

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER NO. R5-2003-0110

NPDES NO. CA0077844

WASTE DISCHARGE REQUIREMENTS  
FOR  
CITY OF PORTOLA  
WASTEWATER TREATMENT PLANT  
PLUMAS COUNTY

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

1. The City of Portola (hereafter Discharger) submitted a Report of Waste Discharge (ROWD) on 6 September 2002, and applied for a permit renewal to discharge treated wastewater (effluent) to the Middle Fork of the Feather River (River) under the National Pollutant Discharge Elimination System (NPDES). On 13 November 2002, the Discharger submitted additional information that completed their ROWD.

**WASTEWATER TREATMENT AND GENERAL SITE INFORMATION**

2. The Discharger owns and operates a wastewater collection system (sewer system) and wastewater treatment plant (Plant) and provides sewer service to domestic and commercial users in Plumas County. The Plant and discharge are within Sections 2 and 3, T22N, R13E, MDB&M, as shown in Attachment A, a part of this Order. The Plant property is owned by the Discharger (AP Nos 126-033-019 and 008). The sewer system, Plant, and discharge lie within the Sloat Hydrologic Unit No. 518.33 as depicted on interagency hydrologic maps prepared by the State of California Department of Water Resources (DWR) in August 1986.
3. Average annual rainfall in Portola is 21.7 inches as given by the DWR weather station information for the area. The 100-year return frequency rainfall season precipitation is 39.5 inches. Average annual evaporation in the area is 54.5 inches.
4. The Plant consists of a headworks, 1.8-acre aeration pond with two ten-horsepower aerators, 0.6-acre emergency storage pond, 12.5 acres of stabilization ponds (Ponds 1-5), chlorination/dechlorination facilities, six-acre polishing pond (Six-acre Pond), and approximately 1.4 acres of natural and constructed wetlands west of the Six-acre Pond. The existing permit allows discharge of effluent from the Six-acre Pond to the wetlands. From 1 November to 15 May commingled effluent and wetlands flow, if any, is allowed to discharge to the River, a water of the United States, at the point latitude 39°48'15" North and longitude 120°29'29" West.
5. The ROWD described the Plant effluent as follows:

Monthly Average (dry weather) Flow: 0.28 million gallons per day (mgd)  
Daily Peak Wet Weather Flow: 0.48 mgd

Design Flow (dry weather): 0.75 mgd

<u>Constituent</u>	<u>mg/L</u>	<u>lb/day</u>
BOD <sup>1</sup>	29.9	125 <sup>2</sup>
Total Suspended Solids	15.8	65.8 <sup>2</sup>

<sup>1</sup>5-day, 20°C biochemical oxygen demand

<sup>2</sup>Based upon permitted flow of 0.5 mgd

6. The total volume of the Plant ponds (including the Emergency and Six-acre Pond) is 103 acre-feet (33.6 million gallons). A plan view of the Plant, wetlands, and discharge to the River is shown in Attachment B, a part of this Order. Attachment B illustrates the primary flow path of wastewater through the Plant. Alternative flow paths are available.
7. Soil conditions beneath the ponds, as well as the permeability of the pond base and berms are unknown.
8. The stabilization ponds are fenced on their northern and eastern boundary, but the fence is in poor repair. The area surrounding the Six-acre Pond and the area to the south of all the ponds is unfenced. Access to the ponds is generally difficult due to their remote location, the partial fencing, the Union Pacific railroad tracks to the south of the ponds, and the marshy areas to the north (between the ponds and the River). However, access is not completely restricted.
9. The Plant lies almost entirely within the boundaries of the 100-year flood plain of the River according to Federal Emergency Management Agency maps. In 1992, the berms of all ponds were raised and/or widened (crown width was increased from ten feet to twelve feet) to provide protection against berm washout and/or over-topping in case of flooding. The Discharger also enlarged the existing wetlands from 0.9 acres to 1.4 acres at that time.
10. The sewer system consists of approximately 15 miles of gravity pipeline and two pumping stations. Until repair of the sewer system in 1998, piping consisted primarily of vitrified clay and asbestos-cement, installed in the 1920's and 1940's.
11. Infiltration and inflow (I/I) consists of groundwater and surface water that enters the sewer system. All domestic sewer systems experience some I/I. However, the Discharger has experienced excessive I/I in its sewer system for many years. On 21 May 1993, the Regional Board adopted Cease and Desist Order No. 93-068 (CDO) against the Discharger because of problems with overflowing manholes and discharge of raw wastewater to the River. Overflows were caused by the excessive I/I.
12. To comply with the CDO the Discharger established an I/I identification and correction program. In 1998, the Discharger completed three projects to reduce I/I into the system and

