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Arnold Schwarzenegger
Governor

**ORDER NO. R1-2009-0003
NPDES NO. CA0024058
WDID NO. 1B820450SON**

WASTE DISCHARGE REQUIREMENTS AND MASTER RECLAMATION PERMIT

**FOR THE
RUSSIAN RIVER COUNTY SANITATION DISTRICT
AND THE
SONOMA COUNTY WATER AGENCY
RUSSIAN RIVER WASTEWATER TREATMENT FACILITY
Sonoma County**

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

Table 1. Discharger Information

Discharger	Russian River County Sanitation District and Sonoma County Water Agency
Name of Facility	Russian River Wastewater Treatment Facility (WWTF)
Facility Address	18400 Neeley Road
	Guerneville, CA 95446
	Sonoma County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a minor discharge.	

The discharge by the Russian River County Sanitation District (RRCSD) (Owner) and the Sonoma County Water Agency (SCWA) (Operator) from the discharge points identified below is subject to waste discharge requirements as set forth in this Order.

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water/ Discharge Location
001	Disinfected tertiary treated effluent	---	---	Effluent storage pond
002	Tertiary treated wastewater	38° 28' 54" N	123° 0' 3.2" W	Russian River Outfall
003	Tertiary treated wastewater	38° 29' 13" N 38° 29' 0" N	122° 59' 45" W 122° 59' 53" W	Land Disposal/Irrigation Upper and Lower Burch Property
004	Tertiary treated wastewater	38° 28' 42" N	122° 59' 39" W	Reclamation/Irrigation Northwood Golf Course

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	January 29, 2009
This Order shall become effective on:	March 20, 2009
This Order shall expire on:	March 20, 2014
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:	June 20, 2013

IT IS HEREBY ORDERED, that this Order supersedes Order No. R1-2003-0026 upon the effective date specified in Table 3. This action in no way prevents the Regional Water Quality Control Board from taking any enforcement action for past violations of the previous permit. If any part of this Order is subject to a temporary stay of enforcement, unless otherwise specified, the Discharger shall comply with the analogous portions of Order No. R1-2003-0026, which shall remain in effect for all purposes during the pendency of the stay.

I, Catherine Kuhlman, 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, North Coast Region, on January 29, 2009.

Catherine Kuhlman, 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	The Russian River County Sanitation District and the Sonoma County Water Agency
Name of Facility	Russian River Wastewater Treatment Facility
Facility Address	18400 Neeley Road
	Guerneville, CA 95446
	Sonoma County
Facility Contact, Title, Phone No.	Wendy Gjestland, Water Agency Engineer, (707) 521-1866
Mailing Address	P.O. Box 11628, Santa Rosa, CA 95406
Type of Facility	Publicly Owned Treatment Works
Facility Design Flow	0.71 million gallons per day (mgd) (average dry weather treatment capacity) 3.5 mgd (peak wet weather treatment capacity)

II. FINDINGS

The California Regional Water Quality Control Board, North Coast Region (hereinafter the Regional Water Board), finds:

- A. **Background.** The RRCSD and the SCWA (hereinafter the Discharger) are currently discharging pursuant to Order No. R1-2003-0026 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0024058. The Discharger submitted a Report of Waste Discharge, dated August 24, 2007, and applied for an NPDES permit renewal to discharge up to 3.5 mgd of tertiary treated wastewater from the Russian River WWTP. Supplemental information was submitted by the Discharger on June 19, 2008, July 8, 2008 and October 16, 2008. The application was deemed complete on October 16, 2008.
- B. **Facility Description.** The RRCSD owns wastewater collection, treatment, and disposal facilities that serve approximately 7,300 people in unincorporated areas of Rio Nido, Vacation Park, Guerneville, and Guerneville Park. The collection system includes approximately 35 miles of gravity sewer pipeline, five miles of force main, and 11 lift stations that convey wastewater to the Russian River Treatment Facility located at 18400 Neeley Road in Guerneville. The treatment facility, operated by the SCWA, has design treatment capacities of 0.71 million gallons per day (mgd) (average dry weather flow) and 3.5 mgd (maximum sustained peak wet-weather flow). Wastewater treatment is accomplished by coarse screening and aerated grit removal, three (3) extended aeration activated sludge basins, three (3) secondary clarifiers, two (2) tertiary filters, and chlorination/dechlorination. The third aeration basin is currently used as an additional storage basin for influent during high flow events. The chlorination/dechlorination system will be replaced with a new ultraviolet disinfection system during the term of this Order.

Tertiary treated, disinfected (and dechlorinated) wastewater is held in a 3.5 million gallon effluent storage pond prior to discharge to the Russian River (October 1 – May 14) or the recycled water/land disposal system. Tertiary treated wastewater is supplied to the Northwood Golf Course, located south of the treatment facility, where an average of 0.085 mgd is applied to an area of 43 acres during the irrigation season. Treated wastewater not used by the Northwood Golf Course is spray irrigated on 17 acres of wooded property adjacent to the treatment facility (the Burch property). During the irrigation season (May 15 to September 30), approximately 0.02 mgd and 0.23 mgd, respectively, are currently applied to the “upper” and “lower” areas of the Burch property. From October 1 through May 14 treated wastewater is discharged to the Russian River, waters of the United States, within the Guerneville hydrologic subarea of the Lower Russian River hydrologic area.

During periods of very high influent flows, flow that exceeds treatment capacity is diverted to a one (1) million gallon emergency holding pond. As influent flow

subsides, raw wastewater from the emergency pond is directed back to the headworks for treatment. Discharges from the AWT filters that do not meet turbidity specifications or from the chlorine contact basin that do not meet chlorine residual or contact time requirements are also diverted to the emergency pond and subsequently directed back to the headworks.

Biosolids resulting from wastewater treatment are dewatered by belt press and stored in sludge bins prior to ultimate disposal at the Redwood Landfill in Marin County.

Attachment B provides a map of the area around the facility. Attachment C provides a flow schematic of the facility.

- C. **Legal Authorities.** This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the USEPA and chapter 5.5, division 7 of the California Water Code (Water Code) (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this facility to surface waters.

This Order also serves as Waste Discharge Requirements (WDRs) for discharges to land and a Master Reclamation Permit pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with sections 13260 and 13520, respectively).

- D. **Background and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E and G are also incorporated into this Order.
- E. **California Environmental Quality Act (CEQA).** Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100-21177.

This action also involves the adoption of a Master Reclamation Permit. For the portion of the permit that addresses WDRs for discharges to land, the Regional Water Board has prepared a notice of exemption that the project is categorically exempt from CEQA pursuant to section 15301 of title 14 of the California Code of Regulations. Because the Regional Water Board is issuing the WDRs for discharges from an existing facility for which no expansion of design flow is being permitted, this project meets the requirements of the categorical exemption, including the requirements set forth in section 15300.2 that the project not have any significant effects or result in cumulative impacts. For any expansion of the

land disposal/reclamation areas, the Discharger will be the lead agency for CEQA.

- 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 Regulations⁷, require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at Part 133 and/or 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) 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 section 122.44(d)(1)(vi).

- H. **Water Quality Control Plans.** The Regional Water Board adopted a *Water Quality Control Plan for the North Coast Region* (hereinafter the 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, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to the Russian River are described in Table 5, below.

⁷ All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
002	Russian River - Guerneville Hydrologic Subarea of the Russian River Hydrologic Unit	<p>Existing:</p> <ul style="list-style-type: none"> • Municipal and Domestic Supply (MUN) • Agricultural Supply (AGR) • Industrial Service Supply (IND) • Ground Water Recharge (GWR) • Freshwater Replenishment (FRSH) • Navigation (NAV) • Water Contact Recreation (REC-1) • Non-Contact Water Recreation (REC-2) • Commercial and Sport Fishing (COMM) • Warm Freshwater Habitat (WARM) • Cold Freshwater Habitat (COLD) • Wildlife Habitat (WILD) • Preservation of Rare, Threatened, or Endangered Species (RARE) • Migration of Aquatic Organisms (MIGR) • Spawning, Reproduction, and/or Early Development (SPWN) • Estuarine Habitat (EST) <p>Potential:</p> <ul style="list-style-type: none"> • Industrial Process Supply (PRO) • Hydropower Generation (POW) • Shellfish Harvesting (SHELL) • Aquaculture (AQUA)

In addition to the beneficial uses set out in the Basin Plan, there are several implementation plans that include actions intended to meet water quality objectives and protect beneficial uses of the North Coastal Basin. For the Russian River and its tributaries, no point source waste discharges are allowed from May 15 through September 30 and during all other periods when the waste discharge flow is greater than one percent of the receiving stream's flow. For municipal waste discharged from October 1 through May 14, the discharge must be of advanced treated wastewater, and must meet a median coliform level of 2.2 MPN/100 mL.

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.** 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 five (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 exceeds one (1) year, the Order must include interim numeric limitations for that constituent or parameter. Where allowed by the Basin Plan, compliance schedules and interim effluent limitations or discharge specifications may also be granted to allow time to implement a new or revised water quality objective. This Order includes compliance schedules and interim effluent limitations for copper, ammonia, and nitrate. The Order also contains a compliance schedule for final land discharge specification for salts and aluminum and for the reclamation specification for nitrate. Detailed discussions of the basis for the compliance schedules and interim effluent limitations is included in the Fact Sheet.
- 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 C.F.R. § 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 biochemical oxygen demand (BOD₅), total suspended solids (TSS), coliform bacteria, and settleable solids. Restrictions on these pollutants are discussed in section IV.B.2 of the Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum applicable federal technology-based requirements. In addition, this Order contains effluent limitations for biochemical oxygen demand and total suspended solids that are more stringent than the minimum federal technology-based requirements that are necessary to meet water quality standards.

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 section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the SIP, which was approved by USEPA on May 18, 2000. Most 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 CWA" pursuant to section 131.21(c)(1). The remaining water quality objectives and beneficial uses implemented by this Order (specifically the addition of the beneficial uses Water Quality Enhancement (WQE), Flood Peak Attenuation/Flood Water Storage (FLD), Wetland Habitat (WET), Native American Culture (CUL), and Subsistence Fishing (FISH)), and the General Objective regarding antidegradation to the Basin Plan) were approved by USEPA on March 4, 2005 and are applicable water quality standards pursuant to section 131.21(c)(2). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

The Regional Water Board has considered the factors in Water Code section 13263, including the provisions of Water Code section 13241, in establishing these requirements.

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 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that the 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. Effluent limitations for chloroform in this Order are less stringent than those in the previous Order. The lack of reasonable potential for chloroform constitutes new information, which permits the removal of effluent limitations consistent with Clean Water Act section 402(o)(2)(B). As a result of the reasonable potential analysis (RPA), effluent limitations for chloroform are not included in the proposed Order and anti-backsliding requirements are satisfied.

New effluent limitations for total residual chlorine have been established in this Order. The new limitations are numerical and expressed as a monthly maximum limitation of 0.01 mg/L and a maximum daily limitation of 0.02 mg/L. In the previous Order, the effluent limitation was expressed as "nondetect" with a detection method of 0.1 mg/L. The new limitations, although no longer expressed as "nondetect," are in effect more stringent limitations because the discharge is required to achieve an effluent concentration of total residual chlorine that is numerically lower than was required to be demonstrated by the previous Order.

- P. **Endangered Species Act.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the State. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

- Q. **Monitoring and Reporting.** Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code

sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.

- R. **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. Rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.
- S. **Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections IV.B, IV.C, , and V.B of this Order, sections VI., VII., VIII.B, and X.D.2 of the MRP, and Attachment G to this Order, are included to implement State law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.
- T. **Notification of Interested Parties.** The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements and a Master Reclamation Permit for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.
- U. **Consideration of Public Comment.** The 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. The discharge of any waste not disclosed by the Discharger or not within the reasonable contemplation of the Regional Water Board is prohibited.
- B. Creation of pollution, contamination, or nuisance, as defined by section 13050 of the California Water Code is prohibited.
- C. The discharge of sludge or digester supernatant is prohibited, except as authorized under VI.C.5.c of this Order (Sludge Disposal and Handling Requirements).
- D. The discharge or reclamation use of untreated or partially treated waste (receiving a lower level of treatment than described in section II. A of the Fact Sheet) from anywhere within the collection, treatment, or disposal systems is prohibited, except as provided for in Attachment D, Standard Provision G (Bypass).
- E. Any sanitary sewer overflow (SSO) that results in a discharge of untreated or partially treated wastewater to (a) waters of the State, (b) groundwater, or (c) land that creates pollution, contamination, or nuisance, as defined in Water Code section 13050 (m) is prohibited.
- F. The discharge of waste to land that is not owned by or under agreement to use by the Discharger is prohibited, except for use for fire suppression as provided in title 22, sections 60307 (a) and (b) of the California Code of Regulations.
- G. The discharge of waste at any point not described in Finding II. B or authorized by a permit issued by the State Water Board or another Regional Water Board is prohibited.
- H. The mean daily dry weather flow of waste in excess of 0.51 mgd measured over a period of 30 consecutive days is prohibited.
- I. The peak daily wet-weather influent flow to the WWTF in excess of 3.5 mgd is prohibited.
- J. The discharge of wastewater effluent from the wastewater treatment facility to the Russian River or its tributaries is prohibited during the period from May 15 through September 30 of each year.
- K. During the period from October 1 through May 14, discharges of treated wastewater to the Russian River shall not exceed one percent of the flow of the Russian River, as measured by USGS Gauge No. 11-4670.00 at Hacienda Bridge.

For purposes of this Order, compliance with this discharge prohibition shall be determined as follows:

1. The discharge of advanced treated wastewater shall be adjusted at least once daily to avoid exceeding, to the extent practicable, one percent of the most recent daily flow measurement of the Russian River⁸. Daily flow comparisons shall be based on the 24-hour period from 12:01 am to 12:00 midnight; and
2. In no case shall the total volume of advanced treated wastewater discharged in a calendar month exceed one percent of the total volume of the Russian River in the same calendar month. At the beginning of the discharge season, the monthly flow volume comparisons shall be based on the date when the discharge commenced to the end of the calendar month. At the end of the discharge season, the monthly flow volume shall be based on the first day of the calendar month to the date when the discharge ceased for the season.

⁸ An alternative flow gauging location may be established if it is determined that measurements at an alternative location are more representative of conditions at the point of discharge. In the event that a new gauge station is established, the Monitoring and Reporting Program will be modified to identify the new flow monitoring gauge.

IV. **EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS**

A. **Effluent Limitations**

1. **Final Effluent Limitations – Discharge Point 001 (Discharge from the WWTF to the Effluent Storage Pond)**

- a. The Discharger shall maintain compliance with the following final effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001, as described in the attached MRP.

Table 6. Final Effluent Limitations for Discharge Point 001

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Biochemical Oxygen Demand, 5 day @20°C (BOD ₅)	mg/L	10	15	---
	lbs/day ³ (dry weather)	60	90	---
	lbs/day ⁴ (wet-weather)	100	150	---
Total Suspended Solids	mg/L	10	15	---
	lbs/day ³ (dry-weather)	60	90	---
	lbs/day ⁴ (wet-weather) ¹	100	150	---

- b. **Percent Removal:** The average monthly percent removal of BOD₅ and TSS shall not be less than 85 percent. Percent removal shall be determined from the 30-day average value of influent wastewater concentration in comparison to the 30-day average value of effluent concentration for the same constituent over the same time period as measured at Monitoring Locations INF-001 and EFF-001, respectively. [40 CFR 133.101 (j)]

- c. **Disinfection:** Disinfected effluent discharged from the wastewater treatment facility to the effluent storage pond (Discharge Point 001) shall not contain coliform bacteria in excess of the following concentrations:

³ Mass-based limitations are based on the dry weather design flow of the WWTF of 0.71 mgd.

⁴ During wet weather periods, when the influent flow rate exceeds the dry weather design flow, mass emission limitations shall be calculated using the concentration-based effluent limitations and the actual daily average river discharge flow rate (not to exceed a maximum sustained peak flow rate of 1.2 mgd).

- (1) The median concentration shall not exceed a Most Probable Number (MPN) of 2.2 per 100 milliliters (mLs), using the bacteriological results of the last seven days for which analyses have been completed,
 - (2) The number of coliform bacteria shall not exceed an MPN of 23 per 100 mLs in more than one sample in any 30-day period, and
 - (3) No single sample shall exceed an MPN of 240 total coliform bacteria per 100 mLs.
- d. **Settleable Solids:** Effluent shall not contain measurable levels of settleable solids, using an analytical method with a minimum detection level of 0.1 mL/L.

2. Interim Effluent Limitations – Discharge Points 002 (Discharge to Russian River), 003 (Land Discharge) and 004 (Reclamation)

- a. Beginning on the effective date of this Order and ending on May 17, 2010, the Discharger shall maintain compliance with the following interim effluent limitation for copper at Discharge Point 002, with compliance measured at Monitoring Location EFF-002, as described in the attached MRP. This interim effluent limitation shall apply in lieu of the corresponding final effluent limitations specified in section IV.A.3.b. of this Order until May 17, 2010.

Table 7. Copper Interim Effluent Limitation

Parameter	Units	Effluent Limitations	
		Average Monthly	Maximum Daily
Copper	µg/L	---	34

- b. Beginning on the effective date of the Order and ending March 19, 2014, the Discharger shall maintain compliance with the following interim effluent limitations for ammonia and nitrate at Discharge Points 002, 003 and 004 with compliance measured at the appropriate monitoring location based on the effluent disposal method (Monitoring Locations EFF-002, LND-001, and/or REC-001) as described in the attached MRP. These interim effluent limitations shall apply in lieu of the corresponding final effluent limitations specified in sections IV.A 3.b., IV.B.1 and IV.C.2 of this Order until March 19, 2014.

Table 8. Ammonia and Nitrate Interim Effluent Limitations

Parameter	Units	Effluent Limitations	
		Average Monthly	Maximum Daily
Ammonia (as N)	mg/L	---	3.8
Nitrate (as N)	mg/L	---	39

- c. Beginning on the effective date of this Order and ending June 30, 2011, the Discharger shall maintain compliance with the interim effluent limitation for chlorine residual of 0.1 mg/L at Discharge Point 002, with compliance measured at Monitoring Location EFF-002, as described in the MRP. This interim effluent limitations shall apply in lieu of the corresponding final effluent limitations specified in section IV.A.3.b (Table 9) until June 30, 2011.

3. Final Effluent Limitations – Discharge Point 002 (Discharge to Russian River)

- a. **Acute Toxicity:** There shall be no acute toxicity in treated wastewater discharged to the Russian River. The Discharger will be considered compliant with this limitation when the survival of aquatic organisms in a 96-hour bioassay of undiluted effluent complies with the following.
- (1) Minimum for any one bioassay: 70 percent survival
 - (2) Median for any three or more consecutive bioassays: at least 90 percent survival

Compliance with this effluent limitation shall be determined in accordance with section V.A of the Monitoring and Reporting Program (Attachment E).

- b. The Discharger shall maintain compliance with the following final effluent limitations at Discharge Point 002, with compliance measured at Monitoring Location EFF-002, as described in the attached MRP.

Table 9. Final Effluent Limitations for Discharge Point 002

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Dichlorobromomethane	µg/L	0.56	---	0.94
Copper	µg/L	⁵	---	⁵
Ammonia (as N) ⁶	mg/L	⁷	---	⁷
Nitrate (as N) ⁶	mg/L	10	---	20
Chlorine Residual ⁸	mg/L	0.01		0.02

- c. The pH shall be not less than 6.5 nor greater than 8.5 when discharging to the Russian River.

B. Land Discharge Specifications – Discharge Point 003 (Land Disposal on Burch Property)

The Discharger shall maintain compliance with the following limitations at Discharge Point 003, with compliance measured at Monitoring Location LND-001 as described in the attached Monitoring and Reporting Program (Attachment E).

1. Final Land Discharge Specifications

-
- ⁵ Final effluent limitations for copper are hardness-dependent. See Appendix E-1 to Attachment E for the full table of hardness-dependent final copper effluent limitations, which are to be determined based on the hardness of the receiving water at the time the discharge is sampled.
- ⁶ Final effluent limitations for ammonia and nitrate shall become effective on March 20, 2014, in accordance with the compliance schedule established in section VI.C.7.b. of this Order.
- ⁷ Average monthly effluent limitations for ammonia are determined based on the pH and temperature of the receiving water at the time the discharge is sampled. Maximum daily effluent limitations for ammonia are determined based on the pH of the receiving water at the time the discharge is sampled, and the presence/absence of Salmonids. See Appendices E-2 and E-3 to Attachment E for full tables of effluent limitations for ammonia.
- ⁸ Until June 30, 2011, the Discharger may demonstrate compliance with these effluent limitations using a minimum detection limit of 0.1 mg/L. Beginning July 1, 2011, the Discharger shall employ a method sensitive to and accurate at the permitted level of 0.01 mg/L or demonstrate that chlorine residual is no longer present in the Discharger's effluent.

Table 10. Land Discharge Specifications – LND-001

Parameter	Units	Effluent Limitation	
		Average Monthly	Maximum Daily
Nitrate	mg/L	10	20
Ammonia (as N)	mg/l	1.5	---
Total Dissolved Solids	mg/L	500	---
Sodium	mg/L	60	---
Chloride	mg/l	250	---
Aluminum	mg/L	1.0	---
pH	pH Units	6.0 – 9.0	

2. **Compliance Schedule for Land Discharge Specifications for Discharge Point 003.** Section VI.C.7 of this Order also allows a compliance schedule to achieve final effluent limitations for total dissolved solids, sodium, chloride and aluminum. Final effluent limitations identified in Table 10 above must be achieved no later than March 20, 2014.

C. Reclamation Specifications – Discharge Point 004 (Northwood Golf Course and Other Authorized Reclamation Sites)

1. **Reclamation / Recycling Requirements:** The Discharger shall comply with applicable state and local requirements regarding the production and use of reclaimed wastewater, including requirements of Water Code sections 13500 – 13577 (Water Reclamation) and California Department of Public Health regulations at title 22, sections 60301 – 60357 of the California Code of Regulations (Water Recycling Criteria) and the specific requirements contained in Attachment G to this Order.

2. **Nitrate and pH:** The Discharger shall maintain compliance with the following limitations at Discharge Point 004, with compliance measured at Monitoring Location REC-001 as described in the attached MRP.

Table 11. Reclamation Discharge Specifications – REC-001

Parameter	Units	Effluent Limitation	
		Average Monthly	Maximum Daily
Nitrate	mg/L	10	20
pH	pH Units	6.0 – 9.0	

D. Other Requirements

The Discharger shall maintain compliance with the following requirements at all times:

1. Filtration Process Requirements

- a. Filtration Rate: The rate of filtration through the tertiary filters, as measured at Monitoring Location INT-001 shall not exceed six (6) gallons per minute per square foot of surface area.
- b. Turbidity. The effluent from the filtration system shall at all times be filtered such that the filtered effluent does not exceed any of the following specifications at Monitoring Location INT-002, prior to discharge to the disinfection unit:
 - (1) An average of 2 Nephelometric Turbidity Units (NTU) during any 24-hour period;
 - (2) 5 NTU more than 5 percent of the time during any 24-hour period; and
 - (3) 10 NTU at any time.

2. Disinfection Process Requirements for Chlorination System. Treated effluent shall be disinfected in a manner that ensures effective pathogen reduction as described in the following specifications:

- a. When discharging to the recycled water system, the chlorine disinfection process shall provide a CT value⁹ of not less than 450 milligram-minutes per liter at all times.
- b. When discharging to the Russian River and when the filter effluent flow is greater than or equal to 1.2 mgd, the chlorine disinfection process shall provide a minimum continuous chlorine residual concentration of 5 milligrams per liter at all times. The Discharger shall initiate daily coliform monitoring when the average influent flow to the WWTF from the previous day is greater than or equal to 1.2 mgd.

⁹ The CT value is the product of total chlorine residual and modal contact time measured at the same period. The modal contact time is the amount of time that elapsed between the time that a tracer, such as salt or dye, is injected into the influent at the entrance of the chlorination chamber and the time that the highest concentration of the tracer is observed in the effluent from the chamber.

- c. When discharging to the Russian River and when the filter effluent flow is less than 1.2 mgd, the chlorine disinfection process shall at all times provide a CT value of not less than 450 milligram-minutes per liter.
 - d. Effluent not meeting the CT criteria shall be diverted to an upstream treatment process unit as soon as the Discharger is aware of the exceedance.
3. **Disinfection Process Requirements for Ultraviolet (UV) Disinfection System.** Upon completion and testing of the UV disinfection system, the Discharger shall operate the UV disinfection system in accordance with the following operating protocol and technical and administrative in order to demonstrate compliance with Effluent Limitations A.1.c., B.2., and C.3 of this Order.
- a. Disinfection of tertiary treated wastewater shall be accomplished using a disinfection process that, when combined with the filtration process, has been demonstrated to inactivate and/or remove 99.999 percent of the plaque-forming units of F-specific bacteriophage MS2, or polio virus in the wastewater. A virus that is at least as resistant to disinfection as polio virus may be used for purposes of the demonstration. The demonstration shall be performed on-site at the Discharger's WWTF at both maximum and minimum plant flows. At a minimum, the Discharger shall demonstrate a 99.99 percent removal and/or inactivation through the UV disinfection system only.
 - b. The Discharger shall provide continuous, reliable monitoring of flow, UV transmittance, UV intensity, UV dose, UV power, and turbidity.
 - c. The Discharger shall operate the UV disinfection system to provide a minimum UV dose of 100 millijoules per square centimeter (mJ/cm^2) at all times, unless otherwise approved by CDPH.
 - d. The UV transmittance (at 254 nanometers) in the wastewater shall not fall below 55 percent of maximum at any time, unless otherwise approved by CDPH.
 - e. The quartz sleeves and cleaning system components shall be visually inspected per the manufacturer's operation manual for physical wear (scoring, solarization, seal leaks, etc.) and to check the efficacy of the cleaning system.

- f. The quartz sleeves shall be cleaned at fixed intervals to ensure the minimum required UV dose delivery is consistently achieved. Cleaning intervals shall be established based on the presence of coliform organisms.
 - g. Lamps shall be replaced per the manufacturer's recommendation, or sooner, if there are indications the lamps are failing to provide adequate disinfection. Lamp age and lamp replacement records must be maintained.
 - h. The Discharger shall comply with all of CDPH's acceptance conditions for the UV disinfection system.
 - i. **Prior to initial discharge at Discharge Points 002, 003 or 004**, the Discharger shall submit to the Executive Officer a copy of a letter from CDPH stating that all the UV disinfection system pre-operation acceptance conditions specified by CDLP have been satisfied.
 - j. **Prior to initial discharge at Discharge Points 002, 003 or 004**, the Discharger shall submit to the Executive Officer and CDPH, an operations and maintenance plan (detailing how compliance with the National Water Research Institute's guidelines and CDPH's UV disinfection system acceptance conditions will be assured at all times), for approval.
 - k. The UV disinfection system shall be operated in accordance with an approved operations and maintenance plan.
4. Upon demonstration by the Discharger that the new UV system and operating protocol have been approved by the CDPH, the change in disinfection system from chlorine to UV and the operating protocol shall be authorized by letter from the Executive Officer.
5. **Storage Ponds.** Ponds used for storage of recycled water shall be constructed in a manner that protects groundwater. The Discharger shall submit design proposals for new wastewater storage ponds to the Regional Water Board for review prior to construction and demonstrate that the pond design incorporates features to protect groundwater from exceeding groundwater quality objectives.

