CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL VALLEY REGION

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ORDER NO. R5-2007-0079
NPDES NO. CA0085219
WASTE DISCHARGE REQUIREMENTS FOR THE AMERIPRIDE SERVICES INC. OPERABLE UNIT 3 SACRAMENTO COUNTY

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

Table 1. Discharger Information

Discharger	AmeriPride Services Inc.
Name of Facility	Operable Unit 3
Facility Address	8450 Gerber Road
	Sacramento, CA 95828
	Sacramento County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a **minor** discharge.	

The discharge by AmeriPride Services Inc. from the discharge point identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Treated groundwater	38º 28’ 43” N	121º 23’ 37” W	Beacon Creek, to Morrison Creek, to the Sacramento River

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	**22 June 2007**
This Order shall become effective on:	**11 August 2007**
This Order shall expire on:	**1 June 2012**
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	**180 days prior to the Order expiration date**

IT IS HEREBY ORDERED, that 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 22 June 2007.

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PAMELA C. CREEDON, Executive Officer

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I. FACILITY INFORMATION

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

Table 4. Facility Information

Discharger	AmeriPride Services Inc.
Name of Facility	Operable Unit 3
Facility Address	8450 Gerber Road
	Sacramento, CA 95828
	Sacramento County
Facility Contact, Title, and Phone	Mr. Joe Peter, Environmental Manager, (952) 738-6661
Mailing Address	10801 Wayzata Boulevard Minnetonka, MN 55305
Type of Facility	Industrial
Facility Design Flow	0.432 MGD

II. FINDINGS

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

A. Background. AmeriPride Services Inc. (hereinafter Discharger) submitted a Report of Waste Discharge, dated August 15, 2006**,** and applied for a National Pollutant Discharge Elimination System (NPDES) permit authorization to discharge up to 0.432 million gallons per day of treated groundwater from a groundwater extraction and treatment system.

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 an industrial laundry facility at 7620 Wilbur Way, Sacramento, California. Dry cleaning operations conducted by the former owners of the facility on the Discharger’s property led to the release of tetrachloroethylene (PCE), which has impacted the underlying groundwater. The impacted groundwater extends east from the Discharger’s property to neighboring properties. The Discharger is installing two groundwater extraction wells and a groundwater treatment system for groundwater remediation. The groundwater extraction and treatment system will be installed on a neighboring property at 8450 Gerber Road, Sacramento, California. The groundwater treatment system is expected to consist of two granulated activated carbon (GAC) vessels, operated in series. Treated groundwater will be discharged from Discharge Point No. 001 (see table on cover page) to an unnamed ditch that empties into Beacon Creek, a water of the United

States, and a tributary of Morrison Creek, which then flows to the Sacramento River. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the proposed treatment system to be operated at 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 G are also incorporated into this Order.

E. California Environmental Quality Act (CEQA). Issuance of this Order is an action to assure the restoration of the environment and is, therefore, exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000, et seq.) in accordance with Section 15308, Title 14, California Code of Regulations.

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 that are based on use of best professional judgment (BPJ) in accordance with Part 125, section 125.3. 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.

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)

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

USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed State criterion or policy interpreting the State's narrative criterion, supplemented with other relevant information, as provided in 40 CFR 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 Beacon Creek or Morrison Creek, but does identify present and potential uses for the Sacramento River, to which Beacon Creek and Morrison Creek are tributary. These beneficial uses are as follows: municipal and domestic supply, agricultural irrigation, agricultural stock watering, industrial process water supply, industrial service supply, water contact recreation, other non-contact water recreation, warm freshwater aquatic habitat, cold freshwater aquatic habitat, warm fish migration habitat, cold fish migration habitat, warm spawning habitat, wildlife habitat, and navigation.

In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Thus, as discussed in detail in the Fact Sheet, beneficial uses applicable to Beacon Creek (an eventual tributary to the Sacramento River) are as follows:

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Beacon Creek (an eventual tributary to the Sacramento River)	Existing: Municipal and domestic water supply (MUN); agriculture (irrigation and stock watering) (AGR); industrial process (PROC); industrial service supply (IND); contact recreation (REC-1); noncontact recreation (REC-2); warm freshwater habitat (WARM); cold freshwater habitat (COLD); warm and cold migration (MIGR); warm spawning (SPWN); wildlife habitat (WILD), navigation (NAV).

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." The listing for Morrison Creek includes diazinon. In addition, Morrison Creek is a tributary to the Sacramento River. The 303(d) list specifies a WQLS that Morrison Creek is a tributary to, the Sacramento River between Knights Landing and the Delta. The listing for the Sacramento River between Knights Landing and the Delta includes: diazinon, mercury, and unknown toxicity. Based on influent data submitted by the Discharger, the expected treatment for the extracted groundwater, and the type of discharge, the discharge of treated groundwater is not anticipated to contribute to the impairment of the receiving waters for any of these listed pollutants. This permit may be reopened to apply any applicable TMDLs developed during the term of this permit. Further, this permit may be reopened to apply applicable water quality-based effluent limitations if monitoring data indicates the discharge contains concentrations of pollutants above water quality objectives.

Requirements of this Order implement the Basin Plan.

I. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 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 February 13, 2001. These rules contain water quality criteria for priority pollutants.

J. **State Implementation Policy.** On March 2, 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 April 28, 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 May 18, 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 February 24, 2005 that became effective on July 13, 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 September 25, 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 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 May 18, 2010) to establish and comply with CTR criterion-based effluent limitations. Where a compliance schedule for a final effluent limitation that exceeds 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 does not include compliance schedules and interim effluent limitations and/or discharge specifications.

L. Alaska Rule. On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 CFR. § 131.21; 65 Fed. Reg. 24641 (April 27, 2000).) Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 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 May 30, 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 volatile organic compounds, including tetrachloroethylene. The water quality-based effluent limitations

consist of restrictions on chromium VI. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

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 May 1, 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 May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 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.

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 subsection VI.A.2.a 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.

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.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point No. 001

1. Final Effluent Limitations – Discharge Point No. 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. Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Chromium VI, Total Recoverable	µg/L	11	--	13	--	--
Volatile Organic Compounds	µg/L	--	--	0.5	--	--
pH	s.u.	--	--	--	6.5	8.5

b. **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.

c. **Average Daily Discharge Flow.** The average daily discharge flow shall not exceed 432,000 gallons per day.

2. Interim Effluent Limitations (Not Applicable)

B. Land Discharge Specifications (Not Applicable)

C. Reclamation Specifications (Not Applicable)

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

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

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 5.0 warm aquatic life beneficial uses 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. A one-month averaging period may be applied when calculating the

pH change of 0.5 units.

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 µg/L.

10. **Radioactivity**:

   a. Radionuclides to be present in concentrations that are harmful to human, plant, animal, or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.
   b. Radionuclides to be present in excess of the maximum contaminant levels 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 natural temperature to be increased by more than 5°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.
    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 (Not Applicable)

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 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.

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 Regional Water 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.j.

   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 which it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions shall be incorporated as part of this Order, upon notice to the Discharger.

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

m. Laboratories that perform sample analyses must be identified in all monitoring reports submitted to the Regional Water Board and USEPA.

n. 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.

o. 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.

p. 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.

q. 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.

r. 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.

s. 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.

t. 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)

u. 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. **Whole Effluent Toxicity.** As a 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.

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

e. **CTR Monitoring.** If after review of the CTR monitoring 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 limitations added for the subject 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, if applicable, 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 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, 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 TU_c** (where TU_c = 100/NOEC). The monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Discharger is required to begin accelerated monitoring and initiate a TRE.

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, 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 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 guidance[2].

b. **CTR Monitoring.** For a period of 1 year after initiation of the discharge, the Discharger shall perform monitoring of the effluent and the upstream receiving water for CTR parameters, hardness and pH. The Discharger shall collect grab samples at least once per quarter for one year. Samples shall be taken at the effluent (EFF-001) and upstream receiving water (RSW-001) sampling locations specified in the Monitoring and Reporting Program (Attachment E). Monitoring of the receiving water is not necessary if there is no flow in Beacon Creek. Minimum detection limits shall be equal to or less than 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). Only approved analytical methods specified in 40 CFR Part 136 shall be used for analysis.

Effluent flow shall be recorded and reported for each day of sample collection. In addition, upstream receiving water flow shall be provided for each sample day. In lieu of actual receiving water flow monitoring, a best estimate of flow reasonably obtainable shall be provided (e.g., obtain flow data from an existing nearby gauging station).

All samples shall be collected, analyses completed, and monitoring data shall be submitted to the Regional Water Board **within 15 months of initiation of the discharge**.

