TDS of the Discharger's water supply.

This Order also requires the Discharger to implement salinity reduction measures to reduce the salinity in its discharge to Hangtown Creek. Specifically, Special Provision VI.C.3.b. of this Order requires the Discharger to prepare and implement a Salinity Evaluation and Minimization Plan for salinity, and Special Provision VI.C.3.c requires the Discharger to report on progress in reducing salinity discharges to the receiving water. Implementation measures to reduce salt loading may include source control, mineralization reduction, chemical addition reductions, changing to water supplies with lower salinity, and limiting the salt load from domestic and industrial dischargers. Compliance with these requirements will result in a salinity reduction in the effluent discharged to the receiving water.

- y. **Settleable Solids.** For inland surface waters, the Basin Plan 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." This Order contains average monthly and average daily effluent limitations for settleable solids.

Because the amount of settleable solids is measured in terms of volume per volume without a mass component, it is impracticable to calculate mass limitations for inclusion in this Order. A daily maximum effluent limitation for settleable solids is included in the Order, in lieu of a weekly average, to ensure that the treatment works operate in accordance with design capabilities.

This Order contains average monthly and maximum daily effluent limitations for settleable solids of 0.1 mL/L-hr and 0.2 mL/L-hr, respectively. The previous NPDES permit contained the same effluent limitations; therefore, the Discharger should already be in compliance.

- z. **Sulfide.** The current USEPA Ambient Water Quality Criteria for Protection of Freshwater Aquatic Life, instantaneous maximum, for sulfide is 2 ug/L. The MEC for sulfide was 2.4 mg/L, based on 12 samples collected between February 2002 and January 2003. No sulfide was detected in the receiving water based on 4 samples collected between February 2002 and January 2003. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for sulfide. As an effluent dominated stream, Hangtown Creek has no assimilative capacity for sulfide and the CTR criterion must be met at the point of discharge. An instantaneous maximum effluent limitation for sulfide is included in this Order, based on the Ambient Water Quality Criteria for the protection of freshwater aquatic life.

Because the criterion for sulfide is presented as an instantaneous maximum with no associated averaging period, it is impracticable to convert the standard to an average monthly effluent limitation, an average weekly effluent limitation, or a maximum daily effluent limitation. Also because of the instantaneous nature of the standard, there is no associated period of flow with which to calculate mass loading limitations, making it impracticable to include mass limitations in this Order.

Based on the sample results in the effluent, it appears that the Discharger may be in immediate non-compliance upon issuance of the permit. 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. The Basin Plan includes a provision that authorizes the use of compliance schedules in NPDES permits for water quality objectives adopted after 25 September 1995 (See Basin Plan at page IV-16). The water quality-based effluent limitations for sulfide are based on a new interpretation of the narrative standard for protection of receiving water beneficial uses. Therefore, a schedule for compliance with the effluent limitations for sulfide is established in this Order.

An interim performance-based maximum daily effluent limitation for sulfide is established in this Order as 3.81 mg/L. The interim limitation was determined as described in Attachment F, Section IV.E.31, and is in effect from the Effective Date of this Order through 31 May 2009. As part of the compliance schedule, this Order requires the Discharger to ~~submit a corrective action plan and implementation schedule to assure compliance with the final sulfide effluent limitations. In addition, the Discharger shall submit an engineering treatment feasibility study and~~ prepare and implement a pollution prevention plan ~~that is~~ in compliance with CWC section 13263.3(d)(3).

- aa. **Temperature.** WDR Order No. 5-01-045 contained Receiving Water Limitation No. E.9, which stated, in part

“The discharge shall not cause the following in the receiving water:”

“9. The ambient temperature to increase more than 5 °F.”

This limitation was based on the Basin Plan water quality objective for temperature.

In 1998 and 1999, the Discharger conducted an initial study titled *Investigation of Water Temperatures in Hangtown Creek Above and Below the Hangtown Creek Wastewater Treatment Plant, Placerville, California, December 1999* over a 1-year period to assess the temperature impacts of the discharge in Hangtown Creek. In 2003, the Discharger completed a supplemental temperature study titled *Survey of the Aquatic Biological Resources and Seasonal Water Temperature Regime of Hangtown Creek, Placerville, California* (April 2003) and included recommendations for modifications to the receiving water limitation for temperature. With Department of Fish and Game (DFG) staff concurrence (15 September 2005 letter), Regional Water Board staff approved the Discharger’s study and implemented the following receiving water temperature limitations for the Facility, with the DFG-recommended site-specific ecological and temperature data and related considerations that are unique to this site.

As recommended by DFG in the 15 September 2005 letter, “The HCWWTP effluent shall not cause the following at the R2 monitoring station:

- The annual average temperature to increase more than 5°F compared to the ambient (R1) stream temperature;
- The maximum weekly average temperature to exceed 58°F during the period December 1 through April 30;
- The maximum weekly average temperature to exceed 67°F during the periods May 1 through May 31 and October 16 through November 30;
- The maximum weekly average temperature to exceed 72°F during the period June 1 through October 15th; and

The maximum instantaneous temperature to exceed 77°F during the period June 1 through October 15.”

This Order contains a Receiving Water Limitation which requires:

The discharge shall not cause the **annual average** ambient temperature of Hangtown Creek to be increased by more than **5°F** or to exceed the following limitations:

Dates	Instantaneous Maximum	Weekly Average
1 December through 30 April	--	58 °F
1 May through 31 May	--	67 °F
1 June through 15 October	77 °F	72 °F
16 October through 30 November	--	67 °F

~~—The HCWWTP effluent shall not cause the following at the R2 monitoring station:~~

- ~~•The annual average temperature to increase more than 5°F compared to the ambient (R1) stream temperature;~~
- ~~•The maximum weekly average temperature to exceed 58°F during the period December 1 through April 30;~~

- ~~• The maximum weekly average temperature to exceed 67°F during the periods May 1 through May 31 and October 16 through November 30;~~
- ~~• The maximum weekly average temperature to exceed 72°F during the period June 1 through October 15th; and~~
- ~~The maximum instantaneous temperature to exceed 77°F during the period June 1 through October 15.~~

This Order also requires the Discharger to conduct a supplemental study of Hangtown Creek's fish and benthic macroinvertebrate community after the Discharger's effluent cooling process becomes operational. The cooling units, part of the current Facility upgrade construction project, are proposed for the Discharger's compliance with receiving water temperature limitations.

This Order also retains the existing Receiving Water Limitation for temperature until construction has been completed, in which then the final Receiving Water Limitation (based on the DFG recommendation) as shown above become effective.

bb. **Total Trihalomethanes (THMs).** Information submitted by the Discharger indicates that the effluent contains chloroform, dibromochloromethane, and dichlorobromomethane. The Basin Plan contains the narrative "chemical constituent" objective that requires, at a minimum, that waters with a designated MUN use not exceed California MCLs. In addition, the chemical constituent objective prohibits chemical constituents in concentrations that adversely affect beneficial uses. The California primary MCL for total THMs is 100 µg/L. The USEPA primary MCL for total THMs is 80 µg/L, which was effective on 1 January 2002 for surface water systems that serve more than 10,000 people. Pursuant to the Safe Drinking Water Act, DPH must revise the current total THMs MCL in Title 22, CCR to be as low or lower than the USEPA MCL. Total THMs include bromoform, dichlorobromomethane, chloroform, and chlorodibromomethane. The Cal/EPA Office of Environmental Health Hazard Assessment (OEHHA) has published the Toxicity Criteria Database, which contains cancer potency factors for chemicals, including chloroform, that have been used as a basis for regulatory actions by the regional boards, departments, and offices within Cal/EPA. This cancer potency factor is equivalent to a chloroform concentration in drinking water of 1.1 µg/L (ppb) at the 1-in-a-million cancer risk level with an average daily consumption of two liters of drinking water over a 70-year lifetime. This risk level is consistent with that used/considered by the DPH to set de minimis risks from involuntary exposure to carcinogens in drinking water in developing MCLs and Action Levels, and by OEHHA to set negligible cancer risks in developing Public Health Goals for drinking water. The one-in-a-million cancer risk level is also mandated by USEPA in applying human health protective criteria contained in the NTR and the CTR to priority toxic pollutants in California surface waters.

There are no known drinking water intakes in Hangtown Creek downstream of the discharge and chloroform is a non-conservative pollutant. However, MUN is a designated beneficial use of the receiving water. Therefore, to protect the

MUN use of the receiving waters, the Regional Water Board finds that, in this specific circumstance, application of the USEPA MCL for total THMs for the effluent is appropriate. Effluent samples collected from February 2002 through September 2006 indicate that chloroform was present with a maximum concentration of 78 ug/L, dibromochloromethane was detected at a maximum concentration of 2.5 ug/L, and dichlorobromomethane was detected at a maximum concentration of 11 ug/L. Bromoform was not detected. The sum of the maximum concentrations of the four THMs is 91.5 ug/L. The concentration of total THMs is greater than the MCL. Therefore, total THMs in the discharge have a reasonable potential to cause or contribute to an in-stream excursion above the USEPA primary MCL for total THMs. No dilution is allowed due to periods of low flow in the receiving water. An effluent limitation of 80 ug/L is included in this Order based on the USEPA primary MCL for total THMs of 80 ug/L (as the sum of the concentrations of the four constituents).

Based on the sample results in the effluent, it appears that the Discharger may be in immediate non-compliance upon issuance of the permit. 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. The Basin Plan for the Sacramento and San Joaquin River Basins includes a provision that authorizes the use of compliance schedules in NPDES permits for water quality objectives adopted after 25 September 1995 (See Basin Plan at page IV-16). The water quality-based effluent limitations for THMs are based on a new interpretation of the narrative standard for protection of receiving water beneficial uses. Therefore, a schedule for compliance with the effluent limitations for THMs is established in this Order.

An interim performance-based maximum daily effluent limitation for THMs is established in this Order as 285 ug/L. The interim limitation was determined as described in Attachment F, Section IV.E.31, and is in effect from the Effective Date of this Order through 31 May 2009. As part of the compliance schedule, this Order requires the Discharger to ~~submit a corrective action plan and implementation schedule to assure compliance with the final THM effluent limitations. In addition, the Discharger shall submit an engineering treatment feasibility study and~~ prepare and implement a pollution prevention plan ~~that is~~ in compliance with CWC section 13263.3(d)(3).

- cc. **Toxicity.** See Section IV.C.5 of the Fact Sheet regarding whole effluent toxicity.
- dd. **Zinc.** The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for zinc. The criteria for zinc are presented in dissolved concentrations. USEPA recommends conversion factors to translate dissolved concentrations to total concentrations. The conversion factors for zinc in freshwater are 0.978 for the acute criteria and 0.986 for the chronic criteria. Using the reasonable worst-case ambient (lowest upstream receiving water) measured hardness from the effluent and receiving water (40 mg/L), the applicable chronic criterion (maximum four-day average concentration) and the

applicable acute criterion (maximum one-hour average concentration) are both 55.1 ug/L, as total recoverable zinc.

The MEC for total recoverable zinc was 111 ug/L, based on 15 samples collected between February 2002 and June 2007, while the maximum observed upstream receiving water total zinc concentration was 23.3 ug/L, based on 12 samples collected between February 2002 and January 2003. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for zinc. An AMEL and MDEL for total zinc of ~~42.6~~36.2 ug/L and 55.1 ug/L, respectively, are included in this Order based on CTR criteria for the protection of freshwater aquatic life (See Table F-14 for WQBEL calculations).

The Discharger is unable to comply with these limitations. Section 2.1 of the SIP allows for compliance schedules within the permit for existing discharges where it is demonstrated that it is infeasible for a Discharger to achieve immediate compliance with a CTR criterion. Using the statistical methods for calculating interim effluent limitations described in Attachment F, Section IV.D.1., an interim performance-based maximum daily limitation of ~~76.8~~124.8 ug/L was calculated.

Section 2.1 of the SIP provides that: "*Based on an existing discharger's request and demonstration that it is infeasible for the discharger to achieve immediate compliance with a CTR criterion, or with an effluent limitation based on a CTR criterion, the RWQCB may establish a compliance schedule in an NPDES permit.*" Section 2.1, further states that compliance schedules may be included in NPDES permits provided that the following justification has been submitted: "...*(a) documentation that diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream; (b) documentation of source control measures and/or pollution minimization measures efforts currently underway or completed; (c) a proposal for additional or future source control measures, pollutant minimization actions, or waste treatment (i.e., facility upgrades); and (d) a demonstration that the proposed schedule is as short as practicable.*" The Discharger provided this information on 2 October 2006. The new water quality-based effluent limitations for zinc become effective on 18 May 2010.

~~The interim effluent limitations are in effect from the Effective Date of this Order through 17 May 2010. This Order requires the Discharger to submit a corrective action plan and implementation schedule to assure compliance with the final zinc effluent limitations. The interim effluent limitations are in effect from the Effective Date of this Order through 17 May 2010. As part of the compliance schedule for zinc, the Discharger shall develop prepare and implement a pollution prevention program in compliance with CWC section 13263.3(d)(3) and submit an engineering treatment feasibility study.~~

4. WQBEL Calculations

- a. Effluent limitations for Ammonia, Total Nitrate ~~and plus~~ Nitrite, Sulfide, MTBE, Atrazine, Dibromochloromethane, Dichlorobromomethane, Total Trihalomethanes, Aluminum, Copper, Cyanide, Iron, Lead, Manganese, and Zinc, were calculated in accordance with section 1.4 of the SIP. The following paragraphs describe the methodology used for calculating effluent limitations.
- b. **Effluent Limitation Calculations.** In calculating ~~maximum~~ effluent limitations, the effluent concentration allowances (ECAs) were ~~set equal to the criteria/standards/objectives~~ calculated as follows:

$$\frac{ECA_{acute} = CMC + D(CMC-B)}{ECA_{chronic} = CCC + D(CCC-B)} \quad \begin{array}{l} \text{when } CMC > B \\ \text{when } CCC > B \end{array}$$

$$\frac{ECA_{acute} = CMC}{ECA_{chronic} = CCC} \quad \begin{array}{l} \text{when } CMC < B \\ \text{when } CCC < B \end{array} \quad \text{and when } D = 0$$

~~$ECA_{acute} = CMC$~~

where:

ECA_{acute} = effluent concentration allowance for acute (one-hour average) toxicity criterion

$ECA_{chronic}$ = effluent concentration allowance for chronic (four-day average) toxicity criterion

CMC = criteria maximum concentration (one-hour average)

CCC = criteria continuous concentration (four-day average, unless otherwise noted)

D = dilution credit

B = maximum receiving water concentration

For the human health, agriculture, or other long-term ~~criteria/objectives~~, a dilution credit can be applied. ~~The~~ the ECA is calculated as follows:

$$ECA_{HH} = HH + D(HH - B)$$

where:

~~ECA_{acute} = effluent concentration allowance for acute (one-hour average) toxicity criterion~~

~~$ECA_{chronic}$ = effluent concentration allowance for chronic (four-day average) toxicity criterion~~

ECA_{HH} = effluent concentration allowance for human health, agriculture, or other long-term criterion/objective

~~CMC = criteria maximum concentration (one-hour average)~~

~~CCC = criteria continuous concentration (four-day average, unless otherwise noted)~~

HH = human health, agriculture, or other long-term criterion/objective

- D = dilution credit
- B = maximum receiving water concentration

Acute and chronic toxicity ECAs were then converted to equivalent long-term averages (LTA) using statistical multipliers and the lowest is used. Additional statistical multipliers were then used to calculate the maximum daily effluent limitation (MDEL) and the average monthly effluent limitation (AMEL).

~~Human health ECAs~~ AMELs based on human health criteria are set equal to the AMEL ~~human health ECAs~~, and a statistical multiplier is used to calculate the MDEL.

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

- where: $mult_{AMEL}$ = statistical multiplier converting minimum LTA to AMEL
- $mult_{MDEL}$ = statistical multiplier converting minimum LTA to MDEL
- M_A = statistical multiplier converting CMC to LTA
- M_C = statistical multiplier converting CCC to LTA

Water quality-based effluent limitations were calculated for aluminum, ammonia, copper, cyanide, dibromochloromethane, dichlorobromomethane, lead, ~~persistent chlorinated hydrocarbon pesticides~~, sulfide, total nitrate ~~and plus~~ nitrite, and zinc, as follows in Tables F-6 through F-154, below.