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. Compliance with receiving water limitations shall be measured at monitoring locations described in the MRP (Attachment E). Discharges from the Russian River Wastewater Treatment Facility shall not cause the following:

1. The discharge shall not cause the dissolved oxygen concentration of the receiving water to be depressed below 7.0 mg/L. Additionally, the discharge shall not cause the dissolved oxygen content of the receiving water to fall below 10.0 mg/L more than 50 percent of the time, or below 7.5 mg/L more than 10 percent of the time in a calendar year. In the event that the receiving waters are determined to have a dissolved oxygen concentration of less than 7.0 mg/l, the discharge shall not depress the dissolved oxygen concentration below the existing level.
2. The discharge shall not cause the pH of receiving waters to be depressed below 6.5 nor raised above 8.5. Within this range, the discharge shall not cause the pH of the receiving waters to be changed at any time more than 0.5 units from that which occurs naturally.
3. The discharge shall not cause the specific conductance concentration of the receiving waters to increase above 285 micromhos¹⁰ more than 50 percent of the time, or above 375 micromhos more than 10 percent of the time.
4. The discharge shall not cause the total dissolved solids concentration of the receiving waters to increase above 170 mg/l more than 50 percent of the time, or above 200 mg/l more than 10 percent of the time.
5. The discharge shall not cause the turbidity of receiving waters to be increased more than 20 percent above naturally occurring background levels.
6. The discharge shall not cause receiving waters to contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.
7. The discharge shall not cause receiving waters to contain floating materials, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.

¹⁰ Measured at 77° F.

8. The discharge shall not cause receiving waters to contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, that cause nuisance, or that adversely affect beneficial uses.
9. The discharge shall not cause coloration of receiving waters that causes nuisance or adversely affects beneficial uses.
10. The discharge shall not cause bottom deposits in receiving waters to the extent that such deposits cause nuisance or adversely affect beneficial uses.
11. The discharge shall not cause or contribute concentrations of biostimulants to receiving waters that promote objectionable aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses.
12. The discharge shall not cause receiving waters to contain toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in humans, plants, animals, or aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration, or other appropriate methods, as specified by the Regional Water Board.
13. The discharge shall not cause a measurable temperature change in the receiving water at any time.
14. The discharge shall not cause an individual pesticide or combination of pesticides to be present in concentrations that adversely affect beneficial uses. The discharge shall not cause bioaccumulation of pesticide, fungicide, wood treatment chemical, or other toxic pollutant concentrations in bottom sediments or aquatic life to levels which are harmful to human health.
15. The discharge shall not cause receiving waters to contain concentrations of pesticides in excess of the limiting concentrations set forth in Table 3-2 of the Basin Plan or in excess of more stringent Maximum Contaminant Levels (MCLs) established for these pollutants in title 22, Division 4, Chapter 15, Articles 4 and 5.5 of the California Code of Regulations.
16. The discharge shall not cause receiving waters to contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise affect beneficial uses.

17. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Regional Water Board or the State Water Board, as required by the federal Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the Clean Water Act, or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such more stringent standards.
18. The discharge shall not cause concentrations of chemical constituents to occur in excess of limits specified in Table 3-2 of the Basin Plan or in excess of more stringent Maximum Contaminant Levels (MCLs) established for these pollutants in title 22, Division 4, Chapter 15, Articles 4 and 5.5 of the California Code of Regulations.

B. Groundwater Limitations

Receiving water limitations for groundwater are based on water quality objectives in the Basin Plan and are a required part of this Order. Discharges from the wastewater treatment facility shall not cause exceedance of applicable water quality objectives or create adverse impacts to beneficial uses of groundwater. Compliance with receiving water limitations for groundwater shall be measured at monitoring well locations described in the MRP (Attachment E). Discharges from the Russian River Wastewater Treatment Facility shall not cause the following:

1. The collection, storage, and use of wastewater or recycled water shall not cause or contribute to a statistically significant degradation of groundwater quality.
2. The collection, storage, and use of wastewater shall not cause groundwater to contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses.

VI. PROVISIONS

A. Standard Provisions

1. **Federal Standard Provisions.** The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.
2. **Regional Water Board Standard Provisions.** The Discharger shall comply with the following Regional Water Board standard provisions.
 - a. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this facility, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.
 - b. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, interim or final effluent limitation, land discharge specification, reclamation specification, receiving water limitation, or provision of this Order that may result in a significant threat to human health or the environment, such as inundation of treatment components, breach of pond containment, sanitary sewer overflow, irrigation runoff, etc., that results in a discharge to a drainage channel or a surface water, the Discharger shall as soon as possible, but no later than two (2) hours after becoming aware of the discharge, orally¹¹ notify the State Office of Emergency Services, the local health officer or directors of environmental health with jurisdiction over the affected water bodies, and the Regional Water Board.
 - c. As soon as possible, but no later than twenty-four (24) hours after becoming aware of a discharge to a drainage channel or a surface water, the Discharger shall submit to the Regional Water Board a written certification that the State Office of Emergency Services and the local health officer or directors of environmental health with jurisdiction over the affected water body have been notified of the discharge. Written documentation of the circumstances of the spill event shall be submitted to the Regional Water Board within five (5) days, unless the Regional Water

¹¹ Oral reporting means direct contact with a Regional Water Board staff person. The oral report may be given in person or by telephone. After business hours, oral contact must be made by calling the State Office of Emergency Services or Regional Water Board spill officer.

Board waives the confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and to prevent recurrence, including, where applicable, a schedule of implementation. Other types of noncompliance require written notification, as described above, at the time of the normal monitoring report.

- d. 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. (Water Code § 1211)

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.
2. The Discharger currently monitors receiving water at locations that are 1000 feet upstream and 300 feet downstream, respectively, of the discharge outfall to the Russian River. These receiving water monitoring locations may not adequately represent receiving water conditions because they are too far from the outfall. By September 1, 2009, the Discharger shall submit to the Regional Water Board Executive Officer for approval, a report specifying a plan and time schedule to (1) evaluate whether or not the existing receiving water monitoring stations adequately characterize the effect of the discharge on the receiving water, and (2) identify an improved receiving water monitoring program (e.g., supplemental monitoring at the discharge outfall, identify new receiving water stations, etc). The plan shall describe specific actions that the Discharger proposes to take to improve the receiving water monitoring program including, but not limited to, studies and/or monitoring, and/or relocation of receiving water monitoring stations to sites that provide an adequate characterization of the effect of the discharge on the receiving water. The goal of the final approved plan is to monitor and evaluate the impacts of the discharge on the receiving water in order to determine if water quality objectives are being violated or if beneficial uses are impacted. A final report must be submitted no later than September 1, 2010 providing study results and recommendations regarding monitoring stations and a reasonable time schedule for implementing new monitoring stations by September 1, 2011. The Executive Officer will inform the Discharger within 60 days after receipt of the proposal whether the alternative monitoring plan is acceptable, and may allow an additional period of time to finalize the monitoring proposal, provided that the Discharger has demonstrated reasonable progress toward

completing a plan that can adequately assess receiving water conditions immediately downstream of the discharge point.

If the Discharger does not demonstrate reasonable progress toward completing a plan that can adequately assess receiving water conditions immediately downstream of the discharge point, the Discharger shall monitor the receiving water at the discharge outfall beginning October 1, 2011.

C. Special Provisions

1. Reopener Provisions

- a. **Standard Revisions.** If applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA, or amendments thereto, the Regional Water Board may reopen this Order and make modifications in accordance with such revised standards.
- b. **Reasonable Potential.** This Order may be reopened for modification to include an effluent limitation, if monitoring establishes that the discharge causes, or has the reasonable potential to cause or contribute to, an excursion above a water quality criterion or objective applicable to the receiving water.
- 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 a numeric chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened to include a numeric chronic toxicity effluent limitation based on that objective.
- d. **303(d)-Listed Pollutants.** If an applicable TMDL program is adopted, this Order may be reopened and effluent limitations for the pollutant(s) that are the subject of the TMDL will be modified or imposed to conform this Order to the TMDL requirements. If the Regional Water Board determines that a voluntary offset program is feasible for and desired by the Discharger, then this Order may be reopened to reevaluate the effluent limitations for the pollutant(s) that are subject of the TMDL and, if appropriate, to incorporate provisions recognizing the Discharger's participation in an offset program.
- e. **Water Effects Ratios (WERs) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating CTR criteria for applicable priority pollutant inorganic constituents. In addition, default dissolved-to-

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

- f. **Recycled Water Policy.** The State Water Board is developing a statewide policy for recycled water. If the policy includes requirements and/or limitations for salts, nutrients, or other constituents for which water quality objectives exist for the protection of drinking water supplies, this Order may be reopened and modified to include appropriate requirements and/or effluent limitations, as necessary, to require compliance with the policy.
 - g. **Nutrients.** This Order contains effluent limitations for ammonia and nitrate as well as monitoring requirements for ammonia, nitrate, and phosphorus. If new water quality objectives for nutrients are established, or if monitoring data indicate the need for effluent limitations or more stringent effluent limitations for any of these parameters, this Order may be reopened and modified to include new or modified effluent limitations, as necessary.
2. **Special Studies, Technical Reports and Additional Monitoring Requirements**
- a. **Toxicity Reduction Requirements**
 - (1) **Whole Effluent Toxicity.** In addition to a limitation for whole effluent acute toxicity, the Monitoring and Reporting Program (MRP) of this Order requires routine monitoring for whole effluent chronic toxicity to determine compliance with the Basin Plan's narrative water quality objective for toxicity. As established by the MRP, if the acute toxicity effluent limitation or a chronic toxicity monitoring trigger of 1.0 TUc (where $TUc = 100/NOEC$)¹² is exceeded, the Discharger shall conduct accelerated monitoring as specified in section V. of the MRP. Results of accelerated toxicity monitoring will indicate a need to conduct a Toxicity Reduction Evaluation (TRE), if toxicity persists; or it will indicate that a return to routine toxicity monitoring is justified because persistent toxicity has not been identified by accelerated monitoring. TREs shall be conducted in accordance with the TRE

¹² This Order does not allow any credit for dilution for the chronic condition. Therefore, a TRE is triggered when the effluent exhibits a pattern of toxicity at 100% effluent.

workplan prepared by the Discharger pursuant to Section VI.C.2.a.(2) of this Order, below.

- (2) **Toxicity Reduction Evaluations (TRE) workplan.** The Discharger submitted a TRE workplan to the Regional Water Board on May 5, 2004. This plan shall be reviewed at least once every five years and updated as necessary in order to remain current and applicable to the discharge and discharge facilities. The Discharger shall notify the Regional Water Board of this review and submit any revision of the TRE workplan with each Report of Waste Discharge.
- (3) The workplan shall describe the steps the Discharger intends to follow if toxicity is detected, and should include at least the following items:
 - (a) A description of the investigation and evaluation techniques that would be used to identify potential causes and sources of 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.
 - (c) If a toxicity identification evaluation (TIE) is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor).
- (4) **Toxicity Reduction Evaluations (TRE).** The TRE shall be conducted in accordance with the following:
 - (a) The TRE shall be initiated within 30 days of the date of completion of the accelerated monitoring test, required by Section V of the MRP, observed to exceed either the acute or chronic toxicity parameter.
 - (b) The TRE shall be conducted in accordance with the Discharger's workplan.
 - (c) The TRE shall be in accordance with current technical guidance and reference material including, at a minimum, the USEPA manual EPA/833B 99/002.
 - (d) The TRE may end at any stage if, through monitoring results, it is determined that there is no longer consistent toxicity.
 - (e) The Discharger may initiate a TIE as part of the TRE process to identify the cause(s) of toxicity. As guidance, the Discharger shall use the USEPA acute and chronic manuals, EPA/600/6-

91/005F (Phase I), EPA/600/R-92/080 (Phase II), and EPA-600/R-92/081 (Phase III).

- (f) As toxic substances are identified or characterized, the Discharger shall continue the TRE by determining the source(s) and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with chronic toxicity parameters.
 - (g) Many recommended TRE elements accompany required efforts of source control, pollution prevention, and storm water control programs. TRE efforts should be coordinated with such efforts. To prevent duplication of efforts, evidence of complying with requirements of recommendations of such programs may be acceptable to comply with requirements of the TRE.
 - (h) The Regional Water Board recognizes that chronic toxicity may be episodic and identification of a reduction of sources of chronic toxicity may not be successful in all cases. Consideration of enforcement action by the Regional Water Board will be based in part on the Discharger's actions and efforts to identify and control or reduce sources of consistent toxicity.
- b. **Groundwater Monitoring Program.** Groundwater monitoring of the existing wells on the lower Burch property is required beginning no later than September 1, 2009. The Discharger shall prepare and submit to the Executive Officer for approval, a Groundwater Monitoring Well Plan for its irrigation system on the Burch property within 90 days of the effective date of this. The Plan shall identify groundwater monitoring well locations, including at least two wells within and /or downgradient of the influence of the irrigation area and at least one upgradient well representative of background groundwater quality, and should be of sufficient scope to demonstrate that the discharge of treated wastewater to the Discharger's land disposal system is in compliance with this Order. The Plan should provide proposed well locations and construction details and specifications. If the existing wells are determined to be totally unusable the Discharger shall submit sufficient evidence to demonstrate that the wells are unusable and the Plan should include a proposed time schedule for the construction of any new wells that will allow monitoring to begin by September 1, 2010.

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

a. **Pollutant Minimization Program (PMP)**

The Discharger shall, as required by the Executive Officer, develop and conduct a PMP as further described below when there is evidence (e.g., sample results reported as detected, not quantified (DNQ) when the effluent limitation is less than the minimum detection limit (MDL), sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:

- (1) A sample result is reported as DNQ and the effluent limitation is less than the RL; or
- (2) A sample result is reported as ND and the effluent limitation is less than the MDL, using definitions described in Attachment A and reporting protocols described in MRP section X.B.4.

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

- (1) An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;
- (2) Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system;
- (3) Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;
- (4) Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and
- (5) An annual status report that shall be sent to the Regional Water Board including:
 - (a.) All PMP monitoring results for the previous year;
 - (b.) A list of potential sources of the reportable priority pollutant(s);
 - (c.) A summary of all actions undertaken pursuant to the control strategy; and
 - (d.) A description of actions to be taken in the following year.

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

- a. The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are

installed or used by the Discharger to achieve compliance with this Order. Proper operation and maintenance includes adequate laboratory quality control and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by the Discharger only when necessary to achieve compliance with the conditions of this Order. (title 40, section 122.41 (e))

- b. The Discharger shall maintain an updated Operation and Maintenance (O&M) Manual for the Facility. The Discharger shall update the O&M Manual, as necessary, to conform to changes in operation and maintenance of the Facility. The O&M Manual shall be readily available to operating personnel onsite and for review by state or federal inspectors. The O&M Manual shall include the following.
 - (1) Description of the treatment facility table of organization showing the number of employees, duties and qualifications and plant attendance schedules (daily, weekends and holidays, part-time, etc). The description should include documentation that the personnel are knowledgeable and qualified to operate the treatment facility so as to achieve the required level of treatment at all times.
 - (2) Detailed description of safe and effective operation and maintenance of treatment processes, process control instrumentation and equipment.
 - (3) Description of laboratory and quality assurance procedures.
 - (4) Process and equipment inspection and maintenance schedules.
 - (5) Description of safeguards to assure that, should there be reduction, loss, or failure of electric power, the Discharger will be able to comply with requirements of this Order.
 - (6) Description of preventive (fail-safe) and contingency (response and cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. These plans shall identify the possible sources (such as loading and storage areas, power outage, waste treatment unit failure, process equipment failure, tank and piping failure) of accidental discharges, untreated or partially treated waste bypass, and polluted drainage

5. Special Provisions for Municipal Facilities (POTWs Only)

a. Wastewater Collection Systems

- (1) Statewide General WDRs for Sanitary Sewer Systems

On May 2, 2006, the State Water Board adopted State Water Board Order No. 2006-003-DWQ, Statewide General WDRs for Sanitary Sewer Systems. Order No. 2006-0003-DWQ requires all public agencies that currently own or operate sanitary sewer systems to apply for coverage under the General WDRs. The deadline for existing dischargers to apply for coverage under State Water Board Order No. 2006-003-DWQ was November 6, 2006. On February 20, 2008, the State Water Board adopted Order No. WQ 2008-0002-EXEC Adopting Amended Monitoring and Reporting Requirements for Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. The Discharger shall maintain coverage under, and shall be subject to the requirements of Order Nos. 2006-0003-DWQ and WQ-2008-0002-EXEC and any future revisions thereto for operation of its wastewater collection system.

In addition to the coverage obtained under Order No. 2006-0003, the Discharger's collection system is part of the treatment system that is subject to this Order. As such, pursuant to federal regulations, the Discharger must properly operate and maintain its collection system [40 CFR 122.41(e)], report any non-compliance [40 CFR 122.41(l)(6) and (7)], and mitigate any discharge from the collection system in violation of this Order [40 CFR 122.41(d)].

(2) Sanitary Sewer Overflows

The Discharger has commenced electronic and/or telefax reporting of sanitary sewer overflows (SSOs) pursuant to Provision D.15 and General Monitoring and Reporting Requirement G.2 of Order No. 2006-0003-DWQ, Monitoring and Reporting Program No. 2006-0003-DWQ, and Order No. WQ 2008-0002-EXEC. Oral and written reporting¹³ of SSOs as specified below in this subsection shall continue through the term of this Order.

- (3) SSOs shall be reported orally and in writing to the Regional Water Board staff in accordance with the following:
- (a.) SSOs in excess of 1,000 gallons or any SSO that results in sewage reaching surface waters, or if it is likely that more than 1,000 gallons has escaped the collection system, shall be

¹³ Oral reporting means direct contact with a Regional Water Board staff person. The oral report may be given in person or by telephone. After business hours, oral contact must be made by calling the State Office of Emergency Services or the Regional Water Board spill officer.

reported immediately by telephone in accordance with Provision VI.A.2.b of this Order. A written description of the event shall be submitted in conjunction with the monthly monitoring report.

- (b.) SSOs that result in a sewage spill between 100 gallons and 1,000 gallons that do not reach a surface waterway shall be reported orally within 24 hours. A written description of the event shall be submitted with the next monthly monitoring report.
- (c.) Information to be provided orally includes:
 - i. Name and contact information of caller.
 - ii. Date, time and location of SSO occurrence.
 - iii. Estimates of spill volume, rate of flow, and spill duration.
 - iv. Surface water bodies impacted.
 - v. Cause of spill.
 - vi. Cleanup actions taken or repairs made.
 - vii. Responding agencies.
- (d.) Information to be provided in writing includes:
 - i. Information provided in verbal notification.
 - ii. Other agencies notified by phone.
 - iii. Detailed description of cleanup actions and repairs taken.
 - iv. Description of actions that will be taken to minimize or prevent future spills.
 - v. Results of any water quality monitoring conducted.

b. Source Control Provisions

The Discharger shall perform source control functions, to include the following.

- (1) Implement the necessary legal authorities to monitor and enforce source control standards, restrict discharges of toxic materials to the collection system and inspect facilities connected to the system.
- (2) If waste haulers are allowed to discharge to the Facility, establish a waste hauler permit system, to be reviewed by the Executive Officer, to regulate waste haulers discharging to the collection system or Facility.
- (3) Conduct a waste survey to identify all dischargers that might discharge pollutants that could pass through or interfere with the operation or performance of the Facility.
- (4) Perform public outreach to educate industrial, commercial, and residential users about the importance of preventing discharges of industrial and toxic wastes to the wastewater treatment plan.

- (5) Perform ongoing inspections and monitoring, as necessary, to ensure adequate source control.

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c. Sludge Disposal and Handling Requirements

- (1) Sludge, as used in this Order, means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screenings generated during preliminary treatment. Biosolids refers to sludge that has been treated, tested, and demonstrated to be capable of being beneficially and legally used pursuant to federal and state regulations as a soil amendment for agriculture, silviculture, horticulture, and land reclamation activities.
- (2) All collected sludges and other solid waste removed from liquid wastes shall be removed from screens, sumps, ponds, and tanks as needed to ensure optimal plant operation and disposed of in accordance with applicable federal and State regulations.
- (3) The use and disposal of biosolids shall comply with all of the land application and disposal requirements in 40 CFR 503, which are enforceable by the USEPA, not the Regional Water Board. If during the life of this Order, the State accepts primacy for implementation of 40 CFR 503, the Regional Water Board may also initiate enforcement where appropriate.
- (4) Sludge or biosolids that are disposed of in a municipal solid waste landfill or used as daily landfill cover shall meet the applicable requirements of 40 CFR 258. In the annual self-monitoring report, the Discharger shall report the amount of sludge placed in a landfill and the landfill(s) which received the sludge or biosolids.
- (5) The beneficial use of biosolids by application to land as soil amendment is not covered or authorized by this Order. Class B biosolids that are applied to land as soil amendment by the Discharger within the North Coast Region shall comply with State Water Board Water Quality Order No. 2000-10-DWQ (General Waste Discharge Requirements for the Discharge of Biosolids to Land as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities) or other WDRs issued by the Regional Water Board.
- (6) The Discharger shall take all reasonable steps to prevent and minimize any sludge use or disposal in violation of this Order that has a likelihood to adversely affect human health or the environment.

- (7) Solids and sludge treatment, storage, and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, and shall not result in groundwater contamination.
 - (8) Solids and sludge treatment and storage sites shall have facilities adequate to divert surface water runoff from adjacent areas, to protect the boundaries of the site from erosion, and to prevent drainage from the treatment and storage site. Adequate protection is defined as protection from at least a 100-year storm.
 - (9) The discharge of sewage sludge and solids shall not cause waste material to be in a position where it is, or can be, conveyed from the treatment and storage sites and deposited in the waters of the State.
- d. **Operator Certification.**
Supervisors and operators of municipal WWTFs shall possess a certificate of appropriate grade in accordance with Title 23, CCR, section 3680. The State Water Board may accept experience in lieu of qualification training. In lieu of a properly certified WWTP operator, the State Water Board may approve use of a water treatment facility operator of appropriate grade certified by the State Department of Public Health where water reclamation is involved.
- e. **Adequate Capacity**
If the WWTF or effluent disposal areas will reach capacity within four years, the Discharger shall notify the Regional Water Board. A copy of such notification shall be sent to appropriate local elected officials, local permitting agencies, and the press. Factors to be evaluated in assessing reserve capacity shall include, at a minimum, (1) comparison of the wet weather design flow with the highest daily flow, and (2) comparison of the average dry weather design flow with the lowest 30-day flow. The Discharger shall demonstrate that adequate steps are being taken to address the capacity problem. The Discharger shall submit a technical report to the Regional Water Board showing how flow volumes will be prevented from exceeding capacity, or how capacity will be increased, within 120 days after providing notification to the Regional Water Board, or within 120 days after receipt of Regional Water Board notification, that the WWTP will reach capacity within four years. The time for filing the required technical report may be extended by the Regional Water Board. An extension of 30 days may be granted by the Executive Officer, and longer extensions may be granted by the Regional Water Board itself. [CCR Title 23, section 2232]

f. Statewide General WDRs for Discharge of Biosolids to Land

If applicable, for the discharge of biosolids from the wastewater treatment facility, the Discharger shall seek authorization to discharge under and meet the requirements of the State Water Resources Control Board Water Quality Order No. 2004-0012–DWQ General Waste Discharge Requirements for the Discharge of Biosolids to Land or Use as a Soil Amendment In Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities. The Discharger shall submit a notice of intent for coverage under Order No. 2004-0012–DWQ prior to removal of biosolids from any treatment process.

6. Other Special Provisions

- a. Storm Water BMPs. Best management practices (BMPs) to control the run-on of storm water to the site of the treatment facility shall be maintained and upgraded, as necessary. In each Annual Report submitted to the Regional Water Board, the Discharger shall describe the effectiveness of these storm water BMPs as well as activities to maintain and upgrade these BMPs during the previous year.
- b. Flood Control and Flow Reduction Mitigation. The Discharger must routinely implement measures and actions in order to minimize the potential for sanitary sewer overflows and bypass events from the WWTF. The Discharger’s “Collection System Operations and Maintenance Plan” dated September 2001 identifies measures and actions that the Discharger has committed to implementing. These measures must include, but are not limited to, reduction of peak flow pumping capacity of the lift stations to 3.5 mgd to avoid overwhelming the treatment plant, installing shut-off valves in flood-prone areas that must be closed prior to potential flood events, bolting down manhole covers, and conducting inspections of private cleanouts prior to and after major storm events. In addition, the Discharger has committed to implementing a water conservation program and conducting public outreach. The Discharger shall describe the effectiveness of these flood control and flow reduction mitigation measures in its annual report to the Regional Water Board.

7. Compliance Schedules

The Discharger shall comply with the following schedules to achieve compliance with final effluent limitations for copper, nitrate, and ammonia and land discharge specifications for total dissolved solids, sodium, chloride and aluminum. The Discharger shall notify the Regional Water Board, in writing, of its compliance with the

compliance requirement on or before each
compliance date.

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a. Compliance Schedule for Final Effluent Limitations for Copper

On August 24, 2007, the Discharger submitted justification for and requested a compliance schedule for copper. By May 18, 2010, the Discharger shall comply with final effluent limitations for copper. The Discharger shall comply with the following compliance schedule:

Table 12. Compliance Schedule for Final Effluent Limitations for Copper

Task Number	Task Description	Compliance Date
1	The Discharger shall submit a report describing its progress with activities and studies to identify a means to comply with final copper effluent limitations and shall include an update regarding the following efforts identified in the August 24, 2007 ROWD: 1) onsite wastewater treatment alternatives evaluation and 2) source water treatment enhancement efforts.	June 1, 2009
2	The Discharger shall submit a written report with results of activities and studies conducted for the purpose of identifying a means to comply with final copper effluent limitations. The written report shall identify if these measures were adequate to achieve compliance with final copper effluent limitations. If not, the report shall also include a plan, for Executive Officer approval, to achieve compliance with final effluent limitations for copper.	September 1, 2009
3	The Discharger shall submit a progress report summarizing progress toward compliance with final effluent limitations for copper.	February 1, 2010
4	The Discharger shall comply with final effluent limitations for copper.	May 18, 2010

b. Compliance Schedule for Final Effluent Limitations for Total Ammonia and Nitrate

By March 20, 2014, the Discharger shall comply with final effluent limitations for ammonia and nitrate. The Discharger shall comply with the following compliance schedule.

Table 13. Compliance Schedule for Final Effluent Limitations and Discharge Specifications for Ammonia and Nitrate

Task Number	Task Description	Compliance Date
1	The Discharger shall submit, for Executive Officer approval, a workplan to evaluate methods of complying with final ammonia and nitrate effluent limitations and discharge specifications.	October 1, 2009
2	The Discharger shall submit reports identifying progress toward compliance with final ammonia and nitrate effluent limitations and discharge specifications.	Beginning March 1, 2010 and annually thereafter
3	The Discharger shall implement a plan to comply with final ammonia and nitrate effluent limitations and discharge specifications.	April 1, 2013
4	The Discharger shall comply with final effluent limitations and discharge specifications for ammonia and nitrate.	March 20, 2014

c. Compliance Schedule for Final Effluent Limitations for Chlorine Residual

Table 14. Compliance Schedule for Final Effluent Limitations for Chlorine Residual

Task Number	Task Description	Compliance Date
1	The Discharger shall submit, for Executive Officer approval, a workplan to evaluate methods of complying with final chlorine residual effluent limitations.	September 1, 2009
2	The Discharger shall submit reports identifying progress toward compliance with final chlorine residual effluent limitations.	Beginning June 1, 2010 and annually thereafter until compliance is achieved
3	The Discharger shall comply with final effluent limitations for ammonia and nitrate.	July 1, 2011

d. Compliance Schedule for Final Land Discharge Specifications for Total Dissolved Solids, Sodium, Chloride, and Aluminum.

By March 20, 2014, the Discharger shall comply with final land discharge specifications for total dissolved solids, sodium, chloride, and aluminum. The Discharger shall comply with the following compliance schedule:

Table 15. Compliance Schedule for Final Land Discharge Specifications for Total Dissolved Solids, Sodium, Chloride and Aluminum

Task Number	Task Description	Compliance Date
1	The Discharger shall submit, for Executive Officer approval, a workplan for the evaluation of total dissolved solids, sodium, chloride and aluminum generation, treatment, and effluent concentrations. At a minimum, the workplan proposal shall address: <ul style="list-style-type: none"> ▪ Monitoring to characterize effluent concentrations ▪ Source identification and source control methodology, including review of vendor product data, evaluation of treatment plant processes, and optimization of processes wherever possible; ▪ Data evaluation and summary reporting regarding RRCSD's ability to achieve final effluent limitations ▪ A time schedule for data collection, evaluation, and reporting. 	March 1, 2010
2	The Discharger shall submit annual progress reports describing its progress toward compliance with final land discharge specifications. The annual progress report may be submitted with the annual discharger monitoring report	March 1 of each year, beginning March 1, 2011
3	If source control efforts do not result in compliance with final land discharge specifications, the Discharger shall submit, for Executive Officer approval, an implementation plan to achieve compliance with final land discharge specifications for total dissolved solids, sodium, chloride, and aluminum.	March 20, 2013
4	The Discharger shall comply with final land discharge specifications for total dissolved solids, sodium, chloride, and aluminum.	March 20, 2014

VII. COMPLIANCE DETERMINATION

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

A. General.

Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in the MRP of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

B. Multiple Sample Data.

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

1. 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.
2. 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.