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

3. Best Management Practices and Pollution Prevention

a. **Salinity Evaluation and Minimization Plan.** The Discharger shall prepare a salinity evaluation and minimization plan to address sources of salinity from the groundwater extraction and 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.

4. Construction, Operation and Maintenance Specifications (Not Applicable)

5. Special Provisions for Municipal Facilities (POTWs Only) (Not Applicable)

6. Other Special Provisions

a. 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 (Not Applicable)

VII. COMPLIANCE DETERMINATION

A. **Volatile Organic Compounds (VOCs) Maximum Daily Effluent Limitation.** VOCs include all constituents listed in EPA Method 502.2 (Attachment H). The maximum daily effluent limitation of 0.5 µg/L applies to each VOC.

ATTACHMENT A – DEFINITIONS

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

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

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

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

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(l). 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 USEPA 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 ML 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 include~~d~~, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inland Surface Waters 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 July 3, 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 for which degradation or decomposition in the environment is nonexistent or very slow.

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. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

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

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:

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

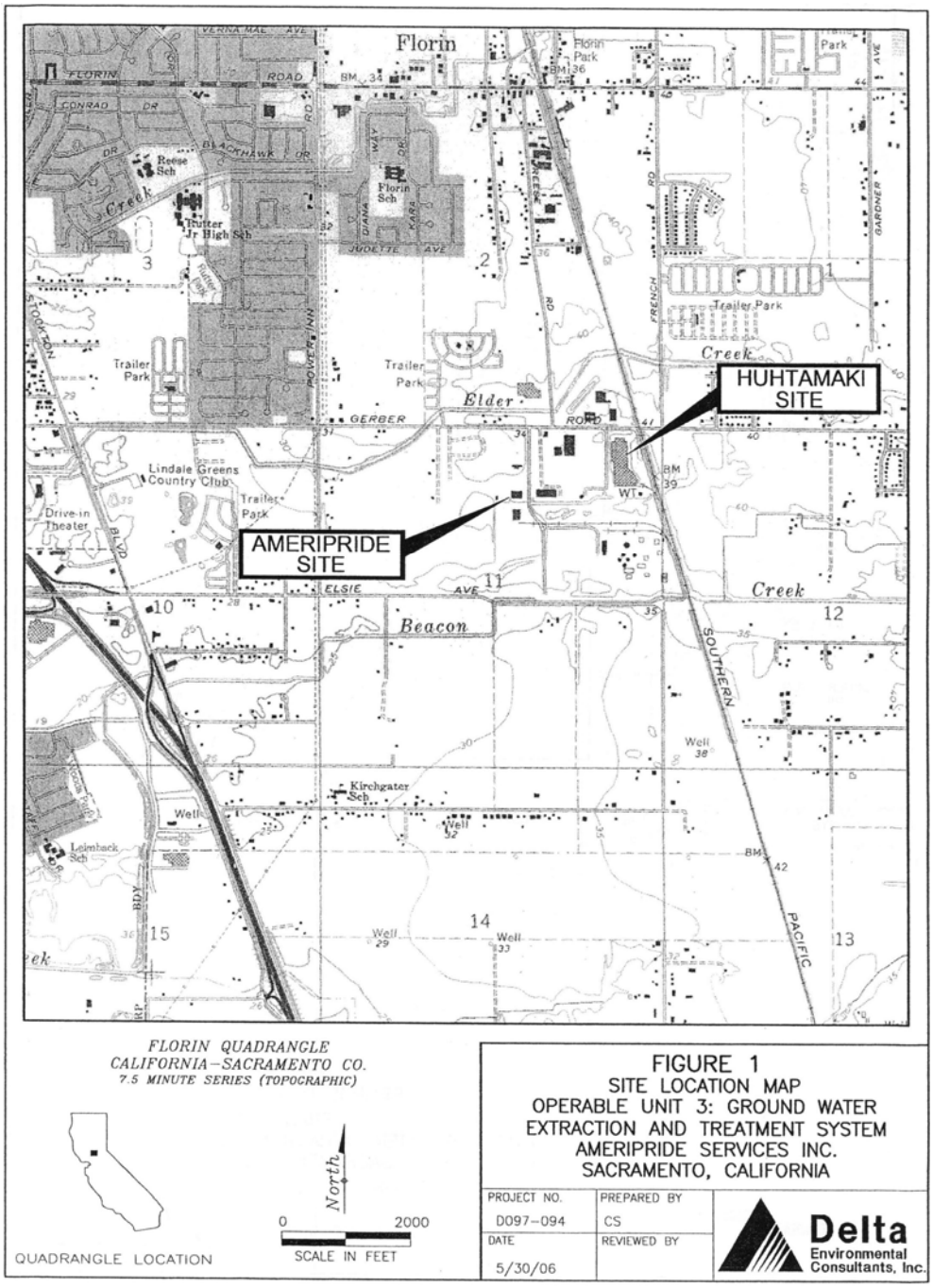
where:

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

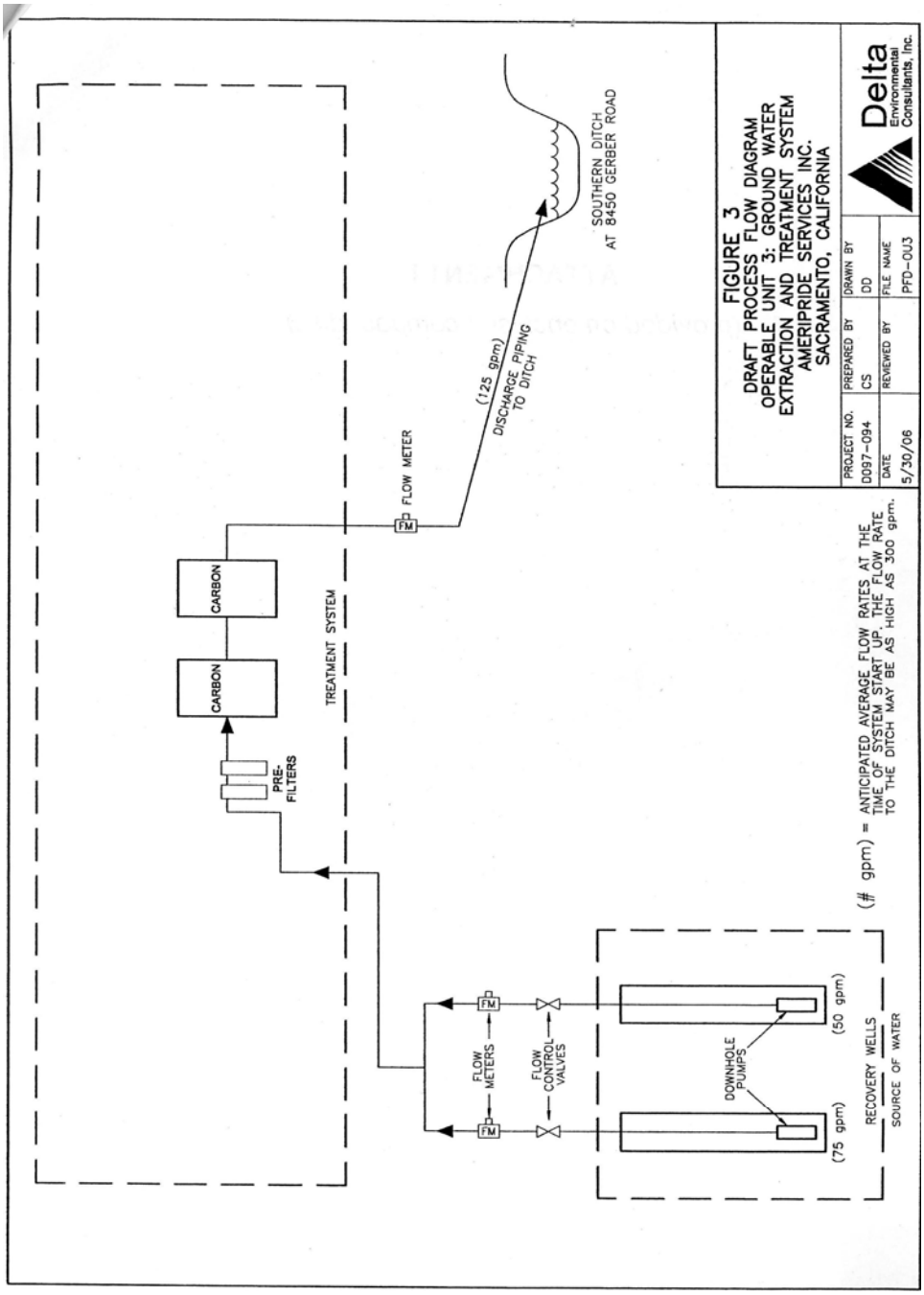
Toxicity Reduction Evaluation (TRE) is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity,

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

ATTACHMENT B – MAP



ATTACHMENT C – FLOW SCHEMATIC



ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

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

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

B. Need to Halt or Reduce Activity Not a Defense

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

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

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

E. Property Rights

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

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

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 CFR §122.41(i); 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 CFR §122.41(i)(1));

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 CFR §122.41(i)(2));

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 CFR §122.41(i)(3)); and

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 CFR §122.41(i)(4).)