improve treatment performance. One project, grant funded by the State Water Resources Control Board (SWRCB) Small Community Grant Program for \$3.2 million, consisted of manhole replacement and repair, as well as replacement or repair of seven and one half miles of sewer system pipeline. The second project, funded by the State Revolving Loan Fund (\$875,000) consisted of the rehabilitation of the two lift stations in the sewer system, repair of several major sewer system leaks, and the addition of piping at the stabilization ponds that allows rerouting of flow around any single stabilization pond. The third project consisted of the repair or replacement of laterals from individual homes, partially funded by a Community Development Block Grant.

13. The Discharger installed a Supervisory Control and Data Acquisition (SCADA) system for the sewer system and Plant in 1998. The SCADA system relays system operating and status information to a centralized location (the utility manager's office), and allows the Plant operator to remotely obtain information regarding the two lift stations and other system conditions from a computer terminal at the office.
14. The Plant ponds, including the Aeration Pond and the Six-acre Pond, have a residence time of approximately 100 days at average Plant influent flow. During the summer, flows are lower due to decreased I/I. Due to the extended residence time of the wastewater and the large storage volume provided by the ponds, little sludge is generated during treatment. In September 2002, the Discharger completed removal of approximately 20 cubic yards of sludge from their Emergency Storage Pond. This sludge will be dried and tested on-site, and then disposed of at an appropriate landfill. The Six-acre Pond was allowed to dry during the summer of 2002. The minimal amount of sludge generated from that pond will also be dried and tested on-site, and removed from the site. The Discharger plans to remove sludge from the aeration pond in the summer of 2003, after installing an aerator in the emergency pond for its use as a temporary aeration pond. The depth of sludge in the stabilization ponds is unknown.
15. Groundwater in the vicinity of the Plant is at or near ground surface during the winter. No data on groundwater quality near the Plant is available from the Discharger.
16. The Discharger operates two wells for municipal supply. Both wells are on the south side of the River, designated the Corporation Yard Well and the Commercial Street Well. The Corporation Yard Well is 453 feet deep with a 53-foot sanitary seal. The Commercial Street Well is 618 feet deep with a 51-foot sanitary seal. The wells are approximately one mile from the Plant. There is a private drinking water well at a motel approximately 750 feet to the north of the Plant and on the opposite side of the River.
17. The Discharger maintains a small fuel storage tank (250 gallons) at the Northside Pumping Station for emergency operation of a generator. There is no other storage of fuel by the Discharger that is associated with wastewater conveyance or treatment.
18. The discharge is presently governed by Order No. 98-018 adopted on 23 January 1998, as well as Order No. 92-147, which remains in full force and effect in support of CDO No. 93-148.

19. The United States Environmental Protection Agency (USEPA) and the Regional Board have classified this discharge as a minor discharge.

**WATER QUALITY CONTROL PLAN, NATIONAL TOXICS RULE, AND  
CALIFORNIA TOXICS RULE**

20. The Regional Board adopted a Water Quality Control Plan, Fourth Edition, for the Sacramento River Basin and the San Joaquin River Basin (hereafter Basin Plan), which designates beneficial uses, establishes water quality objectives for those beneficial uses, and establishes implementation programs and policies to achieve water quality objectives for all waters of the Basin. These requirements implement the Basin Plan. The USEPA adopted the *National Toxics Rule* (NTR) on 5 February 1993 and the *California Toxics Rule* (CTR) on 18 May 2000. These Rules contain water quality standards applicable to this discharge. The SWRCB adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known as the State Implementation Policy or SIP) that contains guidance on implementation of the NTR and the CTR.
21. Federal regulations contained in 40 CFR Part 122.44 (d) require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause or contribute to an in-stream excursion above a narrative or numerical water quality standard (reasonable potential). A Basin Plan standard is defined as the beneficial use and the water quality objective that will protect that beneficial use. The SIP provides the method for determining reasonable potential for priority pollutants defined in the NTR and CTR. Determining reasonable potential for other pollutants is accomplished by analyzing Plant operations, past effluent monitoring results, and other pertinent factors. In addition, the USEPA has provided guidance for the analysis of reasonable potential in their *Technical Support Document for Water Quality Based Toxics Control* (EPA/505/2-90-101) or TSD, which has been considered in this permit for developing effluent limits for pollutants other than those in the CTR and NTR.
22. The beneficial uses of the Middle Fork of the Feather River are specifically defined in the Basin Plan and consist of Municipal and Domestic Supply (MUN); Water Contact Recreation and Canoeing and Rafting (REC-1); Non-Contact Water Recreation (REC-2); Warm and Cold Fresh Water Habitat (WARM and COLD); Cold Water Spawning, Reproduction, and/or Early Development (SPWN); and Wildlife Habitat (WILD). Designations in parenthesis are those used in the Basin Plan.
23. The beneficial uses of groundwater are municipal, industrial, and domestic supply.