C. Average Monthly Effluent Limitation (AMEL).

If the average (or when applicable, the median determined by subsection B above for multiple sample data) of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation, though the Discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger will be considered out of compliance for that calendar month. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

D. Average Weekly Effluent Limitation (AWEL).

If the average (or when applicable, the median determined by subsection B above for multiple sample data) of daily discharges over a calendar week exceeds the AWEL for a given parameter, this will represent a single violation, though the Discharger will be considered out of compliance for each day of that week for that parameter, resulting in 7 days of non-compliance. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the Discharger will be considered out of compliance for that calendar week. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.

E. Maximum Daily Effluent Limitation (MDEL).

If a daily discharge (or when applicable, the median determined by subsection B, above, for multiple sample data of a daily discharge) exceeds the MDEL for a given parameter, the Discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day.

F. Instantaneous Minimum Effluent Limitation.

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous minimum effluent limitation).

G. Instantaneous Maximum Effluent Limitation.

If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation).

ATTACHMENT A – DEFINITIONS

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

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

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

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

Bioaccumulative 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.

Effective Concentration (EC) is a point estimate of the toxicant concentration that would cause an adverse effect on a quantal, "all or nothing," response (such as death, immobilization, or serious incapacitation) in a given percent of the test organisms. If the effect is death or immobility, the term lethal concentration (LC) may be used. EC values may be calculated using point estimation techniques such as probit, logit, and Spearman-Kärber. EC₂₅ is the concentration of toxicant (in percent effluent) that causes a response in 25 percent of the test organisms.

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

Inhibition concentration (IC). The IC25 is typically calculated as a percentage of effluent. It is the level at which the organisms exhibit 25 percent reduction in a biological measurement such as reproduction or growth. It is calculated statistically and used in chronic toxicity testing.

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:

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

where:

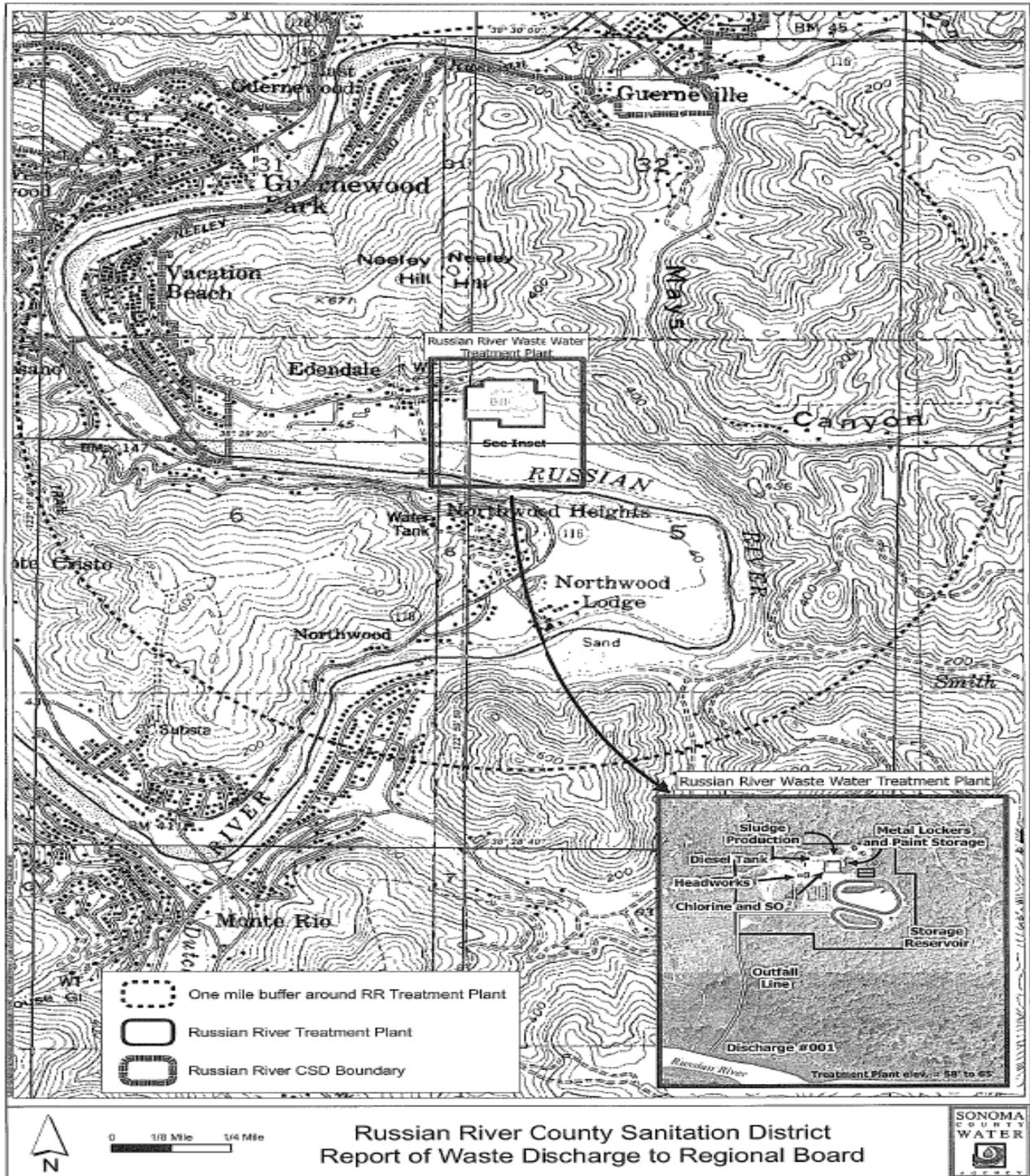
x is the observed value;

μ is the arithmetic mean of the observed values; and

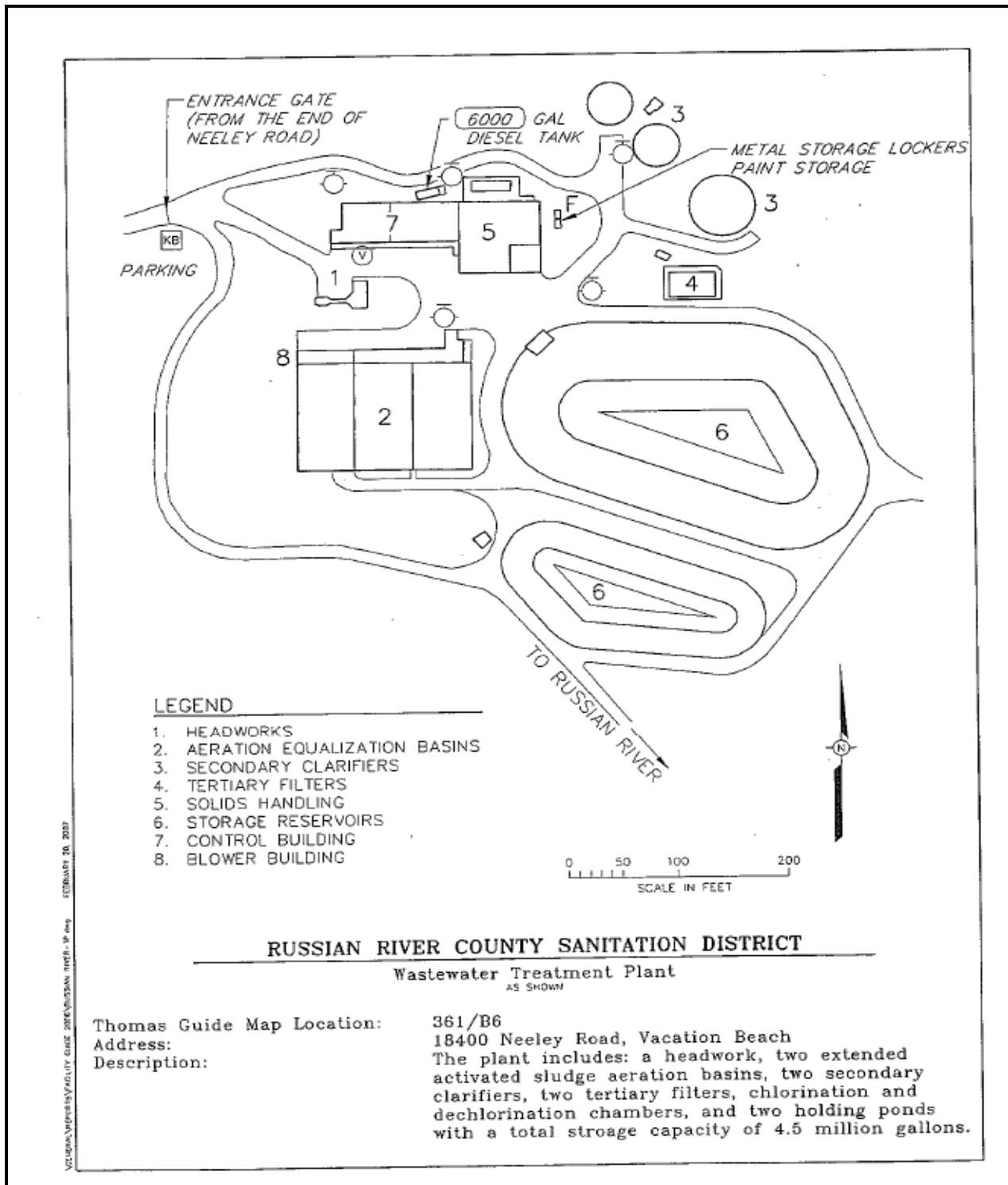
n is the number of samples.

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

B. Need to Halt or Reduce Activity Not a Defense

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

C. Duty to Mitigate

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

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

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)
2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 C.F.R. § 122.41(i); Wat. Code, § 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 C.F.R. § 122.41(i)(1));
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 C.F.R. § 122.41(i)(2));
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 C.F.R. § 122.41(i)(3)); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 C.F.R. § 122.41(i)(4).)

G. Bypass

1. Definitions

- a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)
- b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)

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

3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));
 - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and
 - c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.6 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)
 4. Burden of Proof. In any enforcement proceeding, the Discharger seeking to establish the bypass defense has the burden of proof.
 5. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)
 6. Notice
 - a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i).)
 - b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 C.F.R. § 122.41(m)(3)(ii).)
- H. Upset
- Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. § 122.41(n)(1).)
1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit

effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).)

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

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

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

III. STANDARD PROVISIONS – MONITORING

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

IV. STANDARD PROVISIONS – RECORDS

- A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)
- B. Records of monitoring information shall include:
 - 1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));
 - 2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));
 - 3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));
 - 4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));
 - 5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v));
and
 - 6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)
- C. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):
 - 1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and
 - 2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

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

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k).)
2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 C.F.R. § 122.22(a)(3).)
3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and
 - c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board, State Water Board, or USEPA prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)
5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:
“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.” (40 C.F.R. § 122.22(d).)

C. Monitoring Reports

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

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be

submitted no later than 14 days following each schedule date. (40 C.F.R. § 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 C.F.R. § 122.41(l)(6)(i).)
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):
 - a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)
 - b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)
 - c. Violation of a maximum daily discharge limitation for any of the pollutants listed in this Order to be reported within 24 hours [40 CFR §122.41(l)(6)(ii)(C)].
3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(iii).)

F. Planned Changes

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

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

reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R. § 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

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

H. Other Noncompliance

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

I. Other Information

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

VI. STANDARD PROVISIONS – ENFORCEMENT

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

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Regional Water Board of the following (40 C.F.R. § 122.42(b)):

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

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (CFR) at 40CFR 122.48 requires that all NPDES permits specify monitoring and reporting requirements. California 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 California regulations.

I. GENERAL MONITORING PROVISIONS

- a. Wastewater Monitoring Provision. Composite samples may be taken by a proportional sampling device approved by the Executive Officer or by grab samples composited in proportion to flow. In compositing grab samples, the sampling interval shall not exceed one hour.
- b. If the Discharger monitors any pollutant more frequently than required by this Order, using test procedures approved by 40 CFR Part 136 or as specified in this Order, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the monthly and annual discharger monitoring reports.
- c. Laboratories analyzing monitoring samples shall be certified by the California Department of Public Health in accordance with the provisions of Water Code section 13176, and must include quality assurance / quality control data with their analytical reports.

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	Monitoring Location	Monitoring Location Description
---	INF-001	Untreated Influent wastewater collected at the plant headworks, at a representative point preceding primary treatment
	INT-001	Location for monitoring filtration rate through AWT filters
	INT-002	Treated wastewater immediately following the AWT process for monitoring AWT turbidity
001	EFF-001	Treated wastewater after disinfection (and dechlorination) but prior to storage (for monitoring technology-based effluent limitations).
002	EFF-002 ¹	Location following storage where representative samples of treated, disinfected effluent may be collected prior to discharge to Russian River (for WQBELs)
003	LND-001 ¹	Location where representative samples of treated wastewater, to be

¹ Monitoring locations EFF-002, LND-001, and REC-001 may be the same location, the sampling tap following the on-site Effluent Storage Pond. Unique sampling location names were given to differentiate the three different effluent disposal methods which each have different monitoring requirements.

Discharge Point	Monitoring Location	Monitoring Location Description
		used for irrigation on the Burch property, can be collected, following all treatment and storage and immediately before its application for irrigation.
004	REC-001 ¹	Location where representative samples of treated wastewater, to be reclaimed at Northwood Golf Course or other approved reclamation sites, can be collected, following all treatment and on-site storage and immediately before its application for irrigation.
---	RSW-001	Upstream receiving water monitoring location. Samples shall be representative of background conditions in the Russian River. Initially, samples may be collected at the existing upstream monitoring location, approximately 1,000 feet upstream of the wastewater treatment facility at Vacation Beach. By October 1, 2011, samples shall be collected immediately upstream of the discharge outfall or an alternative upstream monitoring location as identified pursuant to the study requirement in Provision VI.B.2 of the Order following approval by the Executive Officer.
---	RSW-002	Downstream receiving water monitoring location. Samples shall be representative of conditions in the Russian River following introduction and mixing of effluent from the wastewater treatment facility. Initially, samples may be collected approximately 300 feet downstream from the point of discharge adjacent to the Northwood Golf Club. By October 1, 2011, samples shall be collected of Russian River surface water at the point of discharge or an alternative downstream monitoring location as identified pursuant to the study requirement in Provision VI.B.2 of the Order following approval by the Executive Officer.
	GW-001, 002, 003, etc	A minimum of three groundwater monitoring wells shall be established as required by Provision VI.C.2.b of the Order and shall include at least two wells downgradient of the discharge and at least one upgradient well representative of background groundwater quality, to demonstrate that the discharge of treated wastewater to the Discharger's land disposal system is in compliance with this Order.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

1. The Discharger shall monitor influent to the wastewater treatment facility at Monitoring Location INF-001 as follows.

Table E-2. Influent Monitoring, Monitoring Location INF-001

Constituent	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Method
Biochemical Oxygen Demand 5-day @20°C	mg/L	8-hr composite	Weekly ²	Standard Methods ³
Total Suspended Solids	mg/L	8-hr composite	Weekly	Standard Methods
Flow ⁴	MGD	Continuous	Continuous	Meter

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. The Discharger shall monitor treated wastewater at Monitoring Location EFF-001 as follows.

Table E-3. Effluent Monitoring, Monitoring Location EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Method
Effluent Flow ⁵	mgd	Continuous	Continuous	Meter
Biochemical Oxygen Demand 5-day @20°C	mg/L	8-hr composite	Weekly	Standard Methods ³
Total Suspended Solids	mg/L	8-hr composite	Weekly	Standard Methods
Settleable Solids	mL/L/hr	Grab	Daily	Standard Methods
Total Coliform Bacteria	MPN	Grab	Daily ⁶	Standard Methods

² Monitoring of BOD5 and TSS in influent shall coincide with monitoring of these parameters in effluent.

³ In accordance with the current edition of Standard Methods for Examination of Water and Wastewater (American Public Health Administration) or current test procedures specified in 40 CFR 136.

⁴ For each month, the Discharger shall report peak daily and mean daily flow rate.

⁵ The Discharger shall report average daily, maximum daily, and average monthly flows.

⁶ During the period of October 1 through May 14, samples shall be collected a minimum of three days per week at a point following disinfection and prior to discharge to the storage pond. Monitoring samples shall be collected

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Method
pH	pH Units.	Grab	Daily	Standard Methods
Chlorine Residual ^{7 8}	mg/L	Meter	Continuous	Standard Methods

2. The Discharger shall monitor treated wastewater to be discharged to the Russian River prior to contact with receiving water at Monitoring Location EFF-002 as follows.

Table E-4. Effluent Monitoring, Monitoring Location EFF-002

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Method
Effluent Flow ⁵	mgd	Continuous	Continuous	Meter
Dilution Rate	% of stream flow	Calculation	Daily	---
Biochemical Oxygen Demand 5-day @20°C	mg/L	8-hr composite	Weekly	Standard Methods ³
Total Suspended Solids	mg/L	8-hr composite	Weekly	Standard Methods
Settleable Solids	mL/L	Grab	Weekly	Standard Methods
pH	pH Units.	Grab	Daily	Standard Methods
Chlorine Residual ^{7 8}	mg/L	Grab	Daily	Standard Methods
Temperature	°F or °C	Grab	Daily	Standard Methods
Dissolved Oxygen	mg/L	Grab	Daily	Standard Methods
Hardness	mg/L	Grab	Monthly	Standard Methods
Copper ⁹	µg/L	Grab	Monthly	EPA Method 200
Dichlorobromomethane ⁹	µg/L	Grab	Monthly	EPA Method 624
Chlorodibromomethane ⁹	µg/L	Grab	Monthly	EPA Method 624
Chloroform ⁹	µg/L	Grab	Monthly	EPA Method 624
Acute Toxicity ¹⁰	% Survival	8-hr composite	Monthly	See Section V.A below

daily when discharging to the Russian River until the Discharger is in compliance with IV.D.2.c of the Order, and thereafter only in accordance with section IV.D.2.b. of the Order.

- ⁷ Samples shall be collected at a point following disinfection and prior to dechlorination to demonstrate that the effluent has a chlorine residual prior to dechlorination. All chlorine measurements shall be reported as total chlorine residual.
- ⁸ Upon final authorization of the Discharger's UV disinfection system pursuant to Other Requirements D.3 and D.4 of the Order and demonstration by the Discharger that chlorine is no longer used at the WWTF, chlorine residual monitoring will no longer be required.
- ⁹ Analytical methods shall achieve the lowest minimum level (ML) specified in Appendix 4 of the SIP; and in accordance with Section 2.4.1 of the SIP, the Discharger shall report the Reporting Level (RL) and the Method Detection Limit (MDL) with each sample result.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Method
Chronic Toxicity ¹⁰	TUc	8-hr composite	Annually	See Section V.B below
CTR Pollutants ^{9 11}	µg/L	Grab	3X/5Y ¹³	Standard Methods
Title 22 Pollutants ^{9 12}	µg/L	Grab	3X/5Y ¹³	Standard Methods
Nitrate (as N)	mg/L N	Grab	Weekly	Standard Methods
Ammonia (as N) ¹⁴	mg/L N	Grab	Weekly	Standard Methods
Unionized Ammonia	mg/L	---	Weekly	Calculation
Phosphorus, Total	mg/L P	Grab	Weekly	Standard Methods

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity Testing

The Discharger shall conduct acute whole effluent toxicity testing (WET) to determine compliance with the effluent limitation for acute toxicity established by section IV. A. 1 of the Order.

1. **Test Frequency.** The Discharger shall conduct acute WET testing in accordance with the schedule established by this MRP, as summarized in Table E-3, above, when discharging to the Russian River.
2. **Sample Type.** For 96-hour static renewal or 96-hour static non-renewal testing, the effluent samples shall be 8-hour composite, representative of the volume and quality of the discharge from the facility, and collected at monitoring Location EFF-002.
3. **Test Species.** Test species for acute WET testing shall be an invertebrate, the water flea, *Ceriodaphnia dubia*, and a vertebrate, the rainbow trout, *Oncorhynchus mykiss*, for at least the first two suites of tests conducted within 12 months after the effective date of the Order. After this screening period, monitoring shall be conducted monthly using the most sensitive species. At least one time every five years, the Discharger shall re-screen with the two species identified above and continue routine monitoring with the most sensitive species.

¹⁰ Whole effluent acute and chronic toxicity shall be monitored in accordance with the requirements of section V of this Monitoring and Reporting Program.

¹¹ CTR pollutants are those pollutants identified in the California Toxics Rule at 40 CFR 131.38.

¹² The Title 22 pollutants are those pollutants for which the Department of Public Health has established Maximum Contaminant Levels (MCLs) at Title 22, Division 4, Chapter 15, sections 64431 (Inorganic Chemicals) and 64444 (Organic Chemicals) of the California Code of Regulations. Duplicate analyses are not required for pollutants that are identified both as CTR and Title 22 pollutants.

¹³ Monitoring shall occur three times during the discharge season during the anticipated five year term of this Order. One monitoring event shall occur concurrently with the receiving water monitoring event.

¹⁴ Monitoring for ammonia shall be concurrent with acute whole effluent toxicity monitoring (Section V.A.1 of this MRP). Temperature and pH shall be recorded at the time of the ammonia sample.

4. **Test Methods.** The presence of acute toxicity shall be estimated as specified in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (USEPA Report No. EPA-821-R-02-012, 5th edition or subsequent editions), or other methods approved by the Executive Officer.

Test procedures related to pH control, sample filtration, aeration, temperature control and sample dechlorination shall be performed in accordance with the USEPA method and fully explained and justified in each acute toxicity report submitted to the Regional Water Board. The control of pH in acute toxicity tests is allowed, provided the test pH is maintained at the effluent pH measured at the time of sample collection, and the control of pH is done in a manner that has the least influence on the test water chemistry and on the toxicity of other pH sensitive materials such as some heavy metals, sulfide and cyanide.

5. **Test Dilutions.** The acute toxicity test shall be conducted using 100 percent effluent collected at Monitoring Location EFF-002, when discharging to surface waters.
6. **Test Failure.** If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger shall re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure.
7. **Accelerated Monitoring.** If the result of any acute toxicity test fails to meet the single test minimum limitation (70 percent survival), and the testing meets all test acceptability criteria, the Discharger shall take two more samples, one within 14 days and one within 21 days following receipt of the initial sample result. If any one of the additional samples do not comply with the three sample median minimum limitation (90 percent survival), the Discharger shall initiate a Toxicity Reduction Evaluation (TRE) in accordance with section VI. C. 2. a of the Order. If the two additional samples are in compliance with the acute toxicity requirement and testing meets all test acceptability criteria, then a TRE will not be required. If the discharge stops before additional samples can be collected, the Discharger shall contact the Executive Officer within 21 days with a plan to demonstrate compliance with the effluent limitation.
8. **Notification.** The Discharger shall notify the Regional Water Board in writing 14 days after the receipt of test results exceeding the acute toxicity effluent limitation. The notification will describe actions the Discharger has taken or will take to investigate and correct the cause(s) of toxicity. It may also include a status report on any actions required by this Order, with a schedule for actions not yet completed. If no actions have been taken, the reasons shall be given.
9. **Reporting.** Test results for acute toxicity tests shall be reported according to section 12 (Report Preparation) of *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* or in an equivalent format that clearly demonstrates that the Discharger is in compliance with effluent limitations, and other permit requirements.

B. Chronic Toxicity Testing

The Discharger shall conduct chronic toxicity testing to demonstrate compliance with the Basin Plan's water quality objective for toxicity. The Discharger shall meet the following chronic toxicity testing requirements:

1. **Test Frequency.** The Discharger shall conduct annual chronic WET testing during a period of discharge to the Russian River.
2. **Sample Type.** Effluent samples from Monitoring Location EFF-002 shall be grab samples. For toxicity tests requiring renewals, grab samples collected on consecutive days are required.
3. **Test Species.** Test species for chronic WET testing shall be a vertebrate, the fathead minnow, *Pimephales promelas* (larval survival and growth), an invertebrate, the water flea, *Ceriodaphnia dubia* (survival and reproduction test), and a plant, the green algae, *Selenastrum capricornutum* (growth test). Initial testing for the first two suites of tests, shall be conducted with a vertebrate, an invertebrate, and a plant species, and thereafter, monitoring can be reduced to the most sensitive species. At least once every five years, the Discharger shall rescreen once with the three species listed above, and continue to monitor with the most sensitive species.
4. **Test Methods.** The presence of chronic toxicity shall be estimated as specified in USEPA's *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms* (USEPA Report No. EPA-821-R-02-013, or subsequent editions).

Test procedures related to pH control, sample filtration, aeration, temperature control and sample dechlorination shall be performed in accordance with the USEPA method and fully explained and justified in each acute toxicity report submitted to the Regional Water Board. The control the pH in chronic toxicity tests is allowed, provided the test pH is maintained at the pH of the receiving water measured at the time of sample collection, and the control of pH is done in a manner that has the least influence on the test water chemistry and on the toxicity of other pH sensitive materials such as some heavy metals, sulfide and cyanide.

5. **Test Dilutions.** The chronic toxicity test shall be conducted using a series of at least five dilutions and a control. The series shall consist of the following dilution series: 12.5, 25, 50, 75, and 100 percent, and a control. Control and dilution water shall be receiving water collected at an appropriate location upstream of the discharge point. Laboratory water may be substituted for receiving water, as described in the USEPA test methods manual, upon approval by the Executive Officer. If the dilution water used is different from the culture water, a second control using culture water shall be used.
6. **Reference Toxicant.** If organisms are not cultured in-house, concurrent testing with a reference toxicant shall be conducted. Where organisms are cultured in-house,

monthly reference toxicant testing is sufficient. Reference toxicant tests also shall be conducted using the same test conditions as the effluent toxicity tests (e.g., same test duration, etc).

7. **Test Failure.** If either the reference toxicant test or the chronic toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger shall re-sample and re-test as soon as possible, not to exceed 14 days following notification of test failure.
8. **Notification.** The Discharger shall notify the Regional Water Board in writing within 14 days after the receipt of test results that indicate an exceedance of the monitoring trigger for chronic toxicity during regular or accelerated monitoring.
9. **Accelerated Monitoring Requirements.** If the result of any chronic toxicity test exceeds either chronic toxicity monitoring trigger of 1.0 TUc as specified in section VI.C.2.a. of the Order, and the testing meets all test acceptability criteria, the Discharger shall initiate accelerated monitoring. Accelerated monitoring shall consist of four additional effluent samples – with one test conducted approximately every week over a four week period. Testing shall commence within 14 days of receipt of initial sample results which indicated an exceedance of the chronic toxicity trigger. If the discharge will cease before the additional samples can be collected, the Discharger shall contact the Executive Officer within 21 days with a plan to address elevated levels of chronic toxicity in effluent and/or receiving water. The following protocol shall be used for accelerated monitoring and TRE implementation:
 - a. If the results of four consecutive accelerated monitoring tests do not exceed the chronic toxicity trigger of 1.0 TUc, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring. However, if there is adequate evidence of a pattern of effluent toxicity, the Regional Water Board’s 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 chronic 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 an effluent limitation or monitoring trigger, the Discharger shall cease accelerated monitoring and, within thirty (30) days of the date of completion of the accelerated monitoring test, initiate the TRE Workplan developed in accordance with Section VI.C.2.a.(2) of the Order to investigate the cause(s) and identify corrective actions to reduce or eliminate the chronic toxicity. Within thirty (30) days of completing the TRE Workplan implementation, the Discharger shall submit a report to the Regional Water Board including, at a minimum:

- (1.) Specific actions the Discharger took to investigate and identify the cause(s) of toxicity, including a TRE WET monitoring schedule;
- (2.) Specific actions the Discharger took to mitigate the impact of the discharge and prevent the recurrence of toxicity;
- (3.) Recommendations for further actions to mitigate continued toxicity, if needed; and
- (4.) A schedule for implementation of recommended actions.