G. Bypass

1. Definitions

   a. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR §122.41(m)(1)(i).)

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

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

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

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

    b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 CFR §122.41(m)(4)(i)(B)); and

    c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 CFR §122.41(m)(4)(i)(C).)

4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 CFR §122.41(m)(4)(ii).)

5. Notice

    a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 CFR §122.41(m)(3)(i).)

    b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 CFR §122.41(m)(3)(ii).)

H. Upset

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

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

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

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

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

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

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

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

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

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 CFR §122.41(l)(3); §122.61.)

III. STANDARD PROVISIONS – MONITORING

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

B. Monitoring results must be conducted according to test procedures under 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 CFR §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 CFR §122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 CFR §122.41(j)(3)(i));

2. The individual(s) who performed the sampling or measurements (40 CFR §122.41(j)(3)(ii));

3. The date(s) analyses were performed (40 CFR §122.41(j)(3)(iii));

4. The individual(s) who performed the analyses (40 CFR §122.41(j)(3)(iv));

5. The analytical techniques or methods used (40 CFR §122.41(j)(3)(v)); and

6. The results of such analyses. (40 CFR §122.41(j)(3)(vi).)

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

1. The name and address of any permit applicant or Discharger (40 CFR §122.7(b)(1)); and

2. Permit applications and attachments, permits and effluent data. (40 CFR §122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 CFR. §122.41(h); Wat. Code, § 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 CFR §122.41(k).)

2. All permit applications shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 CFR. §122.22(a)(1).)

3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

    a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 CFR. §122.22(b)(1));

    b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of

equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 CFR § 122.22(b)(2)); and

c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 CFR § 122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 CFR § 122.22(c).)

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

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

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 CFR § 122.22(l)(4).)

2. Monitoring results must be reported on a 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 CFR § 122.41(l)(4)(i).)

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 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 CFR § 122.41(l)(4)(ii).)

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 CFR § 122.41(l)(4)(iii).)

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

1. The Discharger shall 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 CFR §122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 CFR §122.41(l)(6)(ii)):

   a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 CFR §122.41(l)(6)(ii)(A).)

   b. Any upset that exceeds any effluent limitation in this Order. (40 CFR §122.41(l)(6)(ii)(B).)

3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 CFR §122.41(l)(6)(iii).)

F. Planned Changes

The Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 CFR §122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 CFR §122.41(l)(1)(i)); or

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

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

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements. (40 CFR §122.41(l)(2).)

H. Other Noncompliance

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

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 CFR §122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

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

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural Dischargers shall notify the Regional Water Board as soon as they know or have reason to believe (40 CFR §122.42(a)):

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 CFR §122.42(a)(1)):

    a. 100 micrograms per liter (µg/L) (40 CFR §122.42(a)(1)(i));

b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 CFR §122.42(a)(1)(ii));

c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 CFR §122.42(a)(1)(iii)); or

d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 CFR §122.42(a)(1)(iv).)

2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following “notification levels" (40 CFR §122.42(a)(2)):

a. 500 micrograms per liter (µg/L) (40 CFR §122.42(a)(2)(i));

b. 1 milligram per liter (mg/L) for antimony (40 CFR §122.42(a)(2)(ii));

c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 CFR §122.42(a)(2)(iii)); or

d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 CFR §122.42(a)(2)(iv).)

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 Health Services. 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 Health Services. 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
001	EFF-001	Representative sample location of the final effluent following treatment and prior to discharge into the receiving water [Latitude: 38° 28' 43"; Longitude: 121° 23' 37"]
--	RSW-001	Beacon Creek, 50 yards upstream from the point of discharge of the unnamed ditch into Beacon Creek.
--	RSW-002	Beacon Creek, 100 yards downstream from the point of discharge of the unnamed ditch into Beacon Creek.

III. INFLUENT MONITORING REQUIREMENTS – NOT APPLICABLE

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location No. EFF-001

1. The Discharger shall monitor the treated groundwater at EFF-001 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table E-2. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Meter	Continuous	[1]
Chromium VI, dissolved	µg/L	Grab	1/Month	[1,2]
Volatile Organic Compounds[3]	µg/L	Grab	1/Month	[1,2]
Temperature	°F	Grab	1/Month	[1]
pH	s.u.	Grab	1/Month	[1]
Electrical Conductivity	µmhos/cm	Grab	1/Month	[1]
Total Dissolved Solids	mg/L	Grab	1/Month	[1]
Acute Toxicity	% Survival	Grab	See Section V	See Section V
Chronic Toxicity	TU_c	Grab	See Section V	See Section V

[1] As specified in 40 CFR 136.3.

[2] 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.

[3] All volatile organic constituents listed in USEPA Analytical Method 502.2 (see Attachment H)

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.

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 fathead minnows (*Pimephales promelas*).

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

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

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

1. *Monitoring Frequency* – The Discharger shall perform quarterly three species chronic toxicity testing for the first year and annually thereafter.

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.

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 100% effluent and two controls. If toxicity is found in any effluent test, the Discharger must immediately retest 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).

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 Provision VI. 2.a.iii.)

Table E-3. Chronic Toxicity Testing Dilution Series

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

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

D. **WET Testing Reporting Requirements**. All toxicity test reports shall include the contracting laboratory's complete report provided to the Discharger and shall be in accordance with the appropriate "Report Preparation and Test Review" sections of the

method manuals. At a minimum, whole effluent toxicity monitoring shall be reported as follows:

1. **Chronic WET Reporting.** Regular chronic toxicity monitoring results shall be reported to the Regional Water Board within 30 days following completion of the test, and shall contain, at minimum:
   a. The results expressed in TU_c, measured as 100/NOEC, and also measured as $100/LC_{50}$, $100/EC_{25}$, $100/IC_{25}$, and $100/IC_{50}$, 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 TU_c, 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 (If applicable):
   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

A. Monitoring Location No. RSW-001

1. The Discharger shall monitor Beacon Creek at RSW-001 as follows:

Table E-4a. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Dissolved Oxygen	mg/L	Grab	1/Month	[1]
pH	S.U.	Grab	1/Month	[1]
Hardness (as $CaCO_3$)	mg/L	Grab	1/Month	[1]
Temperature	°F	Grab	1/Month	[1]
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Month	[1]
Total Dissolved Solids	mg/L	Grab	1/Month	[1]

[1] As specified in 40 CFR 136.3.

B. Monitoring Location No. RSW-002

1. The Discharger shall monitor Beacon Creek at RSW-002 as follows:

Table E-4b. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Dissolved Oxygen	mg/L	Grab	1/Month	[1]
pH	s.u.	Grab	1/Month	[1]
Temperature	°F	Grab	1/Month	[1]
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Month	[1]
Total Dissolved Solids	mg/L	Grab	1/Month	[1]

[1] As specified in 40 CFR 136.3.

IX. OTHER MONITORING REQUIREMENTS

A. CTR Monitoring

In accordance with Special Provision VI.C.2.b of the Limitations and Discharge Requirements, the Discharger shall, during the first year after initiation of the discharge, monitor quarterly for priority pollutants contained in the CTR, pH, and hardness at EFF-001 and at RSW-001. Monitoring at RSW-001 is not necessary when there is no flow in Beacon Creek.

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
   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-5. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	First day of second calendar month following month of sampling
1 / Hour	Permit effective date	Hourly	First day of second calendar month following month of sampling
1 / Day	Permit effective date	Midnight through 11:59 PM or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	First day of second calendar month following month of sampling

1 / Week	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	First day of second calendar month following month of sampling
1 / Month	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
1 / Quarter	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 1 August 1 November 1 February 1
1 / Semi-annual period	Closest of January 1 or July 1 following (or on) permit effective date	January 1 through June 30 July 1 through December 31	August 1 February 1
1 / Year	January 1 following (or on) permit effective date	January 1 through December 31	February 1

C. Discharge Monitoring Reports (DMRs) – Not Applicable

D. Other Reports

1. Within **60 days** of permit adoption, 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 Board. All peaks identified by analytical methods shall be reported.

2. **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 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. 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.