Table F-6. Aluminum - WQBEL Calculations

	Acute	Chronic
Criteria, total recoverable (ug/L) ⁽¹⁾	750	87
Dilution Credit	No Dilution	No Dilution
Translator ⁽²⁾	1.0	1.0
ECA, total recoverable ⁽³⁾	750	3.52
ECA Multiplier ⁽⁴⁾	0.461	0.661
LTA	345.56	57.55
AMEL Multiplier (95 th %) ⁽⁵⁾⁽⁶⁾	⁽⁸⁾	1.33
AMEL (ug/L)	⁽⁸⁾	76.7
MDEL Multiplier (99 th %) ⁽⁷⁾	⁽⁸⁾	2.17
MDEL (ug/L)	⁽⁸⁾	125

⁽¹⁾ USEPA Water Quality Criteria for the Protection of Freshwater Aquatic Life.

⁽²⁾ EPA Translator used as default.

- (3) ECA calculated per section 1.4.B, Step 2 of SIP. This allows for the consideration of dilution.
- (4) Acute and Chronic ECA Multiplier calculated at 99th percentile per section 1.4.B, Step 3 of SIP or per sections 5.4.1 and 5.5.4 of the TSD.
- (5) Assumes sampling frequency n=>4.
- (6) The probability basis for AMEL is 95th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
- (7) The probability basis for MDEL is 99th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
- (8) Chronic LTA < Acute LTA, therefore, limitations based on chronic LTA.

Table F-7. Total Ammonia - WQBEL Calculations

	Acute ⁽¹⁾	Chronic (30-day)	Chronic (4-day)
pH ⁽⁴⁾	8.0	8.0	N/A
Temperature °C ⁽²⁾	N/A	25.67	N/A
Criteria (mg/L) ⁽³⁾	5.62	1.19 <u>2.86</u>	2.98 <u>1.16</u>
Dilution Credit	No Dilution	No Dilution	No Dilution
ECA	2.14	1.19	2.98
ECA Multiplier	0.524	0.881	0.71
LTA ^(4,3)	1.12	1.05	2.12
AMEL Multiplier (95 th %)	⁽⁵⁾ 1.55	1.27 ⁽⁴⁾	^(5,4)
AMEL (mg/L)	⁽⁵⁾ 2.80	1.30 ⁽⁴⁾	^(5,4)
MDEL Multiplier (99 th %)	⁽⁵⁾ 3.11	1.94 ⁽⁴⁾	^(5,4)
MDEL (mg/L)	⁽⁵⁾ 5.62	2.00 ⁽⁴⁾	^(5,4)

- (1) Acute design pH = 8.5 (max. allowed effluent pH)
 Chronic design Calculated at pH = 8.0 (effluent pH maximum)
- (2) Temperature = 78.2 °F (25.67 °C) Maximum 30-day rolling average seasonal effluent temperature
- (3,2) USEPA Ambient Water Quality Criteria
- (4,3) LTA developed based on Acute and Chronic ECA Multipliers calculated at 99th percentile level per sections 5.4.1 and 5.5.4 of TSD.
- (5,4) 30-Day Chronic LTA < Acute LTA < 30-Day Chronic LTA (and < 4-Day Chronic LTA), therefore, limitations based on 30-Day Chronic-Acute LTA

Table F-8. Copper - WQBEL Calculations

	Acute	Chronic
Criteria, dissolved (ug/L) ⁽¹⁾	5.67	4.09
Dilution Credit	No Dilution	No Dilution
Translator ⁽²⁾	0.96	0.96
ECA, total recoverable ⁽³⁾	5.90	4.26
ECA Multiplier ⁽⁴⁾	0.612	0.776
LTA	3.61	3.31
AMEL Multiplier (95 th %) ⁽⁵⁾⁽⁶⁾	⁽⁸⁾	1.20
AMEL (ug/L)	⁽⁸⁾	3.95
MDEL Multiplier (99 th %) ⁽⁷⁾	⁽⁸⁾	1.63
MDEL (ug/L)	⁽⁸⁾	5.41

- (1) CTR aquatic life criteria, based on a hardness of 40 mg/L as CaCO₃.

- (2) EPA Translator used as default.
- (3) ECA calculated per section 1.4.B, Step 2 of SIP. This allows for the consideration of dilution.
- (4) Acute and Chronic ECA Multiplier calculated at 99th percentile per section 1.4.B, Step 3 of SIP or per sections 5.4.1 and 5.5.4 of the TSD.
- (5) Assumes sampling frequency n=>4.
- (6) The probability basis for AMEL is 95th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
- (7) The probability basis for MDEL is 99th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
- (8) Chronic LTA < Acute LTA, therefore, limitations based on chronic LTA.

Table F-9. Cyanide - WQBEL Calculations

	Acute	Chronic
Criteria, dissolved (ug/L) ⁽¹⁾	22	5.2
Dilution Credit	No Dilution	No Dilution
Translator ⁽²⁾	1	1
ECA, total recoverable ⁽³⁾	22	5.2
ECA Multiplier ⁽⁴⁾	0.32	0.53
LTA	7.1	2.7
AMEL Multiplier (95 th %) ⁽⁵⁾⁽⁶⁾	⁽⁸⁾	1.55
AMEL (ug/L)	⁽⁸⁾	4.3
MDEL Multiplier (99 th %) ⁽⁷⁾	⁽⁸⁾	3.1
MDEL (ug/L)	⁽⁸⁾	8.5

- (1) CTR aquatic life criteria.
- (2) EPA Translator used as default.
- (3) ECA calculated per section 1.4.B, Step 2 of SIP.
- (4) Acute and Chronic ECA Multiplier calculated at 99th percentile per section 1.4.B, Step 3 of SIP or per sections 5.4.1 and 5.5.4 of the TSD.
- (5) Assumes sampling frequency n=>4.
- (6) The probability basis for AMEL is 95th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
- (7) The probability basis for MDEL is 99th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
- (8) Chronic LTA < Acute LTA, therefore, limitations based on chronic LTA.

Table F-10. Dibromochloromethane WQBEL Calculations

	CTR ⁽¹⁾
Criteria (ug/L)	0.41
Dilution Credit	No Dilution
ECA	0.41
AMEL Multiplier (95 th %)	1.83
MDEL Multiplier (99 th %)	4.38
AMEL (ug/L) ⁽²⁾	0.41
MDEL/AMEL Multiplier ⁽³⁾	2.41
MDEL (ug/L)	0.98

- (1) California Toxics Rule Human Health Criterion
- (2) AMEL = ECA per section 1.4.B, Step 6 of SIP.
- (3) Assumes sampling frequency $n \leq 4$. Uses MDEL/AMEL multiplier from Table 2 of SIP.

**Table F-11. Dichlorobromomethane
 WQBEL Calculations**

	CTR ⁽¹⁾
Criteria (ug/L)	0.56
Dilution Credit	No Dilution
ECA	0.56
AMEL Multiplier (95 th %)	1.38
MDEL Multiplier (99 th %)	2.37
AMEL (ug/L) ⁽²⁾	0.56
MDEL/AMEL Multiplier ⁽³⁾	1.72
MDEL (ug/L)	0.96

- (1) California Toxics Rule Human Health Criterion
- (2) AMEL = ECA per section 1.4.B, Step 6 of SIP.
- (3) Assumes sampling frequency $n \leq 4$. Uses MDEL/AMEL multiplier from Table 2 of SIP.

Table F-12. Lead - WQBEL Calculations

	Acute	Chronic
Criteria, dissolved (ug/L) ⁽¹⁾	24	0.92
Dilution Credit	No Dilution	No Dilution
Translator ⁽²⁾	0.925	0.925
ECA, total recoverable ⁽³⁾	25	0.99
ECA Multiplier ⁽⁴⁾	0.414	0.621
LTA	10.5	0.62
AMEL Multiplier (95 th %) ⁽⁵⁾⁽⁶⁾	⁽⁸⁾	1.39
AMEL (ug/L)	⁽⁸⁾	0.86
MDEL Multiplier (99 th %) ⁽⁷⁾	⁽⁸⁾	2.41
MDEL (ug/L)	⁽⁸⁾	1.49

- (1) CTR aquatic life criteria, based on a hardness of 40 mg/L as CaCO₃.
- (2) EPA Translator used as default.
- (3) ECA calculated per section 1.4.B, Step 2 of SIP. This allows for the consideration of dilution.
- (4) Acute and Chronic ECA Multiplier calculated at 99th percentile per section 1.4.B, Step 3 of SIP or per sections 5.4.1 and 5.5.4 of the TSD.
- (5) Assumes sampling frequency $n > 4$.
- (6) The probability basis for AMEL is 95th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
- (7) The probability basis for MDEL is 99th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
- (8) Chronic LTA < Acute LTA, therefore, limitations based on chronic LTA.

**Table F-13. Total Nitrate ~~and~~plus Nitrite as N
 WQBEL Calculations**

	MCL ⁽¹⁾
Criteria (mg/L)	10.0
Dilution Credit	No Dilution
ECA	10.0
AMEL Multiplier (95 th %)	1.13
MDEL Multiplier (99 th %)	1.42
AMEL (mg/L) ⁽²⁾	10.0
MDEL/AMEL Multiplier ⁽³⁾	1.26
MDEL (mg/L)	13.0

- ⁽¹⁾ USEPA Primary MCL
- ⁽²⁾ AMEL = ECA per section 1.4.B, Step 6 of SIP.
- ⁽³⁾ Assumes sampling frequency n<=4. Uses MDEL/AMEL multiplier from Table 2 of SIP.

Table F-14. Zinc - WQBEL Calculations

	Acute	Chronic
Criteria, dissolved (ug/L) ⁽¹⁾	53.955.1	54.455.1
Dilution Credit	No Dilution	No Dilution
Translator ⁽²⁾	0.9781	0.9861
ECA, total recoverable ⁽³⁾	55.1	55.1
ECA Multiplier ⁽⁴⁾	0.6690.514	0.8140.714
LTA	32.828.3	38.538.8
AMEL Multiplier (95 th %) ⁽⁵⁾⁽⁶⁾	1.161.28	⁽⁸⁾
AMEL (ug/L)	42.636.2	⁽⁸⁾
MDEL Multiplier (99 th %) ⁽⁷⁾	1.501.95	⁽⁸⁾
MDEL (ug/L)	55.1	⁽⁸⁾

- ⁽¹⁾ CTR aquatic life criteria, based on a hardness of 32 mg/L as CaCO₃.
- ⁽²⁾ EPA Translator used as default.
- ⁽³⁾ ECA calculated per section 1.4.B, Step 2 of SIP. This allows for the consideration of dilution.
- ⁽⁴⁾ Acute and Chronic ECA Multiplier calculated at 99th percentile per section 1.4.B, Step 3 of SIP or per sections 5.4.1 and 5.5.4 of the TSD.
- ⁽⁵⁾ Assumes sampling frequency n=>4.
- ⁽⁶⁾ The probability basis for AMEL is 95th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
- ⁽⁷⁾ The probability basis for MDEL is 99th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
- ⁽⁸⁾ Acute LTA < Chronic LTA, therefore, limitations based on acute LTA.

Summary of Water Quality-Based Effluent Limitations Discharge Point 001

- a. **Acute Whole Effluent Toxicity:** Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:
 - i. 70%, minimum for any one bioassay; and
 - ii. 90%, median for any three consecutive bioassays.
- b. **Total Residual Chlorine:** Effluent total residual chlorine shall not exceed:
 - i. mg/L, as a 4-day average; and
 - ii. mg/L, as a 1-hour average.
- c. **Turbidity:** Effluent turbidity shall not exceed:
 - i. 2 NTU, as a daily average; and
 - ii. 5 NTU, more than 5% of the time within a 24-hour period.
- d. **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; and
 - ii. 23 MPN/100 mL, more than once in any 30-day period.
- e. **Mercury:** The total monthly mass effluent discharge of total mercury shall not exceed 0.014 pounds/month.
- f. **Persistent Chlorinated Hydrocarbon Pesticides:** Persistent Chlorinated Hydrocarbon Pesticides (2,4-D, 2,4,5-TP, 4,4'-DDD, Beta Endosulfan, Dalapon, Dinoseb, Endrin, Endrin Aldehyde, and Heptachlor) shall not be detected in the effluent. No individual Persistent Chlorinated Hydrocarbon Pesticide (2,4-D, 2,4,5-TP, 4,4'-DDD, Beta Endosulfan, Dalapon, Dinoseb, Endrin, Endrin Aldehyde, and Heptachlor) may be present in the discharge at detectable concentrations. The Discharger shall use USEPA standard analytical techniques with the lowest possible detectable level for Persistent Chlorinated Hydrocarbon Pesticides with a maximum acceptable detection level of 0.05 ug/L. ~~(All of the Group A Pesticides are also Persistent Chlorinated Hydrocarbon Pesticides (PCHPs).)~~

Table F-15. Summary of Water Quality-Based Effluent Limitations

Parameter	Units	Effluent Limitations					
		Avg. Yearly	Avg. Monthly	Avg. Weekly	Max. Daily	Instant. Min.	Instant. Max.
Turbidity ⁴	NTU	--	--	--	--	--	10
Total Coliform Organisms ⁴	MPN/100 mL	--	--	--	--	--	240
Settleable Solids ⁶	mL/L-hr	--	0.1	--	0.2	--	--
MTBE ⁵	ug/L	--	5.0	--	15.3	--	--
Atrazine ⁵	ug/L	--	1.0	--	2.0	--	--
Dibromochloromethane ⁵	ug/L	--	0.41	--	0.98	--	--
Dichlorobromomethane ⁵	ug/L	--	0.56	--	0.96	--	--

Parameter	Units	Effluent Limitations					
		Avg. Yearly	Avg. Monthly	Avg. Weekly	Max. Daily	Instant. Min.	Instant. Max.
Total Trihalomethanes (THMs) ⁵	ug/L	--	80	--	130	--	--
Total Ammonia ^{3,4,5} (as N)	mg/L	--	2.80 ^{1.30}	---	5.62 ^{2.00}	--	--
	lbs/day ¹	--	53.72 ^{5.0}	---	108 ^{38.4}	--	--
Total Nitrate + Nitrite (as N) ³	mg/L	--	10	--	43	--	--
Aluminum ^{3,5} (Total Recoverable)	ug/L	--	76.7	--	125	--	--
Copper ^{3,5} (Total Recoverable)	ug/L	--	3.95	--	5.41	--	--
Cyanide ^{3,5} (Total Recoverable)	ug/L	--	4.26	--	8.54	--	--
Lead ^{3,6} (Total Recoverable)	ug/L	--	0.86	--	1.49	--	--
Zinc ^{3,5} (Total Recoverable)	ug/L	--	42.6 ^{36.2}	--	55.1	--	--
Iron ^{3,6} (Total Recoverable)	ug/L	300	--	--	418	--	--
Manganese ^{3,6} (Total Recoverable)	ug/L	50.0	--	--	117.8	--	--
Sulfide ⁵	mg/L	--	--	--	--	--	2.0
Persistent Chlorinated Hydrocarbon Pesticides ^{2,3,4,5}	ug/L	--	--	--	--	--	ND
<u>Beta-Endosulfan</u>	<u>ug/L</u>	--	--	--	--	--	ND
<u>Endrin</u>	<u>ug/L</u>	--	--	--	--	--	ND
<u>Endrin Aldehyde</u>	<u>ug/L</u>	--	--	--	--	--	ND
<u>Heptachlor</u>	<u>ug/L</u>	--	--	--	--	--	ND
<u>4,4'-DDD</u>	<u>ug/L</u>	--	--	--	--	--	ND
<u>Dalapon</u>	<u>ug/L</u>	--	--	--	--	--	ND
<u>Dinoseb</u>	<u>ug/L</u>	--	--	--	--	--	ND
<u>2,4,5-TP (Silvex)</u>	<u>ug/L</u>	--	--	--	--	--	ND
<u>2,4-D</u>	<u>ug/L</u>	--	--	--	--	--	ND
¹ Based on the Average Dry Weather Flow of 2.3 mgd. ² The non-detectable (ND) limitation applies to each individual pesticide. ³ Persistent in the environment and/or bioaccumulative. ⁴ See above for additional Effluent Limitations. ⁵ See Interim Limitations, Table 7a and 7b. ⁶ Immediate compliance.							

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 III-8.00) The Basin Plan also states that, “...effluent limits based upon acute biotoxicity tests of effluents will be prescribed where appropriate...”. 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 bioassays -----	70%
Median for any three or more consecutive bioassays -----	90%

- b. **Chronic Aquatic Toxicity.** Based on quarterly whole effluent chronic toxicity testing performed by the Discharger from June 2004 through June 2007, the discharge has reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan's narrative toxicity objective.