C. Chronic Toxicity Reporting

1. **Routine Reporting.** Test results for chronic WET tests shall be reported according to the appropriate acute and chronic guidance manuals and this Monitoring and Reporting Program and shall be attached to the self-monitoring report. Test results shall include, at a minimum, for each test:
 - a. sample date(s)
 - b. test initiation date
 - c. test species
 - d. end point values for each dilution (e.g., number of young, growth rate, percent survival)
 - e. NOEC value(s) in percent effluent
 - f. IC15, IC25, IC40, and IC50 values (or EC15, EC25...etc.) in percent effluent
 - g. TUC values (100/NOEC)
 - h. Mean percent mortality (\pm s.d.) after 96 hours in 100 percent effluent (if applicable)
 - i. NOEC and LOEC values for reference toxicant test(s)
 - j. IC50 or EC50 value(s) for reference toxicant test(s)
 - k. Available water quality measurements for each test (e.g., pH, DO, temperature, conductivity, hardness, salinity, ammonia)
 - l. Statistical methods used to calculate endpoints.
 - m. The statistical output page, which includes the calculation of percent minimum significant difference (PMSD).
2. **Quality Assurance Reporting.** Because the permit requires sublethal hypothesis testing endpoints from methods 1000.0, 1002.0, and 1003.0 in the test methods manual titled *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA-821-R-02-013, 2002), within test variability must be reviewed for acceptability and variability criteria (upper and lower PMSD bounds) must be applied, as directed under section 10.2.8 – *Test Variability* of the test methods manual. Under section 10.2.8, the calculated PMSD for both reference toxicant test and effluent toxicity test results must be compared with the upper and lower PMSD bounds variability criteria specified in Table 6 – *Variability Criteria (Upper and Lower PMSD Bounds) for Sublethal Hypothesis Testing Endpoints Submitted Under NPDES Permits*, following the review criteria in paragraphs 10.2.8.2.1 through 10.2.8.2.5 of the test methods manual. Based on this review, only accepted effluent toxicity test results shall be reported.
3. **Compliance Summary:** The monthly discharger self-monitoring reports shall contain an updated chronology of chronic toxicity test results expressed in TUC, and organized

by test species, type of test (survival, growth or reproduction), and monitoring frequency (routine, accelerated, or TRE). The final report shall clearly demonstrate that the Discharger is in compliance with effluent limitations and other permit requirements.

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VI. LAND DISCHARGE MONITORING REQUIREMENTS

A. Monitoring Location LND-001

The Discharger shall monitor treated wastewater at Monitoring Location LND-001 as follows:

Table E-5. Land Discharge Monitoring Requirements - Monitoring Location LND-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow ¹⁵	mgd	Meter	continuous	Meter
pH	pH Units	Grab	Daily	Standard Methods
Ammonia (as N)	mg/L	Grab	Monthly	40CFR 136
Nitrate Nitrogen	mg/L	Grab	Monthly	40CFR 136
Total Dissolved Solids	mg/L	Grab	Monthly	Standard Method 2540C
Sodium	mg/L	Grab	Monthly	Standard Methods
Chloride	mg/L	Grab	Monthly	Standard Methods
Aluminum	mg/L	Grab	Monthly	Standard Methods
Visual Observations ¹⁶	---	---	Daily	Visual

VII. RECLAMATION MONITORING REQUIREMENTS

A. Monitoring Location REC-001

1. The Discharger shall monitor tertiary treated wastewater to be reclaimed and used for irrigation at Monitoring Location REC-001 as follows.

Table E-6. Reclamation Monitoring Requirements – Monitoring Location REC-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Method
Flow ¹⁷	mgd	Meter	Continuous	Meter
pH	pH Units	Grab	Daily	Standard Methods
Total Coliform Bacteria	MPN/100mL	Grab	Daily	Standard Methods
Nitrate Nitrogen	mg/L	Grab	Monthly	40CFR 136

¹⁵ Each month, the Discharger shall report the number of days that treated wastewater was used for irrigation on the Burch properties, as well as the average and maximum daily flow rate to each property.

¹⁶ Visual observations shall be conducted during and immediately after any discharge to the irrigation system, and shall include a record of any odors, evidence of surface run-off, or other signs of malfunction or improper operation. The monthly monitoring report shall include the daily volume of treated wastewater discharged to the irrigation field and any observations indicating non-compliance with the provisions of the waste discharge requirements.

¹⁷ Each month, the Discharger shall report the number of days that treated wastewater was used for reclamation on the Northwood Golf Course, as well as the average and maximum daily flow rate to each property.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Method
Visual Observations ¹⁶	---	---	Daily	Visual

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Monitoring Locations RSW-001 and RSW-002

- The Discharger shall monitor upstream and downstream conditions in the Russian River during the discharge season at Monitoring Locations RSW-001 and RSW-002 as follows:

Table E-7. Receiving Water Monitoring Requirements – Surface Water (RSW-001 and RSW-002)

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Method
Flow ¹⁸	cfs or mgd	Meter	Daily	---
BOD ₅	mg/L	Grab	Monthly	Standard Methods
Total Suspended Solids	mg/L	Grab	Monthly	Standard Methods
Dissolved Oxygen	mg/L	Grab	Monthly	Standard Methods
pH	pH Units	Grab	Monthly	Standard Methods
Turbidity	NTUs	Grab	Monthly	Standard Methods
Temperature	°F or °C	Grab	Weekly	Standard Methods
Hardness	mg/L CaCO ₃	Grab	Monthly	Standard Methods
Specific Conductance ¹⁹	µmhos/cm	Grab	Monthly	Standard Methods
Total Dissolved Solids	mg/L	Grab	Monthly	Standard Methods
CTR Pollutants ^{20,21}	µg/L	Grab	1X/5Y	Standard Methods
Title 22 Pollutants	µg/L	Grab	1X/5Y	Standard Methods

¹⁸ The flow rate shall be determined using USGS Gauge No. 11-4670.00 at the Hacienda Bridge, and compared to the daily discharge rate to determine compliance with Discharge Prohibition III.J of the Order. For each month during the discharge season, peak daily and average daily flow shall be reported.

¹⁹ Measured in micromhos/cm at 25°C.

²⁰ Those pollutants identified by the California Toxics Rule at 40 CFR 131.38. Monitoring shall occur simultaneously with the CTR pollutants effluent monitoring event for the CTR pollutants required by section IV.A.1 of the MRP. Analytical methods must achieve the lowest minimum level (ML) specified in Appendix 4 of the SIP; and in accordance with section 2.4.1 of the SIP, the Discharger shall report the Reporting Level (RL) and the Method Detection Limit (MDL) with each sample result.

²¹ Monitoring shall occur only at the RSW-001 Monitoring Location.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Method
²²				
Ammonia as N	mg/L N	Grab	Monthly	40CFR 136
Nitrate	mg/L N	Grab	Monthly	40CFR 136
Phosphorus, Total	mg/L P	Grab	Monthly	40CFR136

B. Groundwater Monitoring Locations

The Discharger shall establish a minimum of three groundwater monitoring locations as required by Provision VI.C.2.b of the Order and shall monitor upstream and downstream groundwater conditions in the receiving groundwater, as follows:

Table E-8. Receiving Water Monitoring Requirements – Groundwater

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Ammonia as N	mg/L	Grab	Quarterly	40CFR 136
Nitrate Nitrogen	mg/L	Grab	Quarterly	40CFR 136
pH	mg/L	Grab	Quarterly	Standard Methods
Total Dissolved Solids	mg/L	Grab	Quarterly	Standard Method 2540C
Sodium	µg/L	Grab	Quarterly	Standard Methods
Aluminum	µg/L	Grab	Quarterly	Standard Methods
Depth to Groundwater	inches	Grab	Quarterly	Measurement

IX. OTHER MONITORING REQUIREMENTS

A. Filtration Process Monitoring

1. Surface Loading Rate Monitoring (Monitoring Location INT-001)

- a. **Monitoring.** The Discharger shall monitor flow to each tertiary filter at Monitoring Location INT-001 to calculate the surface loading rate as follows:

Table E-9. Effluent Filter Monitoring (Monitoring Location INT-001)

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method

²² Those pollutants for which the Department of Public Health has established MCLs at Title 22, Division 4, Chapter 15, sections 64431 (Inorganic Chemicals) and 64444 (Organic Chemicals) of the California Code of Regulations. Monitoring shall occur simultaneously with the Title 22 pollutants effluent monitoring event required in section IV.A.1 of the MRP. Analytical methods shall adhere to the Detection Limits for Purposes if Reporting (DLRs) established by title 22 of the California Code of Regulations, Division 4, Chapter 15, section 64432 (Inorganics) and section 64445.1 (Organics)

Surface Loading Rate	gpm/ft ²	Calculation	Daily	---
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- b. **Compliance.** Compliance with the minimum filter surface loading rate as specified in the State of California Division of Drinking Water and Environmental Management Treatment Technology Report for Recycled Water (September 2008 and future revisions thereto) shall be calculated based on the flow rate through each filter unit.
- c. **Reporting.** The minimum filter daily surface loading rate shall be reported on the monthly self-monitoring report.

2. Additional Effluent Filter Monitoring (Monitoring Location INT-002)

- a. **Monitoring.** The turbidity of the filter effluent shall be continuously measured and recorded. Should the turbidity meter and recorder fail, grab sampling at a minimum frequency of 1.2 hours may be substituted for a period of up to 24 hours. The recorded data shall be maintained by the Discharger for at least three years. The daily average and daily maximum turbidity results shall be reported on the monthly monitoring reports.
- b. **Compliance.** Compliance with the daily average effluent turbidity limitation specified in the California Code of Regulations Water Recycling Criteria, as referenced in section IV.D.1.b. of the Order, shall be determined by averaging all turbidity readings collected in a calendar day. Compliance shall be determined using the levels of recorded turbidity taken at intervals of no more than 1.2 hours over a 24-hour period.
- c. **Reporting.** If the filter effluent turbidity exceeds 2 NTU based on a daily average or if the influent turbidity exceeds 5 NTU for more than 15 minutes, the incident shall be reported within the monthly self-monitoring report. If the filter effluent turbidity exceeds NTU at any time, the incident shall be reported to the Regional Water Board and the Department of Public Health by telephone within 24 hours. A written report describing the incident and the actions undertaken in response shall be included in the monthly self-monitoring report. Mitigation of the event shall consist of diverting all inadequately treated wastewater to temporary storage or an upstream process.

B. Disinfection Process Monitoring for Chlorination System (Monitoring Location EFF-001)

The following monitoring requirements are effective as long as chlorination is used as the primary disinfection method:

- 1. **Monitoring.** The chlorine residual of the effluent from the chlorine contact chamber shall be monitored continuously at a point prior to dechlorination and recorded, and the modal contact time shall be determined at the same point.

2. **Compliance.** The chlorine disinfection CT (the product of total chlorine residual and modal contact time) shall not fall below 450 mg-min/L, with a modal contact time of at least 90 minutes.
3. **Reporting.** If the chlorine disinfection CT is less than 450 mg-min/L or if the chlorination equipment fails, the event shall be reported to the Regional Water Board and the Department of Public Health by telephone within 24 hours. Any inadequately treated and disinfected wastewater shall be diverted to a storage basin or an upstream process for adequate treatment.

C. Disinfection Process Monitoring for UV Disinfection System (Monitoring Location EFF-001)

Upon completion and approval of the UV Disinfection System, the following monitoring requirements must be implemented:

1. **Monitoring.** The UV transmittance of the effluent from the UV disinfection system shall be monitored continuously and recorded. The operation UV dose shall be calculated from UV transmittance and exposure time, using lamp age and sleeve fouling factors.
2. **Compliance.** The UV transmittance shall not fall below 55 percent of maximum at any time, unless otherwise approved by CDPH. The operational UV dose shall not fall below 100 millijoules per square centimeter (mJ/cm^2) at any time, unless otherwise approved by CDPH.
3. **Reporting.** The Discharger shall report daily average and lowest daily transmittance and operational UV dose on its monthly monitoring reports. If the UV transmittance falls below 55 percent or UV dose falls below $100 \text{ mJ}/\text{cm}^2$, the event shall be reported to the Regional Water Board and the CDPH by telephone with 24 hours. Any inadequately treated and disinfected wastewater shall be diverted to a storage basin or an upstream process for adequate treatment.

D. Visual Monitoring of Discharge (EFF-002) and Receiving Water (RSW-001 and RSW-002)

Visual observations of the discharge and the receiving water shall be recorded monthly and on the first day of each intermittent discharge. Visual monitoring shall include, but not be limited to, observations for floating materials, coloration, objectionable aquatic growths, oil and grease films, and odors. Visual observations shall be recorded and included in the Discharger's monthly monitoring reports.

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. Schedules of Compliance. If applicable, the Discharger shall submit all reports and documentation required by compliance schedules that are established by this Order. Such reports and documentation shall be submitted to the Regional Water Board on or before each compliance date established by this Order. If noncompliance is reported, the Discharger shall describe the reasons for noncompliance and a specific date when compliance will be achieved. The Discharger shall notify the Regional Water Board when it returns to compliance with applicable compliance dates established by schedules of compliance.

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. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit monthly SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.
3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-10. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Continuous	March 22, 2009	All	First day of second calendar month following month of sampling
Hourly	March 22, 2009	Hourly	First day of second calendar month following month of sampling
Daily	March 22, 2009	(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
Weekly	March 22, 2009	Sunday through	First day of second

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
		Saturday	calendar month following month of sampling
Monthly	March 22, 2009	1 st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
Quarterly	April 1, 2009	January through March April through June July through September October through December	First day of second month following end of quarter
Annually	January 1, 2010	January 1 through December 31	March 1 each year
1X/ 5 years	October 1, 2009	October 1 through May 15	June 1, 2013
3X / 5 years	October 1, 2009	October 1 through May 15	June 1 following monitoring event and no later than June 1, 2013 for final event

4. 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 title 40, Part 136.
- a. The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:
 - b. Sample results greater than or equal to the reported RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
 - c. 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.
 - d. 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.
 - e. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

- f. 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.
5. The Discharger shall submit SMRs in accordance with the following requirements:
 - a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The reported data shall include calculation of all effluent limitations that require averaging, taking of a median or other computation. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment. During periods of land discharge and/or reclamation discharge, the reports shall certify "land discharge" and/or "reclamation discharge".
 - b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify:
 - (1.) Facility name and address
 - (2.) WDID number
 - (3.) Applicable period of monitoring and reporting
 - (4.) Violations of the WDRs (identified violations must include a description of the requirement that was violated and a description of the violation)
 - (5.) Corrective actions taken or planned; and
 - (6.) The proposed time schedule for corrective actions.
 - c. 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
North Coast
Region
5550 Skylane
Blvd., Suite A
Santa Rosa, CA
95403

C. Discharge Monitoring Reports (DMRs)

1. As described in Section X.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit SMRs

that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below

2. For Dischargers designated as NPDES major dischargers. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharger shall submit the original DMR and one copy of the DMR to the address listed below:

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

3. All discharge monitoring results required in accordance with section C.2 above must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated or modified cannot be accepted.
4. If USEPA requires dischargers designated as NPDES minor dischargers to submit DMRs in the future, the Discharger shall submit DMRs as specified in C.2 and C.3 above at the request of the Regional Water Board Executive Officer or the USEPA Regional Administrator.

D. Other Reports

1. The Discharger shall report the results of any special studies, acute and chronic toxicity testing, TRE/TIE, PMP, and Pollution Prevention Plan required by Special Provisions – VI.C.2 and 3 of this Order. The Discharger shall submit reports with the first monthly SMR scheduled to be submitted on or immediately following the report due date in compliance with SMR reporting requirements described in subsection X.B. above.

2. Water Reclamation System

- a. **Reclamation Operations Reporting.** The Discharger shall submit reports pertaining to the operation, performance, monitoring, and other activities related to water reclamation as follows:

- (1) **Quarterly Recycled Water Report.** The Discharger shall submit a quarterly recycled water summary report, as required by section 13523.1(b)(4) of the Water Code, containing the following information:

- (a) Total volume of recycled water supplied to all recycled water users for each month of the reporting period;

- (b) Total number of recycled water use sites;
 - (c) Locations of recycled water use sites, including a map and tabular summary with acreage and name of property owner;
 - (d) A summary of user inspections conducted by the Discharger, including the number and location of any cross-connections and/or improper backflow prevention devices and all observations of misuse of recycled water;
 - (e) A summary of recycled water user violations of the Discharger's rules and regulations;
 - (f) A summary of operational problems, plant equipment malfunctions, and any diversion of recycled water which does not meet the requirements specified in this Order.
 - (g) A record of equipment or process failures initiating an alarm, as well as any corrective and preventative actions;
 - (h) When new user(s) are added to the reclamation system, the Discharger shall notify the Regional Water Board of the new users in accordance with Water Reclamation Provision C.5 in Attachment G. The notice shall include the following: site location, acreage involved, County Assessor Parcel number(s), name of property owner and/or user, estimated volume of recycled water to be used and a description of the recycled water management facilities and operations plan.
- (2) **Annual Recycled Water Report.** The annual report shall contain, but not be limited to, a review of the operations curve, irrigation volumes, rainfall, and acreage under irrigation. In addition, the annual report shall contain a description of the incidental discharges to surface water, scheduled and nonscheduled maintenance of the reclamation system appurtenances and irrigation areas, and enforcement and monitoring activities that occurred during the previous year, and identification of any problems and how the problems were addressed. In addition, the annual recycled water report shall include a summary of all cross-connection testing and back-flow prevention activities (inspections, maintenance) and a summary of any problems identified, or certification that no problems occurred.
- b. **Groundwater Monitoring Program.** The Discharger shall submit groundwater monitoring information specified in its groundwater monitoring program developed in accordance with Provision VI.C.2.b of the Order and section VIII.B of this MRP. Quarterly groundwater monitoring reports shall be submitted on the first day of the second month following the end of a quarter (See Table E-10)

3. **Annual Report.** The Discharger shall submit an Annual Report to the Regional Water Board for each calendar year. The report shall be submitted by March 1st of the following year. The report shall, at a minimum, include the following:
- a. Both tabular and, where appropriate, graphical summaries of the monitoring data and disposal records from the previous year. If the Discharger monitors any pollutant more frequently than required by this Order, using test procedures approved under title 40, section 136 or as specified in this Order, the results of this monitoring shall be included in the calculation and report of the data submitted SMR.
 - b. A comprehensive discussion of the facility's compliance (or lack thereof) with all effluent limitations and other WDRs, and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the Order.
 - c. Sanitary Sewer System Reporting. The Discharger shall submit, as part of its annual report to the Regional Water Board, a description of the Discharger's activities within the sanitary sewer system over the previous twelve months. The report shall contain:
 - (1) A description of any change in the local legal authorities enacted to implement the Sewer System Management Plan (SSMP);
 - (2) A summary of the SSOs that occurred in the past year. The summary shall include the date, location of overflow point, affected receiving water (if any), estimated volume, and cause of the SSO, and the names and addresses of the responsible parties as well as the names and addresses of the property owner(s) affected by the sanitary sewer overflow.
 - (3) A summary of compliance and enforcement activities during the past year. The summary shall include fines, other penalties, or corrective actions taken as a result of the SSO. The summary shall also include a description of public participation activities to involve and inform the public;
 - (4) Documentation that all feasible steps to stop and mitigate impacts of sanitary sewer overflows have been taken.
 - d. Source Control Activity Reporting. The Discharger shall submit, as part of its annual report to the Regional Water Board, a description of the Discharger's source control activities, as required by Provision VI.C.5.b. of Order No. R1-2007-0013, during the past year. This annual report is due on March 1st of each year.
 - (1) A copy of the source control standards.
 - (2) A description of the waste hauler permit system.

- (3) A summary of the compliance and enforcement activities during the past year. The summary shall include the names and addresses of any industrial or commercial users under surveillance by the Discharger, an explanation of whether they were inspected, sampled, or both, the frequency of these activities at each user, and the conclusions or results from the inspection or sampling of each user.
 - (4) A summary of any waste survey results.
 - (5) A summary of public participation activities to involve and inform the public.
- e. Biosolids handling and disposal activity reporting. The Discharger shall submit, as part of its annual report to the Regional Water Board, a description of the Discharger's solids handling, disposal and reuse activities over the previous twelve months. At a minimum, the report shall contain:
- (1) Annual sludge production, in dry tons and percent solids
 - (2) A schematic diagram showing sludge handling facilities (e.g., digesters, thickeners, drying beds, etc.), if any and a solids flow diagram.
 - (3) Methods of final disposal of sludge:
 - (a.) For any portion of sludge discharged to a sanitary landfill, the Discharger shall provide the volume of sludge transported to the land fill, the names and locations of the facilities receiving sludge, the Regional Water Board's WDRs order number for the regulated landfill, and the landfill classification.
 - (b.) For any portion of sludge discharged through land application, the Discharger shall provide the volume of biosolids applied, the date and locations where biosolids were applied, the Regional Water Board's WDRs order number for the regulated discharge, a demonstration that the discharge was conducted in compliance with applicable permits and regulations, and, if applicable, corrective actions taken or planned to bring the discharge into compliance with WDRs.
 - (c.) For any portion of sludge further treated through composting, the Discharger shall provide a summary of the composting process, the volume of sludge composted, and a demonstration and signed certification statement that the composting process and final product met all requirements for Class A biosolids.
- f. Storm Water Reporting. The Discharger shall submit, as part of its annual report to the Regional Water Board, an evaluation of the effectiveness of the Discharger's BMPs to control the run-on of storm water to the treatment facility site, as well as activities to maintain and upgrade these BMPs.
- g. Flood Control and Flow Reduction Mitigation Reporting. The Discharger shall submit, as part of its annual report to the Regional Water Board, a summary of all

flood control and flow reduction mitigation measures that the Discharger implemented in the prior year and provide an evaluation of the effectiveness of those flood control and flow reduction mitigation measures and recommendations for improving the flood control and flow reduction mitigation program for the upcoming year.

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Attachment E-1. Russian River WWTF Final Copper Effluent Limitations

Attachment E-1. Russian River WWTF Final Copper Effluent Limitations

Hardness (mg/L as CaCO3)	CCC 4-Day Average (ug/L)	CMC 1-Hour Average (ug/L)	0.527*CCC	0.321*CMC	Lowest LTA	AMEL (ug/L)	MDEL (ug/L)
5	0.72	0.83	0.38	0.27	0.27	0.41	0.83
10	1.3	1.6	0.69	0.51	0.51	0.80	1.6
15	1.8	2.3	0.97	0.75	0.75	1.2	2.3
20	2.4	3.1	1.2	0.99	0.99	1.5	3.1
25	2.9	3.8	1.5	1.2	1.2	1.9	3.8
30	3.3	4.5	1.8	1.4	1.4	2.2	4.5
35	3.8	5.2	2.0	1.7	1.7	2.6	5.2
40	4.3	5.9	2.2	1.9	1.9	2.9	5.9
45	4.7	6.6	2.5	2.1	2.1	3.3	6.6
50	5.2	7.3	2.7	2.3	2.3	3.6	7.3
55	5.6	8.0	2.9	2.6	2.6	4.0	8.0
60	6.0	8.7	3.2	2.8	2.8	4.3	8.7
65	6.5	9.3	3.4	3.0	3.0	4.6	9.3
70	6.9	10	3.6	3.2	3.2	5.0	10.0
75	7.3	11	3.8	3.4	3.4	5.3	11
80	7.7	11	4.1	3.6	3.6	5.6	11
85	8.1	12	4.3	3.9	3.9	6.0	12
90	8.5	13	4.5	4.1	4.1	6.3	13
95	8.9	13	4.7	4.3	4.3	6.6	13
100	9.3	14	4.9	4.5	4.5	7.0	14
105	9.7	15	5.1	4.7	4.7	7.3	15
110	10	15	5.3	4.9	4.9	7.6	15
115	11	16	5.6	5.1	5.1	7.9	16
120	11	17	5.7	5.3	5.3	8.3	17
125	11	17	5.9	5.5	5.5	8.6	17
130	12	18	6.2	5.8	5.8	8.9	18
135	12	19	6.4	6.0	6.0	9.2	19
140	12	19	6.6	6.2	6.2	9.6	19
145	13	20	6.8	6.4	6.4	9.9	20
150	13	21	7.0	6.6	6.6	10	20
155	14	21	7.1	6.8	6.8	11	21
160	14	22	7.3	7.0	7.0	11	22
165	14	22	7.5	7.2	7.2	11	22
170	15	23	7.7	7.4	7.4	11	23
175	15	24	7.9	7.6	7.6	12	24
180	15	24	8.1	7.8	7.8	12	24
185	16	25	8.3	8.0	8.0	12	25
190	16	26	8.5	8.2	8.2	13	26
195	17	26	8.7	8.4	8.4	13	26
200	17	27	8.9	8.6	8.6	13	27
205	17	28	9.1	8.8	8.8	14	27
210	18	28	9.3	9.0	9.0	14	28
215	18	29	9.5	9.2	9.2	14	29
220	18	29	9.6	9.4	9.4	15	29
225	19	30	9.8	9.6	9.6	15	30
230	19	31	10	9.8	9.8	15	31
235	19	31	10	10	10	16	31
240	20	32	10	10	10	16	32
245	20	33	11	10	10	16	33
250	20	33	11	11	11	17	33
255	21	34	11	11	11	17	34
260	21	34	11	11	11	17	34
265	21	35	11	11	11	17	35
270	22	36	11	11	11	18	36
275	22	36	12	12	12	18	36
280	22	37	12	12	12	18	37
285	23	38	12	12	12	19	37
290	23	38	12	12	12	19	38
295	24	39	12	12	12	19	39
300	24	39	13	13	13	19	39
310	25	41	13	13	13	20	40
320	25	42	13	13	13	21	41
330	26	43	14	14	14	21	42
340	27	44	14	14	14	22	44
350	27	46	14	15	15	22	45
360	28	47	15	15	15	23	46
370	29	48	15	15	15	23	47
380	29	49	15	16	16	24	48
390	30	50	16	16	16	24	49
400	30	52	16	17	17	25	50
>400	30	52	16	17	17	25	50

CCC (Criteria Continuous Concentration) = (0.8545*(LN(hardness))-1.702
 CMC (Criteria Maximum Concentration) = (0.8545*(LN(hardness))-1.702
 AMEL (Average Monthly Effluent Limitation) = 1.55*(minimum 0.527CCC,0.321CMC)
 MDEL (Maximum Daily Effluent Limitation) = 3.11*(minimum 0.527CCC,0.321CMC)
 Hardness = hardness of the receiving water at the time the discharge is sampled
 LTA = Long-term average
 CV=0.50

Attachment E-2. Russian River WWTF Final Ammonia AMELs

Ammonia (mg/L N)											
Receiving Water pH	Receiving Water Temperature, °C										
	0	14	15	16	18	20	22	24	26	28	30
6.5	6.7	6.7	6.5	6.1	5.3	4.7	4.1	3.6	3.2	2.8	2.5
6.6	6.6	6.6	6.4	6.0	5.2	4.6	4.1	3.6	3.1	2.8	2.4
6.7	6.4	6.4	6.2	5.9	5.1	4.5	4.0	3.5	3.1	2.7	2.4
6.8	6.3	6.3	6.1	5.7	5.0	4.4	3.9	3.4	3.0	2.6	2.3
6.9	6.1	6.1	5.9	5.6	4.9	4.3	3.8	3.3	2.9	2.6	2.3
7.0	5.9	5.9	5.7	5.4	4.7	4.2	3.6	3.2	2.8	2.5	2.2
7.1	5.7	5.7	5.5	5.2	4.5	4.0	3.5	3.1	2.7	2.4	2.1
7.2	5.4	5.4	5.2	4.9	4.3	3.8	3.3	2.9	2.6	2.3	2.0
7.3	5.1	5.1	4.9	4.6	4.1	3.6	3.1	2.8	2.4	2.1	1.9
7.4	4.7	4.7	4.6	4.3	3.8	3.3	2.9	2.6	2.3	2.0	1.7
7.5	4.4	4.4	4.2	4.0	3.5	3.1	2.7	2.4	2.1	1.8	1.6
7.6	4.0	4.0	3.9	3.6	3.2	2.8	2.5	2.2	1.9	1.7	1.5
7.7	3.6	3.6	3.5	3.3	2.9	2.5	2.2	1.9	1.7	1.5	1.3
7.8	3.2	3.2	3.1	2.9	2.5	2.2	2.0	1.7	1.5	1.3	1.2
7.9	2.8	2.8	2.7	2.5	2.2	2.0	1.7	1.5	1.3	1.2	1.0
8.0	2.4	2.4	2.4	2.2	1.9	1.7	1.5	1.3	1.2	1.0	0.90
8.1	2.1	2.1	2.0	1.9	1.7	1.5	1.3	1.1	1.0	0.88	0.77
8.2	1.8	1.8	1.7	1.6	1.4	1.3	1.1	0.97	0.86	0.75	0.66
8.3	1.5	1.5	1.5	1.4	1.2	1.1	0.94	0.83	0.73	0.64	0.56
8.4	1.3	1.3	1.3	1.2	1.0	0.91	0.80	0.70	0.62	0.54	0.48
8.5	1.1	1.1	1.1	0.99	0.87	0.76	0.67	0.59	0.52	0.46	0.40
8.6	0.92	0.92	0.89	0.84	0.73	0.65	0.57	0.50	0.44	0.39	0.34
8.7	0.78	0.78	0.75	0.71	0.62	0.55	0.48	0.42	0.37	0.33	0.29
8.8	0.66	0.66	0.64	0.60	0.53	0.46	0.41	0.36	0.32	0.28	0.24
8.9	0.56	0.56	0.55	0.51	0.45	0.40	0.35	0.31	0.27	0.24	0.21
9.0	0.49	0.49	0.47	0.44	0.39	0.34	0.30	0.26	0.23	0.20	0.18

Attachment E-3. Russian River WWTF Final Ammonia MDELs

Receiving Water pH	Ammonia mg/L N
6.5	33
6.6	31
6.7	30
6.8	28
6.9	26
7.0	24
7.1	22
7.2	20
7.3	18
7.4	15
7.5	13
7.6	11
7.7	9.6
7.8	8.1
7.9	6.8
8.0	5.6
8.1	4.6
8.2	3.8
8.3	3.1
8.4	2.6
8.5	2.1
8.6	1.8
8.7	1.5
8.8	1.2
8.9	1.0
9.0	0.88

ATTACHMENT F – FACT SHEET

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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	1B82045OSON
Discharger	Russian River County Sanitation District and Sonoma County Water Agency
Name of Facility	Russian River Wastewater Treatment Facility (WWTF)
Facility Address	18400 Neeley Road
	Guerneville, CA 95446
	Sonoma County
Facility Contact, Title and Phone	Wendy Gjestland, Water Agency Engineer, (707) 521-1866
Authorized Person to Sign and Submit Reports	Michael Thompson, Deputy Chief Engineer, (707) 521-1863 or other SCWA engineering staff with proper signatory authority
Mailing Address	P.O. Box 11628 Santa Rosa CA 95406
Billing Address	P.O. Box 11628 Santa Rosa CA 95406
Type of Facility	Publicly Owned Treatment Works (POTW)
Major or Minor Facility	Minor
Threat to Water Quality	1
Complexity	A
Pretreatment Program	N
Reclamation Requirements	Producer and Master Reclamation Permit
Facility Permitted Flow	0.51 million gallons per day (mgd) (average daily dry weather flow to reclamation system)
Facility Design Flow	0.71 mgd (average dry weather treatment capacity) 3.5 mgd (peak wet weather treatment capacity)
Watershed	Russian River Hydrologic Unit
Receiving Water	Russian River

Receiving Water Type	Inland Surface Water
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- A. The Sonoma County Water Agency (SCWA) is the operator of the Russian River Wastewater Treatment Facility, a POTW. The Russian River County Sanitation District (RRCSD) owns the property at 18400 Neeley Road on which the facility is located. Together, the Sonoma County Water Agency and the Russian River County Sanitation District are hereinafter referred to as the Discharger.