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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	
Discharger	AmeriPride Services, Inc.
Name of Facility	Operable Unit 3
Facility Address	8450 Gerber Road
	Sacramento, CA 95828
	Sacramento County
Facility Contact, Title and Phone	Joe Peter, Environmental Manager, (952) 738-6661
Authorized Person to Sign and Submit Reports	Joe Peter, Environmental Manager, (952) 738-6661
Mailing Address	10801 Wayzata Boulevard Minnetonka, MN 55305
Billing Address	10801 Wayzata Boulevard Minnetonka, MN 55305
Type of Facility	Industrial
Major or Minor Facility	Minor
Threat to Water Quality	2
Complexity	B
Pretreatment Program	No
Reclamation Requirements	N/A
Facility Permitted Flow	0.432 million gallons per day (MGD)
Facility Design Flow	0.432 MGD
Watershed	Morrison Creek
Receiving Water	Beacon Creek that flows into Morrison Creek that flows into the Sacramento River
Receiving Water Type	Inland surface water

A. AmeriPride Services Inc. (hereinafter Discharger) is the owner and operator of AmeriPride Services Inc.: Operable Unit 3 (hereinafter Facility), a ground water extraction and treatment (GWE&T) system. Huhtamaki Food Service, Inc. owns the property at 8450 Gerber Road on which the Facility is located.

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 into Beacon Creek that flows into Morrison Creek that flows into the Sacramento River, all waters of the United States. The Discharger is a new discharger, and has not been regulated by an NPDES permit in the past.

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 August 15, 2006. The application was submitted in accordance with federal regulations and was deemed to the complete.

II. FACILITY DESCRIPTION

The Discharger owns and operates a groundwater extraction and treatment system to address ground water impacts at the Facility that emanate from an adjacent property owned by the Discharger. The treatment system is designed to treat up to 300 gallons per minute (gpm) of ground water that is impacted with tetrachloroethylene (PCE) and its daughter products. The treated groundwater is discharged via an unnamed ditch to Beacon Creek that eventually discharges to the Sacramento River.

A. Description of Wastewater and Biosolids Treatment or Controls

The Discharger operates an industrial laundry facility at 7620 Wilbur Way. Dry cleaning operations on the Discharger's property by the previous owner led to the releases of PCE, which have impacted ground water. The impacted ground water extends east from the Discharger's property to neighboring properties, including the Facility. The property on which the treatment facility is located (8450 Gerber Road, Sacramento, California) is owned by Huhtamaki Food Service, Inc.

Two ground water extraction wells pump groundwater to the treatment system via underground pipes. The treatment system consists of two granulated activated carbon (GAC) vessels, operated in series. Extracted groundwater passes through the GAC units where PCE and its daughter products are adsorbed. The treated groundwater is sent, via an underground pipe, to an unnamed ditch adjacent to the Facility where it is conveyed and discharged to Beacon Creek. The Facility is designed to treat up to 300 gpm of groundwater. Average flow is expected to be approximately 125 gpm. The Facility plans to operate the treatment system 24 hours per day, 7 days per week except when it is necessary to shut the system down for maintenance.

B. Discharge Points and Receiving Waters

1. The Facility is located in Section 2, T7N, R5E, MDB&M, as shown in Attachment B (Figure B-1), a part of this Order.

2. Treated wastewater will be discharged at Discharge Point No. 001 to an unnamed ditch at a point Latitude 38° 28' 43" N and longitude 121° 23' 37" W. The unnamed ditch flows into Beacon Creek that flows into Morrison Creek that flows into the Sacramento River, all waters of the United States. The unnamed ditch is not considered a water of the United States, but serves as the means of conveyance for the point source discharge from the Facility.

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

The discharger performed monitoring on the untreated ground water to obtain representative monitoring data of the influent to the Facility. The results of that monitoring are provided in the table below:

Table F-2. Monitoring Data[1]

Parameter	Units	Highest Daily Influent Monitoring Data[2]
Arsenic	µg/L	2.5
Chromium (III) (or total Cr)	µg/L	10
Chromium (VI)	µg/L	12
Tetrachloroethylene	µg/L	520
1,2-trans-Dichloroethylene	µg/L	6.7
Trichloroethylene	µg/L	30
cis-1,2-Dichloroethene	µg/L	67
Barium	µg/L	27
Fluoride	µg/L	150
Chloride	µg/L	26,000
Hardness (as CaCO3)	µg/L	120,000
Nitrate (as N)	µg/L	4,400
pH	s.u.	7.65
Phosphorus, Total (as P)	µg/L	100
Specific Conductance (EC)	µmhos/cm	310
Sulfate	µg/L	9,600
Total Dissolved Solids (TDS)	µg/L	240,000

[1] Only pollutant parameters that were detected are shown in the Table. All other pollutants were reported as ND (not detected).
[2] Monitoring was performed on untreated groundwater, which is considered representative of the influent to the treatment system.

D. Compliance Summary (Not Applicable)

E. Planned Changes (Not Applicable)

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 Sacramento River downstream of the discharge are municipal and domestic supply, agricultural irrigation, agricultural stock watering, industrial process water supply, industrial service supply, water contact recreation, other non-contact water recreation, warm freshwater aquatic habitat, cold freshwater aquatic habitat, warm fish migration habitat, cold fish migration habitat, warm spawning habitat, wildlife habitat, and navigation.

   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 November 28, 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.

2. **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 No. 68-16.

3. **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.

4. **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 July 25, 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 listing for Morrison Creek includes diazinon. In addition, Morrison Creek is a tributary to the Sacramento River. The 303(d) list specifies a WQLS that Morrison Creek is a tributary to, the Sacramento River between Knights Landing and the Delta. The listing for the Sacramento River between Knights Landing and the Delta includes: diazinon, mercury, and unknown toxicity. Based on influent data submitted by the Discharger, the expected treatment, and the type of discharge, the discharge of treated groundwater is not anticipated to contribute to the impairment of the receiving waters for any of these pollutants.

2. **Total Maximum Daily Loads.** The USEPA requires the Regional Water Board to develop total maximum daily loads (TMDLs) for each 303(d) listed pollutant and water body combination. TMDLs for the Sacramento-San Joaquin River are currently being developed for diazinon and chlorpyrifos, and a TMDL for methylmercury is also currently being developed. This Order may be reopened to apply applicable water quality based effluent limitations upon the completion of these TMDLs.

   A TMDL for chlorpyrifos and diazinon for urban creeks in the Sacramento area (including Morrison Creek) has been finalized and approved by the USEPA. The primary source of diazinon and chlorpyrifos identified in the TMDL is urban runoff. The TMDL for diazinon and chlorpyrifos specifically states that the TMDL is being implemented through the NPDES Sacramento Municipal Separate Storm Sewer Systems Permit and associated monitoring and reporting program, and other potential sources of diazinon and chlorpyrifos are considered to be minor and are not intended to be regulated by this TMDL.

E. Other Plans, Polices and Regulations

1. 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 §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

The CWA requires that technology-based effluent limitations be established based on several levels of controls:

- Best practicable treatment control technology (BPT) represents the average of the best performance by plants within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.

- Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.

- Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering the "cost reasonableness" of the relationship between the cost of attaining a reduction in effluent discharge and the benefits that would result, and also the cost effectiveness of additional industrial treatment beyond BPT.

- New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires USEPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and section 125.3 of the Code of Federal Regulations authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories

and/or pollutants of concern. Where BPJ is used, the permit writer must consider specific factors outlined in section 125.3.

ELGs have not yet been developed for the discharge of treated groundwater, thus no ELG-based effluent limitations have been established for this discharge.

2. Applicable Technology-Based Effluent Limitations

The groundwater treatment system is being developed and installed to remove tetrachloroethylene (PCE) from the contaminated groundwater. Groundwater data submitted by the facility indicates levels of tetrachloroethylene at 520 µg/L. The Discharger has proposed to install a groundwater extraction and treatment system that will utilize GAC to remove the tetrachloroethylene and its daughter products. Because the groundwater is contaminated with tetrachloroethylene, tetrachloroethylene is considered the primary pollutant of concern for this discharge. The Report of Waste Discharge also indicates detectable levels in the system influent of several other volatile organic compounds (VOCs), including cis-1,2-dichloroethene, trans-1,2-dichlororethylene, and trichloroethene.