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

Numeric chronic WET effluent limitations have not been included in this order. The SIP contains implementation gaps regarding the appropriate form and implementation of chronic toxicity limits. This has resulted in the petitioning of a NPDES permit in the Los Angeles Region⁴ 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

⁴ 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)

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 whole effluent toxicity testing, as specified in the Monitoring and Reporting Program (Attachment E, Section V.). Furthermore, Special Provisions 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 a pattern of toxicity exceeding the numeric toxicity monitoring trigger, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE), in accordance with an approved TRE work plan. The numeric toxicity monitoring trigger is not an effluent limitation, it is the toxicity threshold at which the Discharger is required to perform accelerated chronic toxicity monitoring, as well as, the threshold to initiate a TRE if a pattern of effluent toxicity has been demonstrated.

D. Final Effluent Limitations

1. Mass-based Effluent Limitations.

Title 40 CFR 122.45(f)(1) requires effluent limitations be expressed in terms of mass, with some exceptions, and 40 CFR 122.45(f)(2) allows pollutants that are limited in terms of mass to additionally be limited in terms of other units of measurement. This Order includes effluent limitations expressed in terms of mass and concentration, in addition, pursuant to the exceptions to mass limitations provided in 40 CFR 122.45(f)(1), some effluent limitations are not expressed in terms of mass, such as pH and 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 permitted average dry weather flow allowed in Section IV.A.1.† of the Limitations and Discharge Requirements.

2. Averaging Periods for Effluent Limitations.

Title 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, the US EPA recommends the use of a maximum daily effluent limitation in lieu of average weekly effluent limitations for two reasons. *“First, the basis for the 7-day average for POTWs derives from the secondary treatment requirements. This basis is not related to the need for assuring achievement of water quality standards. Second, a 7-day*

average, which could comprise up to seven or more daily samples, could average out peak toxic concentrations and therefore the discharge's potential for causing acute toxic effects would be missed.” (TSD, pg. 96) This Order uses maximum daily effluent limitations in lieu of average weekly effluent limitations for aluminum, ammonia, ~~atrazine, chlorine residual⁵~~, copper, dichlorobromomethane, dibromochloromethane, cyanide, lead, ~~MTBE, total nitrates plus nitrites, total trihalomethanes~~, and zinc, 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 BOD, TSS, pH, ~~chlorine residual⁶~~, coliform, and turbidity, 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 Attachment F, Section IV.C.3, above.

3. Satisfaction of Anti-Backsliding Requirements.

All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous NPDES permit. The receiving water temperature limitation in the previous NPDES permit and previous Cease and Desist Order were based on the Basin Plan Water Quality Objective for Temperature which states, “At no time or place shall the temperature of COLD or WARM intrastate waters be increased more than 5 °F above natural receiving water temperature”. The Basin Plan further states, “In determining compliance with the water quality objectives for temperature, appropriate averaging periods may be applied provided that beneficial uses will be fully protected.” The receiving water limitation for temperature did not include an averaging period.

In compliance with the Cease and Desist Orders, the Discharger completed a study of the aquatic biological resources and temperature regime of Hangtown Creek in 2003. Regional Water Board staff and California Department of Fish and Game staff agreed that the following modified receiving water limitations and monitoring requirements are protective of aquatic life:

*The discharge shall not cause the **annual average** ambient temperature of Hangtown Creek to be increased by more than 5°F or to exceed the following limitations:*

Dates	Instantaneous Maximum	Weekly Average
1 December thru 30 April	--	58 °F
1 May thru 31 May	--	67 °F
1 June thru 15 October	77 °F	72 °F
16 October thru 30 November	--	67 °F

⁵ This Order applies the USEPA National Ambient Water Quality Criteria for chlorine directly as effluent limitations (1 hour average, acute, and 4-day average, chronic). See Section IV.C.3., above, for rationale regarding the chlorine residual effluent limitations.

⁶ This Order applies the USEPA National Ambient Water Quality Criteria for chlorine directly as effluent limitations (1 hour average, acute, and 4-day average, chronic). See Section IV.C.3., above, for rationale regarding the chlorine residual effluent limitations.

1. Continue temperature monitoring of Hangtown Creek at the R1 (upstream) and R2 (downstream) monitoring stations and in the HCWWTP effluent at the point of discharge;
2. Operate evaporative cooling units, as necessary, to meet the R2 temperature limitations cited above; and
3. Conduct a supplemental study of Hangtown Creek's fish and benthic macroinvertebrate community during the last two years of the renewed NPDES permit's 5-year duration, and compare findings to conditions documented by past Department and RBI [Robertson-Bryan, Inc., consultant for the Discharger] studies."

New information provided by the Study justifies potential backsliding that may occur through implementation of the above fixed receiving water limitations, which are protective of aquatic life, in comparison to the previous floating (delta 5°F) temperature limitation. Therefore, the temperature receiving water limitation in this Order are in accordance with federal and State backsliding policies.

This Order additionally includes ~~quarterly receiving water fecal coliform organism monitoring at Monitoring Location RSW-002, monthly receiving water Fecal Coliform Organism monitoring at Monitoring Location RSW-001, and~~ effluent Total Coliform Organism monitoring 5 days per week. The monitoring of coliform organisms in the previous NPDES permit differed from this Order in that receiving water fecal coliform organisms were monitored monthly, ~~instead of quarterly, at RSW-002. This Order requires less frequent monitoring of the downstream Fecal Coliform Organisms.~~ The effluent total coliform limitations in this Order are substantially lower than the Basin Plan water quality objective for fecal coliform organisms. Therefore, effluent discharged in compliance with effluent limitations in this Order will not cause an exceedance of the Basin Plan objective. Use of best professional judgement concludes that monthly receiving water monitoring is excessive and does not provide added value to information collected.

4. Satisfaction of Antidegradation Policy

The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge and the impact will conclude with improvement to the existing water quality and temperature.

In the past the Facility effluent has caused exceedances of the Basin Plan Water Quality Objective for temperature and the receiving water limitation for temperature that require that the discharge not cause the ambient temperature to increase more than 5°F. Facility improvements are necessary to achieve compliance with the receiving water limitation for temperature and to provide adequate water quality to protect aquatic life. The Discharger is in the process of installing an effluent cooling system. When the facility improvements are completed, the effluent will be cooled during the warmest months before discharging. The improvements currently under construction will improve thermal conditions in Hangtown Creek.

The Department of Fish and Game staff concurred that the receiving water temperature limitations included in this Order (as described above in Section D.3. above) will be protective of aquatic life beneficial uses. The proposed receiving water limitations are consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Resources Control Board Resolution 68-16 in that once the facility effluent cooling improvements are completed, the resulting impact includes the improvement of the thermal conditions in Hangtown Creek.

E. Interim Effluent Limitations

1. **Interim Effluent Limitations for 2,4-D, 2,4,5-TP, 4,4'-DDD, Aluminum, Ammonia, Atrazine, Beta Endosulfan, Coliform Organisms, Copper, Cyanide, Dalapon, Dibromochloromethane, Dichlorobromomethane, Dinoseb, EC, Endrin, Endrin Aldehyde, Heptachlor, MTBE, Sulfide, THMs, and Zinc.** The SIP, section 2.2.1, requires that if a compliance schedule is granted for a CTR or NTR constituent, the Regional Water Board shall establish interim requirements and dates for their achievement in the NPDES permit. The interim limitations must be based on current treatment plant performance or existing permit limitations, whichever is more stringent. The State Water Board has held that the SIP may be used as guidance for non-CTR constituents. Therefore, the SIP requirement for interim effluent limitations has been applied to both CTR and non-CTR constituents in this Order.

Section 2.1 of the SIP allows for compliance schedules within the permit for existing discharges where it is demonstrated that it is infeasible for a Discharger to achieve immediate compliance with a CTR criterion. The statistical methods for calculating interim effluent limitations are described below.

Section 2.1 of the SIP provides that: *“Based on an existing discharger’s request and demonstration that it is infeasible for the discharger to achieve immediate compliance with a CTR criterion, or with an effluent limitation based on a CTR criterion, the RWQCB may establish a compliance schedule in an NPDES permit.”* Section 2.1, further states that compliance schedules may be included in NPDES permits provided that the following justification has been submitted: *...“(a) documentation that diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream; (b) documentation of source control measures and/or pollution minimization measures efforts currently underway or completed; (c) a proposal for additional or future source control measures, pollutant minimization actions, or waste treatment (i.e., facility upgrades); and (d) a demonstration that the proposed schedule is as short as practicable.”*

In an Infeasibility Report dated 29 September 2006, the Discharger submitted a compliance schedule justification for Ammonia, Copper, Cyanide, Dibromochloromethane, Dichlorobromomethane, MTBE, Persistent Chlorinated Hydrocarbon Pesticides, Sulfide, THMs, and Zinc. In a Supplemental Infeasibility Report dated 31 August 2007, the Discharger submitted a compliance schedule justification for Electrical Conductivity, Aluminum, and Atrazine. The Discharger also submitted a compliance schedule justification for the Instantaneous Maximum Effluent Limitation for Total Coliform Organisms on 2 April 2008. The compliance schedule

justifications included all items specified in Paragraph 3, items (a) through (d), of section 2.1 of the SIP. This Order requires the Discharger to submit a corrective action plan and implementation schedule to assure compliance with the final effluent limitations.

Regional Water Board staff reviewed the Infeasibility Report and Supplement, including the compliance schedules and alternate limits proposed by the Discharger. Using Best Professional judgment, Board staff included the following compliance schedules in this Order:

- The Discharger must achieve compliance with the final effluent limitations for Ammonia, Coliform Organisms, Cyanide, Dibromochloromethane, Dichlorobromomethane, MTBE, Sulfide, and THMs by 1 June 2009. Reducing the concentrations of Ammonia, Coliform Organisms, Cyanide, Dibromochloromethane, Dichlorobromomethane, MTBE, Sulfide, and THMs in the discharge is primarily dependent upon completion of the treatment plant upgrades and not on pollution prevention and source control. The treatment plant upgrades are scheduled for completion on 28 February 2009. This Order provides 90 days after upgrade completion for the Discharger to comply with the effluent limitations for Ammonia, Coliform Organisms, Cyanide, Dibromochloromethane, Dichlorobromomethane, MTBE, Sulfide, and THMs.
- The Discharger must achieve compliance with the final effluent limitations for copper and zinc by 18 May 2010, the compliance date for Priority Pollutants required by the SIP.
- The Discharger must achieve compliance with the final effluent limitations for all the listed Persistent Chlorinated Hydrocarbon Pesticides (PCHPs) (2,4-D, 2,4,5-TP, 4,4'-DDD, Beta Endosulfan, Dalapon, Dinoseb, Endrin, Endrin Aldehyde, and Heptachlor) by 1 December 2011, the compliance date proposed by the Discharger. Board staff concurred that reduction in the concentrations of the PCHPs is likely to require a source control study and pollution prevention plan and that the Discharger's proposed compliance date appeared reasonable for completion of these tasks.
- The PCHPs that are also Priority Pollutants (Beta Endosulfan, 4,4'-DDD, Endrin, Endrin Aldehyde, and Heptachlor) must also comply with the 18 March 2010 CTR compliance date. Therefore, these pesticides have an additional interim limitation that is in effect on 18 March 2010 (See Tables F.17, F.18, and F.19, below). The final effluent limitations are in effect 1 December 2011.
- The Discharger must achieve compliance with the final effluent limitations for aluminum and atrazine by 5 years from the effective date of this Order as proposed by the Discharger. Compliance with the schedules for aluminum and atrazine will require a source control study and pollution prevention plan. Compliance with the final effluent limitations for aluminum is further complicated by the state of flux of the aluminum criteria. Atrazine is a pesticide but it is not

a PCHP. To date the Discharger has not compiled enough data to project a firm compliance date.

The interim limitations for 2,4-D, 2,4,5-TP, ~~4,4'-DDD~~, Aluminum, Ammonia, Atrazine, ~~Beta Endosulfan~~, Coliform Organisms, Copper, Cyanide, Dalapon, Dibromochloromethane, Dichlorobromomethane, Dinoseb, EC, ~~Endrin~~, ~~Endrin Aldehyde~~, ~~Heptachlor~~, MTBE, Sulfide, THMs, and Zinc, and the first set of interim limitations for 4,4'-DDD, Beta Endosulfan, Endrin, Endrin Aldehyde, and Heptachlor, in this Order are based on the current treatment plant performance. In developing the interim limitations, where there are ten sampling data points or more, sampling and laboratory variability is accounted for by establishing interim limits that are based on normally distributed data where 99.9% of the data points will lie within 3.3 standard deviations of the mean (*Basic Statistical Methods for Engineers and Scientists, Kennedy and Neville, Harper and Row*). Therefore, the interim limitations in this Order are established as the mean plus 3.3 standard deviations of the available data.

When there are less than ten sampling data points available, the *Technical Support Document for Water Quality- Based Toxics Control* ((EPA/505/2-90-001), TSD) recommends a coefficient of variation of 0.6 be utilized as representative of wastewater effluent sampling. The TSD recognizes that a minimum of ten data points is necessary to conduct a valid statistical analysis. The multipliers contained in Table 5-2 of the TSD are used to determine a maximum daily limitation based on a long-term average objective. In this case, the long-term average objective is to maintain, at a minimum, the current plant performance level. Therefore, when there are less than ten sampling points for a constituent, interim limitations are based on 3.11 times the maximum observed effluent concentration to obtain the daily maximum interim limitation (TSD, Table 5-2).

The second set of interim limitations for 4,4'-DDD, Beta Endosulfan, Endrin, Endrin Aldehyde, and Heptachlor are based on the CTR criteria for each constituent or the performance-based interim limitations, whichever is lowest.

The interim EC effluent limitation (850 umhos/cm) is based on the maximum annual average of 825 umhos/cm that occurred between June 2006 and June 2007, plus a small buffer to accommodate recent increases in overall EC concentrations. The EC effluent limitations and salinity study are discussed under the Salinity section above.

The Regional Water Board finds that the Discharger can undertake source control and treatment plant measures to maintain compliance with the interim limitations included in this Order. Interim limitations are established when compliance with effluent limitations cannot be achieved by the existing discharge. Discharge of constituents in concentrations in excess of the final effluent limitations, but in compliance with the interim effluent limitations, can significantly degrade water quality and adversely affect the beneficial uses of the receiving stream on a long-term basis. The interim limitations, however, establish an enforceable ceiling concentration until compliance with the effluent limitation can be achieved.

Table F-16 summarizes the calculations of the interim effluent limitations for 2,4-D, 2,4,5-TP, 4,4'-DDD, Ammonia, Aluminum, Atrazine, Beta Endosulfan, Coliform Organisms, Copper, Cyanide, Dalapon, Dibromochloromethane, Dichlorobromomethane, Dinoseb, EC, Endrin, Endrin Aldehyde, Heptachlor, MTBE, Sulfide, THMs, and Zinc:

Table F-16. Interim Effluent Limitation Calculation Summary

Parameter	MEC	Mean	Std. Dev.	# of Samples	First or Only Interim Limitation	Second Interim Limitation
Aluminum (ug/L)	95.0	50.04	18.68	14	112	
<u>Total Ammonia (as N) (mg/L)</u>	<u>5.4</u>	<u>0.304</u>	<u>0.49</u>	<u>159</u>	<u>5.4</u>	
<u>Coliform Organisms (MPN/100 ml)</u>	<u>900</u>	<u>--</u>	<u>--</u>	<u>502</u>	<u>2.2</u>	
Atrazine (ug/L)	1.4	--	--	5	4.35	
Copper (ug/L)	12.2	7.7	1.73	15	13.4	
Cyanide (ug/L)	9.8	--	--	15	30.5	
Dibromochloromethane (ug/L)	2.5	0.68	0.60	15	2.66	
Dichlorobromomethane (ug/L)	11	6.5	2.8	14	15.7	
Electrical Conductivity (EC) (umhos/cm) ¹	--	--	--	--	<u>8250</u>	
MTBE (ug/L)	200	31.1	61.2	13	233	
Persistent Chlorinated Hydrocarbon Pesticides (ug/L)						
2,4-D (ug/L)	0.23	--	--	5	0.715	
2,4,5-TP (ug/L)	0.089	--	--	5	0.277	
4,4'-DDD (ug/L) ³	0.011	--	--	6	0.0342	0.00083
Beta Endosulfan (ug/L) ²	0.0089	--	--	6	0.0277	0.0277
Dalapon (ug/L)	3.9	--	--	5	12.1	
Dinoseb (ug/L)	0.050	--	--	5	0.156	
Endrin (ug/L) ³	0.11	--	--	6	0.342	0.029
Endrin Aldehyde (ug/L) ²³	0.051	--	--	6	<u>0.159</u>	<u>0.15976</u>
Heptachlor (ug/L) ³	0.093	--	--	5	0.289	0.00021
Sulfide (mg/L)	2.4	1.0	0.85	12	3.81	
THMs (ug/L)	91.5	--	--	1	<u>284.65</u>	
Zinc (ug/L)	<u>76111</u>	<u>54.661.23</u>	<u>9.919.23</u>	15	<u>87.3125</u>	
¹ Based on the maximum annual average of 825 umhos/cm that occurred between June 2006 and June 2007. ² Performance-based interim limitation, which is less than the CTR/NTR criterion. ³ Interim effluent limitation based on the CTR/NTR criterion, which is less than a performance-based limitation.						