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 treatment facility discharges treated wastewater to the Russian River, waters of the United States, and is currently regulated by Regional Water Board Order No. R1-2003-0026, which was adopted on November 5, 2003 and expires on November 5, 2008.
- C. The Discharger filed a Report of Waste Discharge (ROWD) and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on August 24, 2007. Supplemental information was submitted on June 19, 2008, July 8, 2008 and October 16, 2008. The ROWD was deemed complete on October 16, 2008.

II. FACILITY DESCRIPTION

The Russian River County Sanitation District (RRCSD) owns wastewater collection, treatment, and disposal facilities that serve approximately 7,300 people in unincorporated areas of Rio Nido, Vacation Park, Guerneville, and Guerneville Park. The majority of the facility’s wastewater flow is residential and commercial (approximately 98%), while approximately two (2) percent is made up of industrial, recreational, institutional, and governmental flow. The collection system includes approximately 35 miles of gravity sewer pipeline, five miles of force main, and 11 lift stations that convey wastewater to the Russian River Treatment Facility located at 18400 Neeley Road in Guerneville. The Sonoma County Water Agency (SCWA) operates the WWTF and collection system under contract with the RRCSD.

A. Description of Wastewater and Biosolids Treatment or Controls

The treatment facility has design treatment capacities of 0.71 million gallons per day (mgd) (average dry weather flow) and 3.5 mgd (maximum sustained wet-weather peak flow). Wastewater treatment is accomplished by coarse screening and aerated grit removal, three (3) extended aeration activated sludge basins, three (3) secondary clarifiers, two (2) tertiary filters, and chlorination/dechlorination. The third aeration basin is currently used as an additional storage basin for influent during high flow events. The addition of the third secondary clarifier during the term of the previous permit increased the facility’s wet weather capacity to a maximum sustained flow rate of 3.5 mgd.

Tertiary treated, disinfected (and dechlorinated) wastewater is held in a 3.5 million gallon Effluent Storage Pond (also known as the "Holding Pond" by operations staff) prior to discharge to the Russian River (October 1 – May 14) or the recycled water/land disposal system. The Effluent Storage Pond also fills the redwood tank at the top of the hill that supplies recycled water for various uses including irrigation of the Northwood Golf Course and the upper and lower Burch properties, as well as utility water for plant processes and fire hydrants around the plant. During river discharge, a control valve is used to adjust the flow from the effluent storage pond through the Russian River Outfall line. The bottom of the effluent storage pond is at 39.0 feet elevation, while 0 feet of freeboard is at 57.0 feet elevation. To protect the pond from failure, an emergency overflow is at 56.0 ft elevation. The effluent storage pond overflow pipe connects with the Russian River Outfall line after the control valve but prior to the Russian River Outfall meter.

From October 1 through May 14 treated wastewater is discharged to the Russian River, waters of the United States within the Guerneville hydrologic subarea of the Lower Russian River hydrologic area.

From May 15 through September 30, when discharges to the Russian River are prohibited, the treated wastewater is used for irrigation of the Northwood Golf Course. The Northwood Golf Course is located south of the treatment facility and on the opposite side of the Russian River. An average of 0.085 mgd is applied to an area of 43 acres during the irrigation season. Treated wastewater not used by the Northwood Golf Course is spray irrigated on 17 acres of wooded property adjacent to the treatment facility (the Burch property). During the irrigation season (May 15 to September 30), approximately 0.02 mgd and 0.23 mgd, respectively, are currently applied to the "upper" and "lower" areas of the Burch property.

During periods of very high influent flows, flow that exceeds treatment capacity is chlorinated and diverted to a one (1) million gallon Emergency Holding Pond. The Emergency Holding Pond stores primary effluent sent there from the headworks or from Aeration Basin #3. Tertiary effluent is also automatically diverted to the Emergency Pond when the turbidimeter is greater than 2 NTU, when there is a chlorine residual detected in the effluent going to the Holding Pond, or when the chlorine contact time at the end of the chlorine contact chamber is less than 450 mg-min/L. The bottom of the Emergency Holding Pond is at 39.0 feet elevation, while 0 feet of freeboard is at 50.0 feet elevation. To protect the pond from failure, an emergency overflow is at 47.25 feet elevation. The Emergency Holding Pond overflow pipe connects with the Russian River Outfall line after the control valve, but prior to the Russian River Outfall meter. According to the Storage Curve, the Emergency Holding Pond has 0.8 MG of storage at the emergency overflow of 47.25 feet elevation (2.75 feet freeboard). A barrier has been inserted in the emergency overflow structure so that the Emergency Holding Pond does not spill into the overflow pipeline until the pond level is at 1.0 MG of storage at 49.0 feet (1 foot freeboard). As influent flow subsides, raw wastewater from the Emergency Holding Pond is directed back to the headworks for treatment.

The Discharger estimates that infiltration and inflow to the system is 0.195 mgd based on 2004 through 2006 flow data.

Biosolids resulting from wastewater treatment are dewatered by belt press and stored in sludge bins prior to ultimate disposal at the Redwood Landfill in Marin County.

B. Discharge Points and Receiving Waters

The treatment facility's point of discharge to the Russian River is located within the Guerneville Hydrologic Subarea of the Lower Russian River Hydrologic Area and the Russian River Hydrologic Unit at 38° 24' 04" N latitude and 122° 56' 31" W longitude. In accordance with the Basin Plan, discharges to the Russian River can occur only during the period of October 1 through May 14 of each year, as long as the discharge flow is greater than one percent of the receiving stream's flow, as measured at USGS Gauge No. 11-4670.00 at the Hacienda Bridge.

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

Effluent limitations contained in the existing Order for discharges to surface waters (Discharge Serial No. 001 in Order No. R1-2003-0026) and irrigation (Discharge Serial Nos. 002 and 003 in Order No. R1-2003-0026) and representative monitoring data from the term of the previous Order are summarized as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation			Monitoring Data (From 11/2003– To 5/2008)			
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	No. of Violations
Discharge to Surface Water								
BOD ₅	mg/L	10	15	---	<5	8	---	0
	lbs/day ¹	60	90	---	44.2	69.2	---	0
TSS	mg/L	10	15	---	8.0	29.0	---	1
	lbs/day ¹	60	90	---	73.5	542.6	---	1
BOD and TSS Percent Removal	percent	85			All values greater than 90 percent			0
Total Coliform Bacteria	MPN/100 mLs	----	2.2 ²	23/240 ³	---	17 ³	1600 ³	3/52/3
pH	pH Units.	6.5 - 8.5 at all times			Minimum – 6.2 Maximum – 7.6			2
Total Residual Chlorine	mg/L	Nondetect ⁴			---	---	0.2	1
Settleable Solids	mL/L/hr	Nondetect ⁵			---	---	<0.1	0
Acute Toxicity	% Survival	One sample minimum – 70% Three sample median – 90%			Minimum – 90% Survival			0
Chloroform	µg/L	100	---	---	48	---	---	0
Dichlorobromo-methane	µg/L	---	---	32	---	---	4.0	0
Discharge to Irrigation								
BOD ₅	mg/L	30	45	---	9	16	---	0
TSS	mg/L	30	45	---	2.8	6.4	---	0
Total Coliform Bacteria	MPN/100 mLs	---	2.2 ²	23/240 ⁴		<2 ²	4 ³	0
pH	pH Units				Minimum - 5.3 Maximum – 7.6			0

¹ Based on a dry weather design flow of 0.71 MGD.

² Expressed as a seven day median.

³ The number of coliform bacteria must not exceed an MPN of 23 per 100 mL in more than one sample in any 30-day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 mL

⁴ Using a chlorine analyzer or analytical method with a minimum detection level of 0.1 mg/L.

⁵ The effluent shall not contain any measurable settleable solids.

Parameter	Units	Effluent Limitation			Monitoring Data (From 11/2003– To 5/2008)			
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	No. of Violations
Settleable Solids	mL/L/hr	Nondetect ⁵			---	---	<0.1	0

D. Compliance Summary
 1. Violations Summary

In the period 1997 through 2005, the facility was in significant non-compliance with its permits due to problems with excessive influent flows during extended wet-weather periods. The facility's failure to properly address this problem led to by-passes of untreated and partially treated wastewater from the WWTF and collection system and exceedances of effluent limitations with regard to BOD, suspended solids and coliform during wet-weather periods. Cease and desist orders adopted during the 1990's (see Enforcement Action Summary below) addressed many of these compliance issues with this Discharger. During the term of the previous Order, the Discharger completed several projects and operational changes to address these violations. The Third Unit Processes project completed in 2006 increased the WWTF capacity to effectively treat 3.5 mgd sustained wet-weather flow. In addition, the influent pumps are being operated to limit wet-weather influent flow to the current wet-weather capacity of 3.5 mgd to avoid overwhelming the WWTF. By reducing lift station pump capacity, the Discharger relies on residual pipe storage available within the collection system.

During the period of November 2003 through May 2008, the Discharger experienced two total suspended solids, two pH, one chlorine residual and 55 coliform violations during periods of discharge to the Russian River. All of the violations occurred during periods of wet-weather flow. The small number of suspended solids violations may be a result of improvements made at the WWTF during the previous permit term. Most of the coliform violations

were slight exceedances of the 7-day median effluent limitation, while three of the violations were significant exceedances of the daily maximum effluent limitation. The coliform violations occurred during periods of high flows because the chlorine contact chamber is not large enough to provide adequate detention time during high wet-weather flows. The Discharger is addressing this problem with the planned construction of an ultraviolet (UV) disinfection system which will be completed by July 1, 2011. In the meantime, the Discharger may continue to experience coliform violations during high flow periods.

During the period of November 2003 through May 2008, the Discharger had no effluent limitation violations during periods of land disposal and reclamation.

2. Enforcement Action Summary

Important enforcement actions, related to violations of waste discharge and NPDES requirements, taken against the Discharger are summarized below.

Cease and Desist Order No. 97-9. This Order was adopted on January 23, 1997 in response to a discharge of 201,000 gallons of treated wastewater to the Russian River, via irrigation runoff, during the summer period (May 15 through September 30) when such discharges are prohibited. The Order required planning efforts to prevent such discharges in the future.

Cease and Desist Order No. 97-76. This Order was adopted on August 27, 1997 and included a time schedule for the Discharger to construct wastewater storage capacity to address discharges in violation of permit requirements.

Cease and Desist Order No. 98-57. In response to the bypass and discharge of 30 million gallons of partially treated wastewater to the Russian River in February 1998, this Order was adopted on May 28, 1998 and directed the Discharger to develop short and long term plans to prevent such discharges in the future.

Administrative Civil Liability Order No. 98-83. This Order was adopted on August 26, 1998 and assessed penalties for the bypass of 30 million gallons of partially treated wastewater to the Russian River, and associated permit violations, which occurred in February 1998. The action was challenged but ultimately upheld by the California Court of Appeal, Marin County Superior Court in court case no. CV994924.

Administrative Civil Liability Order No. 99-52. This Order was adopted on July 22, 1999 and assessed penalties for overflows of 2,400 and 99,000 gallons of untreated wastewater to the Russian River, which occurred in two different events at lift stations in February and April 1999.

Administrative Civil Liability Order No. 99-69. This Order was adopted on September 23, 1999 and assessed penalties in response to the bypass/discharge of 1.125 million gallons of partially treated wastewater to the Russian River, and associated permit violations, in February 1999.

Administrative Civil Liability Order No. R1-2005-0062. This Order was adopted on June 22, 2005 and assessed mandatory minimum penalties for chronic violations of waste discharge/NPDES requirements regarding turbidity and bacteria, occurring between January 2000 and August 2004.

Administrative Civil Liability Complaint No. R1-2007-0101. This Complaint was issued on November 14, 2007 to address violations of effluent limitations, discharge prohibitions, and receiving water limitations that occurred between October 2004 and May 2007. Violations described by the Complaint include numerous violations of effluent limitations for bacteria, several incidents of bypass and/or out-of-season discharges to the Russian River, as well as violations of receiving water limitations for turbidity.

Administrative Civil Liability Order No. R1-2008-0045. This Order was adopted on June 12, 2008 and provides a time schedule for a compliance project to address violations that were the subject of Administrative Civil Liability Complaint No. R1-2007-

0101. The compliance project set forth in the ACLO is the planning and construction of an ultraviolet light disinfection system to be completed by July 1, 2011.

E. Planned Changes

The Discharger has three significant upgrades planned during the term of this Order.

1. The Discharger is planning to install an ultraviolet (UV) disinfection system to replace the chlorination disinfection system and expects to complete this project by July 2011 in accordance with the compliance schedule contained in Administrative Civil Liability Order No. R1-2008-0045. The UV system will improve facility compliance with coliform effluent limitations and will eliminate the formation of trihalomethanes, including dichlorobromomethane, chlorodibromomethane, and chloroform, thus allowing the Discharger to comply with final effluent limitations for dichlorobromomethane. Final dichlorobromomethane effluent limitations became effective November 8, 2008 and the Discharger may violate those effluent limitations until it completes its UV disinfection system.
2. The Discharger is also planning to construct a 3.5 million gallon equalization basin by 2012. The equalization basin will provide capacity for influent flows during high flow events, thus allowing the Discharger to temporarily store influent flows in excess of treatment capacity. This project will help improve facility compliance with coliform, BOD and suspended solids effluent limitations by reducing the load on the treatment facility during high wet weather flows.
3. The Discharger is also planning an expansion of the reclaimed water system to increase the irrigation system capacity and provide additional agricultural users with recycled water. An EIR for this proposed project has been circulated by the Discharger, but has not been finalized and certified, thus a project schedule has not yet been determined.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the proposed Order are based on the requirements and authorities described in this section. This section provides supplemental information, where appropriate, for the plans, policies, and regulations relevant to the discharge.

A. 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) and a Master Reclamation Permit pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260 and 13520, respectively).

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100 through 21177.

This action also involves the adoption of a Master Reclamation Permit. For the portion of the permit that addresses WDRs for discharges to land, the Regional Water Board has prepared a notice of exemption that the project is categorically exempt from CEQA pursuant to section 15301 of title 14 of the California Code of Regulations. Because the Regional Water Board is issuing the WDRs for discharges from an existing facility for which no expansion of design flow is being permitted, this project meets the requirements of the categorical exemption, including the requirements set forth in section 15300.2 that the project not have any significant effects or result in cumulative impacts. The two existing irrigation areas, the Burch Property and the Northwood Golf Course, have been utilized by the Discharger for the land discharge of treated wastewater since the WWTF was first constructed in the early 1980's.

In order to allow land disposal/reclamation in additional areas, the Discharger will need to conduct an environmental analysis of any potential impacts, and will act as the lead agency for CEQA. The Discharger is planning a future expansion of its reclamation system and a draft EIR has been prepared and circulated for public comment. Upon certification of the EIR and approval of the project, the Discharger must ensure all reclamation activities comply with Attachment G – Water Reclamation Requirements and Provisions, of this Order.

C. State and Federal Regulations, Policies, and Plans

- 1. Water Quality Control Plans.** The Regional Water Quality Control Board (Regional Water Board) adopted a *Water Quality Control Plan for the North Coast Region* (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. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to the Russian River are as follows:

Table F-3. Basin Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
002	Russian River - Guerneville Hydrologic Subarea of the Russian River Hydrologic Unit	Existing: <ul style="list-style-type: none"> • Municipal and Domestic Supply (MUN) • Agricultural Supply (AGR) • Industrial Service Supply (IND) • Ground Water Recharge (GWR) • Freshwater Replenishment (FRSH) • Navigation (NAV) • Water Contact Recreation (REC-1) • Non-Contact Water Recreation (REC-2) • Commercial and Sport Fishing (COMM) • Warm Freshwater Habitat (WARM)

Discharge Point	Receiving Water	Beneficial Uses
		<ul style="list-style-type: none"> • Cold Freshwater Habitat (COLD) • Wildlife Habitat (WILD) • Preservation of Rare, Threatened, or Endangered Species (RARE) • Migration of Aquatic Organisms (MIGR) • Spawning, Reproduction, and/or Early Development (SPWN) • Estuarine Habitat (EST) Potential: <ul style="list-style-type: none"> • Industrial Process Supply (PRO) • Hydropower Generation (POW) • Shellfish Harvesting (SHELL) • Aquaculture (AQUA)

Requirements of this Order implement the Basin Plan.

2. **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.
3. **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.
4. **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 C.F.R. § 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.

5. **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. The permitted discharge must be consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.
6. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations⁶ 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.

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

Section 303(d) of the federal CWA requires states to identify waterbodies that do not meet water quality standards and are not supporting their beneficial uses after implementation of technology-based effluent limitations on point sources. Each state must submit an updated list, the 303 (d) List of Impaired Waterbodies, to USEPA by April of each even numbered year. In addition to identifying the waterbodies that are not supporting beneficial uses, the 303 (d) list also identifies the pollutant or stressor causing impairment and establishes a schedule for developing a control plan to address the impairment. The USEPA requires the Regional Water Board to develop total maximum daily loads (TMDLs) for each 303 (d) listed pollutant and water body contaminant. TMDLs establish the maximum quantity of a given pollutant that can be added to a water body from all sources without exceeding the applicable water quality standard for that pollutant and determine wasteload allocations (the portion of a TMDL allocated to existing and future point sources) for point sources and load allocations (the portion of a TMDL attributed to existing and future nonpoint sources) for nonpoint sources.

In June 2007, the USEPA provided final approval of the 303 (d) list of impaired water bodies prepared by the State. The list identifies the Lower Russian River between Fife Creek and Dutch Bill Creek as impaired by pathogens; the entire Russian River watershed as impaired by excess sediment and elevated water temperatures. Pursuant to CWA section 303 (d), the Regional Water Board will adopt Total Maximum Daily Loads (TMDLs) to address impairing pollutants in 303 (d) listed waters, and then implement TMDLs, including through provisions of NPDES permits. TMDLs establish the maximum quantity of a given pollutant that can be added to a water body from all sources without exceeding the applicable water quality standard for that pollutant and determine wasteload allocations (the portion of a TMDL allocated to existing and future point sources) for point sources and load allocations (the portion of a TMDL attributed to existing and future nonpoint sources) for nonpoint

⁶ All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

sources. The Regional Water Board expects to adopt TMDLs for pathogens for the Russian River in 2011 and for sediment and temperature by 2019.

Aspects of the sediment impairing the Russian River include settleable solids, suspended solids, and turbidity. The impact of settleable solids results when they collect on the bottom of a waterbody over time, making them a persistent or accumulative constituent. The impact of suspended solids and turbidity, by contrast, results from their concentration in the water column.

An analysis of the Discharger's effluent monitoring data during the period of November 2003 through May 2008 reveals that the discharge from this facility, during periods of high wet weather flows, occasionally exceeds concentration-based coliform, BOD and suspended solids effluent limitations as well as wet-weather design flow limitations which leads to occasional exceedances of mass-based effluent limitations for BOD and suspended solids. During the last five years, the facility has had three exceedances of the monthly maximum and 52 exceedances of the 7-day median coliform effluent limitations and one exceedance each of concentration- and mass-based effluent limitations for suspended solids and BOD. At all other times the discharge has been in compliance with these effluent limitations. Thus, the discharge does not typically contain sediment (e.g., settleable solids, suspended solids, and turbidity) or coliform at levels which will cause, have the reasonable potential to cause, or contribute to increases in sediment levels in the Russian River. This finding is based in part on the summer discharge prohibition, the one-percent flow limitation for winter discharge, and the results of previous solids and turbidity monitoring that has demonstrated that the Discharger's facility removes all settleable solids and reduces total suspended solids and turbidity to negligible levels. In addition, the Discharger's UV disinfection project will address coliform violations by July 2011 and the equalization basin upgrade project will address suspended solids and BOD violations by 2012.

An analysis of the Discharger's effluent and receiving water monitoring data during the period of November 2003 through May 2008 reveals that the temperature of the discharge from this facility is frequently warmer than the temperature of the Russian River during the same time period. A comparison of upstream and downstream receiving water monitoring data reveals that the change in temperature from upstream to downstream can vary by up to plus or minus 1.7°C, but more often remains unchanged or varies by no more than plus or minus 0.5 °C. Further evaluation is necessary to determine if the discharge creates temperature impacts in close proximity to the discharge outfall. The Order and

MRP require the Discharger to monitor the Russian River at the discharge outfall by October 1, 2011, unless the Discharger submits a plan by September 1, 2009 to conduct its own evaluation of receiving water monitoring locations and proposes alternate receiving water monitoring locations that are more representative of receiving water conditions by September 1, 2010.

E. Other Plans, Polices and Regulations

1. On May 2, 2006, the State Water Board adopted State Water Board Order 2006-0003-DWQ, Statewide General WDRs for Sanitary Sewer Systems and on February 20, 2008 adopted Order No. WQ 2008-0002-EXEC Adopting Amended Monitoring and Reporting Requirements for Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. Order No. 2006-0003-DWQ requires that all public agencies that currently own or operate sanitary sewer systems apply for coverage under the General WDRs. The deadline for dischargers to apply for coverage was November 2, 2006. The Discharger applied for coverage and is subject to the requirements of Order Nos. 2006-0003-DWQ and WQ 2008-0002 and any future revisions thereto for operation of its wastewater collection system.
2. If applicable, the Discharger shall seek coverage under State Water Board Water Quality Order 97-03-DWQ, NPDES General Permit No. CAS000001, Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities.
3. On July 22, 2004, the State Water Board adopted State Water Board Order No. 2004-0012-DWQ, General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities. The Order requires the Discharger to obtain coverage under Order No. 2004-0012-DWQ prior to any removal of biosolids from the WWTF that will be land disposed.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: section 122.44(a) requires that permits include applicable technology-based limitations and standards; and section 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.

A. Discharge Prohibitions

1. **Discharge Prohibition III.A.** The discharge of any waste not disclosed by the Discharger or not within the reasonable contemplation of the Regional Water Board is prohibited.

This prohibition is based on the Basin Plan, the previous permit, and State Water Board Order WQO 2002-0012 regarding the petition of WDRs Order No. 01-072 for the East Bay Municipal Utility District and Bay Area Clean Water Agencies. In State Water Board Order No. WQO 2002-0012, the State Water Board found that this prohibition is acceptable in Orders, but should be interpreted to apply only to constituents that are either not disclosed by the Discharger, or are not reasonably anticipated to be present in the discharge but have not been disclosed by the Discharger. It specifically does not apply to constituents in the discharge that do not have “reasonable potential” to exceed water quality objectives.

The State Water Board has stated that the only pollutants not covered by this prohibition are those which were “disclosed to the Ordering and ... can be reasonably contemplated. [In re the Petition of East Bay Municipal Utilities District et al., (State Water Board, 2002) Order No. WQO 2002-0012, p. 24] In that Order, the State Water Board cited a case which held the Discharger is liable for the discharge of pollutants “not within the reasonable contemplation of the permitting authoritywhether spills or otherwise...” [Piney Run Preservation Assn. v. County Commissioners of Carroll County, Maryland (4th Cir. 2001) 268 F. 3d 255, 268.] Thus the State Water Board authority provides that, to be permissible, the constituent discharged (1) must have been disclosed by the Discharger and (2) can be reasonably contemplated by the Regional Water Board.

Whether or not the Discharger reasonably contemplates the discharge of a constituent is not relevant. What matters is whether the Discharger disclosed the constituent to the Regional Water Board or whether the presence of the pollutant in the discharge can otherwise be reasonably contemplated by the Regional Water Board at the time of Order adoption.

2. **Discharge Prohibition III.B.** Creation of pollution, contamination, or nuisance, as defined by Section 13050 of the California Water Code is prohibited.

This prohibition is based on section 13050 of the Water Code, and has been retained from Order No. R1-2003-0026.

3. **Discharge Prohibition III.C.** The discharge of sludge or digester supernatant is prohibited, except as authorized under section VI.C.5.c. (Solids Disposal and Handling Requirements, section VI.C.5.c of the Order.)

This prohibition is based in restrictions on the disposal of sewage sludge found in federal regulations [40 CFR Part 503 (Biosolids), Part 527 and Part 258] and Title 27 of the California Code of Regulations (CCR). It has been retained from the previous Order.