Technology-based effluent limitations developed using BPJ are based on the use of treatment technologies that have been proven effective to treat the pollutants or classes of pollutants present in the wastewater discharge. Effluent limitations are then developed based upon the expected performance of the treatment technologies. Where treatment systems performance data are not available or where existing treatment practices are considered inadequate, effluent limits are sometimes borrowed (transferred) from another industrial category if it is apparent that the technology used for developing the transferred limits would produce similar effluent concentrations. In this particular case, the Discharger has indicated that they will use GAC technology for the removal of PCE. Actual treatment systems performance data is available in the USEPA, National Risk Management Research Laboratory's Treatability Database. In addition, the Discharger has submitted projected effluent concentrations for the discharge based on groundwater data and expected treatment performance of the proposed GAC treatment system. This information was used to develop technology-based effluent limitations for tetrachloroethylene.

The Discharger indicated in the Report of Waste Discharge that tetrachloroethylene will be reduced to non-detectable levels (<0.50 µg/L) following GAC treatment. The minimum levels (MLs) for use in reporting and compliance determination contained in Appendix 4 of the SIP establish a ML of 0.5 µg/L for tetrachloroethylene, which would result in a removal efficiency of greater than 99 percent. The ML is defined in the SIP as the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming the procedure has been performed correctly. This level of treatment is consistent with the USEPA, National Risk Management Research Laboratory's Treatability Database version 5.0, which indicates that a properly operated and maintained GAC treatment system for groundwater with concentrations of

tetrachloroethylene ranging from >100 µg/L to 1,000 µg/L, can reduce the effluent concentration of tetrachloroethylene to <1.0 µg/L with removal efficiencies ranging from >99.48 percent to >99.71 percent.

State Water Board Resolution No. 68-16 requires implementation of BPTC to ensure that the highest water quality is maintained consistent with the maximum benefit to the people of the State. BPTC for groundwater cleanup of VOCs provides that the pollutants should be discharged at concentrations no higher than quantifiable levels for each pollutant. BPTC is equivalent to BAT, and for VOCs subject to this Order, requires meeting effluent limits set at less than MLs. Several dischargers in the Central Valley Region have implemented BPTC groundwater treatment systems and have been able to consistently treat VOCs in the wastewater to concentrations below the MLs.

According to the SIP, if no ML value is below the effluent limitation, the applicable ML value shall be the lowest ML value listed in Appendix 4 of the SIP. VOC concentrations below the MLs are generally considered unquantifiable. Therefore, application of technology based limitations for VOCs at ground water cleanup sites requires effluent to meet MLs.

With respect to the specific discharges permitted herein, and particularly the GAC system, the following have been considered as required by 40 CFR section 125.3 for establishing best available technology economically achievable (BAT) based upon BPJ:

- Appropriate technology for category or class of discharges – GAC treatment systems are commonly used to remove VOCs from extracted groundwater at cleanup sites. Properly operated and maintained systems perform reliably and ensure essentially complete removal of VOCs. The Discharger will employ a GAC system.
- Unique factors relating to the applicant – The Discharger has not identified any unique factors that would justify discharges equaling or exceeding quantifiable concentrations of PCE or other VOCs.

- Age of equipment – The Facility is a new discharger, and as such has the ability to install the best available treatment technology prior to discharge.

- Non-water quality environmental impacts, including energy requirements and cost of achieving proposed effluent reduction – The planned GAC system should reliably remove VOCs to concentrations of less than 0.5 µg/Land should not create additional non-water quality impacts (e.g., air emissions), or undue financial costs for the Discharger.

GAC systems are appropriate technologies for VOC removal from extracted groundwater. The above supports the conclusion that the Discharger can meet a daily maximum effluent limit of 0.5 µg/L. Therefore, an effluent limit for VOCs of 0.5 µg/L as a daily maximum will be included in this Order to reflect best practicable

control technology currently available and best available technology economically achievable. Additionally, the Discharger must properly operate and maintain its treatment systems as specified in Section VI.C.4.a of this Order. With continued proper operation and maintenance of the Facility, the Discharger can meet the more stringent effluent limitations for VOCs.

Summary of Technology-based Effluent Limitations
Discharge Point 001

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

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Volatile Organic Compounds[1]	µg/L			0.5		

[1] This effluent limitation applies to each of the volatile organic constituents listed in USEPA Analytical Method 502.2 (see Attachment H)

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 Facility discharges, via an unnamed ditch, into Beacon Creek, a tributary to the Sacramento River via Morrison Creek. The beneficial uses of the Beacon Creek are summarized in Section III of this Fact Sheet.

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 40 CFR 131.38(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* <u>*shall*</u> *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.

No ambient background hardness data is available for Beacon Creek. However, hardness of the untreated groundwater was provided in the report of waste discharge submitted by the Facility. Because this is the only hardness data available, and for purposes of determining reasonable potential and establishing water quality-based effluent limitations, the reported hardness value of 120 mg/L as $CaCO_3$ was used. Receiving water monitoring for hardness upstream of the discharge will also be required during the permit term to collect ambient data to facilitate future analysis of the discharge from the Facility.

c. **Assimilative Capacity/Mixing Zone.** The Discharger did not submit receiving water data or an assimilative capacity analysis to determine the ability of the receiving water to assimilate pollutants without exceeding water quality objectives. Thus, no dilution credits are granted for this discharge, and all effluent limitations must be met at the point of discharge into the unamed ditch, which serves as the conveyance to Beacon Creek.

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 a 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 chromium VI, tetrachoroethylene, trichloroethylene, and cis-1,2-dichloroethylene. Water quality-based effluent limitations (WQBELs) for these constituents are included in this Order. A summary of the reasonable potential analysis (RPA) is provided in Attachment G, and a detailed discussion of the 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.[1] The SIP states in the introduction "*The goal of this Policy is to establish a standardized approach for permitting discharges of toxic pollutants to non-ocean surface waters in a manner that promotes statewide consistency.*" Therefore, in this Order the RPA procedures from the SIP were used to evaluate reasonable potential for both CTR and non-CTR constituents.

   In addition Step 7 of the SIP allows for the consideration of other available information to determine if WQBELs should be required. The SIP states that this information includes: the facility type, the discharge type, solids loading analysis, lack of dilution, history of compliance problems, potential toxic impact of discharge, fish tissue residue data, water quality and beneficial uses of the receiving water, CWA 303(d) listings, the presence of endangered or threatened species or critical habitat, and other information. Influent data submitted by the Discharger indicate that concentrations of tetrachloroethylene, trichloroethylene, and cis-1,2-dichloroethylene in the groundwater are at levels that exceed water quality objectives. Because the treatment system has not operated and has not been able to demonstrate reliable treatment of the groundwater for these parameters, the discharge has been determined to have reasonable potential to exceed water quality objectives for tetrachoroethylene, trichloroethylene, and cis-1,2-dichloroethylene.

   Due to the limited data to perform a reasonable potential analysis (only one sample of influent wastewater was provided and effluent concentrations were

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

estimated based on the one influent sample), and in order to determine if the discharge may contain constituents that have a reasonable potential to cause or contribute to an exceedance of water quality objectives, the Discharger is required to conduct a special monitoring study that will include accelerated monitoring for the 126 priority pollutants during the first year following initiation of the discharge. The Discharger is specifically required to monitor the effluent and upstream receiving water for the 126 priority pollutants, pH, and hardness (as $CaCO_3$) quarterly for one year.

d. WQBELs were calculated in accordance with section 1.4 of the SIP, as described in Attachment F, Section IV.C.4.

e. **Chromium VI (Hexavalent Chromium).** The CTR includes maximum 1-hour average and 4-day average dissolved chromium VI concentrations of 16 µg/L and 11 µg/L, respectively, for the protection of freshwater aquatic life. The MEC for dissolved chromium VI was 12 µg/L, based on a 11 influent samples collected by the Discharger from May 25, 2006 through March 19, 2007. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria. This Order contains final an average monthly effluent limitation (AMEL) and maximum daily effluent limitation (MDEL) for chromium VI of 11 µg/L and 13 µg/L (as dissolved metal[2]), respectively, based on the procedures in section 1.4 of the SIP and the CTR criteria for the protection of freshwater aquatic life (see Attachment F, Table F-5 for the water quality-based effluent limitation calculations). Projected effluent quality submitted by the Discharger indicates that the Facility may not be capable of complying with these effluent limitations. Section 2.1 of the SIP allows for compliance schedules to be granted to "existing discharger's" under certain circumstances, and specifies that compliance schedules shall not be allowed in permits for new dischargers. Because this permit is for a new discharger, as defined in the SIP, the Discharger will be expected to comply with the established effluent limitations upon commencement of discharge.

f. **Cis-1,2-Dichloroethene.** The Primary MCL for cis-1,2-dichloroethene is 6 µg/L. Influent data submitted by the Discharger indicates levels of cis-1,2-dichloroethene in the groundwater of 67 µg/L. Because the treatment system has not yet operated and is unable to demonstrate reliable removal of cis-1,2-dichloroethylene from the groundwater to levels protective of water quality objectives, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the primary MCL criterion for cis-1,2-dichloroethene.