Table F-17. 4,4'-DDD WQBEL Calculations (Interim Limit beginning 18 March 2010)

	CTR ⁽¹⁾
Criteria (ug/L)	0.00083
Dilution Credit	No Dilution
ECA	0.00083
AMEL Multiplier (95 th %)	1.55
AMEL (ug/L) ⁽²⁾	0.00083

⁽¹⁾ California Toxics Rule Human Health Criterion
⁽²⁾ AMEL = ECA per section 1.4.B, Step 6 of SIP.

**Table F-18. Endrin WQBEL Calculations
 (Interim Limit beginning 18 May 2010)**

	Acute	Chronic
Criteria, dissolved (ug/L) ⁽¹⁾	0.086	0.036
Dilution Credit	No Dilution	No Dilution
Translator ⁽²⁾	1	1
ECA, total recoverable ⁽³⁾	0.086	0.036
ECA Multiplier ⁽⁴⁾	0.321	0.527
LTA	0.028	0.019
AMEL Multiplier (95 th %) ⁽⁵⁾⁽⁶⁾	⁽⁸⁾	1.55
AMEL (ug/L)	⁽⁸⁾	0.029
MDEL Multiplier (99 th %) ⁽⁷⁾	⁽⁸⁾	3.11
MDEL (ug/L)	⁽⁸⁾	0.059

- ⁽¹⁾ CTR aquatic life criteria.
- ⁽²⁾ EPA Translator used as default.
- ⁽³⁾ ECA calculated per section 1.4.B, Step 2 of SIP.
- ⁽⁴⁾ Acute and Chronic ECA Multiplier calculated at 99th percentile per section 1.4.B, Step 3 of SIP or per sections 5.4.1 and 5.5.4 of the TSD.
- ⁽⁵⁾ Assumes sampling frequency n=>4.
- ⁽⁶⁾ The probability basis for AMEL is 95th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
- ⁽⁷⁾ The probability basis for MDEL is 99th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
- ⁽⁸⁾ Chronic LTA < Acute LTA, therefore, limitations based on chronic LTA.

**Table F-19. Endrin Aldehyde WQBEL Calculations
 (Interim Limit beginning 18 May 2010)**

	CTR ⁽¹⁾
<u>Criteria (ug/L)</u>	<u>0.76</u>
<u>Dilution Credit</u>	<u>No Dilution</u>
<u>ECA</u>	<u>0.76</u>
<u>AMEL Multiplier (95th%)</u>	<u>1.55</u>
<u>AMEL (ug/L) ⁽²⁾</u>	<u>0.76</u>

- ⁽¹⁾ California Toxics Rule Human Health Criterion
- ⁽²⁾ AMEL = ECA per section 1.4.B, Step 6 of SIP.

**Table F-1720. Heptachlor WQBEL Calculations
 (Interim Limit beginning 18 March 2010)**

	CTR ⁽¹⁾
Criteria (ug/L)	0.00021
Dilution Credit	No Dilution
ECA	0.00021
AMEL Multiplier (95 th %)	1.55
AMEL (ug/L) ⁽²⁾	0.00021

- (1) California Toxics Rule Human Health Criterion
- (2) AMEL = ECA per section 1.4.B, Step 6 of SIP.

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 Regional 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 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 biostimulatory substances, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, salinity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, turbidity, and salinity (as electrical conductivity).

Numeric Basin Plan objectives for bacteria, dissolved oxygen, pH, temperature, and turbidity are applicable to this discharge and have been incorporated as Receiving Surface Water Limitations. Rationale for these numeric receiving surface water limitations are as follows:

- a. **Bacteria.** The Basin Plan includes a water quality objective that “[*I*]n water designated for contact recreation (REC-1), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 400/100 ml.” Numeric Receiving Water Limitations for bacteria are included in this Order and are based on the Basin Plan objective.
- b. **Biostimulatory Substances.** The Basin Plan includes a water quality objective that “[*W*]ater shall not contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.” Receiving Water Limitations for biostimulatory substances are included in this Order and are based on the Basin Plan objective.
- c. **Chemical Constituents.** The Basin Plan includes a water quality objective that “[*W*]aters shall not contain chemical constituents in concentrations that adversely affect beneficial uses.” Receiving Water Limitations for chemical constituents are included in this Order and are based on the Basin Plan objective.
- d. **Color.** The Basin Plan includes a water quality objective that “[*W*]ater shall be free of discoloration that causes nuisance or adversely affects beneficial uses.” Receiving Water Limitations for color are included in this Order and are based on the Basin Plan objective.
- e. **Dissolved Oxygen.** Hangtown Creek has been designated as having the beneficial use of cold freshwater aquatic habitat (COLD). For water bodies designated as having COLD as a beneficial use, the Basin Plan includes a water quality objective of maintaining a minimum of 7.0 mg/L of dissolved oxygen. Since the beneficial use of COLD does apply to the Hangtown Creek, a receiving water limitation of 7.0 mg/L for dissolved oxygen was included in this Order.

For surface water bodies outside of the Delta, the Basin Plan includes the water quality objective that “...the monthly median of the mean daily dissolved oxygen (DO) concentration shall not fall below 85 percent of saturation in the main water mass, and the 95 percentile concentration shall not fall below 75 percent of saturation.” This objective was included as a receiving water limitation in this Order.

- f. **Floating Material.** The Basin Plan includes a water quality objective that “[*W*]ater shall not contain floating material in amounts that cause nuisance or adversely affect beneficial uses.” Receiving Water Limitations for floating material are included in this Order and are based on the Basin Plan objective.
- g. **Oil and Grease.** The Basin Plan includes a water quality objective that “[*W*]aters shall not contain oils, greases, waxes, or other materials in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.” Receiving

Water Limitations for oil and grease are included in this Order and are based on the Basin Plan objective.

- h. **pH.** The Basin Plan includes water quality objective that *“[T]he pH shall not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters with designated COLD or WARM beneficial uses.”* This Order includes receiving water limitations for both pH range and pH change.

The Basin Plan allows for an appropriate averaging period for pH change in the receiving stream. Since there is no technical information available that indicates that aquatic organisms are adversely affected by shifts in pH within the 6.5 to 8.5 range, an averaging period is considered appropriate and an annual averaging period for determining compliance with the 0.5 receiving water pH limitation is included in this Order.

- i. **Pesticides.** The Basin Plan includes a water quality objective for pesticides beginning on page III-6.00. Receiving Water Limitations for pesticides are included in this Order and are based on the Basin Plan objective.
- j. **Radioactivity.** The Basin Plan includes a water quality objective that *“[R]adionuclides shall not 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.”* The Basin Plan states further that *“[A]t a minimum, waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of radionuclides in excess of the maximum contaminant levels (MCLs) specified in Table 4 (MCL Radioactivity) of Section 64443 of Title 22 of the California Code of Regulations...”* Receiving Water Limitations for radioactivity are included in this Order and are based on the Basin Plan objective.
- k. **Sediment.** The Basin Plan includes a water quality objective that *“[T]he suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses”* Receiving Water Limitations for suspended sediments are included in this Order and are based on the Basin Plan objective.
- l. **Settleable Material.** The Basin Plan includes a water quality objective that *“[W]aters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.”* Receiving Water Limitations for settleable material are included in this Order and are based on the Basin Plan objective.
- m. **Suspended Material.** The Basin Plan includes a water quality objective that *“[W]aters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.”* Receiving Water Limitations for suspended material are included in this Order and are based on the Basin Plan objective.

- n. **Taste and Odors.** The Basin Plan includes a water quality objective that “[W]ater 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.” Receiving Water Limitations for taste- or odor-producing substances are included in this Order and are based on the Basin Plan objective.
- o. **Temperature.** Hangtown Creek has the beneficial uses of both COLD and WARM. The Basin Plan includes the objective that “[a]t no time or place shall the temperature of COLD or WARM intrastate waters be increased more than 5°F above natural receiving water temperature.” The Basin Plan further states “In determining compliance with the water quality objectives for temperature, appropriate averaging periods may be applied provided that beneficial uses will be fully protective.” The Discharger conducted two studies of temperature and aquatic organisms in Hangtown Creek. The studies were titled “Investigation of Water Temperatures in Hangtown Creek Wastewater Treatment Plant, Placerville, California, December 1999” and “Survey of the Aquatic Biological Resources and Seasonal Water Temperature Regime of Hangtown Creek, Placerville California, April 2003”. Regional Water Board staff, with DFG staff concurrence (15 September 2005 letter), approved the study with the California Department of Fish and Game (DFG) concurrence that the resulting proposed receiving water temperature limitations are protective of aquatic life in Hangtown Creek This Order includes (1) receiving water temperature limitations based on the Basin Plan objective plus additional seasonal site-specific receiving water limitations, and (2) additional receiving water monitoring provisions recommended by DFG.
- p. **Toxicity.** The Basin Plan includes a water quality objective that “[A]ll waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.” Receiving Water Limitations for toxicity are included in this Order and are based on the Basin Plan objective.
- q. **Turbidity.** The Basin Plan includes a water quality objective that “[I]ncreases in turbidity attributable to controllable water quality factors shall not exceed the following limits:
- Where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU.
 - Where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent.
 - Where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs.

- *Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent.”*

A numeric Receiving Surface Water Limitation for turbidity is included in this Order and is based on the Basin Plan objective for turbidity.

B. Groundwater

The beneficial uses of the underlying ground water are municipal and domestic supply, industrial service supply, industrial process supply, and agricultural supply. Groundwater limitations are required to protect the beneficial uses of the underlying groundwater.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 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 Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), 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 MRP for this facility.

A. Influent Monitoring

1. Influent monitoring is required to collect data on the characteristics of the wastewater and to assess compliance with effluent limitations (e.g., BOD and TSS reduction requirements).

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.
2. The SIP states that if “...all reported detection limits of the pollutant in the effluent are greater than or equal to the C [water quality criterion or objective] value, the RWQCB [Regional Water Board] shall establish interim requirements...that require additional monitoring for the pollutant...” This Order contains effluent limitations for all constituents that were included in the previous Order; ammonia, BOD, TSS, nitrate, settleable solids, chlorine residual, pH, flow, toxicity, and total coliform organisms. In addition, reasonable potential to cause or contribute to exceedances of water quality objectives was found for the new more stringent ammonia effluent limitation, the new Instantaneous Maximum Effluent Limitation for total coliform organisms, total nitrate plus nitrite, sulfide, MTBE, atrazine, dibromochloromethane,

dichlorobromomethane, total trihalomethanes, persistent chlorinated hydrocarbon pesticides, (2,4-D, 2,4,5-TP, 4,4'-DDD, Beta Endosulfan, Dalapon, Dinoseb, Endrin, Endrin Aldehyde, and Heptachlor), aluminum, copper, cyanide, iron, lead, manganese, and zinc. Of these constituents, the new more stringent ammonia effluent limitation, the Instantaneous Maximum Effluent Limitation for total coliform organisms, dibromochloromethane, dichlorobromomethane, total trihalomethanes, individual persistent chlorinated hydrocarbon pesticides, 2,4-D, 2,4,5-TP, 4,4'-DDD, Beta Endosulfan, Dalapon, Dinoseb, Endrin, Endrin Aldehyde, Heptachlor, copper, cyanide, zinc, sulfide, MTBE, atrazine, and aluminum, required interim limitations. Monitoring for these constituents has been included in this Order in accordance with the SIP.

C. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity.** Monthly 96-hour bioassay testing is required to demonstrate compliance with the effluent limitation for acute toxicity.
2. **Chronic Toxicity.** Quarterly chronic whole effluent toxicity testing is required in order to demonstrate compliance with the Basin Plan's narrative toxicity objective.

D. Receiving Water Monitoring

1. Surface Water

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

2. Groundwater – Not Applicable

E. Other Monitoring Requirements

1. Biosolids Monitoring

Biosolids monitoring is required to ensure compliance with the biosolids disposal requirements (Special Provisions VI.C.6.a.). 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. Reclaimed Water Monitoring

Reclaimed water monitoring requirements are imposed to protect public health.

4. Discharge Observations

Discharge observations are required to ensure compliance with effluent and receiving water limitations.

5. Effluent and Ambient Priority Pollutant Scans

Effluent and ambient priority pollutant scans are required to ensure compliance with effluent limitations.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

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

Section 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. Section 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with section 123.25, this Order omits federal conditions that address enforcement authority specified in sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

- a. **Pollution Prevention.** This Order requires the Discharger to prepare pollution prevention plans following CWC section 13263.3(d)(3) for **Aluminum, Ammonia, Atrazine, Coliform Organisms, Copper, Cyanide, Dibromochloromethane, Dichlorobromomethane, Iron, Lead, Manganese, MTBE, Persistent Chlorinated Hydrocarbon Pesticides, (2,4-D, 2,4,5-TP, 4,4'-DDD, Beta Endosulfan, Dalapon, Dinoseb, Endrin, Endrin Aldehyde, and Heptachlor), Sulfide, THMs, and Zinc**. This reopener provision allows the Regional Water Board to reopen this Order for addition and/or modification of effluent limitations and requirements for these constituents based on a review of the pollution prevention plans.

- 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 the State Water Board adopts a numeric chronic toxicity water quality objective, this Order may be reopened to include a numeric chronic toxicity limitation based on that objective.
- c. **Water Effects Ratio (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating CTR criteria for applicable priority pollutant inorganic constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable when developing effluent limitations for metals. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.
- d. **Mercury:** If mercury is found to be causing toxicity based on acute or chronic toxicity test results, or if a TMDL program is adopted, this Order shall be reopened and the interim mass effluent limitation modified (higher or lower) or an effluent concentration limitation imposed. If the Regional Water Board determines that a mercury offset program is feasible for Dischargers subject to a NPDES permit, then this Order may be reopened to reevaluate the interim mercury mass loading limitation(s) and the need for a mercury offset program for the Discharger.
- e. **Supplemental Study of Temperature and the Fish and Benthic Macroinvertebrate Community:** If after review of the study results it is determined that the discharge has reasonable potential to cause or contribute to an exceedance of a water quality objective this Order may be reopened and effluent and/or receiving water limitations modified or added for temperature or other parameters indicated in the study.

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 III-8.00.) Adequate WET data is not available to determine if the discharge has reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan's narrative toxicity objective. Attachment E of this Order requires Quarterly 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 Regional Water Board an Initial Investigative TRE Work Plan 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 and requirements for accelerated monitoring, as well as, requirements for TRE initiation if a pattern of toxicity is demonstrated.

- i. **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 a pattern of toxicity at 100% effluent.
- ii. **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 a pattern of 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.