4. **Discharge Prohibition III.D.** The discharge or reclamation use of untreated or partially treated waste from anywhere within the collection, treatment, or disposal systems is prohibited, except as provided for in Attachment D, Standard Provisions (Bypass).

This prohibition has been retained from the previous Order and is based on the Basin Plan to protect beneficial uses of the receiving water from unpermitted discharges, and the intent of the Water Code sections 13260 through 13264 relating to the discharge of waste to waters of the State without filing for and being issued an Order. This prohibition applies to spills not related to sanitary sewer overflows (SSOs) and other unauthorized discharges of wastewater within the collection, treatment, and disposal facilities. The discharge of untreated or partially treated wastewater from the collection, treatment, or disposal facility represents an unauthorized bypass pursuant to 40 CFR 122.41(m) or an unauthorized discharge which poses a threat to human health and/or aquatic life, and therefore is explicitly prohibited by this Order.

5. **Discharge Prohibition III.E.** Any SSO that results in a discharge of untreated or partially treated wastewater to (a) waters of the State, (b) groundwater, or (c) land that creates pollution, contamination, or nuisance, as defined in Water Code section 13050(m) is prohibited.

This prohibition applies to spills related to SSOs and is based on State standards, including section 13050 of the Water Code and the Basin Plan. This prohibition is consistent with the States' antidegradation policy as specified in State Water Board Resolution No. 68-16 (*Statement of Policy with Respect to Maintaining High Quality of Water in California*) in that the prohibition imposes conditions to prevent impacts to water quality, the degradation of water quality, negative effects on receiving water beneficial uses, and lessening of water quality beyond that prescribed in State Water Board or Regional Water Board plans and policies.

This prohibition is stricter than the prohibitions stated in State Water Board Order 2006-003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. Order No. 2006-0003-DWQ prohibits SSOs that result in the discharge of untreated or partially treated wastewater to waters of the United States

and SSOs that cause a nuisance, compared to Prohibition III.E. of this Order, which prohibits SSO discharges that create nuisance or pollution to waters of the State, groundwater, and land for a more complete protection of human health. The rationale for this prohibition is because of the prevalence of high groundwater in the North Coast Region, and this Region's reliance on groundwater as a drinking water source.

6. **Discharge Prohibition III.F.** The discharge of waste to land that is not owned or under agreement to use by the Discharger is prohibited, except for use for fire suppression as provided in Title 22, sections 60307 (a) and (b) of the California Code of regulations.

This prohibition is retained from Order No. R1-2003-0026. Land used for the application of wastewater must be owned by the Discharger or be under the control of the Discharger by contract so that the Discharger maintains a means for ultimate disposal of treated wastewater.

7. **Discharge Prohibition III.G.** The discharge of waste at any point not described in Finding II.B or authorized by a permit issued by the State Water Board or another Regional Water Board is prohibited.

This prohibition is a general prohibition that allows the Discharger to discharge waste only in accordance with WDRs. It is based on sections 301 and 402 of the federal CWA and section 13263 of the Water Code.

8. **Discharge Prohibition III.H.** The mean daily dry weather flow of waste in excess of 0.51 mgd measured over a period of 30 consecutive days is prohibited.

This prohibition is retained from the previous permit and is based on the dry weather discharge to the water recycling system. The combined irrigation capacity at the Northwood Golf Club and the Burch property is estimated to be 0.51 mgd. Exceedance of this capacity may result in runoff events to surface water, which is prohibited during the dry season.

9. **Discharge Prohibition III.I.** The peak daily wet-weather influent flow to the WWTF in excess of 3.5 mgd is prohibited.

This prohibition is new and is based on the current daily peak sustained wet-weather capacity of the WWTF. Exceedance of this capacity on a daily basis may result in effluent violations and/or the need to by-pass untreated effluent blended with treated effluent, which is prohibited.

10. **Discharge Prohibition III.J.** The discharge of wastewater effluent from the wastewater treatment facility to the Russian River or its tributaries is prohibited during the period of May 15 through September 30 of each year.

This prohibition is retained from the previous permit, and is required by the Basin Plan. The Basin Plan prohibits discharges to the Russian River and its tributaries during the period of May 15 through September 30 (Chapter 4, North Coastal Basin Discharge Prohibition No. 3). The original intent of this prohibition was to prevent the contribution of wastewater to the baseline flow of the Russian River during the period of the year when the Russian River and its tributaries experience the heaviest water-contact recreation use.

11. **Discharge Prohibition III.K.** During the period from October 1 through May 14, discharges of treated wastewater to the Russian River shall not exceed one percent of the flow of the Russian River, as measured by USGS Gauge No. 11-4670.00 at Hacienda Bridge.

This prohibition is required by the Basin Plan (Chapter 4, North Coastal Basin Discharge Prohibition No. 3). The Basin Plan prohibits discharges to the Russian River and its tributaries when the waste discharge flow is greater than one percent of the receiving water's flow. Basin Plan Prohibition No. 4 does not specify how compliance to the one-percent flow requirement should be determined. This prohibition (retained from the previous Order) corrects this oversight and specifies that the discharge may comply with the one percent requirement as a monthly average for the surface water discharge season, provided the Discharger makes a reasonable effort to adjust the discharge of treated wastewater to one percent of the most recent daily flow measurement of the Russian River at Hacienda Bridge. This modification provides day-to-day operational flexibility for the Discharger while retaining the intent of the prohibition.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations, require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at Part 133 and/ or Best Professional Judgment (BPJ) in accordance with Part 125, section 125.3.

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

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) established the minimum performance requirements for POTWs [defined in section 304(d)(1)]. Section 301(b)(1)(B) of that Act requires that such treatment works must,

as a minimum, meet effluent limitations based on secondary treatment as defined by the USEPA Administrator.

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

- a. BOD and Suspended Solids
 - (1) The 30-day average shall not exceed 30 mg/L.
 - (2) The 7-day average shall not exceed 45 mg/L.
 - (3) The 30-day average percent removal shall not be less than 85%
- b. pH
 4. The pH shall be maintained within the limits of 6.0 to 9.0.

The effluent limitation for pH required to meet the water quality objective for hydrogen ion concentration (pH) is contained in the Basin Plan, Table 3-1.

In addition, section 122.45(f) requires the establishment of mass-based effluent limitations for all pollutants limited in Orders, except for 1) pH, temperature, radiation, or other pollutants which cannot appropriately expressed by mass, and 2) when applicable standards and limitations are expressed in terms of other units of measure.

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

The effluent limitations in this Order for BOD, Suspended Solids and pH not only meet the technology-based requirements for secondary treatment set forth in section 133.102, but they also are required to meet the water quality based requirements set forth in the Basin Plan.

In addition to the minimum, federal technology-based requirements, the Basin Plan requires that discharges of municipal waste “shall be of advanced treated wastewater in accordance with effluent limitations contained in NPDES permits for each affected discharger, and shall meet a median coliform level of 2.2 MPN/100mL” for discharges to the Russian River and its tributaries during October 1 through May 14. This requirement leaves discretion to the Regional Water Board to define advanced wastewater treatment by the implementation of effluent limitations in individual permits.

- a. BOD₅ and Suspended Solids. For the purpose of applying advanced wastewater treatment requirements on the discharge to the Russian River, effluent limitations for BOD₅ and TSS are established at 10 mg/L as a monthly average and 15 mg/L as a weekly average, which are technically achievable based on the capability of a

tertiary treatment system. In addition, 40 CFR 133.102, in describing the minimum level of effluent quality attainable by secondary treatment, states that the 30-day average percent removal shall not be less than 85 percent. These effluent limitations are all retained from the previous Order.

- b. Mass effluent limitations for BOD and TSS are required pursuant to 40 CFR 122.45(f) for the purpose of assuring that dilution is not used as a method of achieving the concentration limitations in the permit. Mass-based effluent limitations are technology-based; and for this permit are based on the facility's design dry-weather capacity of 0.71 mgd. During wet-weather periods when the flow rate into the Facility exceeds 0.71 mgd, the mass effluent limitations may be calculated based on the actual daily average flow rate, not to exceed a maximum sustained peak flow of 1.2 mgd. The wet-weather mass limitations are retained from the previous permit and have not been increased to reflect the current sustained peak wet-weather flow capacity of the facility because the Discharger did not request an increase in wet-weather mass limits and such an increase would require the Discharger to submit documentation that such an increase would comply with antibacksliding and antidegradation requirements.
- c. Coliform bacteria. Even though effluent limits for coliform bacteria are not set out in the federal regulations for secondary treatment, they are included here in the section on technology-based effluent limits because they reflect technology standards for tertiary treatment. Coliform bacteria are a pollutant of concern in all wastewaters of domestic origin, and therefore, the Order retains the effluent limitations for total coliform bacteria from the previous Order. These effluent limitations reflect standards for tertiary treated recycled water adopted by the California Department of Public Health in title 22 of the California Code of Regulations. Recycled water from this facility meets the highest title 22 treatment and disinfection standards and is suitable for the broad range of recycled water uses identified in title 22, including urban land uses.
- d. Settleable Solids. Even though effluent limits for settleable solids are not set out in the federal regulations for secondary treatment, they are included here in the section on technology-based effluent limits because they reflect the level of treatment attainable by advanced wastewater treatment. The effluent limitation for settleable solids is also retained from the previous Order.

This Order establishes the following technology-based effluent limitations applicable to Discharge Point 001.

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

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

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
BOD ₅	mg/L	10	15	---
	lbs/day ⁷ (dry-weather)	60	90	---
	lbs/day ⁸ (wet-weather)	100	150	---
TSS	mg/L	10	15	---
	lbs/day ⁷ (dry-weather)	60	90	---
	lbs/day ⁸ (wet-weather)	100	150	---
Total Coliform Bacteria	MPN/100 mL	---	2.2 ⁹	23/240 ¹⁰
Settleable Solids	mL/L-hr	---	---	ND

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as technology equivalence requirements that are necessary to meet applicable water quality standards. The rationale for these requirements, which consist of advanced wastewater treatment, is discussed in section IV.B.2 of the

⁷ Mass-based limitations are based on the dry weather design flow of the WWTF of 0.71 mgd.

⁸ During wet weather periods, when the influent flow rate exceeds the dry weather design flow, mass emission limitations shall be calculated using the concentration-based effluent limitations and the actual daily average influent flow rate (not to exceed a maximum sustained peak flow rate of 1.2 mgd).

⁹ Expressed as a seven day median.

¹⁰ The number of coliform bacteria must not exceed an MPN of 23 per 100 mL in more than one sample in any 30-day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 mL.

Fact Sheet. In addition, this Order contains additional requirements to meet applicable water quality standards. The rationale for these requirements is discussed in section IV.C.3 of the Fact Sheet.

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. A reasonable potential analysis (RPA) demonstrated reasonable potential for discharges from the Russian River WWTP to cause or contribute to exceedances of applicable water quality criteria for copper, dichlorobromomethane, nitrate, and ammonia.

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) 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 section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

- a. **Beneficial Uses.** Beneficial use designations for receiving waters for discharges from the Russian River Wastewater Treatment Facility are presented in Finding II. H of the Order and section III.C.1 of this Fact Sheet.
- b. **Basin Plan Water Quality Objectives.** In addition to the specific water quality objectives indicated above, the Basin Plan contains narrative objectives for color, tastes and odors, floating material, suspended material, settleable material, oil and grease, biostimulatory substances, sediment, turbidity, pH, dissolved oxygen, bacteria, temperature, toxicity, pesticides, chemical constituents, and radioactivity that apply to inland surface waters, enclosed bays, and estuaries, and includes the Russian River. For waters designated for use as domestic or municipal supply (MUN), the Basin Plan establishes as applicable water quality criteria the Maximum Contaminant Levels (MCLs) established by the Department of Public Health for the protection of public water supplies at title 22 of the California Code of Regulations section 64431 (Inorganic Chemicals) and section 64444 (Organic Chemicals).

- c. State Implementation Plan (SIP), CTR and NTR. Water quality criteria and objectives applicable to this receiving water are established by the California Toxics Rule (CTR), established by the UPEPA at 40 CFR 131.38; and the National Toxics Rule (NTR), established by the USEPA at 40 CFR 131.36. Criteria for most of the 126 priority pollutants are contained within the CTR and the NTR.
- d. Aquatic life freshwater and saltwater criteria are identified as criterion maximum concentrations (CMC) and criterion continuous concentrations (CCC). The CTR defines the CMC as the highest concentration of a pollutant to which aquatic life can be exposed for a short period of time without deleterious effects and the CCC as the highest concentration of a pollutant to which aquatic life can be exposed for an extended period of time (4 days) without deleterious effects. The CMC is used to calculate an acute or one-hour average numeric effluent limitation and the CCC is used to calculate a chronic or 4-day average numeric effluent limitation. Aquatic life freshwater criteria were used for the reasonable potential analysis (RPA), and for the calculation of effluent limitations for copper.

Human health criteria are further identified as “water and organisms” and “organisms only.” “Water and organism” criteria are designed to address risks to human health from multiple exposure pathways. The criteria from the “water and organisms” column of CTR were used for the RPA because the Basin Plan identifies that the receiving water, the Russian River, has the beneficial use designation of municipal and domestic supply. Human health criteria were used to calculate effluent limitations for dichlorobromomethane and nitrate.

The SIP, which is described in Finding II.J of the Order and section III.C.3 of the Fact Sheet, includes procedures for determining the need for, and the calculation of WQBELs and requires dischargers to submit data sufficient to do so.

At title 22, Division 4, Chapter 15 of the CCR the California Department of Public Health has established Maximum Contaminant Levels (MCLs) for certain pollutants for the protection of drinking water. Chapter 3 of the Basin Plan establishes these MCLs as water quality objectives applicable to receiving waters with the beneficial use designation of municipal and domestic supply.

Attachment F-1 is a summary of RPA results for all priority toxic pollutants,

with water quality criteria/objectives that are applicable to the Russian River and ammonia and nitrate.

3. Determining the Need for WQBELs

NPDES regulations at 40 CFR 122.44 (d) require effluent limitations to control all pollutants which 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.

a. Non-Priority Pollutants

- (1) pH. The effluent limitation for pH of 6.5 to 8.5 is retained from the previous permit and applies to discharges to the Russian River. This limitation is based on the water quality objective for all surface waters of the North Coast Region established in Chapter 3 of the Basin Plan. Federal technology-based requirements prescribed in 40 CFR 133 are not sufficient to meet these Basin Plan water quality standards.
- (2) Chlorine Residual. The Basin Plan establishes a narrative water quality objective for toxicity which states “[a]ll waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.” The Regional Water Board considers any chlorinated discharge as having the reasonable potential to cause or contribute to exceedances of this water quality objective for toxicity, and therefore, the Order retains effluent limitations for chlorine residual with minor modifications from the previous permit. The effluent limitations are based on the following USEPA criteria for chlorine-produced oxidants for protection of aquatic life from the *Quality Criteria for Water 1986* (the Gold Book, EPA 440/5-86-001):

Chronic Criterion	Acute Criterion
0.011 mg/L	0.019 mg/L

The water quality criteria recommended by USEPA are, in effect, non-detectable concentrations by the common amperometric analytical method used for the measurement of chlorine. The water quality criteria recommended by USEPA have been translated to average monthly and maximum daily effluent limitations for total chlorine residual in this Order. The new effluent limitations established in this Order are numerically lower than the minimum detection limit for the final effluent limitation for chlorine from the previous Order that required no detectable level of chlorine in effluent at the point of discharge to allow the Discharger the time to comply with final effluent limitations in the Order, the Discharger may demonstrate that there is no detectable level of chlorine in the effluent using a minimum detection limit of

0.1 mg/L. Beginning September 1, 2009, the Discharger shall employ a method sensitive to and accurate at the permitted level of 0.01 mg/L.

- (3) Ammonia and Nitrate. Untreated domestic wastewater contains ammonia. Nitrification is a biological process that converts ammonia to nitrite and nitrate. Denitrification is a process that converts nitrate to nitrogen gas, which is then released to the atmosphere. Wastewater treatment facilities commonly use nitrification to remove ammonia from the waste stream and denitrification to remove nitrate from the waste stream. Inadequate or incomplete nitrification may result in the discharge of ammonia to the receiving stream and inadequate or incomplete denitrification may result in the discharge of nitrate to the receiving stream. The Russian River Wastewater Treatment Facility is currently operated to achieve nitrification and denitrification, but the Discharger is not certain if compliance can be achieved 100% of the time with the following ammonia and nitrate limitations. In a letter dated December 1, 2008, commenting on this Order, the Discharger stated that facility upgrades could be possible but design of these upgrades has not been completed and pilot studies would have to be conducted to ensure compliance with the limits. As discussed in the following two paragraphs, effluent limitations for nitrate and ammonia are included in the Order to assure that the Discharger modifies operations and/or upgrades the WWTF to achieve these limits to protect the beneficial uses of the receiving waters and to prevent aquatic toxicity.
- (a.) Nitrate. Nitrate is known to cause adverse health effects in humans. For waters designated as domestic or municipal supply, the Basin Plan (Chapter 3) adopts the MCLs, established by the Department of Public Health for the protection of public water supplies at Title 22 of the California Code of Regulations, sections 64431 (Inorganic Chemicals) and 64444 (Organic Chemicals), as applicable water quality criteria. The MCL for nitrate (10 mg/L N) is therefore applicable as a water quality criterion for the Russian River. The Discharger sampled its discharge to the Russian River five times between January 9, 2008 and May 7, 2008. Monitoring results showed a concentration range between 5.5 and 39 mg/L and an average nitrate concentration of 20.3 mg/L N. The maximum concentration of 39 mg/L N occurred on April 2, 2008. From the limited data set, it appears that the lowest nitrate concentrations occurred during wet-weather periods when wet-weather flows to the WWTF may have diluted the nitrate, and the highest nitrate concentrations occurred during dry-weather flow periods in the latter part of the discharge season (April and May 2008). Because nitrate levels in effluent have been measured at concentrations greater than 10 mg/L N, the Regional Water Board concludes that discharges from the treatment facility have a reasonable potential to cause or contribute to exceedances of applicable water quality criteria for the receiving water. The Order therefore establishes effluent limitations for nitrate for the protection of human health.

(b.) Ammonia. Ammonia is known to cause toxicity to aquatic organisms in surface waters. The Basin Plan establishes a narrative water quality objective for toxicity, stating that “[a]ll waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.” Due to concerns regarding ammonia toxicity, the Regional Water Board relies on USEPA’s recommended water quality criteria for ammonia in fresh water from the 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014 (1999) to interpret the Basin Plan’s narrative objective for toxicity. USEPA has recommended acute and chronic water quality criteria for the protection of aquatic life, which are dependent on receiving water pH, and the presence/absence of salmonids (acute criteria), and pH, temperature, and the presence/absence of early life stages of fish (chronic criteria). In conditions documented in the receiving water for discharges from the treatment facility (pH = 7.8, temperature = 14°C, and the known presence of early life stages of fish), USEPA’s recommended chronic and acute criteria for protection of aquatic life from ammonia toxicity are 3.2 mg/L and 8.1 mg/L total ammonia, respectively, expressed as N. The Discharger monitored the discharge to the Russian River for ammonia five times between January 9, 2008 and May 7, 2008. The monitoring data shows a range of ammonia concentrations between <0.2 and 3.8 mg/L and an average total ammonia concentration of 0.95 mg/L N. The maximum concentration of 3.8 mg/L N occurred on April 2, 2008. Because ammonia levels in the effluent have been measured at concentrations greater than USEPA’s recommended water quality criteria for fresh waters, the Regional Water Board concludes that discharges from the treatment facility have a reasonable potential to cause or contribute to exceedances of the Basin Plan’s applicable narrative water quality criterion for toxicity. The Order therefore establishes effluent limitations for ammonia for the protection of aquatic life.

(4) Phosphorus. The Basin Plan contains a narrative water quality objective for biostimulatory substances that states “[w]aters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.” The Regional Water Board is increasingly concerned about the biostimulatory properties of discharges to surface waters in the North Coast Region. Nutrients, such as phosphorus and nitrogen containing compounds, in treated wastewater stimulate biological growth, thereby depleting dissolved oxygen and advancing eutrophication of receiving waters. At present, for interpretation of the Basin Plan’s narrative water quality objective for biostimulatory substances, USEPA has established recommended water quality criteria for nutrients in *Nutrient Criteria Documents for Lakes and Rivers and Nutrient Criteria Documents for Rivers and Streams*. USEPA has defined 14 “ecoregions” and further categorized surface waters as lakes and reservoirs or rivers and streams for purposes of defining applicable numeric water quality criteria for

nutrients. The State and Regional Water Boards continue to examine other methods of interpreting the Basin Plan's narrative water quality objective for biostimulatory substances. When the Boards determine that USEPA's recommended criteria are appropriate for implementing the Basin Plan objectives, or when a more appropriate and meaningful method is established, the need for limiting nutrients in relation to biostimulatory properties, including phosphorus and nitrogen-containing compounds, in all discharges in the Region will be reassessed. In the meantime, the reasonable potential analysis for nutrients in relation to biostimulatory properties, performed for development of this Order, is inconclusive. The Order establishes monitoring requirements for phosphorus and nitrogen containing compounds in discharges from the wastewater treatment facility to allow a determination of "reasonable potential", when the Boards select an appropriate method for interpretation of the Basin Plan's narrative objective.

b. Priority Pollutants.

The SIP establishes procedures to implement water quality criteria from the NTR and CTR and for priority, toxic pollutant objectives established in the Basin Plan. The implementation procedures of the SIP include methods to determine reasonable potential (for pollutants to cause or contribute to excursions above State water quality standards) and to establish numeric effluent limitations, if necessary, for those pollutants showing reasonable potential.

Section 1.3 of the SIP requires the Regional Water Board to use all available, valid, relevant, and representative receiving water and effluent data and information to conduct a reasonable potential analysis (RPA). For this RPA, the Regional Water Board has used effluent and receiving water monitoring data generated from a single sample collected on February 26, 2008 for most of the CTR pollutants. Additional data collected during the term of the previous permit from November 2003 through May 2008 for chloroform, chlorodibromomethane, dichlorobromomethane, chloroform, and copper, and data for zinc collected in November and December 2003 was also used in conducting the RPA.

Some freshwater water quality criteria are hardness-dependent; i.e., as hardness decreases, the toxicity of certain metals increases, and the applicable water quality criteria become correspondingly more stringent. The lowest observed hardness value in the upstream receiving water was selected for determining whether reasonable potential exists for the hardness-based metals. Upstream receiving water hardness is selected rather than downstream hardness, because upstream hardness value is unaffected by the discharge and should represent background conditions in the receiving water. For this RPA, a hardness concentration of 73 mg/L CaCO₃ was used, reflecting the lowest upstream receiving water hardness measured by the Discharger during the period of November 2003 through May 2008. During that time period, upstream and downstream receiving water hardness was sampled during periods of discharge to the Russian River (October through May) a total of 40 times. Upstream receiving water hardness ranged from

73 to 128 mg/L, with an average concentration of 101 mg/L. Downstream receiving water hardness ranged from 66 to 128 mg/L, with an average concentration of 101 mg/L.

To conduct the RPA, Regional Water Board staff identified the maximum effluent concentration (MEC) and maximum background (B) concentration for each priority, toxic pollutant from effluent and receiving water data provided by the Discharger, and compared this information to the most stringent applicable water quality criterion (C) for each pollutant with applicable water quality criteria from the NTR, CTR, and the Basin Plan. Section 1.3 of the SIP establishes three triggers for a finding of reasonable potential.

Trigger 1. If the MEC is greater than C, there is reasonable potential, and an effluent limitation is required.

Trigger 2. If B is greater than C, and the pollutant is detected in effluent (MEC > ND), there is reasonable potential, and an effluent limitation is required.

Trigger 3. After a review of other available and relevant information, a permit writer may decide that a WQBEL is required. Such additional information may include, but is not limited to: the facility type, the discharge type, solids loading analyses, lack of dilution, history of compliance problems, potential toxic impact of the discharge, fish tissue residue data, water quality and beneficial uses of the receiving water, CWA 303 (d) listing for the pollutant, and the presence of endangered or threatened species or their critical habitat.

Reasonable Potential Determination

The RPA demonstrated reasonable potential for discharges from the RRCS D WWTF to cause or contribute to exceedances of applicable water quality criteria for copper, dichlorobromomethane, total ammonia, and nitrate. Reasonable potential could not be determined for all pollutants, as there are not applicable water quality criteria for all pollutants. The RPA determined that there is either no reasonable potential or there was insufficient information to conclude affirmative reasonable potential for the remainder of the 126 priority pollutants.

The following table summarizes the reasonable potential analysis for each priority pollutant that was reported in detectable concentrations in the effluent or the receiving water (detected values are indicated in bold type). The MECs, most stringent water quality objectives/water quality criteria (WQO/WQCs), and background concentrations (B) used in the RPA are presented, along with the RPA results (Yes or No and which trigger) for each toxic pollutant analyzed. No other pollutants with applicable, numeric water quality criteria from the NTR, CTR, and the Basin Plan were measured above detectable concentrations during the monitoring events conducted by the Discharger. Attachment F-1 to this Order summarizes the RPA for all 126 priority pollutants.

Table F-5. Summary of RPA Results

CTR #	Priority Pollutants	C or Most Stringent WQO/WQC (ug/L)	MEC or Minimum DL (ug/L) ¹¹	B or Minimum DL (ug/L) ¹²	RPA Results ¹³
1	Antimony	6	1.2	< 1	No
2	Arsenic	50	< 0.3	1.7	No
5a	Chromium (III)	138	< 2	20	No
6	Copper	6.1	34	4.3	Yes (Trigger 1)
7	Lead	1.7	< 0.6	1.9	No
8	Mercury	0.050	0.00481	0.0026	No
9	Nickel	34	13	34	No
11	Silver	1.7	< 0.06	0.0091	No
13	Zinc	79	64	17	No
14	Cyanide	5.2	3	< 1	No
23	Chlorodibromomethane	0.40	0.39	< 0.21	No
26	Chloroform	No Criteria	48	< 0.3	Ud
27	Dichlorobromomethane	0.56	4	< 0.19	Yes (Trigger 1)
	Ammonia (as N)	3200	3800	< 200	Yes (Trigger 1)
	Nitrate (as N)	10000	39000	610	Yes (Trigger 1)
	Phosphorus	---	3261	258	Ud

¹¹ The Maximum Effluent Concentration (MEC) or maximum background concentration (B) is the actual detected concentration unless it is preceded by "<", in which case the value shown is the minimum detection level as the analytical result was reported as not detected (ND).

¹² The MEC or B is "Not Available" when there are no monitoring data for the constituents.

¹³ RPA Results:
 = Yes, if MEC > WQO/WQC, or B > WQO/WQC and MEC is detected;
 = No, if MEC and B are < WQO/WQC or all effluent data are undetected;
 = Undetermined (Ud), if no criteria have been promulgated;

4. WQBEL Calculations

Final WQBELs for copper, dichlorobromomethane, and nitrate have been determined using the methods described in Section 1.4 of the SIP.

Copper, Dichlorobromomethane, and Nitrate

Step 1: To calculate the effluent limits, an effluent concentration allowance (ECA) is calculated for each pollutant found to have reasonable potential using the following equation, which takes into account dilution and background concentrations:

$ECA = C + D(C - B)$, where

C = the applicable water quality criterion (adjusted for receiving water hardness and expressed as the total recoverable metal, if necessary)

D = the dilution credit (here D= 0, as the discharge does not qualify for a dilution credit)

B = the background concentration

Because no credit for dilution is being allowed, D=0, and the ECA is equal to the applicable criterion (ECA = C).

Step 2: For each ECA based on an aquatic life criterion/objective (copper only), the long term average discharge condition (LTA) is determined by multiplying the ECA by a factor (multiplier), which adjusts the ECA to account for effluent variability. The multiplier depends on the coefficient of variation (CV) of the data set and whether it is an acute or chronic criterion/objective. Table 1 of the SIP provides pre-calculated values for the multipliers based on the values of the CV. CV values were calculated for copper and dichlorobromomethane and determined to be 0.5 and 0.4, respectively. Derivation of the multipliers is presented in Section 1.4 of the SIP.