   Receiving water data representing the location of the discharge was not submitted by the Discharger. The receiving water concentration of cis-1,2-dichloroethene in the vicinity of the discharge is unknown; therefore, no assimilative capacity for cis-1,2-dichloroethene is granted and the primary MCL criterion must be met at the point of discharge. The WQBEL for cis-1,2-

[2] CFR 122.45(c)(3) allows the effluent limitations for chromium VI to be expressed as dissolved metal, because all approved analytical methods measure only its dissolved form.

dichloroethene is 6 µg/L based on the primary MCL criterion. As discussed in section IV.B.2., above, technology-based effluent limitations for VOCs include a MDEL of 0.5 µg/L. The technology-based effluent limitations are more stringent than the WQBELs. Therefore, the more stringent technology based effluent limitations are included in this Order.

g. **pH**. The Basin Plan includes numeric water quality objectives that the pH "…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." The receiving water is designated as having both COLD and WARM beneficial uses. Effluent limitations for pH are included in this Order and are based on the Basin Plan water quality objective for pH. This Order requires continuous monitoring for pH, and includes instantaneous maximum and minimum pH effluent limitations of 8.5 and 6.5, respectively, which are applied to ensure compliance with the Basin Plan objective.

h. **Salinity.** The discharge contains total dissolved solids (TDS), chloride, sulfate, and electrical conductivity (EC). These are water quality parameters that 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, contains a narrative objective, and contains numeric water quality objectives for EC, TDS, Sulfate, and Chloride.

Table F-4. Salinity Water Quality Criteria/Objectives

Parameter	Agricultural WQ Goal[1]	Secondary MCL[3]	Effluent Concentrations	
			Average	Maximum
EC (µmhos/cm)	700[2]	900, 1600, 2200	310	310
TDS (mg/L)	450[2]	500, 1000, 1500	240	240
Sulfate (mg/L)	N/A	250, 500, 600	9.6	9.6
Chloride (mg/L)	106[2]	250, 500, 600	26	26

(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) Agricultural water quality goals listed provide no restrictions on crop type or irrigation methods for maximum crop yield. Higher concentrations may require special irrigation methods to maintain crop yields or may restrict types of crops grown.

(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 chloride concentration in the effluent was estimated by the Discharger to be 26 mg/L, based on a sample collected by the Discharger on 25 May 2006. No background concentrations for Beacon Creek were provided.

ii. **Electrical Conductivity (EC)**. The secondary MCL for EC is 900 µmhos/cm as a recommended level, 1600 as an upper level, and 2200 µmhos/cm as a short-term maximum. The estimated EC effluent concentration was 310 µmhos/cm, based on a sample collected by the Discharger on 25 May 2006. No background concentrations for Beacon Creek were provided.

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. The sulfate concentration in the effluent was estimated by the Discharger to be 9.6 mg/L, based on a sample collected by the Discharger on 25 May 2006. No background concentrations for Beacon Creek were provided.

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 TDS concentration in the effluent was estimated by the Discharger to be 240 mg/L, based on a sample collected by the Discharger on 25 May 2006. No background concentrations for Beacon Creek were provided.

v. **Salinity Effluent Limitations.** Based on the relatively low reported salinity in the combined effluent, the discharge does not have reasonable potential to cause or contribute to an in-stream excursion of water quality objectives for salinity. The salinity is sufficiently low so as not to present a water quality threat to downstream beneficial uses or an anti-degradation concern. However, since water from Beacon Creek ultimately flows into the Sacramento-San Joaquin Delta, of additional concern is the salt contribution to Delta waters. Allowing the Discharger to increase its current salt loading may be contrary to the Region wide effort to address salinity in the Central Valley. Therefore, this Order requires salinity monitoring of the discharge to verify that salinity is not increasing and requires the development of a salinity evaluation and minimization plan.

i. **Tetrachloroethylene***.* The NTR includes a tetrachloroethylene criterion of 0.8 µg/L for the protection of human health, based on a one-in-a-million cancer risk for waters from which both water and aquatic organisms are consumed. Influent data submitted by the Discharger indicates levels of tetrachloroethylene at 520 µg/L. Because the treatment system has not yet operated and is unable to demonstrate reliable removal of tetrachloroethylene from the groundwater to levels protective of water quality objectives, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the NTR criterion for tetrachloroethylene.

Receiving water data representing the location of the discharge was not submitted by the Discharger. The receiving water concentration of tetrachloroethylene in the vicinity of the discharge is unknown; therefore, no assimilative capacity for tetrachloroethylene is granted. Based on the NTR criterion, an AMEL and MDEL for tetrachloroethylene of 0.8 µg/L and 1.6 µg/L, respectively, is necessary for the protection of human health (see Attachment F,

Table F-6 for the water quality-based effluent limitation calculations). As discussed in section IV.B.2., above, technology-based effluent limitations for VOCs include a MDEL of 0.5 µg/L. The technology-based effluent limitations are more stringent than the WQBELs. Therefore, the more stringent technology based effluent limitations are included in this Order.

j. **Trichloroethylene.** The NTR includes a trichloroethylene criterion of 2.7 µg/L for sources of drinking water. Because the treatment system has not yet operated and is unable to demonstrate reliable removal of trichloroethylene from the groundwater to levels protective of water quality objectives, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the NTR criterion for trichloroethylene.

Receiving water data representing the location of the discharge was not submitted by the Discharger. The receiving water concentration for trichloroethylene in the vicinity of the discharge is unknown; therefore, no assimilative capacity for trichloroethylene is granted. This Order includes an AMEL and MDEL for trichloroethylene of 2.7 µg/L and 5.42 µg/L, respectively, based on the CTR criterion for the protection of human health (see Attachment F, Table F-7 for the water quality-based effluent limitation calculations). As discussed in section IV.B.2., above, technology-based effluent limitations for VOCs include a MDEL of 0.5 µg/L. The technology-based effluent limitations are more stringent than the WQBELs. Therefore, the more stringent technology based effluent limitations are included in this Order.

4. WQBEL Calculations

a. Effluent limitations for chromium VI, tetrachloroethylene, trichloroethylene, and cis-1,2-dichloroethylene 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 were set equal to the criteria/standards/objectives.

$$ECA_{acute} = CMC \qquad ECA_{chronic} = CCC$$

For the human health, agriculture, or other long-term criterion/objective, a dilution credit can be applied. 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 are set equal to the AMEL and a statistical multiplier is used to calculate the MDEL.

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

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

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

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

Water quality-based effluent limitations were calculated for chromium VI, tetrachloroethylene, trichloroethylene, and cis-1,2-dichloroethylene. Calculations for each of these parameters are provided in Tables F-5, F-6, and F-7 below.

Table F-5. WQBEL Calculations for Chromium VI

	Acute	Chronic
Criteria (µg/L) [(1)]	16	11
Dilution Credit	No Dilution	No Dilution
ECA	16	11
ECA Multiplier	0.71	0.84
LTA	11.4	9.3
AMEL Multiplier (95th%)	[2]	1.1

AMEL (µg/L)	[2]	**11**
MDEL Multiplier (99th%)	[2]	1.4
MDEL (µg/L)	[2]	**13**

(1) USEPA CTR Water Quality Criteria
(2) Limitations based on chronic LTA (Chronic LTA < Acute LTA)

Table F-6. WQBEL Calculations for Tetrachloroethylene

	Acute	Chronic
Criteria (µg/L)	N/A	0.8
Dilution Credit	N/A	No Dilution
ECA	N/A	0.8
AMEL (µg/L) (1)	N/A	**0.8**
MDEL/AMEL Multiplier(2)	N/A	2.01
MDEL (µg/L)	N/A	**1.6**

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

Table F-7. WQBEL Calculations for Trichloroethylene

	Acute	Chronic
Criteria (µg/L)	N/A	2.7
Dilution Credit	N/A	No Dilution
ECA	N/A	2.7
AMEL (µg/L) (1)	N/A	**2.7**
MDEL/AMEL Multiplier(2)	N/A	2.01
MDEL (µg/L)	N/A	**5.4**

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

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

Table F-8. Summary of Water Quality-based Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Chromium VI, Total Recoverable	µg/L	11	--	13		
Tetrachloroethylene	µg/L	0.8	--	1.6		
Trichloroethylene	µg/L	2.7	--	5.4		
cis-1,2-Dichloroethylene	µg/L	6	--	--		
pH	s.u.	--	--	--	6.5	8.5

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 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.** No WET data is 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 semi-annual chronic WET monitoring for demonstration of compliance with the narrative toxicity objective.