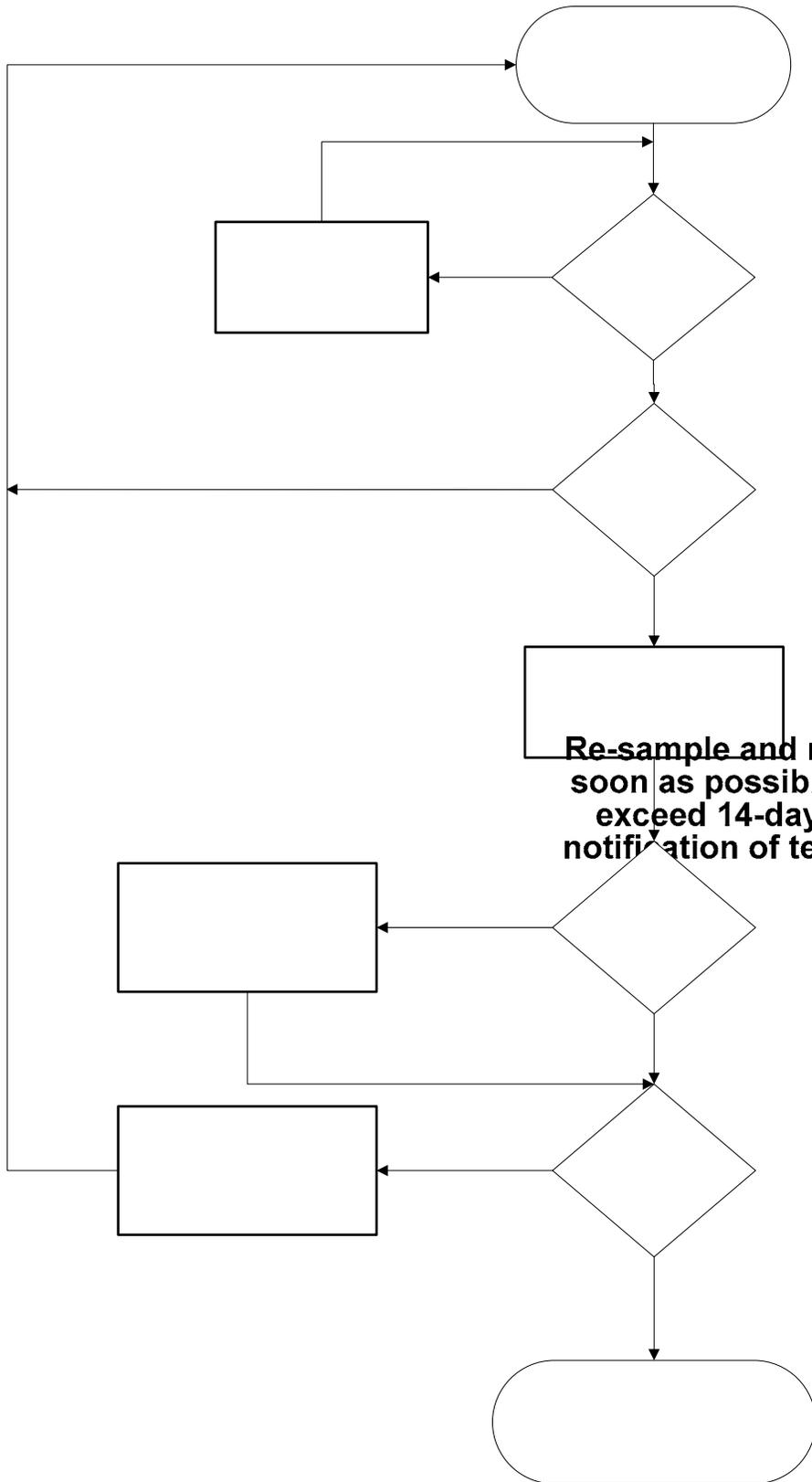
The provision requires accelerated monitoring consisting of four chronic toxicity tests every two weeks using the species that exhibited toxicity. Guidance regarding accelerated monitoring and TRE initiation is provided in the *Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, 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 a pattern 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-X), below, for further clarification of the accelerated monitoring requirements and for the decision points for determining the need for TRE initiation.

- iii. **TRE Guidance.** The Discharger is required to prepare a TRE Work Plan in accordance with USEPA guidance. Numerous guidance documents are available, as identified below:
 - *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants, (EPA/833B-99/002), August 1999.*
 - *Generalized Methodology for Conducting Industrial TREs, (EPA/600/2-88/070), April 1989.*

- *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures*, Second Edition, EPA 600/6-91/005F, 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-3
WET Accelerated Monitoring Flow Chart**



**Regul
Toxicity**

**Test A
Criteri**

No

**Monit
Ex**

No

- b. **BPTC Evaluation Tasks.** If groundwater monitoring or sampling shows that any constituent concentrations are increased above background groundwater quality, the Discharger shall propose a work plan and schedule for providing BPTC (Best Practicable Treatment or Control) as required by Resolution 68-16. The technical report describing the work plan and schedule shall contain a preliminary evaluation of each component and propose a time schedule for completing the comprehensive technical evaluation.

Following completion of the comprehensive technical evaluation, the Discharger shall submit a technical report describing the evaluation's results and critiquing each evaluated component with respect to BPTC and minimizing the discharge's impact on groundwater quality. Where deficiencies are documented, the technical report shall provide recommendations for necessary modifications (e.g., new or revised salinity source control measures, WWTP component upgrade and retrofit) to achieve BPTC and identify the source of funding and proposed schedule for modifications. The schedule shall be as short as practicable but in no case shall completion of the necessary modifications exceed four years past the Executive Officer's determination of the adequacy of the comprehensive technical evaluation, unless the schedule is reviewed and specifically approved by the Regional Water Board. The technical report shall include specific methods the Discharger proposes as a means to measure processes and assure continuous optimal performance of BPTC measures.

The Discharger shall comply with the schedule in this Order, Limitations and Discharge Requirements Section VI.C.2.c to implement the work required by this Provision:

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

- a. **CWC section 13263.3(d)(3) Pollution Prevention Plans.** The minimum requirements for the pollution prevention plans include the following:
- i. An estimate of all of the sources of a pollutant contributing, or potentially contributing, to the loadings of a pollutant in the treatment plant influent.
 - ii. An analysis of the methods that could be used to prevent the discharge of the pollutants into the Facility, including application of local limits to industrial or commercial dischargers regarding pollution prevention techniques, public education and outreach, or other innovative and alternative approaches to reduce discharges of the pollutant to the Facility. The analysis also shall identify sources, or potential sources, not within the ability or authority of the Discharger to control, such as pollutants in the potable water supply, airborne pollutants, pharmaceuticals, or pesticides, and estimate the magnitude of those sources, to the extent feasible.

- iii. An estimate of load reductions that may be attained through the methods identified in subparagraph ii.
 - iv. A plan for monitoring the results of the pollution prevention program.
 - v. A description of the tasks, cost, and time required to investigate and implement various elements in the pollution prevention plan.
 - vi. A statement of the Discharger's pollution prevention goals and strategies, including priorities for short-term and long-term action, and a description of the Discharger's intended pollution prevention activities for the immediate future.
 - vii. A description of the Discharger's existing pollution prevention programs.
 - viii. An analysis, to the extent feasible, of any adverse environmental impacts, including cross-media impacts or substitute chemicals that may result from the implementation of the pollution prevention program.
 - ix. An analysis, to the extent feasible, of the costs and benefits that may be incurred to implement the pollution prevention program.
- b. **Salinity Evaluation and Minimization Plan.** The Discharger shall prepare and implement a salinity evaluation and minimization plan to address sources of salinity from the municipal wastewater treatment system. The plan shall be completed and submitted to the Regional Water Board **within 9 months of the effective date of this Order for approval by the Executive Officer.**
- c. **Salinity Reduction Goal.** In an effort to monitor progress in reducing salinity discharges to Hangtown Creek, the Discharger shall provide annual reports demonstrating reasonable progress in the reduction of salinity in its discharge to Hangtown Creek. Based on effluent data for this Facility, the Regional Water Board finds that ~~with a recent~~ average annual salinity ~~effluent limitation~~ of 824 umhos/cm as electrical conductivity (EC), that 850 umhos is a reasonable interim performance-based limitation that can be immediately achieved upon the effective date of this Order. The annual reports shall be submitted in accordance with the Monitoring and Reporting Program (Attachment E, Section X.D.1.).

4. Construction, Operation, and Maintenance Specifications

- a. **Construction Progress Updates:** The Discharger shall provide monthly updates regarding the ongoing construction process, including but not limited to; milestones achieved, construction completed, construction started, interrupted processes, processes put on-line, and processes taken off-line. The monthly updates shall be submitted in accordance with the Monitoring and Reporting Program (Attachment E, Section X.B).

5. Special Provisions for Municipal Facilities (POTWs Only)

a. Pretreatment Requirements - Not Applicable.

b. Sludge/Biosolids Discharge Specifications

- 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, disposal, or reuse at sites (i.e., landfill, composting sites, soil amendment sites) that are operated in accordance with valid waste discharge requirements issued by a regional water quality control 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 Groundwater Limitations V.B. In addition, the storage of residual sludge, solid waste, and biosolids on Facility property shall be temporary and controlled, and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate Groundwater Limitations V.B.
- iv. The use and disposal of biosolids shall comply with existing Federal and State laws and regulations, including permitting requirements and technical standards included in 40 CFR 503. If the State Water Board and the Regional Water Board are given the authority to implement regulations contained in 40 CFR 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 503 whether or not they have been incorporated into this Order.

c. Biosolids Disposal Requirements

- i. The Discharger shall comply with the Monitoring and Reporting Program for biosolids disposal contained in Attachment E.
- ii. Any proposed change in biosolids use or disposal practice from a previously approved practice shall be reported to the Executive Officer and U.S. EPA Regional Administrator at least **90 days** in advance of the change.

- iii. The Discharger is encouraged to comply with the “Manual of Good Practice for Agricultural Land Application of Biosolids” developed by the California Water Environment Association.

d. Biosolids Storage Requirements

- i. Facilities for the storage of Class B biosolids shall be located, designed and maintained to restrict public access to biosolids.
- ii. 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.
- iii. 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.
- iv. Biosolids storage facilities shall be designed, maintained and operated to minimize the generation of leachate.

- e. **Collection System Requirements:** On 2 May 2006, the State Water Board adopted State Water Board Order 2006-0003, a Statewide General WDR for Sanitary Sewer Systems. The Discharger is subject to the requirements of Order 2006-0003 and any future revisions thereto. Order 2006-0003 requires that all public agencies that currently own or operate sanitary sewer systems apply for coverage under the General WDR. By 2 November 2006, the Discharger was required by that Order, not incorporated by reference herein, to apply for coverage under State Water Board Order 2006-0003 for operation of its wastewater collection system.

Regardless of the coverage obtained under Order 2006-0003, the Discharger’s collection system is part of the treatment system that is subject to this Order. As such, pursuant to federal regulations, the Discharger must properly operate and maintain its collection system [40 CFR section 122.41(e)], report any non-compliance [40 CFR section 122.41(l)(6) and (7)], and mitigate any discharge from the collection system in violation of this Order [40 CFR. section 122.41(d)].

6. Other Special Provisions

- a. Wastewater shall be oxidized, coagulated, filtered, and adequately disinfected pursuant to the DPH reclamation criteria, California Code of Regulations, Title 22, Division 4, Chapter 3, (Title 22), or equivalent.

- b. 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 Regional 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 Regional 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 California Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

7. Compliance Schedules

- a. **Compliance Schedules for Final Effluent Limitations for Aluminum, Ammonia, Coliform Organisms, Atrazine, Copper, Cyanide, Dibromochloromethane, Dichlorobromomethane, MTBE, Pesticides, 2,4-D, 2,4,5-TP, 4,4'-DDD, Beta Endosulfan, Dalapon, Dinoseb, Endrin, Endrin Aldehyde, Heptachlor, Sulfide, THMs, and Zinc.**
 - i. In an Infeasibility Report dated 29 September 2006, the Discharger submitted a compliance schedule justification for Ammonia, Copper, Cyanide, Dibromochloromethane, Dichlorobromomethane, MTBE, Persistent Chlorinated Hydrocarbon Pesticides, Sulfide, THMs, and Zinc. In a Supplemental Infeasibility Report dated 31 August, the Discharger submitted a compliance schedule justification for Aluminum, and Atrazine. The Discharger also submitted a compliance schedule justification for the Instantaneous Maximum Effluent Limitation for Total Coliform Organisms on 2 April 2008. The compliance schedule justifications included all items specified in Paragraph 3, items (a) through (d), of section 2.1 of the SIP.
 - ii. The Discharger shall comply with the following schedule to ensure compliance with Final Effluent Limitations IV.A.1.a for Aluminum, Ammonia, Atrazine, Coliform Organisms, Copper, Cyanide, Dibromochloromethane, Dichlorobromomethane, Persistent Chlorinated Hydrocarbon Pesticides (2,4-D, 2,4,5-TP, 4,4'-DDD, Beta Endosulfan, Dalapon, Dinoseb, Endrin, Endrin Aldehyde, and Heptachlor), MTBE, Sulfide, THMs, and Zinc:

Task	Compliance Date
1. Submit a Pollution Prevention Plan (PPP) pursuant to CWC section 13263.3 for <u>2,4-D, 2,4,5-TP, 4,4-DDD, Aluminum, Atrazine, Beta Endosulfan, Copper, Cyanide, Dalapon, Dibromochloromethane, Dichlorobromomethane, Dinoseb, Endrin, Endrin Aldehyde, Heptachlor, MTBE, Pesticides, Sulfide, THMs, and Zinc.</u> ¹	60 days following the Effective Date of this Order
2. Submit Progress Reports.	1 June , annually, until final compliance
3. Complete construction of plant upgrades.	1 March 2009
4. Achieve full compliance with the Final Effluent Limitations for <u>Ammonia, Coliform Organisms, Cyanide, Dibromochloromethane, Dichlorobromomethane, MTBE, Sulfide, and THMs.</u>	1 June 2009
5.a. Achieve full compliance with the Final Effluent Limitations for Copper and Zinc, and b. Achieve compliance with the Interim Effluent Limitations (IV.A.2.c and Table 7.c) for <u>the listed Persistent Chlorinated Hydrocarbon Pesticides that are also Priority Pollutants</u> (Beta Endosulfan, Endrin, Endrin Aldehyde, Heptachlor, and 4,4'-DDD). (<u>4,4'-DDD, Beta Endosulfan, Endrin, Endrin Aldehyde, and Heptachlor</u>).	18 May 2010
6. Achieve full compliance with the Final Effluent Limitations for <u>the listed Persistent Chlorinated Hydrocarbon Pesticides</u> (<u>2,4-D, 2,4,5-TP, 4,4'-DDD, Beta Endosulfan, Dalapon, Dinoseb, Endrin, Endrin Aldehyde, and Heptachlor</u>).	1 December 2011
7. Achieve full compliance with the Final Effluent Limitations for Aluminum and Atrazine.	Permit Expiration Date <u>5 years from the Effective Date of this Order.</u>
¹ The PPP shall be prepared and implemented for final effluent limitations for Aluminum, Atrazine, Copper, Cyanide, Dibromochloromethane, Dichlorobromomethane, MTBE, Pesticides, 2,4-D, 2,4,5-TP, 4,4'-DDD, Beta Endosulfan, Dalapon, Dinoseb, Endrin, Endrin Aldehyde, Heptachlor , Sulfide, THMs, and Zinc, as appropriate, and shall meet the requirements specified in CWC section 13263.3, including section 13263.3 (d)(3).	

iii. For the compliance schedules required by this Order, the Discharger shall submit to the Regional Water Board on or before each compliance due date, the specified document or a written report detailing compliance with the specific task and date. If noncompliance is being reported, the reasons for the noncompliance shall be stated and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Water Board by letter when it returns to compliance with the compliance schedule.

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, Central Valley Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for the City of Placerville, Hangtown Creek Water Reclamation Facility. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional 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 Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments should be received at the Regional Water Board offices by 5:00 p.m. on <Date>.