From Table 1 of the SIP, the ECA multipliers for calculating LTAs at the 99th percentile occurrence probability are 0.373 (acute multiplier) and 0.581 (chronic multiplier). The LTAs are determined as follows in Table F-6.

Table F-6. Determination of Long Term Averages

Pollutant	ECA		ECA Multiplier		LTA (µg/L)	
	Acute	Chronic	Acute	Chronic	Acute	Chronic
Copper	10.4	7.1	0.373	0.581	3.88	4.14

Step 3: WQBELs, including an average monthly effluent limitation (AMEL) and a maximum daily effluent limitation (MDEL) are calculated using the most limiting (lowest) LTA. The LTA is multiplied by a factor that accounts for averaging periods and exceedance frequencies of the effluent limitations, and for the AMEL, the effluent monitoring frequency. Here the CV is set equal to 0.5, and the sampling frequency is set equal to 4 (n = 4). The 99th percentile occurrence probability was used to determine the MDEL multiplier and a 95th percentile occurrence probability was used to determine the AMEL multiplier. From Table 2 of the SIP, the MDEL multiplier is

3.11, and the AMEL multiplier is 1.55. Final WQBELs for copper are determined as follows.

Table F-7. Determination of Final WQBELs Based on Aquatic Life Criteria

Pollutant	LTA (µg/L)	MDEL Multiplier	AMEL Multiplier	MDEL (µg/L)	AMEL (µg/L)
Copper	3.88	2.68	1.45	10.4	5.6

The final effluent limits presented above for copper are based on a receiving water hardness of 73 mg/L. Because receiving water hardness can vary, actual effluent limitations will be determined based on measured receiving water hardness at the time that compliance monitoring is performed. Effluent limitations at varying levels of receiving water hardness are presented in Appendix E-1 to Attachment E of this Order.

Step 4: When the most stringent water quality criterion/objective is a human health criterion/objective (as for dichlorobromomethane and nitrate), the AMEL is set equal to the ECA. For dichlorobromomethane, from Table 2 of the SIP, when CV = 0.4 and n = 4, the MDEL multiplier at the 99th percentile occurrence probability equals 2.27, and the AMEL multiplier at the 95th percentile occurrence probability equals 1.36. For nitrate, from Table 2 of the SIP, when CV = 0.6 and n = 4, the MDEL multiplier at the 99th percentile occurrence probability equals 3.11, and the AMEL multiplier at the 95th percentile occurrence probability equals 1.55. The MDEL for protection of human health is calculated by multiplying the ECA by the ratio of the MDEL multiplier to the AMEL multiplier. Final WQBELs for dichlorobromomethane and nitrate are determined as follows.

Table F-8. Determination Final WQBELs Based on Human Health Criteria

Pollutant	ECA (µg/L)	MDEL/AMEL	MDEL (µg/L)	AMEL (µg/L)
Dichlorobromomethane	0.56	1.67	0.94	0.56
Nitrate (as N)	10000	2.01	20000	10000

Total Ammonia

USEPA recommended water quality criteria for ammonia from the USEPA 1999 *Update of Ambient Water Quality Criteria for Ammonia*, EPA-822-R-99-014, 1999, are established as end-of-pipe effluent limitations. Final average monthly effluent limitations (AMELs) for total ammonia are dependent on the pH and temperature of the Russian River at the time the effluent sample is collected, and the presence or absence of fish early life stages. The table included in Appendix E-2 to Attachment E presents the effluent limitations for total ammonia based on the pH and temperature at the time of sample collection, calculated using equation (1), below.

The thirty-day average concentration of total ammonia (in mg/L N in effluent) shall not exceed the Criterion Continuous Concentration (chronic criterion), applied here as the AMEL, calculated using the following equation:

When fish early life stages are present:

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

A receiving water with a pH of 7.8, a temperature of 14 (deg C), and fish early life stages present would have an ammonia limit of 3.2 mg/L.

Final maximum daily effluent limitations (MDELs) for total ammonia are dependent on the pH of the Russian River at the time the effluent sample is collected, and the presence or absence of salmonids. The table included as Appendix E-3 to Attachment E presents the maximum daily effluent limit for total ammonia based on the pH at the time of sample collection, calculated using equation (2), below, for the presence of salmonids.

The one-hour average concentration of total ammonia nitrogen (in mg/L N) shall not exceed the CMC (acute criterion), applied here as the MDEL, as calculated using the following equations:

(2) Where salmonid fish are present:

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

Thus, a receiving water with a pH of 7.8 and salmonid fish present would have a CMC for ammonia of 8.1 mg/L. Because receiving water pH and temperature can vary, actual ammonia effluent limitations will be determined based on measured receiving water pH and temperature at the time that compliance monitoring is performed. Effluent limitations at varying levels of receiving water pH and temperature are presented in Appendices E-2 (AMELs) and E-3 (MDELs) to Attachment E of this Order.

Final effluent limitations for ammonia apply during the Discharger's entire discharge season, which is limited to the period of October 1 through May 14 each year. Salmonids, in various life-stages, are present in the Russian River and /or its tributaries year-round, thus it is appropriate to apply the MDEL based on the presence of salmonids, during the entire discharge season. The selection of the appropriate AMEL for ammonia is based on whether or not fish early life stages are present. Since the Russian River is home to many species of fish with various breeding seasons, the AMEL is based on the presence of fish early life stages during the entire discharge season.

A summary of WQBELs established by the Order is given in the table below. The effluent limitation for pH is based on the Basin Plan water quality objective for pH for the Russian River.

Table F-9. Summary of Final Water Quality-Based Effluent Limitations

Parameter	Units	Effluent Limitations	
		Average Monthly	Maximum Daily
Copper	µg/L	¹⁴	¹⁴
Dichlorobromomethane	µg/L	0.56	0.94
Chlorine Residual	mg/L	0.01	0.02
Ammonia (as N)	mg/L	¹⁵	¹⁵
Nitrate (as N)	mg/L	10	20
pH	pH Units	6.5 -8.5 at all times	

¹⁴ Final effluent limitations are dependent on the receiving water hardness determined at the time of effluent sampling. See Appendix E-1 to Attachment E for the full table of hardness-dependent final effluent limitations for copper.

¹⁵ Average monthly effluent limitations for ammonia are determined based on pH and temperature of the receiving water conditions at the time of effluent sampling. Maximum daily effluent limitations for ammonia are determined based on receiving water pH at the time of effluent sampling, and the presence/absence of Salmonids. See Appendices E-2 and E-3 to Attachment E for tables of final effluent limitations for ammonia.

5. Whole Effluent Toxicity (WET)

Effluent limitations for whole effluent, acute and chronic toxicity, protect the receiving water from the aggregate effect of a mixture of pollutants that may be present in effluent. There are two types of WET tests – acute and chronic. An acute toxicity test is conducted over a short time period and measures mortality. A chronic test is conducted over a longer period of time and may measure mortality, reproduction, and/or growth.

WET requirements are derived from the CWA and the Basin Plan. The Basin Plan establishes a narrative water quality objective for toxicity that states “All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, or aquatic life.” Detrimental responses may include, but are not limited to, decreased growth rate, decreased reproductive success of resident or indicator species, and/or significant alterations in population, community ecology, or receiving water biota. For compliance with the Basin Plan’s narrative toxicity objective, this Order requires the Discharger to conduct WET testing for acute and chronic toxicity, as specified in the MRP (Attachment E, section V).

a. Acute Aquatic Toxicity

The previous Order and this Order include an effluent limitation for acute toxicity in accordance with the Basin Plan, which requires that the average survival of test organisms in undiluted effluent for any three consecutive 96-hour bioassay tests be at least 90 percent, with no single test having less than 70 percent survival.

The Order also implements Federal guidelines (Regions 9 and 10 Guidelines for Implementing Whole Effluent Toxicity Testing Programs) by requiring dischargers to conduct acute toxicity tests on a fish species and on an invertebrate to determine the most sensitive species. According to the USEPA manual, Methods for Estimating the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (EPA/600/4-90/-27F), the acceptable vertebrate species for the acute toxicity

test are the fathead minnow, *Pimephales promelas* and the rainbow trout, *Oncorhynchus mykiss*. The acceptable invertebrate species for the acute toxicity test are the water flea, *Ceriodaphnia dubia*, *Daphnia magna*, and *D. pulex*. The Discharger tests its effluent for acute toxicity on the rainbow trout, *Oncorhynchus mykiss*. During the term of the previous Order, the Discharger consistently maintained compliance with the acute toxicity limitation, with a minimum percent survival of 90 percent.

b. Chronic Aquatic Toxicity

The SIP requires the use of short-term chronic toxicity tests to determine compliance with the narrative toxicity objectives for aquatic life in the Basin Plan. The SIP requires that the Discharger demonstrate the presence or absence of chronic toxicity using tests on the fathead minnow, *Pimephales promelas*, the water flea, *Ceriodaphnia dubia*, and the freshwater alga, *Selenastrum capricornutum*.

The Discharger began chronic toxicity testing in 2004 in accordance with requirements in its previous Order that required chronic toxicity testing using all three species identified above. The Discharger's chronic toxicity testing results collected during the term of the previous Order are summarized in the table below.

Table F-10. Chronic Toxicity Testing Summary Results.

Date	Chronic Toxicity Test ¹⁶	Result (TUc)
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¹⁶ Toxicity screening on 3/23/04, 4/6/04, and 2/15/05 were three species tests that included 7-day *Ceriodaphnia dubia* survival, 7-day *Ceriodaphnia dubia* reproduction, 7-day larval fathead minnow survival, 7-day fathead minnow growth, and 4-day *Selenastrum capricornutum* algal growth tests. These screening tests indicated no

Date	Chronic Toxicity Test ¹⁶	Result (TUc)
4/06/04	Algal Growth	1.6
2/15/05	Algal Growth	1.7
3/29/05	Algal Growth	<1.0
4/13/05	Algal Growth	1.9
5/3/05	Algal Growth	5.3
11/9/05	Algal Growth	12.5
4/25/06	Algal Growth	<1.0
5/10/06	Algal Growth	<1.0
1/9/07	Algal Growth	<1.0
2/18/08	Algal Growth	<1.0

Effluent monitoring results from 2004 through 2008 indicated reduced algal growth after short-term exposure to diluted effluent. When the toxicity results were first reported, the Discharger investigated the issue and authorized the laboratory to pursue testing under an alternate EPA-approved method. Using the alternate method (A750), no toxicity was observed. The difference between the two methods was not determined, but both methods are acceptable according to EPA algae test protocols. Starting in 2006, all chronic testing has been completed using the A750 Method. Chronic toxicity effluent limitations have not been included in the Order for consistency with the SIP, which implements narrative toxicity objectives in Basin Plans and specifies use of a numeric trigger for accelerated monitoring and implementation of a Toxicity Reduction Evaluation (TRE) in the event that persistent toxicity is detected. Attachment E of this Order requires annual chronic WET monitoring for all three species for demonstration of compliance with the chronic toxicity monitoring trigger.

toxicity to the Ceriodaphnia nor the fathead minnow and indicated that *S.capricornutum* was the most sensitive species.

Section V.B.9 of the MRP defines the chronic toxicity monitoring trigger as 1 TUc and section V.C.1.g. of the MRP requires TUc to be calculated as 100/NOEC for purposes of determining if the Discharger's effluent exceeds the chronic toxicity monitoring trigger. Although the federal requirements may provide for flexibility in determining how to calculate TUc for compliance purposes (e.g., 100/NOEC, 100/IC25, 100/EC25), USEPA, Region IX recommends that effluent limitations and triggers be based on the no observed effect concentration (NOEC) when the permit language and chronic toxicity testing methods incorporate important safeguards that improve the reliability of the NOEC. These safeguards include the use of a dilution series (testing of a series of effluent concentrations) to verify and quantify a dose-response relationship and a requirement to evaluate specific performance criteria in order to determine the sensitivity of each chronic toxicity test. The goal is to demonstrate that each test is sensitive enough to determine whether or not the effluent is toxic or not.

The use of 100/IC25 or 100/EC25 as methods for calculating chronic toxicity are point estimates that automatically allow for a 25 percent effect before calling an effluent toxic. The Basin Plan has a narrative objective for toxicity that requires that "all waters be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life." Allowance of a possible 25 percent effect would not meet the Basin Plan's narrative toxicity requirement. In addition, California has historically used the NOEC to regulate chronic toxicity for ocean discharges,

thus it is fitting that the same method be used to regulate chronic toxicity in inland surface water discharges.

Because no dilution has been granted for the chronic condition, chronic toxicity testing results exceeding 1.0 chronic toxicity unit (TU_c) demonstrate that the discharge is in violation of the narrative toxicity water quality objective. If accelerated sampling of the discharge demonstrates a pattern of toxicity exceeding the effluent limitation, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE), in accordance with an approved TRE work plan to determine whether the discharge is contributing chronic toxicity to the receiving water. Special Provision VI.C.2.a.(2) requires the Discharger to submit to the Regional Water Board and maintain a 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.

Chronic WET limitations will be established if monitoring results demonstrate that discharges from the wastewater treatment facility are causing or contributing to chronic toxicity in the receiving water.

c. Ammonia-related Toxicity

Ammonia toxicity in water is due mostly to its unionized fraction which is primarily a function of the temperature and the pH of the water being tested.

As the pH and temperature increase so does the toxicity of a given concentration of ammonia. In static WET tests, the pH in the test concentrations often increases (drifts) due to the loss of carbon dioxide (CO₂) from the test concentrations as the test chambers are incubated over the test period. This upward drift results in pH values in the test concentrations that often exceed those pHs that could reasonably be expected to be found in the effluent or in the mixing zone under ambient conditions. Unionized ammonia toxicity caused by pH drift is considered to be an artifact of test conditions and is not a true measure of the ammonia toxicity likely to occur as the discharge enters the receiving waters. In order to reduce the occurrence of artifactual unionized ammonia toxicity, it may be necessary to control the pH in toxicity tests, provided the control of pH is done in a manner that has the least influence on the test water chemistry and on the toxicity of other pH sensitive materials such as some heavy metals, sulfide and cyanide. This Order authorizes the use of pH control procedures where the procedures are consistent with USEPA methods and do not significantly alter the test water chemistry so as to mask other sources of toxicity.

D. Final Effluent Limitations

1. Satisfaction of Anti-Backsliding Requirements

Most effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order, except for the effluent limitation for chloroform. The previous permit contained a monthly average effluent limitation for chloroform of 100 µg/L, which was based on the title 22 MCL for drinking water. Chloroform data collected during the term of the previous permit had concentrations ranging from 8.2 µg/L to 48 µg/L. The lack of reasonable potential for

chloroform constitutes new information, which permits the removal of effluent limitations consistent with Clean Water Act Section 402(o)(2)(B). As a result of the RPA, effluent limitations for chloroform are not included in the proposed Order and anti-backsliding requirements are satisfied. Monitoring requirements for chloroform will continue until the Discharger completes its UV disinfection system project.

New effluent limitations for total residual chlorine have been established in this Order. The new limitations are numerical and expressed as a monthly maximum limitation of 0.01 mg/L and a maximum daily limitation of 0.02 mg/L. In the previous Order, the effluent limitation was expressed as “nondetect” with a detection method of 0.1 mg/L. The new limitations, although no longer expressed as “nondetect,” are in effect more stringent limitations because the discharge is required to achieve an effluent concentration of total residual chlorine that is numerically lower than was required to be demonstrated by the previous Order.

2. Satisfaction of Antidegradation Policy

This Order is consistent with applicable federal and State antidegradation policies, as it does not authorize the discharge of increased concentrations of pollutants or increased volumes of treated wastewater beyond that which was permitted to discharge in accordance with the previous Order. Changes made to the WWTF during the term of the previous Order to increase the sustained peak wet-weather capacity of the WWTF from 1.2 mgd to 3.5 mgd has actually improved water quality by providing capacity to treat wet weather flows that previously would have been discharged without full treatment and, thus, meets the antidegradation policies.

Removal of the effluent limitation for chloroform is also consistent with antidegradation policies. No increase in chloroform concentrations is planned. The lack of reasonable potential for chloroform demonstrates that the Discharger is able to maintain sufficient control over its chlorination process to keep chloroform levels to a minimum. In addition, the strict limitation on dichlorobromomethane established in the Order, essentially limits other trihalomethanes such as chloroform, as the source of these pollutants is the same (chlorine used in the disinfection process reacting with organics in the effluent), and thus an increase in pollutant concentration will not occur. Finally, the potential for trihalomethane formation will be eliminated by the Discharger upon completion of the UV disinfection system.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The terms of this Order meet the minimum federal technology-based effluent limitations for secondary treatment, and in addition include additional requirements, expressed as technology equivalence requirements, for BOD₅, TSS, pH, settleable solids, and total coliform bacteria that are necessary to achieve tertiary treatment of wastewater, consistent with the Basin Plan's requirements that discharges of municipal wastewater into the Russian River be of advanced treated water. Restrictions on these pollutants are discussed in section IV.B in this Fact Sheet.

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 section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the SIP, which was approved by USEPA on May 18, 2000. Most 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 CWA" pursuant to section 131.21(c)(1). The remaining water quality objectives and beneficial uses implemented by this Order (specifically the addition of the beneficial uses Water Quality Enhancement (WQE), Flood Peak Attenuation/Flood Water Storage (FLD), Wetland Habitat (WET), Native American Culture (CUL), and Subsistence Fishing (FISH)) and the General Objective regarding antidegradation) were approved by USEPA on, March 4, 2005, and are applicable water quality standards pursuant to section 131.21(c)(2). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

In addition, the Regional Water Board has considered the factors in Water Code section 13263, including the provisions of Water Code section 13241, in establishing these requirements.

Water Code section 13263 requires that waste discharge requirements “implement any relevant water quality control plans that have been adopted and take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance and the provisions of section 13241.” These requirements, however, only apply to those portions of the permit that exceed the requirements of the federal Clean Water Act, and not to those requirements that are necessary to meet the technology-based effluent limits or the water quality-based effluent limits necessary to protect water quality objectives for surface waters set out in the Water Quality Control Plan for the North Coast Region (Basin Plan). (City of Burbank v. State Water Resources Control Board, 35 Cal. 4th 613, 627.) In this Order, those requirements that exceed the requirements of the federal Clean Water Act are those that solely apply to the land discharge.

Nonetheless, the Regional Water Board considered the factors in Water Code section 13263 and 13241 in establishing the requirements for discharges to surface waters and land, and concluded that the factors did not merit any change to the proposed effluent limits, discharge prohibitions, or receiving water limitations.

The Regional Water Board considered the factors set forth in section 13263 and 13241 throughout various portions of the permit, including Attachment F, which contains background information and rationale for the requirements set forth in the permit. The permit, in section II.H., and section III.C. of Attachment F, identifies the beneficial uses identified in the Basin Plan. Section IV of Attachment F sets forth the rationale for the effluent limits, particularly the beneficial uses to be protected and water quality objectives required for that purpose. Section IV.F. of Attachment F sets out a discussion of the factors set forth in 13263 and 13241 considered for the effluent limits on the land discharge. The Regional Water Board also considered upgrades to the WWTF proposed by RRCSD, along with other waste discharges in the watershed, and concluded that coordinated control of other discharges would not eliminate the need for the requirements on this

discharge, particularly given the continued growth in the region and the past, present and probable future uses of the receiving waters and the environmental characteristics, including water quality, of the Guerneville hydrologic subarea of the Russian River. (See Attachment F, Section III (D), (E), and Sections IV and V.) The Regional Water Board also considered the need to develop and use recycled water, and the potential for increased reclamation opportunities within the area proposed by the Discharger. The Regional Water Board also considered the need to prevent nuisance, and incorporated discharge prohibitions to protect against nuisance caused by the discharge or use for reclamation of untreated or partially treated waste from anywhere within the collection, treatment or disposal system or from sanitary sewer overflows. Because other dischargers throughout the Russian River watershed have achieved compliance with similar limits, and the Discharger did not submit any evidence regarding the cost of compliance or its effect on the development of housing within the region, the Regional Water Board did not specifically address the issue of the Order's effects on housing or economic considerations.

**Summary of Final Effluent Limitations
Discharge Points 001 and 002**

Table F-11. Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations			Basis ¹⁷
		Average Monthly	Average Weekly	Maximum Daily	
BOD ₅	mg/L	10	15	---	BP/PO
	lbs/day ¹⁸ (dry-weather)	60	90	---	

¹⁷ BP – Basin Plan
PO – Previous Order
CTR – California Toxics Rule

¹⁸ Mass-based limitations are based in the dry weather design flow of the WWTF of 0.71 mgd.

Parameter	Units	Effluent Limitations			Basis ¹⁷
		Average Monthly	Average Weekly	Maximum Daily	
	lbs/day ¹⁹ (wet-weather)	100	150	---	
TSS	mg/L	10	15	---	BP/PO
	lbs/day ¹⁷ (dry-weather)	60	90	---	
	lbs/day ¹⁸ (wet-weather)	100	150	---	
pH	pH Units.	6.5-8.5 at all times			BP/PO
Chlorine Residual	mg/L	0.01	---	0.02	BP
Total Coliform	MPN/100 mL	---	2.2	23/240	BP/PO
Settleable Solids	mL/L-hr	---	---	ND	BP/PO
Copper	µg/L	20	---	²⁰	CTR
Dichlorobromomethane ¹	µg/L	0.56	---	0.94	CTR/PO
Ammonia (as N) ²¹	mg/L N	²²	---	²²	BP
Nitrate ²¹	mg/L N	10	---	20	BP

- Although State and federal requirements²³ would not require more than secondary treatment for the land disposal element at this Facility, the Order establishes tertiary effluent limitations for BOD and TSS of 10 mg/L as a monthly average and 15 mg/L as a weekly average because the Discharger uses the same effluent storage pond for discharges to land and to surface waters. Since discharges to the Russian River must be tertiary treated and the Discharger cannot ensure that all secondary effluent is removed from the effluent storage pond prior to river discharge, all effluent, regardless of disposal method, must be fully treated and disinfected to tertiary standards. A review of the Discharger's monitoring data over the last five years shows that the Discharger is able to consistently meet these BOD and TSS effluent limitations.

¹⁹ During wet weather periods, when the influent flow rate exceeds the dry weather design flow, mass emission limitations shall be calculated using the concentration-based effluent limitations and the actual daily average influent flow rate (not to exceed a maximum sustained peak design flow rate of 1.2 mgd).

²⁰ Final effluent limitations for copper become effective on May 18, 2010 in accordance with the compliance schedule in section VI.C.7.a. of the Order. Copper final effluent limitations are dependent on the receiving water hardness at the time of effluent sampling. See Appendix E-1 to Attachment E for the full table of hardness-dependent final effluent limitations for copper.

²¹ Average monthly effluent limitations for ammonia are dependent on the receiving water pH and temperature at the time of effluent sampling, and the presence of fish early life stages. Maximum daily effluent limitations for ammonia are dependent on the receiving water pH at the time of effluent sampling and the presence/absence of Salmonids. See Appendices E-2 and E-3 to Attachment E for tables of final effluent limitations for ammonia.

²² Final effluent limitations shall become effective in accordance with the compliance schedule in section VI.C.7.b. of the Order.

²³ Federal requirements at section 133.102 of 40 CFR are intended to ensure adequate and reliable secondary level wastewater treatment prior to land disposal

- **Percent Removal.** The average monthly percent removal of BOD₅ and TSS shall not be less than 85 percent. Percent removal shall be determined from the 30-day average value of influent wastewater concentration in comparison to the 30-day average value of effluent concentration for the same constituent over the same time period as measured at Monitoring Locations INF-001 and EFF-001, respectively.
- **Bacteria.** Disinfected effluent discharged from the wastewater treatment facility to the Russian River shall not contain coliform bacteria in excess of the following concentrations:
 1. The median concentration shall not exceed a Most Probable Number (MPN) of 2.2 per 100 mL, using the bacteriological results of the last seven days for which analyses have been completed,
 2. The number of coliform bacteria shall not exceed an MPN of 23 per 100 mL in more than one sample in any 30-day period, and
 3. No single sample shall exceed an MPN of 240 total coliform bacteria per 100 mL.
- **Settleable Solids.** Effluent shall not contain measurable levels of settleable solids.
- **Acute Toxicity.** There shall be no acute toxicity in treated wastewater discharged to the Russian River. The Discharger will be considered compliant with this limitation when the survival of aquatic organisms in a 96-hour bioassay of undiluted effluent complies with the following.
 1. Minimum for any one bioassay: 70 percent survival,
 2. Median for any three or more consecutive bioassays: at least 90 percent survival.

E. Interim Effluent Limitations

The previous permit (Order No. R1-2003-0026) established an interim effluent limitation and a compliance schedule for dichlorobromomethane which required full compliance with final effluent limitations by November 5, 2008. This Order requires immediate compliance with the final effluent limitations for dichlorobromomethane in keeping with the compliance schedule from the previous Order.

A compliance schedule and an interim effluent limitation for copper are granted by this Order, which requires full compliance with final effluent limitations by May 18, 2010. A compliance schedule and interim effluent limitations for ammonia and nitrate are also granted by this Order, which requires full compliance with the final effluent limitations by March 20, 2014.

F. Land Discharge Specifications

1. Scope and Authority

Section 13263 of the Water Code requires the Regional Water Board to prescribe requirements for proposed discharges, existing discharges, or material change in an existing discharge based upon the conditions of the disposal area or receiving waters upon or into which the discharge is made or proposed. The prescribed requirements shall implement any relevant water quality control plans that have been adopted, and shall take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Water Code section 13241. In prescribing requirements, the Regional Water Board is not obligated to authorize the full waste assimilation capacities of the receiving water.

Here, the Regional Water Board considered all of these factors when developing the waste discharge requirements for the land discharge. Limits for ammonia nitrogen, nitrate, pH, total dissolved solids, sodium, chloride, and aluminum were scientifically derived to implement water quality objectives that protect beneficial uses. Both beneficial uses and the water quality objectives have been approved pursuant to state law, and then submitted to and approved by U.S. EPA. In addition, discharge prohibitions were included to prohibit the reclamation use of untreated or partially treated waste, in order to prevent nuisance. In addition, the Regional Water Board considered the factors set forth in Water Code section 13241, including the consideration of past, present, and probable future beneficial uses of the receiving water, which the Regional Water Board anticipates to be the same as set forth in the Basin Plan. The Regional Water Board considered the environmental characteristics, including water quality, of the Russian River-Guerneville Hydrologic Subarea of the Russian River Hydrologic unit, the coordinated control of all factors which affect water quality in the area, and the need to develop and use recycled water, which this Order supports. The Discharger did not submit any evidence regarding whether the waste discharge requirements for discharges to land would interfere with the development of needed housing within the region or the costs of compliance, particularly anything to show that the costs of compliance with the Order would be unmanageable.

2. **Applicable Beneficial Uses and Water Quality Criteria and Objectives**
 - a. **Beneficial Uses.** Beneficial use designations for receiving waters to which this facility discharges are discussed in Finding II. H of the Order and section III.C.1 of this Fact Sheet.
 - b. **Basin Plan Water Quality Objectives.** The Basin Plan contains narrative objectives for tastes and odors, bacteria, radioactivity, and chemical constituents (including those chemicals that adversely affect agricultural water supply) that apply to groundwater.
3. **Determining the Need for WQBELs and Technology-Based Limits for Discharges to Land**

The following land discharge specifications apply to land discharges to the Burch property. Sections IV.B.4 and IV.C.7 of the Order provides for a compliance

schedule for the Discharger to achieve final land discharge specifications by no later than March 20, 2014.