   In addition to WET monitoring, Special Provisions VI.C.2.a. 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.

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. Based on the types of parameters for which effluent limitations are being included in this Order, and the fact that the basis of the effluent limitations are minimum levels, concentration-based CTR criteria and MCLs, only concentration-based effluent limitations are included in this Order.

2. Averaging Periods for Effluent Limitations (Not Applicable)

3. Satisfaction of Anti-Backsliding Requirements (Not Applicable)

[Not Applicable – New Discharger]

4. Satisfaction of Antidegradation Policy

As a new discharger, the discharge of wastewater to Beacon Creek in compliance with established effluent limitations must be consistent with the antidegradation provisions of 40 CFR §131.12 and State Water Board Resolution No. 68-16. In accordance with the State Water Board's Administrative Procedures Update, the Regional Water Board assessed the potential impact of the new discharge on existing water quality and the need for an antidegradation analysis as described below.

Based on the data provided for this proposed discharge to Beacon Creek, a number of pollutant parameters were reported as detected in the raw, untreated groundwater. For all parameters except chromium VI, tetrachoroethylene, trichloroethylene, and cis-1,2-dichloroethylene, the reported concentrations, prior to treatment, were below the applicable water quality objectives to protect the designated uses as specified in Table 5 of the Limitations and Discharge Requirements section of the Order. The Basin Plan does not specifically identify beneficial uses for Beacon Creek or Morrison Creek, but does identify present and potential uses for the Sacramento River, to which Beacon Creek and Morrison Creek are tributary to.

For chromium VI, tetrachoroethylene, trichloroethylene, and cis-1,2-dichloroethylene the reported concentrations of the untreated groundwater were above applicable water quality objectives. Although the Discharger estimates that concentrations of

the volatile organic compounds will be below analytical detection levels after treatment through the proposed treatment system, effluent limitations were established in the Order. As described previously in Section IV.C.2.c, no dilution is provided due to the uncertainty regarding assimilative capacity in Beacon Creek, and the resulting effluent limitations were set equal to the water quality objectives established to protect the designated uses.

The Discharger assumed no further removal of chromium VI through the proposed treatment system. As a result, reasonable potential was determined and effluent limitations established. No credit for dilution is provided for, therefore, end-of-pipe effluent limitations have been established for chromium VI to protect the designated uses.

To ensure compliance with established effluent limitations, and based on the type of treatment system proposed to be installed by the Discharger (granular activated carbon), it is assumed that the Discharger will treat the contaminated groundwater so that the resulting effluent will contain concentrations of chromium VI, tetrachoroethylene, trichloroethylene, cis-1,2-dichloroethylene, and other VOCs well below the effluent limitations (i.e., compliance with the proposed requirements will result in the use of best practicable treatment or control of the discharge). Therefore the expected pollutant concentrations in the new discharge should comply with applicable water quality objectives, be protective of designated uses, and not contribute to any further degradation of the water quality in Beacon Creek.

5. Final Effluent Limitations

Final effluent limitations were determined by comparing the technology-based effluent limitations and the WQBELs and applying the most stringent limitations for each individual parameter. Effluent limitations for chromium VI and pH are based on WQBELs, as no technology-based effluent limitations are applicable for these parameters. The WQBELs for trichloroethylene, cis-1,2-dichloroethylene, and tetrachloroethylene are less stringent than the technology-based effluent limitations for VOCs. Therefore, technology-based effluent limitations for VOCs have been established in this Order. The effluent limitation established for flow is based on the maximum flow capacity of the Facility.

Summary of Final Effluent Limitations
Discharge Point No. 001

Table F-9. Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations					Basis
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Flow	MGD	--	--	0.432	--	--	Tech-based
Chromium VI, dissolved	µg/L	11	--	13	--	--	CTR Criteria
Volatile Organic Compounds[1]	µg/L	--	--	0.5	--	--	Tech-based
pH	s.u.	--	--	--	6.5	8.5	Basin Plan

[1] This effluent limitation applies to each of the volatile organic constituents listed in USEPA Analytical Method 502.2 (see Attachment H)

E. Interim Effluent Limitations (Not Applicable)

F. Land Discharge Specifications (Not Applicable)

G. Reclamation Specifications (Not Applicable)

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

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

A. Surface Water

1. CWA section 303(a-c), requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The 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 bacteria, biostimulatory substances, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, and turbidity.

   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. **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.

   d. **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.

   e. **Dissolved Oxygen.** The receiving water 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 receiving water, 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 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 a monthly 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.** The receiving water 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 5ºF above natural receiving water temperature*." This Order includes a receiving water limitation based on this objective.

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 (Not Applicable)

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 authorizes 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.

Grab samples have been required for all parameters with the exception of flow volume. Based on the type of discharge, the discharged effluent is expected to be consistent, without much variability in quality. In addition, for the primary pollutants of concerns, volatile organics, grab samples are required in accordance with 40 CFR Part 136. Grab samples offer an economical manner in which to monitor compliance with the permit, without the undue cost of composite samplers. If high levels of variability are observed in the effluent near or above the applicable effluent limitations, the Regional Water Board may reopen to permit and revise the MRP as appropriate.

A. Influent Monitoring – Not Applicable

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. Monitoring requirements for chromium VI and VOCs (including tetrachloroethylene, trichloroethylene, and cis-1,2-dichloroethylene), and pH have been established to determine compliance with applicable effluent limitations. Monthly monitoring requirements for total dissolved solids (TDS) and electrical conductivity have also been established to evaluate future reasonable potential to

exceed water quality objectives for salinity and to ensure the salinity of the discharge is not increasing.

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….*" All reported detection limits for chromium VI, tetrachloroethylene, trichloroethylene, and cis-1,2-dichloroethylene are less than the corresponding applicable water quality criteria or objectives. Monitoring for these constituents has been included in this Order in accordance with the SIP.

3. As required in Section 1.3 of the SIP, the Discharger is required to periodically monitor the effluent and upstream receiving water for CTR parameters, pH, and hardness for which criteria or objectives apply and for which no effluent limitations have been established. This Order requires this monitoring quarterly during the first year after initiation of the discharge to provide data to determine reasonable potential, as defined in the SIP, to exceed water quality objectives.

C. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity.** Quarterly grab samples for bioassay testing is required to demonstrate compliance with the effluent limitation for acute toxicity.

2. **Chronic Toxicity.** Quarterly chronic whole effluent toxicity testing the first year and annually thereafter is required in order to demonstrate compliance with the Basin Plan's narrative toxicity objective.

D. Receiving Water Monitoring

1. Surface Water

a. Monthly receiving water monitoring for dissolved oxygen, pH, electrical conductivity, and total dissolved solids is necessary to assess compliance with receiving water limitations and to assess the impacts of the discharge on the receiving stream. In addition, monthly monitoring for hardness is required to provide data necessary for evaluating compliance with hardness-based metals water quality objectives.

b. The Discharger is required to monitor the effluent and upstream receiving water for CTR parameters quarterly during the first year to provide the data necessary to determine reasonable potential, as defined in the SIP, to exceed water quality objectives. Concurrent with the annual monitoring, pH and hardness of the receiving water shall be monitored. Monitoring of the receiving water is only required when there is flow in Beacon Creek.

2. Groundwater (Not Applicable)

E. Other Monitoring Requirements (Not Applicable)

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

b. **Water Effects Ratio (WER).** A default WER of 1.0 has been used in this Order for calculating CTR criteria for applicable priority pollutant inorganic constituents. If the Discharger performs studies to determine site-specific WERs, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

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.

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.

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-1), below, for further clarification of the accelerated monitoring requirements and for the decision points for determining the need for TRE initiation.

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

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

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

iii. *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures,* Second Edition, EPA 600/6-91/005F, February 1991.