C. Public Hearing

The Regional 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: 24/25 April 2008
Time: 8:30 am
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 Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our Web address is <http://www.waterboards.ca.gov/rwqcb5/> 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 Resources Control Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action 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 (RWD), 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 Regional 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 Regional 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

TABLE G-1
REASONABLE POTENTIAL ANALYSIS FOR PRIORITY POLLUTANTS IN HANGTOWN CREEK
 (based on last 3 years of data, all units are µg/L unless otherwise specified)

Constituent CTR #	Antimony #1	As #2	Be #3	Cd #4	Cr(III) # 5a	Cr(VI) # 5b	Cu #6	Pb #7	Hg #8	Ni #9	Se #10	Silver #11	Thallium #12	Zinc #13	Cyanide #14	Asb(MFL) #15
LEC	0.227(d) 0.230 (t)	0.139(d) 0.111(t)	ND @ 0.002	0.035(d) 0.038(t)	0.20(d) 0.16(t)	ND @ 0.126	4.60(d) 5.88(t)	0.153(d) 0.193(t)	0.00289(d) 0.0051(t)	0.75(d) 0.80(t)	0.091(d) 0.098(t)	0.017(d) 0.047(t)	ND @ 0.001	36.6(d) 37.5(t)	ND @ 4.7	ND @ 0.2
MEC	0.394(d) 1.4 (t)	0.688(d) 0.76(t)	0.012(d) 0.70(t)	0.070(d) 0.073(t)	1.11(d) 0.82(t)	2.1	10.3(d) 12.2(t)	0.46(d) 0.45(t)	0.00927(d) 0.02359(t)	1.78(d) 3.8(t)	0.178(d) 2.9(t)	0.094(d) 0.815(t)	0.001(d) 0.002(t)	65.5(d) 111.0(t)	9.8	ND @ 0.2
Maximum Background	0.387(d) 0.450(t)	1.96(d) 2.32(t)	0.018(d) 0.040(t)	0.037(d) 0.055(t)	0.43(d) 1.77(t)	ND @ 0.126	3.53(d) 5.46(t)	0.430(d) 2.53(t)	0.00223(d) 0.02636(t)	1.84(d) 3.25(t)	0.598(d) 0.635(t)	0.018(d) 0.026(t)	0.003(d) 0.006(t)	8.00(d) 23.3(t)	ND @ 4.7	3.67
Numeric BPO (Site Specific, MCL)	MCL 6	MCL 10 BPO 10 (d)	MCL 4	MCL 5	MCL 50	MCL 50	MCL 1000 BPO 10 (d)	No MCL	MCL 2	MCL 100	MCL 50	MCL 100 BPO 10 (d)	MCL 2	MCL 5000 BPO 100 (d)	MCL 150 BPO 10 (d)	MCL 7 MFL
Narrative BP Objective	Chem. Const. and Toxicity	Chem. Const. and Toxicity	Chem. Cons. and Toxicity	Chem. Const. and Toxicity	Chem. Const. and Toxicity	Chem. Const. and Toxicity	Chem. Const. and Toxicity	Toxicity BPO, MCL Action Level 15	Chem. Const. and Toxicity	Chem. Const. and Toxicity	Chem. Const. and Toxicity	Chem. Const. and Toxicity	Chem. Const. and Toxicity			
CMC @ 40 mg/L Hardness	None Est.	340 i,m,w	None Est.	1.6 (d) 1.6 (t)	260 (d) 820 (t)	16 i,m,w	5.7 (d) 5.9 (t)	24 (d) 25 (t)	None Est.	220 (d) 220 (t)	None Est. q	0.71 (d) 0.84 (t)	None Est.	54 (d) 55 (t)	22 o	None Est.
CCC, @ 40 mg/L Hardness	None Est.	150 i,m,w	None Est.	1.1 (d) 1.2 (t)	84 (d) 98 (t)	11 i,m,w	4.1 (d) 4.3 (t)	0.92 (d) 0.99 (t)	None Est.	24 (d) 24 (t)	5 q	None Est.	None Est.	54 (d) 55 (t)	5.2 o	None Est.
Human Health Water + Orgs	14 (t) a,s	None Est.	n	n	n	n	1300	n	0.050 a	610 a	n	None Est.	1.7 a,s	None Est.	700 a	7 MFL k,s
Human Health Orgs Only	4300 (t) a,t	None Est.	n	n	n	n	None Est.	n	0.051 a	4600 a	n	None Est.	6.3 a,t	None Est.	220,000 a,j	None Est.
Other factors (303d listing, bioaccum)	none	none	none	none	none	none	none	none	303d List Bioaccum	none	none	none	none	none	none	none
Reasonable Potential	N	N	N	N	N	N	Y	Y (Due to Surface Water)	Y (TMDL)	N	N	N	N	Y	Y	N

Notes for Table G-1: Footnotes, abbreviations, and other notations from Final Rule, Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California, 40 CFR Part 131, FR/Vol. 65, No. 97, May 18, 2000/Rules and Regulations. E-11 = exponent of 10⁻¹¹, **estimate** = concentration estimated by laboratory, **ND @ 0.002** = Not Detected at a laboratory method detection limit of 0.002 µg/L, **NS** = Not Sampled, **MFL**= Million fibers per Liter, **LEC**= Lowest Effluent concentration, **MEC**= Maximum effluent concentration, **CMC** = Criterion Maximum Concentration, **CCC** = Criterion Continuous Concentration, **MCL** = Maximum Contaminant Limit, **BP** = Basin Plan, **BPO** = Basin Plan Objective, **(d)** = dissolved concentration, **(t)** = total recoverable concentration, **None Est.** = None established, **TMDL** = Total Maximum Daily Load

Reasonable Potential: (Y) when MEC>most stringent criterion or Max Background concentration >most stringent criterion (and the pollutant is detected in the effluent).

Reasonable Potential: (I) when there is no available/adequate effluent and background data.

Reasonable Potential: (N) when both MEC and Max Background concentration are < most stringent criterion.

TABLE G-1 (CONTINUED)
REASONABLE POTENTIAL ANALYSIS - FOR PRIORITY POLLUTANTS
 (based on last 3 years of data, all units are µg/L unless otherwise specified)

Constituent CTR #	2,3,7,8-TCDD (Dioxin) # 16	Acrolein # 17	Acrylonitrile # 18	Benzene # 19	Bromoform # 20	Carbon Tetrachloride # 21	Chlorobenzene # 22	Chlorodibromomethane # 23	Chloroethane # 24	2-Chloroethylvinyl ether # 25
LEC	ND @ 6.37E-11	ND @ 1.650	ND @ 1.030	ND @ 0.062	ND @ 0.104	ND @ 0.077	ND @ 0.053	0.32 estimate	ND @ 0.098	ND @ 0.07
MEC	ND @ 8.47E-11	ND @ 1.650	ND @ 1.030	0.55	ND @ 0.104	ND @ 0.077	ND @ 0.053	2.5	ND @ 0.098	ND @ 0.07
Maximum Background	NS	ND @ 1.650	ND @ 1.030	ND @ 0.062	ND @ 0.104	ND @ 0.077	ND @ 0.053	ND @ 0.049	ND @ 0.098	ND @ 0.07
Numeric BP Objective (Site Specific, MCL)	MCL 3.0E-08	No MCL	No MCL	MCL 1	MCL THMs 80	MCL 0.5	MCL 70	MCL THMs 80	No MCL	No MCL
Narrative Basin Plan Objective	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	none	none
CMC Freshwater	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
CCC Freshwater	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
Human Health Water +Organisms	1.3E-08 c	320 s	0.059 a,c,s	1.2 a,c	4.3 a,c	0.25 a,c,s	680 a,s	0.41 a,c	None Est.	None Est.
Human Health Organisms Only	1.4E-08 c	780 t	0.66 a,c,t	71 a,c	360 a,c	4.4 a,c,t	21,000 a,j,t	34 a,c	None Est.	None Est.
Other factors	Dioxins and Furans Bioaccumulate	none	none	none						
Reasonable Potential	N	N	I	N	N (Y For THMs)	N	N	Y (and for THMs)	N	N

Constituent CTR #	Chloroform # 26	Dichlorobromomethane # 27	1,1-Dichloroethane # 28	1,2-Dichloroethane # 29	1,1-Dichloroethylene # 30	1,2-Dichloropropane #31	1,3-Dichloropropylene # 32	Ethylbenzene # 33	Methyl Bromide # 34	Methyl Chloride # 35
LEC	9.9	1.3	ND @ 0.061	ND @ 0.061	ND @ 0.098	ND @ 0.067	ND @ 0.041	ND @ 0.074	ND @ 0.054	ND @ 0.092
MEC	78	11	ND @ 0.061	ND @ 0.061	ND @ 0.098	ND @ 0.067	ND @ 0.041	ND @ 0.074	ND @ 0.054	ND @ 0.092
Maximum Background	ND @ 0.060	ND @ 0.031	ND @ 0.061	ND @ 0.061	ND @ 0.098	ND @ 0.067	ND @ 0.041	ND @ 0.074	ND @ 0.054	ND @ 0.092
Numeric BP Objective (Site Specific, MCL)	MCL THMs 80 MCL Goal 70	MCL THMs 80	MCL 5	MCL 0.5	MCL 6	MCL 5	MCL 0.5	MCL 700	No MCL	No MCL
Narrative Basin Plan Objective	Chemical Const. and Toxicity	none								
CMC Freshwater	None Est.	None Est.								
CCC Freshwater	None Est.	None Est.								
Human Health Water +Organisms	CTR reserved USEPA 5.7	0.56 a,c	None Est.	0.38 a,c,s	0.057 a,c,s	0.52 a	10 a,s	3,100 a,s	48 a	n
Human Health Organisms Only	CTR reserved USEPA 470	46 a,c	None Est.	99 a,c,t	3.2 a,c,t	39 a	1,700 a,t	29,000 a,t	4,000 a	n
Other factors	none	none								
Reasonable Potential	N (Y for THMs)	Y (and for THMs)	N	N	N	N	N	N	N	N

NOTES FOR TABLE G-1: SEE PAGE G-1 OR G-7

TABLE G-1 (CONTINUED)
REASONABLE POTENTIAL ANALYSIS - FOR PRIORITY POLLUTANTS
 (based on last 3 years of data, all units are µg/L unless otherwise specified)

Constituent CTR #	Methylene Chloride # 36	1,1,2,2-Tetrachloroethane # 37	Tetrachloroethylene # 38	Toluene # 39	1,2-trans-Dichloroethylene # 40	1,1,1-Trichloroethane # 41	1,1,2-Trichloroethane # 42	Trichloroethylene # 43	Vinyl Chloride # 44	2-Chlorophenol # 45
LEC	ND @ 0.066	ND @ 0.271	ND @ 0.086	ND @ 0.066	ND @ 0.072	ND @ 0.086	ND @ 0.057	ND @ 0.197	ND @ 0.107	ND @ 0.71
MEC	1.1	ND @ 0.271	ND @ 0.086	0.52	ND @ 0.072	ND @ 0.086	ND @ 0.057	ND @ 0.197	ND @ 0.107	ND @ 0.71
Maximum Background	ND @ 0.066	ND @ 0.271	ND @ 0.086	ND @ 0.066	ND @ 0.072	ND @ 0.086	ND @ 0.057	ND @ 0.197	ND @ 0.107	ND @ 0.71
Numeric BP Objective (Site Specific, MCL)	MCL, 5	MCL, 1	MCL, 5	MCL, 150	MCL, 10	MCL, 200	MCL, 5	MCL, 5	MCL, 0.5	No MCL
Narrative Basin Plan Objective	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity
CMC Freshwater	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
CCC Freshwater	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
Human Health Water +Organisms	4.7 a,c	0.17 a,c,s	0.8 c,s	6,800 a	700 a	n	0.60 a,c,s	2.7 c,s	2 c,s	120 a
Human Health Organisms Only	1,600 a,c	11 a,c,t	8.85 c,t	200,000 a	140,000 a	n	42 a,c,t	81 c,t	525 c,t	400 a
Other factors	none	none	none	none	none	none	none	none	none	none
Reasonable Potential	N	N	N	N	N	N	N	N	N	N

Constituent CTR #	2,4-Dichlorophenol # 46	2,4-Dimethy phenol # 47	2-Methyl-4,6-Dinitrophenol # 48	2,4-Dinitrophenol # 49	2-Nitrophenol # 50	4-Nitrophenol # 51	4-chloro-3-methylphenol # 52	Pentachloro phenol # 53	# 54
LEC	ND @ 1.07	ND @ 1.96	ND @ 1.51	ND @ 0.97	ND @ 0.08	ND @ 1.03	ND @ 1.00	ND @ 0.00508	ND @ 0.52
MEC	ND @ 1.07	ND @ 1.96	ND @ 1.51	ND @ 0.97	ND @ 0.08	ND @ 1.03	ND @ 1.00	ND @ 0.00508	ND @ 0.52
Maximum Background	ND @ 1.07	ND @ 1.96	ND @ 1.51	ND @ 0.97	ND @ 0.08	ND @ 1.03	ND @ 1.00	ND @ 0.00508	ND @ 0.52
Numeric BP Objective (Site Specific, MCL)	No MCL	No MCL	No MCL	No MCL	No MCL	No MCL	No MCL	MCL, 1	No MCL
Narrative Basin Plan Objective	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	none	none	none	Chemical Const. and Toxicity	Chemical Const. and Toxicity
CMC Freshwater At pH=6.5	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	30 f,w	None Est.
CCC Freshwater At pH=6.5	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	39 f,w	None Est.
Human Health Water +Organisms	93 a,s	540 a	13.4 s	70 a,s	None Est.	None Est.	None Est.	0.28 a,c	21,000 a
Human Health Organisms Only	790 a,t	2,300 a	765 t	14,000 a,t	None Est.	None Est.	None Est.	8.2 a,c,j	4,600,000 a,j,t
Other factors	none	none	none	none	none	none	none	none	none
Reasonable Potential	N	N	N	N	N	N	N	N	N

Notes for Table G-1: See Page G-1 or G-7

TABLE G-1 (CONTINUED)
REASONABLE POTENTIAL ANALYSIS - FOR PRIORITY POLLUTANTS
 (based on last 3 years of data, all units are µg/L unless otherwise specified)

Constituent CTR #	2,4,6-Trichlorophenol # 55	Acenaphthene # 56	Acenaphthylene # 57	Anthracene # 58	Benzidine # 59	Benzo(a)anthracene # 60	Benzo(a)pyrene # 61	Benzo(b)fluoranthene # 62	Benzo(g,h,i)perylene # 63
LEC	ND @ 0.91	ND @ 0.270	ND @ 0.011	ND @ 0.029	ND @ 3.45	ND @ 0.023	ND @ 0.030	ND @ 0.03	ND @ 0.029
MEC	ND @ 0.91	ND @ 0.270	ND @ 0.011	ND @ 0.029	ND @ 3.45	ND @ 0.023	ND @ 0.030	ND @ 0.03	ND @ 0.029
Maximum Background	ND @ 0.91	ND @ 0.270	ND @ 0.011	ND @ 0.029	ND @ 3.45	ND @ 0.023	ND @ 0.030	ND @ 0.03	ND @ 0.029
Numeric BPObjective (Site Specific, MCL)	No MCL	No MCL	No MCL	No MCL	No MCL	No MCL	MCL, 0.2	No MCL	No MCL
Narrative Basin Plan Objective	Chemical Const. and Toxicity	Chemical Const. and Toxicity	none	Chemical Const. and Toxicity	none				
CMC Freshwater	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
CCC Freshwater	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
Human Health Water +Organisms	2.1 a,c	1,200 a	None established	9,600 a	0.00012 a,c,s	0.0044 a,c	0.0044 a,c	0.0044 a,c	None established
Human Health Organisms Only	6.5 a,c	2,700 a	None established	110,000 a	0.00054 a,c,t	0.049 a,c	0.049 a,c	0.049 a,c	None established
Other factors	none	none	none	none	none	none	none	none	none
Reasonable Potential	N	N	N	N	I	I	I	I	N

Constituent CTR #	Benzo(k)fluoranthene # 64	Bis (2-chloroethoxy) Methane # 65	Bis (2-chloroethyl) Ether # 66	Bis (2-chloroisopropyl) Ether # 67	Bis (2-ethylhexyl) Phthalate # 68	4-Bromophenyl Phenyl Ether # 69	Butylbenzyl Phthalate # 70	2-Chloronaphthalene # 71	4-Chlorophenyl Phenyl Ether # 72
LEC	ND @ 0.029	ND @ 0.83	ND @ 0.55	ND @ 0.64	1.0	ND @ 0.64	ND @ 1.00	ND @ 0.83	ND @ 1.00
MEC	ND @ 0.029	ND @ 0.83	ND @ 0.55	ND @ 0.64	30	ND @ 0.64	ND @ 1.00	ND @ 0.83	ND @ 1.00
Maximum Background	ND @ 0.029	ND @ 0.83	ND @ 0.55	ND @ 0.64	ND @ 3.21	ND @ 0.64	ND @ 1.00	ND @ 0.83	ND @ 1.00
Numeric BPObjective (Site Specific, MCL)	No MCL	No MCL	No MCL	No MCL	MCL, 4	No MCL	No MCL	No MCL	No MCL
Narrative Basin Plan Objective	Chemical Const. and Toxicity	none	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	none	Chemical Const. and Toxicity	Chemical Const. and Toxicity	none
CMC Freshwater	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
CCC Freshwater	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
Human Health Water +Organisms	0.0044 a,c	None est	0.031 a,c,s	1,400 a	1.8 a,c,s	None est	3,000 a	1,700 a	None Est.
Human Health Organisms Only	0.049 a,c	None est	1.4 a,c,t	170,000 a,t	5.9 a,c,t	None est	5,200 a	4,300 a	None Est.
Other factors	none	none	none	none	none	none	none	none	none
Reasonable Potential	I	N	I	N	I	N	N	N	N