- a. **Ammonia Nitrogen (Ammonia as N).** The Order establishes an discharge specification for ammonia as N of 1.5 mg/L. This limitation is based on the secondary maximum contaminant level (MCL) for taste and odor in drinking water.
- b. **Nitrate.** The Order establishes a discharge specification for nitrate of 10 mg/L. This limitation is based on the State and federal primary MCL for protection of health in drinking water.
- c. **pH.** The Order establishes a discharge specification for pH of 6.0 to 9.0 based on technology-based effluent limitations required by USEPA pursuant to Part 133 of the Clean Water Act. These pH limits are included in the Order to ensure that pH levels are appropriate for protection of groundwater when discharging to land.
- d. **Total Dissolved Solids.** The Order establishes an effluent limitation for total dissolved solids of 500 mg/L. Total dissolved solids is a direct measure of salinity. Overall salinity affects underlying groundwater quality as it relates to drinking water and agricultural supply beneficial uses. This limitation is based on the State and federal secondary MCL for taste and odor in drinking water.
- e. **Sodium.** The Order establishes an effluent limitation for sodium of 60 mg/L. This limitation is based on the secondary MCL for taste and odor in drinking water.
- f. **Chloride.** The Order establishes an effluent limitation for chloride of 250 mg/L. This limitation is based on the State and federal secondary MCL for taste and order in drinking water.
- g. **Aluminum.** The Order establishes effluent limitations for aluminum of 1,000 ug/L. This limitation is based on the State primary MCL for protection of health in drinking water

4. **WQBEL Calculations**

This section does not apply to the land disposal aspect of this Facility. All of the land discharge specifications are set at the MCL concentrations established by the California Department of Health Services and/or the USEPA, thus no calculations were needed to determine the WQBELs.

Table F-12. Summary of Final Effluent Limitations – Discharge Point LND-001

Parameter	Units	Effluent Limitations	
		Average Monthly	Average Weekly
Biochemical Oxygen Demand	mg/L	10	15
Ammonia (as N)	mg/L	1.5	---
Nitrate	mg/L	10	---
Total Dissolved Solids	mg/L	500	---
Sodium	mg/L	60,	---
Chloride	mg/L	250	---
Aluminum	mg/L	1.0	---
pH	pH Units	6.0 – 9.0	

G. Reclamation Specifications

The reclamation specifications for coliform, and settleable solids found in section IV.C. of the Order are retained from Order No. R1-2003-0026 and conform to regulations contained in title 22, Division 4, Chapter 3 of the California Code of Regulations to ensure that recycled water quality is protective of human health. The new reclamation specification for nitrate found in section IV.C. of the Order are included to conform to regulations contained in title 22, Division 4, Chapter 15 of the California Code of Regulations for the protection of public water supplies.

Tertiary BOD and TSS effluent limitations are required to be met year round at the point of discharge to the effluent storage pond. These limits for reclamation are stricter than the previous Order. These stricter limits are appropriate because the Discharger's reclamation user operates an unrestricted access golf course. In addition, the Discharger uses the same effluent storage pond for discharges to land and to surface waters. Since effluent to be discharge to the Russian River must meet the tertiary BOD and TSS limits and the Discharger cannot ensure that all secondary effluent is removed from the effluent storage pond prior to river discharge, all effluent, regardless of disposal method, must be fully treated and disinfected to tertiary standards. A review of the Discharger's monitoring data over the last five years shows that the Discharger is able to consistently meet these stricter BOD and TSS effluent limitations.

The Order establishes a reclamation discharge specification for pH of 6.0 to 9.0 based on technology-based effluent limitations required by USEPA pursuant to Part 133 of the Clean Water Act. These pH limits are included in the Order to ensure that pH levels are appropriate for protection of groundwater when discharging to reclamation sites.

H. Other Requirements

The Order contains additional specifications that apply to the WWTF regardless of the disposal method (surface water discharge, land disposal, or reclamation), including:

1. **Filtration Process Requirements.** Filtration process requirements for turbidity have been retained from the previous permit to determine compliance with requirements for recycled wastewater systems, established at CCR title 22, division 4, chapter 3. In addition, filter surface loading rate requirements have been included in this Order to demonstrate compliance with recommendations in the California Department of Public Health 2007 *Treatment Technology Report for Recycled Water*.
2. **Chlorine Disinfection Process Requirements.** Chlorine disinfection process requirements are retained from the previous permit. These requirements are needed to determine compliance with requirements for recycled wastewater systems, established at CCR title 22, division 4, chapter 3 and to ensure that the disinfection process achieves effective pathogen reduction.
3. **Ultraviolet Disinfection Process Requirements.** The Order also contains new monitoring requirements for the UV disinfection system that shall apply upon completion of the Discharger's UV disinfection system. These requirements are needed to determine compliance with requirements for recycled wastewater systems, established at CCR title 22, division 4, chapter 3 and to ensure that the disinfection process achieves effective pathogen reduction.

UV system operation requirements are necessary to ensure that adequate UV dosage is applied to the wastewater to inactivate pathogens e.g. viruses in the wastewater. UV dosage is dependent on several factors such as UV transmittance, UV power setting, and wastewater flow through the UV System. Minimum dosage requirements are based on recommendations by the DPH and guidelines established by the National Water Research Institute (NWRI) and American Water Works Association Research Foundation NWRI/AWWARF's *"Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse"* first published in December 2000 revised as a Second Edition dated May 2003. Furthermore, a Memorandum dated November 1, 2004 issued by CDPH to Regional Water Board executive officers recommended that provisions be included in permits for water recycling treatment plants employing UV disinfection requiring dischargers to establish fixed cleaning

frequency of quartz sleeves as well as include provisions that specify minimum delivered UV dose that must be maintained (as recommended by the NWR/AAWARF UV Disinfection Guidelines). Minimum UV dosage requirements specified in Effluent Limitations and Discharge Specifications Section VI.D.3 ensures that adequate disinfection of wastewater will be achieved.

4. Storage Ponds. Storage pond requirements are included in the Order to ensure that future storage ponds are constructed in a manner that protects groundwater.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

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 [Water] Board will apply to regional waters in order to protect the beneficial uses.” The Basin Plan includes numeric and narrative water quality objectives for various beneficial uses and water bodies. This Order contains Receiving Surface Water Limitations based on the Basin Plan numerical and narrative water quality objectives for biostimulatory substances, bacteria, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, specific conductance, total dissolved solids, and turbidity.

B. Groundwater

1. The beneficial uses of the underlying ground water are municipal and domestic supply, industrial service supply, industrial process supply, agricultural supply, and freshwater replenishment to surface waters.
2. Groundwater limitations are required to protect the beneficial uses of the underlying groundwater.
3. Compliance with receiving water limitations for groundwater shall be measured at monitoring well locations described in the MRP (Attachment E). Discharges from the Facility shall not cause exceedance of applicable water quality objectives or create adverse impacts to beneficial uses of groundwater.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 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.

A. Influent Monitoring

Influent monitoring requirements for BOD₅ and TSS are retained from the previous permit and are necessary to determine compliance with the Order's 85 percent removal requirement for these parameters.

B. Effluent Monitoring

Effluent monitoring requirements from the previous permit are retained for flow, BOD₅, TSS, settleable solids, pH, chlorine, total coliform bacteria, temperature, copper, dichlorobromomethane, chlorodibromomethane, chloroform, CTR pollutants, and acute toxicity. These monitoring requirements are necessary to determine compliance with prohibitions and/or effluent limitations established by the Order. Monitoring at EFF-001 is to demonstrate compliance with technology-based effluent limitations. Monitoring at EFF-002 is to demonstrate compliance with water quality-based effluent limitations and that the discharge does not pose reasonable potential for a pollutant to exceed any numeric or narrative water quality objectives. If the discharge to the Russian River is found to contain levels of any pollutant that poses reasonable potential to exceed any numeric or narrative water quality objective, the Regional Water Board would propose to develop effluent limitations for that pollutant (s) for discharges to the Russian River. Monitoring has been retained for chlorodibromomethane because the maximum effluent concentration of 0.39 ug/L is just below the CTR water quality objective of 0.401 ug/L and for chloroform because the data will help Regional Water Board staff verify that the Discharger is operating the chlorine disinfection process in a manner that controls the formation of these trihalomethanes to levels that are below the respective water quality standards. The annual effluent monitoring requirement for chronic toxicity has also been retained from the previous permit. This monitoring requirement enables the Regional Water Board to assess compliance with the Basin Plan's narrative water quality objective for toxicity that is applicable to all receiving waters of the Region. The following effluent monitoring requirements are newly established by the Monitoring and Reporting Program (Attachment E of this Order).

- Requirements to monitor total ammonia, nitrate, and total phosphorous in effluent monthly have been established, because effluent limitations have been established for nitrate and ammonia, and because nitrogen and phosphorous containing compounds are a common component of domestic wastewaters that can have a directly toxic (e.g., unionized ammonia) or a detrimental biostimulatory effect on receiving waters. The

Regional Water Board is including such monitoring requirements in the discharge permits of most POTWs in the North Coast Region to evaluate the need for effluent limitations for these pollutants.

- Requirements to monitor settleable solids in effluent discharged from the effluent storage pond to the Russian River have been added to the MRP. This requirement is to determine whether or not reasonable potential exists for the discharge to contain settleable solids at a level that could cause non-compliance with Receiving Water Limitation V.A.10 which states “The discharge shall not cause bottom deposits in receiving waters to the extent that such deposits cause nuisance or adversely affect beneficial uses”. If the discharge is found to contain levels of settleable solids that could cause non-compliance with this Receiving Water Limitation, the Regional Water Board would propose to develop settleable solids effluent limitations for discharges to the Russian River.
- Routine monitoring requirements for the dilution rate of the effluent in the Russian River have been explicitly established in the MRP to determine compliance with Discharge Prohibition III.J. The dilution rate has been historically measured and reported by the Discharger, however, the requirement was not explicitly stated in the MRP associated with the previous Order.
- Routine monitoring requirements for the Title 22 pollutants three times during the anticipated term of the Order, have been established to provide ongoing characterization of treated wastewater that is discharged from the treatment facility and to assess the need for additional effluent limitations. The Title 22 pollutants are those toxic pollutants for which the Department of Public Health has established Maximum Contaminant Levels (MCLs) at Title 22, Division 4, Chapter 15 of the California Code of Regulations. For receiving waters designated as municipal and domestic supply in the North Coast Region, the Basin Plan has established the Title 22 MCLs as applicable water quality criteria.
- Hardness. A new requirement for effluent hardness monitoring has been added to the MRP. The toxicity of certain metals is hardness dependent (i.e., as hardness decreases, metals toxicity increases). Although the SIP currently requires that receiving water hardness be used to calculate effluent limitations for hardness-based metals, the State Water Board is currently evaluating evidence that more protective effluent limitations may be established utilizing minimum effluent hardness for certain metals. The collection of effluent hardness data will provide a data set to be utilized in the future for the establishment of some effluent limitations.

Monitoring of hardness in the effluent should coincide with compliance monitoring for the hardness dependent metal (copper) with effluent limitations established by this Order.

- Annual monitoring requirements for lead, benzo[a]pyrene, and heptachlor epoxide, are not retained from the previous Order. Monitoring data generated during the term of the

previous permit indicate there is no reasonable potential for these constituents. Monitoring for these constituents will occur with the required CTR pollutant monitoring events three times during the term of the permit.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) limitations and monitoring are retained from the previous Order and are included in the Order to protect the receiving water quality from the aggregate effect of a mixture of pollutants in the effluent. Acute toxicity testing measures mortality in 100 percent effluent over a short test period, and chronic toxicity testing is conducted over a longer time period and may measure mortality, reproduction, and/or growth. This Order includes effluent limitations and monitoring requirements for acute toxicity; as well as monitoring requirements for chronic toxicity to determine compliance with the Basin Plan's narrative water quality objective for toxicity.

D. Receiving Water Monitoring

1. **Surface Water.** Provision VI.B.2 of the Order requires the Discharger to conduct a study to identify surface water receiving water monitoring locations that adequately assess impacts of the discharge on the Russian River. The current receiving water monitoring locations may be located too far from the discharge outfall to provide a proper assessment of the impact of the discharge on the receiving water. Regional Water Board staff have previously identified this concern to the Discharger and notified the Discharger during a meeting on September 18, 2007 that the new permit would require the receiving water monitoring locations to be located closer to the point of discharge in order to demonstrate compliance with receiving water limitations. The receiving water monitoring program applies to existing receiving water monitoring stations as well as any future changes to those stations.

Receiving water monitoring requirements for flow, BOD₅, pH, turbidity, temperature, hardness, and dissolved oxygen are retained from the previous permit. Routine monitoring for specific conductivity (SC) and total dissolved solids (TDS) is established by this Order to determine compliance with the site-specific water quality objectives for SC and TDS in the Table 3-1 of the Basin Plan.

Temperature. Because the Russian River is impaired by elevated temperatures, monitoring of receiving water temperature, upstream and downstream of the point of discharge is retained to assess the impact, if any, on the temperature of the receiving waters.

Hardness. Because the toxicity of certain metals is hardness dependent (i.e., as hardness decreases, metals toxicity increases), monitoring of hardness in the receiving water is required on a monthly basis during periods of discharge to the Russian River to allow calculation of water quality objectives and effluent limitations that are hardness dependent. Monitoring of hardness in the receiving water must coincide with compliance monitoring for the hardness dependent metal (copper) and priority pollutants (3 times in 5 years).

Nutrients. Monitoring requirements for total ammonia, nitrate, and total phosphorus upstream and downstream of the discharge point is required to characterize the assimilative capacity of the receiving water for these nutrients, to determine the impact of the discharge on the receiving water with respect to these parameters, and to generate background data for these constituents for future reasonable potential analyses.

Title 22 and CTR Pollutants. Water quality criteria for the Title 22 and CTR pollutants are applicable to the Russian River, and therefore characterization of background conditions is necessary to assess impacts of the discharge. In addition, reasonable potential analyses, conducted in accordance with procedures established by the SIP, require characterization of background levels of the toxic pollutants.

2. Groundwater.

- a. Quarterly receiving water monitoring requirements for total dissolved solids, ammonia nitrogen, nitrate, sodium, and aluminum, at groundwater monitoring wells on the Burch property have been newly established in the Order to assess compliance with groundwater receiving water limitations associated with discharges from land disposal operations.
- b. Quarterly receiving water monitoring requirements for depth to groundwater measurements at groundwater monitoring locations on the Burch property have been established to determine flow direction in receiving water.

E. Other Monitoring Requirements

Monitoring requirements for the disinfection process and for the filtration process are retained from the previous permit to determine compliance with requirements for recycled wastewater systems, established at CCR Title 22, Division 4, Chapter 3.

Requirements for filter surface loading rate have been newly included in this Order to demonstrate compliance with recommendations in the California Department of Public Health 2007 *Treatment Technology Report for Recycled Water*.

UV disinfection system requirements have been added to the Order and the MRP to assess compliance of the UV disinfection system with recommendations of CDPH, Title 22 and guidelines established by the National Water Research Institute (NWRI) and American Water Works Association Research Foundation NWRI/AWWARF's *Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse* (first published in December 2000 and revised as a Second Edition dated May 2003).

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).

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B. Regional Water Board Standard Provisions

In addition to the Federal Standard Provisions (Attachment D), the Discharger shall comply with the Regional Water Board Standard Provisions provided in Standard Provisions VI.A.2.

1. Order Provision VI.A.2.a identifies the State's enforcement authority under the Water Code, which is more stringent than the enforcement authority specified in the federal regulations [e.g. 40 CFR sections 122.41(j)(5) and (k)(2)].
2. Order Provision VI.A.2.b requires the Discharger to notify Regional Water Board staff, orally and in writing, in the event that the Discharger does not comply or will be unable to comply with any Order requirement. This provision requires the Discharger to make direct contact with a Regional Water Board staff person.
3. Order Provision VI.A.2.c requires the Discharger to file a petition with, and receive approval from, the State Water Board Division of Water Rights 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. This requirement is mandated by Water Code section 1211.

C. Special Provisions

1. Reopener Provisions

- a. **Standard Revisions (Special Provisions VI.C.1.a).** Conditions that necessitate a major modification of a permit are described in 40 CFR 122.62, which include the following:
 - (1) When standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision. Therefore, if revisions of applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such revised standards.
 - (2) When new information that was not available at the time of permit issuance would have justified different permit conditions at the time of issuance.
- b. **Reasonable Potential (Special Provisions VI.C.1.b).** This provision allows the Regional Water Board to modify, or revoke and reissue, this Order if present or future investigations demonstrate that the Discharger governed by this Permit is causing or contributing to excursions above any applicable priority pollutant criterion or objective, or adversely impacting water quality and/or the beneficial uses of receiving waters.

- c. **Whole Effluent Toxicity (Special Provisions VI.C.1.c).** This Order requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity through a 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.
- d. **303(d)-Listed Pollutants (Special Provisions VI.C.1.d).** This provision allows the Regional Water Board to reopen this Order to modify existing effluent limitations or add effluent limitations for pollutants that are the subject of any future TMDL action.
- e. **Water Effects Ratios (WERs) and Metal Translators (Special Provisions VI.C.1.e).** This provisions allows the Regional Water Board to reopen this Order if future studies undertaken by the Discharger provide new information and justification for applying a water effects ratio or metal translator to a water quality objective for one or more priority pollutants.
- f. **Recycled Water Policy (Special Provisions VI.C.1.f).** The State Water Board is developing a statewide policy for recycled water. If the policy includes requirements and/or limitations for salts, nutrients, or other constituents for which water quality objectives exist for the protection of drinking water supplies, this Order may be reopened and modified to include appropriate requirements and/or effluent limitations, as necessary, to require compliance with the policy.
- g. **Nutrients (Special Provisions VI.C.1.g).** This Order establishes effluent limitations for nitrate and total ammonia, and monitoring requirements for the effluent and receiving water for nutrients (i.e., ammonia, nitrate, and phosphorus). This provision allows the Regional Water Board to reopen this Order if future monitoring data indicates the need for effluent limitations or more stringent effluent limitations for any of these parameters.

2. Special Studies and Additional Monitoring Requirements

- a. **Toxicity Reduction Evaluations (Special Provisions VI.C.2.a).**

The SIP requires the use of short-term chronic toxicity tests to determine compliance with the narrative toxicity objectives for aquatic life in the Basin Plan. Attachment E of this Order requires chronic toxicity monitoring for demonstration of compliance with the narrative toxicity objective.

In addition to WET monitoring, this provision requires the Discharger to maintain an up-to-date 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 TRE is initiated by

evidence of a pattern of toxicity demonstrated through the additional effluent monitoring provided as a result of an accelerated monitoring program.

- b. **Groundwater Monitoring Plan (Special Provisions VI.C.2.b).** This provision is required to address the Regional Water Board concern that the lower Burch property is being irrigated at a rate that may cause groundwater degradation.

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

- a. **Pollutant Minimization Plan.** Provision VI.C.3.a is included in this Order as required by section 2.4.5 of the SIP. The Regional Water Board includes standard provisions in all NPDES permits requiring development of a Pollutant Minimization Program when there is evidence that a toxic pollutant is present in the effluent at a concentration greater than an applicable effluent limitation.

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

Section 122.41(e) of 40 CFR requires proper operation and maintenance of permitted wastewater systems and related facilities to achieve compliance with permit conditions. An up-to-date operation and maintenance manual, as required by Provision VI.C.4.b of the Order, is an integral part of a well-operated and maintained facility.

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

a. **Wastewater Collection Systems**

- 1. **Statewide General WDRs for Sanitary Sewer Systems.** The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ (General Order) on May 2, 2006. The General Order requires public agencies that own or operate sanitary sewer systems with greater than one mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMPs) and report all sanitary sewer overflows (SSOs), among other requirements and prohibitions.

Furthermore, the General Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. Inasmuch that the Discharger's collection system is part of the system that is subject to this Order, certain standard provisions are applicable as specified in Provisions VI.A.2.b and VI.C.5 of the Order. The Discharger must comply with both the General Order and this Order. The Discharger and public agencies that are discharging wastewater into the facility were required to obtain enrollment for regulation under the General Order by December 1, 2006.

All NPDES permits for POTWs currently include federally required standard conditions to mitigate discharges (title 40, section 122.41(d)), to report non-compliance (title 40, section 122.41(1)(6) and (7)), and to properly operate

and maintain facilities (title 40, section 122.41(e)). This provision is consistent with these federal requirements.

2. Sanitary Sewer Overflows.

Order No. 2006-0003-DWQ includes a Reporting Program that requires the Discharger, beginning on May 2, 2007, to report SSOs to an online SSO database administered through the California Integrated Water Quality System (CIWQS) and telefax reporting when the online SSO database is not available. The goal of these provisions is to ensure appropriate and timely response by the Discharger to sanitary sewer overflows to protect public health and water quality.

The Order also includes provisions (Provisions VI.A.2.b. and VI.C.5.(a)(ii), and Attachment D subsections I.C., I.D., V.E., and V.H.) to ensure adequate and timely notifications are made to the Regional Water Board and appropriate local, state, and federal authorities.

The Order establishes oral reporting limits for SSOs. The Discharger is not required to orally report SSOs less than 100 gallons, while SSOs greater than or equal to 100 gallons must be reported orally to the Regional Water Board. Inevitably, minor amounts of untreated or partially treated wastewater may escape during carefully executed routine operation and maintenance activities. This Order establishes a reasonable minimum volume threshold for oral

notifications. It has been the experience of Regional Water Board staff that SSOs to land that are less than 100 gallons are not likely to have a material effect on the environment or public health. Larger volumes in excess of 100 gallons may indicate lack of proper operation and maintenance and due care, and pose more of a threat to the environment or public health. All SSOs, regardless of volume, must be electronically reported pursuant to State Water Board Order No. 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems.

b. Source Control Program (Provisions VI.C.5.b).

Because the average dry weather design flow of the facility is less than 5.0 mgd, the Order does not require the Discharger to develop a pretreatment program that conforms to federal regulations. However, the proposed Order includes requirements for the Discharger to implement a source identification and reduction program. The Discharger's source identification and reduction program will need to address only those pollutants that continue to be detected at levels that trigger reasonable potential.

In addition, the Regional Water Board recognizes that some form of source control is prudent to ensure the efficient operation of the WWTP, the safety of District staff, and to ensure that pollutants do not pass through the treatment facility to impair the beneficial uses of the receiving water.

c. Solids Disposal and Handling Requirements (Provisions VI.C.5.c).

The disposal or reuse of wastewater treatment screenings, sludges, or other solids removed from the liquid waste stream is regulated by 40 CFR Parts 257, 258, 501, and 503, and the State Water Board promulgated provisions of title 27, California Code of Regulations. The Discharger has indicated that that all screenings, sludges, and solids removed from the liquid waste stream are currently disposed of off-site at a municipal solid waste landfill in accordance with all applicable regulations. See Fact Sheet section II.A for more detail.

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d. **Operator Certification (Provisions VI.C.5.d).**

This provision requires the WWTF to be operated by supervisors and operators who are certified as required by title 23, California Code of Regulations, section 3680.

e. **Adequate Capacity (Provisions VI.C.5.e).**

The goal of this provision is to ensure appropriate and timely planning by the Discharger to ensure adequate capacity for the protection of public health and water quality.

f. **Statewide General WDRs for Discharge of Biosolids to Land (Provisions VI.C.5.f).**

This provision requires the Discharger to comply with the State's regulations relating to the discharge of biosolids to the land. The discharge of biosolids through land application is not regulated under this Order. Instead, the Discharger is required to obtain coverage under the State Water Board Order No. 2004-0012-DWQ, General Waste Discharge Requirements for the Discharge of Biosolids to Land as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities (General Order). Coverage under the General Order, as opposed to coverage under this NPDES permit or individual WDRs, implements a consistent statewide approach to regulating this waste discharge.

6. **Other Special Provisions**

- a. The Russian River Wastewater Treatment Facility is not currently required to seek coverage under the State-wide General Storm Water Permit (State Water Board Order No. 97-03-DWQ, described in a, above), because the design flow of the facility is less than 1 mgd. The facility employs storm water BMPs to divert storm water from entering the facility grounds. The Diagnostic Inspection Report indicated the BMP structures had failed and required maintenance. This provision is established to require the Discharger to annually inspect and maintain storm water BMPs, and report these activities to the Regional Water Board.
- b. This provision is included to ensure that the Discharger implements measures and actions to minimize the potential for sanitary sewer overflows and bypass events at the WWTF. The provision is based in part on the Discharger's "Collection System Operations and Maintenance Plan" dated September 2001 and the findings of the Tetra Tech Diagnostic Inspection Report, which summarizes the inspection that occurred on March 19, and 20, 2008. The purpose of the inspection was to investigate the effect of infiltration and inflow on facility performance, the adequacy of the collection system design, and compliance with the SSO provisions of the previous Order and State Water Resources Control Board Order No. 2006-003 WQ – Statewide Waste Discharge Requirements for Sanitary Sewer Systems. Since the completion of the facility expansion which increased wet weather sustained capacity to 3.5 mgd, a significant storm event has not occurred to test this treatment capacity. It is

evident that flood control and flow reduction measures are necessary on an on-going basis and prior to storm events to minimize the potential for sanitary sewer overflows and bypass events from occurring.

7. Compliance Schedules

- a. **Compliance Schedule for Final Effluent Limitations for Copper.** A time schedule has been included in the Order for the Discharger to achieve compliance with final copper effluent limitations, in accordance with provisions in the SIP. The Discharger submitted a notification to the Regional Water Board on August 24, 2007 that it was infeasible to immediately comply with final effluent limitations for copper. The Discharger proposed a compliance schedule to meet final effluent limitations within five years of the permit effective date. The time schedule in the Order requires full compliance with final effluent limitations for copper by May 18, 2010 as required by the SIP.
- b. **Compliance Schedule for Final Effluent Limitations for Nitrate and Ammonia.** A time schedule has been included in the Order for the Discharger to achieve compliance with final effluent limitations for nitrate and ammonia, in accordance with State Water Board Policy for Compliance Schedules in NPDES Permits (Compliance Schedule Policy), adopted by the State Water Board on April 15, 2008. The Discharger submitted an infeasibility analysis for nitrate and ammonia in a document dated November 26, 2008. This document titled "Russian River Wastewater Treatment Facility Infeasibility Analysis" was included as Attachment 4 to the Discharger's December 1, 2008 letter regarding "Comments on the Tentative Order Issued by the North Coast Regional Water Quality Control Board for NPDES Permit No. CA0024058 (WDID No. 1B820450SON). The Regional Water Board concurred it is infeasible for the Discharger to immediately comply with final effluent limitations for nitrate and ammonia, based on data collected during the term of the previous permit. Because the maximum effluent concentrations of both ammonia and nitrate exceeded the final effluent limitations for these pollutants, a compliance schedule to meet final effluent limitations was granted. Interim effluent limitations for nitrate and ammonia were established by the Order because the compliance schedule extended beyond one year. The compliance schedule is designed to meet full compliance with final effluent limitations for ammonia and nitrate by March 20, 2014.
- c. **Compliance Schedule for Final Effluent Limitations for Chlorine Residual**
A time schedule has been included in the Order for the Discharger to achieve compliance with new, more stringent effluent limitations for chlorine residual. The time schedule in the Order requires full compliance with final effluent limitations for chlorine residual by July 1, 2011.
- d. **Compliance Schedule for Final Land Discharge Specifications for Total Dissolved Solids, sodium, chloride, and aluminum and Final Reclamation Specification for Nitrate.**

A time schedule has been included in the Order for the Discharger to achieve compliance with final land discharge specifications for total dissolved solids, sodium, chloride and aluminum and the final reclamation specification for nitrate. Time schedules for discharges to land are not subject to the Compliance Schedule Policy. The land discharge and reclamation specifications are based on existing standards for the protection of human health. The five year time schedule was established to provide the Discharger with the entire five year permit term to achieve compliance with the newly applied permit conditions.

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, North Coast Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit and a Master Reclamation Permit for the Russian River Wastewater Treatment Facility. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements and a Master Reclamation Permit for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the following posting on the Regional Water Board's Internet site at:

http://www.waterboards.ca.gov/northcoast/public_notices/public_hearings/npdes_permits_and_wdrs.shtml and through publication in the Press Democrat on October 28, 2008.

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 must be received at the Regional Water Board offices by 5:00 p.m. on **December 1, 2008.**

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: January 29, 2009

Time: 8:30 a.m.

Location: Regional Water Board Office, Board Hearing Room
5550 Skylane Boulevard, Suite A
Santa Rosa, CA 95403

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/northcoast> 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 (ROWD), 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 707-576-2220.

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 Cathleen Goodwin at cgoodwin@waterboards.ca.gov or (707) 576-2687.