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

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

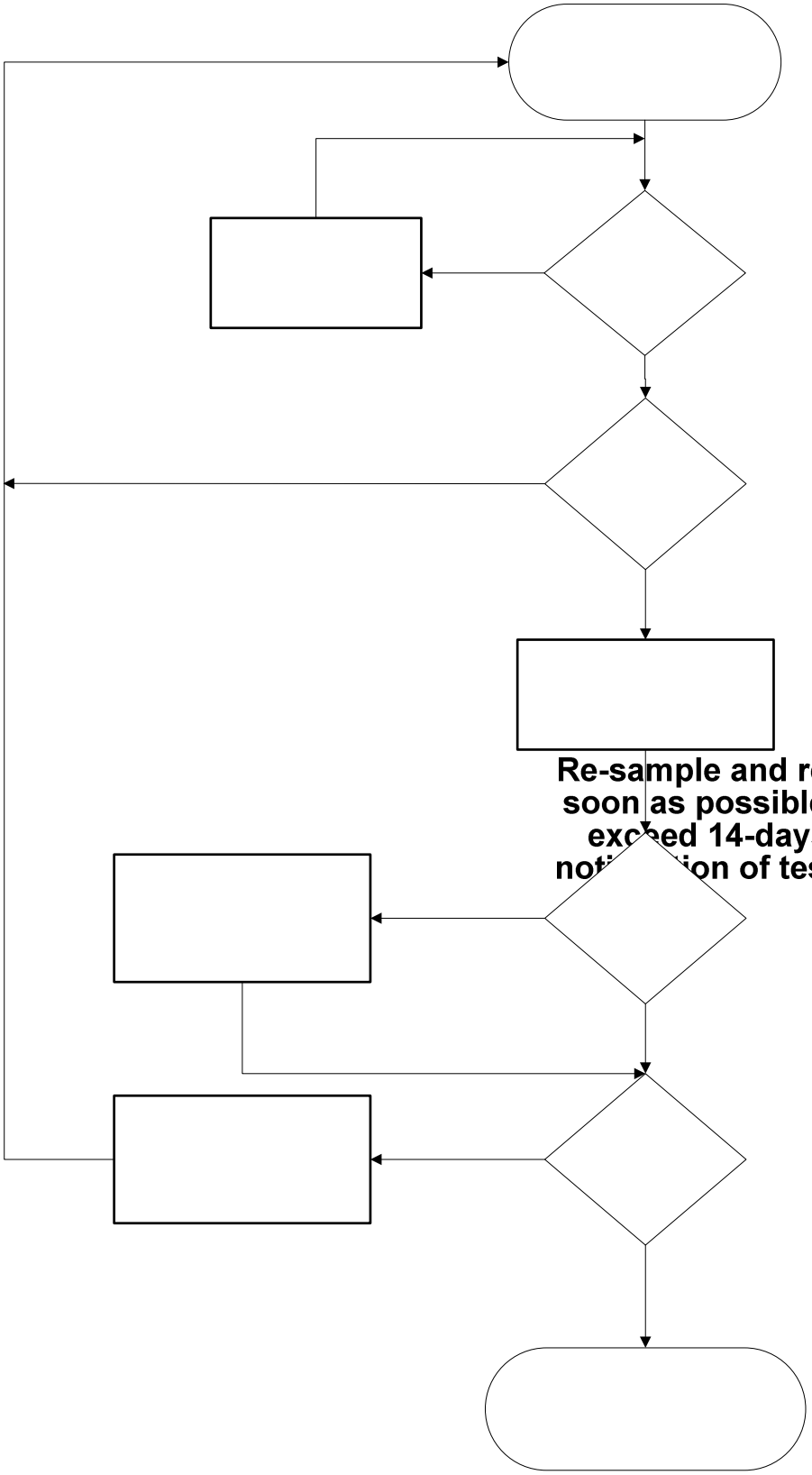
vi. *Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity*, Second Edition, EPA 600/R-92/081, September 1993.

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

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

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

Figure F-1
WET Accelerated Monitoring Flow Chart



b. **CTR Monitoring.** During the first year after initiation of the discharge, the Discharger is required to perform quarterly monitoring for CTR parameters, hardness, and pH. This monitoring will provide the Regional Water Board with the data necessary to determine whether there is a reasonable potential for discharges from the Facility, once operational, to exceed applicable water quality objectives. Monitoring of the receiving water is only required when there is flow in Beacon Creek. As part of this special monitoring requirement, receiving water flow is required to be provided at the time of sampling to determine possible dilution available in the receiving water.

3. Best Management Practices and Pollution Prevention

a. **Salinity Evaluation and Minimization Plan.** This Order requires the Discharger prepare a salinity evaluation and minimization plan to address sources of salinity from the groundwater extraction and treatment system.

4. Construction, Operation, and Maintenance Specifications (Not Applicable)

5. Special Provisions for Municipal Facilities (POTWs Only) (Not Applicable)

6. Other Special Provisions

a. 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.

7. Compliance Schedules (Not Applicable)

VIII. PUBLIC PARTICIPATION

The Regional Water Board is considering the issuance of WDRs that will serve as a NPDES permit for AmeriPride. 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.

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 **April 30, 2007**.

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: June 21-22, 2007
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) 464-4772.

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 Mr. James Marshall at (916) 464-4772

ATTACHMENT G – SUMMARY OF REASONABLE POTENTIAL ANALYSIS

Constituent	Units	MEC[5]	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential
Arsenic	µg/L	2.5	NA	10	340	150	--	--	--	10	No
Chromium III	µg/L	10	NA	50	2,016[1][2]	210[1][2]	--	--	--	50	No
Chromium VI	µg/L	12	NA	11	16[1][2]	11[1][2]	--	--	--	50	Yes
Tetrachloroethylene	µg/L	<0.50	NA	0.8	--	--	0.8[1]	--	--	5	Yes[4]
1,2-trans-Dichloroethylene	µg/L	<0.50	NA	10	--	--	--	--	--	10	No
Trichloroethylene	µg/L	<0.50	NA	2.7	--	--	2.7[1]	--	--	5	Yes[4]
cis-1,2-Dichloroethene	µg/L	<0.50	NA	6	--	--	--	--	--	6	Yes[4]
Barium	µg/L	27	NA	1,000	--	--	--	--	--	1,000	No
Fluoride	µg/L	150	NA	1,000	--	--	--	--	--	1,000[3]	No
Chloride	µg/L	26,000	NA	106,000	860,000[1]	230,000[1]	--	--	--	106,000[3]	No
Nitrate (as N)	µg/L	4,400	NA	10,000	--	--	--	--	--	10,000	No
Phosphorus, Total (as P)	µg/L	100	NA	No Criteria	--	--	--	--	--	--	No
Specific Conductance (EC)	µmhos /cm	310	NA	700	--	--	--	--	--	700[3]	No
Sulfate	µg/L	9,600	NA	250	--	--	--	--	--	250	No
Total Dissolved Solids (TDS)	µg/L	240,000	NA	450,000	--	--	--	--	--	450,000[3]	No

General Note: All inorganic concentrations are given as a total recoverable.
MEC = Maximum Effluent Concentration
B = Maximum Receiving Water Concentration or lowest detection level, if non-detect
C = Criterion used for Reasonable Potential Analysis
CMC = Criterion Maximum Concentration (CTR criterion unless otherwise noted)
CCC = Criterion Continuous Concentration (CTR criterion unless otherwise noted)
Basin Plan = Numeric Site-specific Basin Plan Water Quality Objective
MCL = Drinking Water Standards Maximum Contaminant Level
NA – Not available

Footnotes:
(1) USEPA National Recommended Ambient Water Quality Standard
(2) Calculated using a receiving water hardness of 120 mg/L as $CaCO_3$
(3) Agriculture water quality goal
(4) Step 7 of the SIP allows for the consideration of other available information to determine if water quality-based effluent limitations should be required. Based on the general lack of performance data regarding removal of these pollutants at this Facility, a reasonable potential was assumed.
(5) Based on data from May 25, 2006.

ATTACHMENT H – VOLATILE ORGANIC COMPOUNDS – METHOD 502.2

Benzene
Bromobenzene
Bromochloromethane
Bromodichloromethane
Bromoform
Bromomethane
n-Butylbenzene
sec-Butylbenzene
tert-Butylbenzene
Carbon Tetrachloride
Chlorobenzene
Chloroethane
Chloroform
Chloromethane
2-Chlorotoluene
4-Chlorotoluene
Dibromochloromethane
1,2-Dibromo-3-Chloropropane
1,2-Dibromoethane
Dibromomethane
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Dichlorodifluoromethane
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethene
cis-1,2-Dichloroethene
trans-1,2-Dichloroethene
1,2-Dichloropropane
1,3-Dichloropropane
2,2-Dichloropropane
1,1-Dichloropropene
cis-1,3-Dichloropropene
trans-1,3-Dichloropropene
Ethylbenzene
Hexachlorobutadiene
Isopropylbenzene
4-Isopropylbenzene
Methylene Chloride
Naphthalene
Propylbenzene
Styrene
1,1,2,2-Tetrachloroethane
1,1,1,2-Tetrachloroethane
Tetrachloroethene
Toluene
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethene
Trichlorofluormethane
1,2,3-Trichloropropane
1,2,4-Trimethylbenene
1,3,5-Trimethylbenzene
Vinyl Chloride
o-Xylene
m-Xylene
p-Xylene