Notes for Table G-1: See Page G-1 or G-7

TABLE G-1 (continued)
REASONABLE POTENTIAL ANALYSIS - FOR PRIORITY POLLUTANTS
 (based on last 3 years of data, all units are µg/L unless otherwise specified)

Constituent CTR #	Chrysene # 73	Dibenzo(a,h) anthracene # 74	1,2-Dichloro benzene # 75	1,3-Dichloro benzene # 76	1,4-Dichloro benzene # 77	3,3-Dichloro benzidine # 78	Diethyl Phthalate # 79	Dimethyl Phthalate # 80	Di-n-Butyl Phthalate # 81
LEC	ND @ 0.028	ND @ 0.027	ND @ 0.040	ND @ 0.047	ND @ 0.044	ND @ 1.51	ND @ 0.63	ND @ 1.00	ND @ 0.93
MEC	ND @ 0.028	ND @ 0.027	ND @ 0.040	ND @ 0.047	0.30 estimate	ND @ 1.51	ND @ 0.63	ND @ 1.00	ND @ 0.93
Maximum Background	ND @ 0.028	ND @ 0.027	ND @ 0.040	ND @ 0.047	ND @ 0.044	ND @ 1.51	ND @ 0.63	ND @ 1.00	ND @ 0.93
Numeric BP Objective (Site Specific, MCL)	No MCL	No MCL	MCL, 600	No MCL	MCL, 5	No MCL	No MCL	No MCL	No MCL
Narrative Basin Plan Objective	Chemical Const. and Toxicity								
CMC Freshwater	None Est.								
CCC Freshwater	None Est.								
Human Health Water +Organisms	0.0044 a,c	0.0044 a,c	2,700 a	400	400	0.04 a,c,s	23,000 a,s	313,000 s	2,700 a,s
Human Health Organisms Only	0.049 a,c	0.049 a,c	17,000 a	2,600	2,600	0.077 a,c,t	120,000 a,t	2,900,000 t	12,000 a,t
Other factors	none								
Reasonable Potential	I	I	N	N	N	I	N	N	N

Constituent CTR #	2,4-Dinitro toluene # 82	2,6-Dinitro toluene # 83	Di-n-Octyl Phthalate # 84	1,2-Diphenyl hydrazine # 85	Fluoranthene # 86	Fluorene # 87	Hexachloro benzene # 88	Hexachloro butadiene # 89	Hexachloro cyclopentadiene # 90
LEC	ND @ 1.25	ND @ 1.46	ND @ 2.72	ND @ 0.49	ND @ 0.033	ND @ 0.150	ND @ 0.72	ND @ 0.084	ND @ 1.18
MEC	ND @ 1.25	ND @ 1.46	ND @ 2.72	ND @ 0.49	ND @ 0.033	ND @ 0.150	ND @ 0.72	ND @ 0.084	ND @ 1.18
Maximum Background	ND @ 1.25	ND @ 1.46	ND @ 2.72	ND @ 0.49	ND @ 0.033	ND @ 0.150	ND @ 0.72	ND @ 0.084	ND @ 1.18
Numeric BP Objective (Site Specific, MCL)	No MCL	No MCL	No MCL	No MCL	No MCL	No MCL	MCL, 1	No MCL	MCL, 50
Narrative Basin Plan Objective	Chemical Const. and Toxicity	none	none	Chemical Const. and Toxicity					
CMC Freshwater	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
CCC Freshwater	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
Human Health Water +Organisms	0.11 c,s	None Est.	None Est.	0.040 a,c,s	300 a	1,300 a	0.00075 a,c	0.44 a,c,s	240 a,s
Human Health Organisms Only	9.1 c,t	None Est.	None Est.	0.54 a,c,t	370 a	14,000 a	0.00077 a,c	50 a,c,t	17,000 a,j,t
Other factors	none	none	none	none	none	none	none	none	none
Reasonable Potential	I	N	N	I	N	N	I	N	N

Notes for Table G-1: See Page G-1 or G-7

TABLE G-1 (continued)
REASONABLE POTENTIAL ANALYSIS - FOR PRIORITY POLLUTANTS
 (based on last 3 years of data, all units are µg/L unless otherwise specified)

Constituent CTR #	Hexachloro ethane # 91	Indeno (1,2,3-c,d) Pyrene # 92	Isophorone # 93	Naphthalene # 94	Nitrobenzene # 95	N-Nitroso dimethylamine # 96	N-Nitrosodi-n-Propylamine # 97	N-Nitroso diphenylamine # 98
LEC	ND @ 1.46	ND @ 0.035	ND @ 0.86	ND @ 0.022	ND @ 0.76	ND @ 0.67	ND @ 0.86	ND @ 0.57
MEC	ND @ 1.46	ND @ 0.035	ND @ 0.86	ND @ 0.022	ND @ 0.76	ND @ 0.67	ND @ 0.86	ND @ 0.57
Maximum Background	ND @ 1.46	ND @ 0.035	ND @ 0.86	ND @ 0.022	ND @ 0.76	ND @ 0.67	ND @ 0.86	ND @ 0.57
Numeric BP Objective (Site Specific, MCL)	No MCL	No MCL	No MCL	No MCL	No MCL	No MCL	No MCL	No MCL
Narrative Basin Plan Objective	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	none	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity
CMC Freshwater	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
CCC Freshwater	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
Human Health Water +Organisms	1.9 a,c,s	0.0044 a,c	8.4 c,s	None Est.	17 a,s	0.00069 a,c,s	0.005 a	5.0 a,c,s
Human Health Organisms Only	8.9 a,c,t	0.049 a,c	600 c,t	None Est.	1,900 a,j,t	8.1 a,c,t	1.4 a	16 a,c,t
Other factors	none	none	none	none	none	none	none	none
Reasonable Potential	N	I	N	N	N	I	I	N

Constituent CTR #	Phenanthrene # 99	Pyrene # 100	1,2,4-Trichloro benzene # 101	Aldrin # 102	α-BHC # 103	β-BHC # 104	γ-BHC (Lindane) # 105	δ-BHC # 106	Chlordane # 107	4,4' DDT # 108
LEC	ND @ 0.012	ND @ 0.040	ND @ 0.40	ND @ 0.00156	ND @ 0.00164	ND @ 0.00176	ND @ 0.00144	ND @ 0.00136	ND @ 0.03388	ND @ 0.00104
MEC	ND @ 0.012	ND @ 0.040	ND @ 0.40	ND @ 0.00156	ND @ 0.00164	ND @ 0.00176	ND @ 0.00144	ND @ 0.00136	ND @ 0.03388	ND @ 0.00104
Maximum Background	ND @ 0.012	ND @ 0.040	ND @ 0.40	ND @ 0.00156	ND @ 0.00164	ND @ 0.00176	ND @ 0.00144	ND @ 0.00136	ND @ 0.03388	ND @ 0.00104
Numeric BP Objective (Site Specific, MCL)	No MCL	No MCL	MCL 5	No MCL	No MCL	No MCL	MCL 0.2	No MCL	MCL 0.1	No MCL
Narrative Basin Plan Objective	none	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Pesticide BPO ND, <0.005	Pesticide BPO ND, <0.01	Pesticide BPO ND, <0.014	Pesticide BPO ND, <0.019	Pesticide BPO ND, <0.005	Pesticide BPO ND, <0.1	Pesticide BPO ND, <0.01
CMC Freshwater	None Est.	None Est.	None Est.	3 g	None Est.	None Est.	0.95 w	None Est.	2.4 g	1.1 g
CCC Freshwater	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	0.0043 g	0.001 g
Human Health Water +Organisms	None established	960 a	None established	0.00013 a,c	0.0039 a,c	0.014 a,c	0.019 c	None established	0.00057 a,c	0.00059 a,c
Human Health Organisms Only	None established	11,000 a	None established	0.00014 a,c	0.013 a,c	0.046 a,c	0.063 c	None established	0.00059 a,c	0.00059 a,c
Other factors	none	none	none	303d/OCPEst Bioaccum.	303d/OCPEst Bioaccum.	303d/OCPEst Bioaccum.	303d/OCPEst Bioaccum.	303d/OCPEst Bioaccum.	303d/OCPEst Bioaccum.	303d/OCPEst Bioaccum.
Reasonable Potential	N	N	N	I	N	N	N	N	I	I

Notes for Table G-1: See Page G-1 or G-7

TABLE G-1 (continued)
REASONABLE POTENTIAL ANALYSIS - FOR PRIORITY POLLUTANTS
 (based on last 3 years of data, all units are µg/L unless otherwise specified)

Constituent CTR #	4, 4'-DDE # 109	4,4'-DDD # 110	Dieldrin # 111	alpha-Endosulfan # 112	beta-Endosulfan # 113	Endosulfan Sulfate # 114	Endrin # 115	Endrin Aldehyde # 116	Heptachlor # 117	Heptachlor Epoxide # 118	PCBs (Aroclors) # 119-125	Toxaphene # 126
LEC	ND @ 0.00200	ND @ 0.00992	ND @ 0.00184	ND @ 0.00168	ND @ 0.00092	ND @ 0.00232	ND @ 0.00192	ND @ 0.00200	ND @ 0.00176	ND @ 0.00152	All Aroclors ND @ 0.0648	ND @ 0.05200
MEC	ND @ 0.00200	0.011 estimate	ND @ 0.00184	ND @ 0.00168	0.0089 estimate	ND @ 0.00232	0.11	0.951	0.093	ND @ 0.00152	All Aroclors ND @ 0.0648	ND @ 0.05200
Maximum Background	ND @ 0.00200	ND @ 0.00992	ND @ 0.00184	ND @ 0.00168	ND @ 0.00092	ND @ 0.00232	ND @ 0.00192	ND @ 0.00200	ND @ 0.00176	ND @ 0.00152	All Aroclors ND @ 0.0648	ND @ 0.05200
Numeric BP Objective (Site Specific, MCL)	No MCL	MCL 2	No MCL	MCL 0.01	MCL 0.01	MCL 0.5	MCL 3					
Narrative Basin Plan Objective	Pesticide BPO ND, <0.05	Pesticide BPO ND, <0.05	Pesticide BPO ND, <0.01	Pesticide BPO ND, <0.02	Pesticide BPO ND, <0.01	Pesticide BPO ND, <0.05	Pesticide BPO ND, <0.01	Chemical Const. and Toxicity	Pesticide BPO ND, <0.01			
CMC Freshwater	None Est.	None Est.	0.24 w	0.22 g	0.22 g	None Est.	0.086 w	None Est.	0.52 g	0.52 g	None Est.	0.73
CCC Freshwater	None Est.	None Est.	0.056 w	0.056 g	0.056 g	None Est.	0.036 w	None Est.	0.0038 g	0.0038 g	0.014u	0.0002
Human Health Water +Organisms	0.00059 a,c	0.00083 a,c	0.00014 a,c	110 a	110 a	110 a	0.76 a	0.76 a	0.00021 a,c	0.00010 a,c	0.00017c,v	0.00073a,c
Human Health Organisms Only	0.00059 a,c	0.00084 a,c	0.00014 a,c	240 a	240 a	240 a	0.81 a,j	0.81 a,j	0.00021 a,c	0.00011 a,c	0.00017c,v	0.00075a,c
Other factors	303d/OCPEst Bioaccum.	OCPEst Bioaccum.	303d/OCPEst Bioaccum	303d/OCPEst Bioaccum	303d/OCPEst Bioaccum	OCPEst Bioaccum.	303d/OCPEst Bioaccum	OCPEst Bioaccum.	303d/OCPEst Bioaccum	OCPEst Bioaccum.	Bioaccum.	303d/OCPEst Bioaccum
Reasonable Potential	I	Y	I	N	Y	N	Y	Y	Y	I	I	I

Notes for Table G-1: Footnotes, abbreviations, and other notations from Final Rule, Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California, 40 CFR Part 131, FR/Vol. 65, No. 97, May 18, 2000/Rules and Regulations. E-11 = exponent of 10⁻¹¹, **estimate** = concentration estimated by laboratory, **ND @ 0.002** = Not Detected at a laboratory method detection limit of 0.002 µg/L, **NS** = Not Sampled, **MFL**= Million fibers per Liter, **LEC**= Lowest Effluent concentration, **MEC**= Maximum effluent concentration, **CMC** = Criterion Maximum Concentration, **CCC** = Criterion Continuous Concentration, **MCL** = Maximum Contaminant Limit, **BP** = Basin Plan, **BPO** = Basin Plan Objective, **(d)** = dissolved concentration, **(t)** = total recoverable concentration, **None Est.** = None established.

Reasonable Potential: (Y) when MEC>most stringent criterion or Max Background concentration >most stringent criterion (and the pollutant is detected in the effluent).

Reasonable Potential: (I) when there is no available/adequate effluent and background data.

Reasonable Potential: (N) when both MEC and Max Background concentration are < most stringent criterion.

TABLE G-2
REASONABLE POTENTIAL ANALYSIS - FOR DIOXINS AND FURANS
 (based on last 3 years of data, all units are µg/L unless otherwise specified)

Constituent CTR #	2,3,7,8-TetraCDD (Dioxin) # 16	1,2,3,7,8-PentaCDD	1,2,3,4,7,8-HexaCDD	1,2,3,6,7,8-HexaCDD	1,2,3,7,8,9-HexaCDD	1,2,3,4,6,7,8-HeptaCDD	OctaCDD	2,3,7,8-TetraCDF	1,2,3,7,8-PentaCDF	2,3,4,7,8-PentaCDF	1,2,3,4,7,8-HexaCDF	1,2,3,6,7,8-HexaCDF	1,2,3,7,8,9-HexaCDF	2,3,4,6,7,8-HexaCDF	1,2,3,4,6,7,8-HeptaCDF	1,2,3,4,7,8,9-HeptaCDF	OctaCDF
LEC	ND @ 6.37E-11	ND @ 1.39 E-11	ND @ 1.75 E-11	ND @ 1.75 E-11	ND @ 2.71 E-11	ND @ 2.37 E-11	ND @ 6.96 E-11	ND @ 0.478 E-11	ND @ 2.25 E-11	ND @ 1.84 E-11	ND @ 2.06 E-11	ND @ 2.44 E-11	ND @ 2.04 E-11	ND @ 2.48 E-11	ND @ 2.57 E-11	ND @ 4.26 E-11	ND @ 2.25 E-11
MEC	ND @ 8.47E-11	ND @ 2.81 E-11	ND @ 2.01 E-11	ND @ 1.87 E-11	ND @ 3.95 E-11	ND @ 3.05 E-11	ND @ 9.67 E-11	ND @ 1.03 E-11	ND @ 3.06 E-11	ND @ 2.38 E-11	ND @ 2.38 E-11	ND @ 2.57 E-11	ND @ 2.31 E-11	ND @ 3.06 E-11	ND @ 3.57 E-11	ND @ 6.17 E-11	10.2 U
Maximum Background	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Numeric BP Objective, MCL	MCL 3.0E-08	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin
Narrative BP Objective	Chem. Const. and Toxicity	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin
CMC and CCC Freshwater	None Est.	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin
Human Health Water +Org	1.3E-08 c	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin
Human Health Org Only	1.4E-08 c	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin
Toxic Equivalency Factors (TEF)	TEF = 1	TEF = 1.0	TEF = 0.1	TEF = 0.1	TEF = 0.1	TEF = 0.001	TEF = 0.0001	TEF = 0.1	TEF = 0.05	TEF = 0.5	TEF = 0.1	TEF = 0.1	TEF = 0.1	TEF = 0.1	TEF = 0.01	TEF = 0.01	TEF = 0.0001
Reasonable Potential	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Notes for Table G-2: Footnotes, abbreviations, and other notations from Final Rule, Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California, 40 CFR Part 131, FR/Vol. 65, No. 97, May 18, 2000/Rules and Regulations. **E-11** = exponent of 10⁻¹¹, **estimate** = concentration estimated by laboratory, **ND @ 0.002** = Not Detected at a laboratory method detection limit of 0.002 µg/L, **NS** = Not Sampled, **MFL**= Million fibers per Liter, **LEC**= Lowest Effluent concentration, **MEC**= Maximum effluent concentration, **CMC** = Criterion Maximum Concentration, **CCC** = Criterion Continuous Concentration, **MCL** = Maximum Contaminant Limit, **BP** = Basin Plan, **BPO** = Basin Plan Objective, **(d)** = dissolved concentration, **(t)** = total recoverable concentration, **None Est.** = None established, **U** = Also detected in laboratory method blank.

Reasonable Potential: (Y) when MEC>most stringent criterion or Max Background concentration >most stringent criterion (and the pollutant is detected in the effluent).

Reasonable Potential: (I) when there is no available/adequate effluent and background data.

Reasonable Potential: (N) when both MEC and Max Background concentration are < most stringent criterion.

TABLE G-3
REASONABLE POTENTIAL ANALYSIS - FOR OTHER POLLUTANTS OF CONCERN
(based on last 3 years of data, all units are µg/L unless otherwise specified)

Constituent	Aluminum	Ammonia as N (mg/L)	Barium	Boron	Chloride (mg/L)	Fluoride (mg/L)	Iron	Mn	Nitrate as N (mg/L)	Nitrite as N (mg/L)	Nitrate + Nitrite as N (mg/L)	Phosphorus (mg/L)	Sodium (mg/L)	Sulfate (as SO ₄) (mg/L)	Sulfide	Sulfite
LEC	26.0 (d) 33.5 (t)	0.18	2.73 (d) 3.33 (t)	NS	48	0.26	29.0 (d) 34.7 (t)	1.27 (d) 2.09 (t)	9.8	ND @ 0.006	See Nitrate	0.48	NS	35	ND @ 0.84	2.0
MEC	49.0 (d) 80.6 (t)	0.56	6.53 (d) 6.89 (t)	NS	72	0.64	44.9 (d) 81.3 (t)	21.2 (d) 23.5 (t)	18	ND @ 0.006	See Nitrate	5.2	NS	52	2.4	8.0
Maximum Background	206 (d) 859 (t)	0.36	51.0 (d) 52.9 (t)	NS	26	0.30	217 (d) 1570 (t)	27.9 (d) 354 (t)	0.84	ND @ 0.006	See Nitrate	0.070 estimate	NS	12	ND @ 0.84	ND @ 5.0
Numeric BP Objective (site specific, MCL)	MCL 200	No MCL	MCL 1000 BPO 100	No MCL	MCL 250	MCL 1000	MCL 300	MCL 50	MCL 10	MCL 1	MCL 10	No MCL	No MCL	MCL 250	No MCL	No MCL
Narrative Basin Plan Objective	USEPA CCC 87 (t) CMC 750 (t)	USEPA CCC 0.339 CMC 1.04	Chemical Const. and Toxicity	Ag WQ goal 700	Chemical Const. and Toxicity	Ag WQ Rome Paper 1000	Chemical Const. and Toxicity	none	none	none	USEPA Inst.Max 2.0	none				
Other factors (303d list, bioaccum)	none	Worst case T = 22.44 pH = 8.9	none	Salinity	Salinity	none	none	none	none	none	none	none	Salinity	Salinity	none	none
Reasonable Potential	Y	Y	N	I	I	N	Y (Due to Surface Water)	Y (Due to Surface Water)	Y (As Total Nitrate)	N	Y	N	I	I	N	N

Constituent	Methyl mercury	Tributyltin	Persistent Chlorinated Hydrocarbon Pesticides	Phthalate Acid Esters (PAEs)	Total Trihalo Methanes (THMs)	Oil and Grease	Foaming Agents (MBAS) (mg/L)	Electrical Conductivity (EC) (umhos/cm)	Total Dissolved Solids (TDS) (mg/L)	Hardness (as CaCO ₃) (mg/L)	pH	Temperature (°F)
LEC	< 0.025	ND @ 0.004	Individual	Individual	Individual	NS	0.073 estimate	560	380	19	6.3	53.0
MEC	0.170	ND @ 0.020	Individual	Individual	Individual	NS	0.31 estimate	8401186	550	62	7.7	79.7
Minimum Background	NS	ND @ 0.020	Individual	Individual	Individual	NS	ND @ 0.021	100	83	19	7.2	41.5
Maximum Background	NS	ND @ 0.020	Individual	Individual	Individual	NS	0.097 estimate	330	200	120	8.9	72.4
Numeric BP Objective (site specific, MCL)	No MCL	No MCL	No MCL	No MCL	MCL 80	No MCL	MCL 0.500	MCL 900	MCL 500 BPO for TDS, 125 (90 percentile)	No MCL	MCL 6.5 ≤ pH ≤ 8.5	No MCL
Narrative Basin Plan Objective	Chemical Const. and Toxicity	USEPA 0.072 CCC 0.46 CMC	Basin Plan Objective - None Detected	Chemical Const. and Toxicity	Chemical Const. and Toxicity	BP Objective	Chemical Const. and Toxicity	Ag WQ goal 700	Ag WQ goal 450	None	BP Objective 6.5 ≤ pH ≤ 8.5 Δ pH ≤ 0.5	BP Objective Δ Temp ≤ 5°F
Other factors (303d list, bioaccum)	303d List Bioaccum.	none	Organo Chlorine Pesticides Bioaccumante	USEPA (Sum of the concentrations of all esters) 940 acute 3 chronic	Sum of the concentrations of Bromoform, Chloroform, Dibromochloro methane, and Dichlorobromo methane	USEPA Human Health - virtually free, particularly taste and odor USEPA Aquatic Life - 0.01 of the lowest continuous flow 96-hour LC50, virtually free of floating	none	Salinity	Salinity	Used to calculate toxicity of metals	Used to calculate toxicity of ammonia	Used to calculate toxicity of ammonia
Reasonable Potential	I	N	Y	N	Y	N	N	Y	Y (As EC)	N	N	N

Notes for Table G-3: See Page G-10

TABLE G-3 (continued)
REASONABLE POTENTIAL ANALYSIS-FOR OTHER POLLUTANTS OF CONCERN
 (based on last 3 years of data, all units are µg/L unless otherwise specified)

Constituent	Alachlor	Atrazine	Bentazon	Carbofuran	Chlorpyrifos	Cis-1,2-di chloroethene	Dalapon	Di(2- ethylhexyl) adipate	Diazinon	1,2-Dibromo-3- chloropropane (DBCP)	Dinoseb	Diquat	Endothal	Ethylene Dibromide
LEC	ND @ 0.0674	ND @ 0.0596	ND @ 0.00762	ND @ 0.009	ND @ 0.0151	ND @ 0.057	ND @ 0.01240	ND @ 1.2	ND @ 0.0641	ND @ 0.0057	ND @ 0.03200	ND @ 1.2	ND @ 8.0	ND @ 0.0051
MEC	ND @ 0.0674	1.4	ND @ 0.00762	ND @ 0.009	ND @ 0.0151	ND @ 0.057	3.9	ND @ 1.2	ND @ 0.0641	ND @ 0.0057	0.050 estimate	ND @ 1.2	ND @ 8.0	ND @ 0.0051
Maximum Background	ND @ 0.0674	0.49 estimate	ND @ 0.00762	ND @ 0.009	ND @ 0.0151	ND @ 0.057	ND @ 0.01240	ND @ 1.2	ND @ 0.0641	ND @ 0.0057	ND @ 0.03200	ND @ 1.2	ND @ 8.0	ND @ 0.0051
Numeric BP Objective (site specific, MCL)	MCL 2	MCL 1	MCL 18	MCL 18	No MCL	MCL 6	MCL 200	MCL 400	No MCL	MCL 0.2	MCL 7	MCL 20	MCL 100	MCL 0.05
Narrative Basin Plan Objective	Chemical Const., Pesticide, Toxicity	Chemical Const., Pesticide, Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	none	Chemical Const. and Toxicity	Pesticide BPO ND, <0.05	Chemical Const. and Toxicity	none	Chemical Const. and Toxicity	Pesticide BPO ND, <0.05	Chemical Const., Pesticide, Toxicity	Chemical Const., Pesticide, Toxicity	Chemical Const. and Toxicity
Other factors (303d list, bioaccum)	none	none	none	none	none	none	OCPEst Bioaccum.	none	none	none	OCPEst Bioaccum.	none	none	none
Reasonable Potential	N	Y	N	N	N	N	Y	N	N	N	Y	N	N	N

Constituent	Glyphosate	Methoxy-chlor	Methyl-tert-butyl ether (MTBE)	Molinate (Ordram)	Oxamyl	Picloram	Simazine	Styrene	Trichloro- fluoro methane	1,1,2-Trichloro- 1,2,2-Trifluor- ethane	2,4,5-TP (Silvex)	2,4-D	Thiobencarb	Xylenes
LEC	ND @ 6.0	ND @ 0.00240	ND @ 0.030	ND @ 0.1690	ND @ 0.027	ND @ 0.00762	ND @ 0.0641	ND @ 0.016	ND	ND @ 0.051	ND @ 0.03400	ND @ 0.5970	ND @ 0.0924	ND @ 0.112
MEC	ND @ 6.0	ND @ 0.00240	200	3.3	ND @ 0.027	ND @ 0.00762	ND @ 0.0641	ND @ 0.016	ND	ND @ 0.051	0.089 estimate	0.23 estimate	ND @ 0.0924	ND @ 0.112
Maximum Background	ND @ 6.0	ND @ 0.00240	3.5	ND @ 0.1690	ND @ 0.027	ND @ 0.00762	ND @ 0.0641	ND @ 0.016	ND	ND @ 0.051	ND @ 0.03400	ND @ 0.5970	ND @ 0.0924	ND @ 0.112
Numeric BP Objective (site specific, MCL)	MCL 700	MCL 30	MCL 5	MCL 20	MCL 50	MCL 500	MCL 4	MCL 100	MCL 150	MCL 1200	MCL 50	MCL 70	MCL 1	MCL 1750
Narrative Basin Plan Objective	Chemical Const. and Toxicity	Pesticide BPO ND, <0.050	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Pesticide BPO ND, <0.050	Pesticide BPO ND, <0.050	Chemical Const. and Toxicity	Chemical Const. and Toxicity						
Other factors (303d list, bioaccum)	none	303d/OCPEst Bioaccum.	none	none	none	none	none	none	none	none	OCPEst Bioaccum.	OCPEst Bioaccum.	none	none
Reasonable Potential	N	N	Y	N	N	N	N	N	I	N	Y	Y	N	N

Notes for Table G-3: E-11 = exponent of 10⁻¹¹, **estimate** = concentration estimated by laboratory, **ND @ 0.002** = Not Detected at a laboratory method detection limit of 0.002 µg/L, **MFL**= Million fibers per Liter, **LEC**= Lowest Effluent concentration, **MEC**= Maximum effluent concentration, **CMC** = Criterion Maximum Concentration, **CCC** = Criterion Continuous Concentration, **MCL** = Maximum Contaminant Limit, **BP** = Basin Plan, **BPO** = Basin Plan Objective, **(d)** = dissolved concentration, **(t)** = total recoverable concentration, **None Est.** = None established.
Reasonable Potential: (Y) when MEC>most stringent criterion or Max Background concentration >most stringent criterion (and the pollutant is detected in the effluent).
Reasonable Potential: (I) when there is no available/adequate effluent and background data.
Reasonable Potential: (N) when both MEC and Max Background concentration are < most stringent criterion.

**ATTACHMENT H
 CONSTITUENTS OF CONCERN**

CTR CONSTITUENTS

Priority Pollutants

1	Antimony	41	1,1,1-Trichloroethane	81	Di-n-butyl Phthalate
2	Arsenic	42	1,1,2-Trichloroethane	82	2,4-Dinitrotoluene
3	Beryllium	43	Trichloroethylene	83	2,6-Dinitrotoluene
4	Cadmium	44	Vinyl Chloride	84	Di-n-Octyl Phthalate
5a	Chromium III	45	2-Chlorophenol	85	1,2-Diphenylhydrazine
5b	Chromium VI	46	2,4-Dichlorophenol	85	Fluoranthene
6	Copper	47	2,4-Dimethylphenol	87	Fluorene
7	Lead	48	2-Methyl-4,6-Dinitrophenol	88	Hexachlorobenzene *
8	Mercury	49	2,4-Dinitrophenol	89	Hexachlorobutadiene
9	Nickel	50	2-Nitrophenol	90	Hexachlorocyclopentadiene
10	Selenium	51	4-Nitrophenol	91	Hexachloroethane
11	Silver	52	4-Chloro-3-Methylphenol	92	Indeno(1,2,3-c,d)Pyrene
12	Thallium	53	Pentachlorophenol *	93	Isophorone
13	Zinc	54	Phenol	94	Naphthalene
14	Cyanide	55	2,4,6-Trichlorophenol	95	Nitrobenzene
15	Asbestos	56	Acenaphthene	96	N-Nitrosodimethylamine
16	2,3,7,8-TCDD (Dioxin)	57	Acenaphthylene	97	N-Nitrosodi-n-Propylamine
17	Acrolein	58	Anthracene	98	N-Nitrosodiphenylamine
18	Acrylonitrile	59	Benzidine	99	Phenanthrene
19	Benzene	60	Benzo(a)anthracene	100	Pyrene
20	Bromoform	61	Benzo(a)pyrene	101	1,2,4-Trichlorobenzene
21	Carbon Tetrachloride	62	Benzo(b)fluoranthene	102	Aldrin *
22	Chlorobenzene	63	Benzo(g,h,i)perylene	103	Alpha BHC *
23	Chlorodibromomethane	64	Benzo(k)fluoranthene	104	Beta BHC *
24	Chloroethane	65	Bis(2-chloroethoxy) Ether	105	Gamma BHC (Lindane)*
25	2-Chloroethylvinyl ether	66	Bis(2-chloroethyl) Ether	106	Delta BHC *
26	Chloroform	67	Bis(2-chloroisopropyl) Ether	107	Chlordane *
27	Dichlorobromomethane	68	Bis(2-ethylhexyl) Phthalate	108	4,4'-DDT *
28	1,1-Dichloroethane	69	4-Bromophenyl Phenyl Ether	109	4,4'-DDE *
29	1,2-Dichloroethane	70	Butylbenzyl Phthalate	110	4,4'-DDD *
30	1,1-Dchloroethylene	71	2-Chloronaphthalene	111	Dieldrin *
31	1,2-Dichloropropane	72	4-Chlorophenyl Phenyl Ether	112	Alpha Endosulfan *
32	1,3-Dichloropropylene	73	Chrysene	113	Beta Endosulfan *
33	Ethylbenzene	74	Dibenzo(a,h)anthracene	114	Endosulfan Sulfate *
34	Methyl Bromide	75	1,2-Dichlorobenzene	115	Endrin *
35	Methyl Chloride	76	1,3-Dichlorobenzene	116	Endrin Aldehyde *
36	Methylene Chloride	77	1,4-Dichlorobenzene	117	Heptachlor *
37	1,1,2,2-Tetrachloroethane	78	3,3-Dichlorobenzidine	118	Heptachlor Epoxide *
38	Tetrachloroethylene	79	Diethyl Phthalate	119 to	PCBs (Aroclors)
39	Toluene	80	Dimethyl Phthalate	125	
40	1,2-trans-Dichloroethylene			126	Toxaphene *

* Persistent Chlorinated Hydrocarbon Pesticides

NON-CTR CONSTITUENTS OF CONCERN

Standard Minerals:

Boron	Iron	Potassium
Calcium	Magnesium	Sodium
Chloride	Manganese	Total Alkalinity (including alkalinity series)
Hardness	Phosphorus	

Analysis will include verification that the analysis is complete (i.e. cation/anion balance)

Non-CTR Persistent Chlorinated Hydrocarbon Pesticides:

Captan	Dicofol	Mirex
2,4-D	Dinoseb	PCNB (Pentachloronitrobenzene)
2,4-DB	Isodrin (an isomer of Aldrin)	Perthane
2,4-D compounds	Kepone (Chlordecone)	Strobane
Dalapon	MCPA	2,4,5-T
Dicamba	MCPP	2,4,5, TP (Silvex)
Dichloran	Methoxychlor	2,4,5-T compounds
Dichloroprop		

See Attachment A for complete list of Persistent Chlorinated Hydrocarbon Pesticides, including CTR Constituents.

Other Constituents of Concern:

Alachlor	Di(2-ethylhexyl)adipate	Picloram
Atrazine	Endothal	Radionuclides
Barium	Ethylene dibromide	Simazine
Bentazon	Flouride	Styrene
Carbofuran	Glyphosate	Sulfate
Chlorpyrifos	MBAS	Sulfide
Chromium, Total	Methoxychlor	Sulfite
Dalapon	Molinate (ordram)	Thiobencarb
Diazinon	MTBE	Tributyltin
Diquat	Oil and Grease	Trichlorofluoromethane
Dinoseb	Oxamyl	1,1,2-trichloro-1,2,2-trifluoromethane
1,2-dibromo-3-chloropropane (DBCP)	Phosphorus	Xylenes