**EFFLUENT LIMITATIONS**

24. The Beckwourth flow-gauging station operated by DWR is located approximately four miles upstream of the Plant effluent discharge point. The flow increase in the River between the gauging station and the point of Plant discharge has not been quantified, but may be significant. The 1Q10 River flow (the statistical low flow in the River that occurs for 1 day every 10 years), the 7Q10 flow (the statistical low flow in the River that occurs for a 7 day period every 10 years), and the harmonic mean flow have not been determined at the point of effluent discharge to the River. However, this Order prohibits discharge to the River when flow at the gauging station location (or at the point of discharge, as determined by an engineering analysis) is less than 40 cubic feet per second (cfs). Therefore, 40 cfs is equivalent to both the 1Q10 and 7Q10. In developing effluent limits, the Basin Plan and the SIP allow for the usage of dilution credits (mixing zone) at the point of effluent discharge to the receiving water. The 1Q10 and 7Q10 flows are used in establishing appropriate dilution credits for non-carcinogens. The harmonic mean flow is used when establishing effluent limits for carcinogens. Dilution may be as high as 50:1 at the River flow of 40 cfs, if complete mixing of effluent in the River is achieved.
25. Effluent limitations for total coliform organisms are included in this Order. The California State Department of Health Services (DHS) has recommended in *Wastewater Disinfection for Health Protection, Executive Summary, Sanitary Engineering Branch, California Department of Health Services, February 1987*, that no discharge be allowed to streams used for drinking water supplies. Drinking water supply is a beneficial use of the River. For cases in which discharge to the water body cannot be avoided, and dilution is between 20:1 and 100:1, DHS recommends that the effluent be disinfected to a median coliform MPN (most probable number) of 23/100 mL based upon the last seven samples analyzed. Dilution of wastewater in the Feather River, after complete mixing of the effluent, is approximately 50:1 at a River flow of 40 cfs. DHS recommends that samples be obtained for coliform at least twice per week if this coliform effluent limit is utilized.
26. Effluent limitations for chlorine residual are included in this Order. The Basin Plan narrative toxicity standard requires that "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life." Chlorine is toxic to aquatic organisms and the USEPA has developed recommended chlorine ambient water quality criteria to protect freshwater aquatic organisms. This USEPA criterion is being used to implement the narrative toxicity objective of the Basin Plan. The USEPA's ambient water quality criteria for total residual chlorine for protection of aquatic life are 11 µg/L as a 4-day average (chronic) concentration, and 19 µg/L as a one-hour average (acute) concentration. This permit contains effluent discharge limitations for total residual chlorine of 0.01 mg/L as a four-day average, and 0.02 mg/L as a max hour, based on the USEPA ambient criteria to protect aquatic life. The one-hour average limitation, rather than an instantaneous or daily maximum, will be applied for compliance determinations. A one-hour average limitation allows for continuous monitoring anomalies while protecting aquatic organisms against toxicity

27. Domestic wastewater treatment plants that do not nitrify (convert ammonia to nitrate) generally produce wastewater with effluent ammonia concentrations higher than USEPA recommended freshwater criteria. Nitrification at the Plant may not occur year-round due to the Portola's cold climate. Therefore, there may be a reasonable potential for effluent ammonia to cause or contribute to an in-stream excursion above the Basin Plan narrative toxicity objective if there is inadequate mixing of effluent in the River. The USEPA has published revised ambient water quality criteria for ammonia (*1999 Ammonia Update*). This Order contains requirements for monitoring effluent ammonia, and a reopener to set ammonia effluent limitations if it is determined that ammonia in the effluent presents a reasonable potential for exceedance of a water quality objective. If the Order is reopened, the Discharger may utilize effluent dilution information to apply for consideration of dilution credits in accordance with the Basin Plan.
28. The Basin Plan objective for electrical conductivity in the River is 150 umhos/cm (as the 90<sup>th</sup> percentile). No data has been obtained in previous permit monitoring regarding electrical conductivity of effluent or receiving water. Electrical conductivity was measured twice in the River as part of the required CTR monitoring, and both samples were measured at 150 umho/cm. The Discharger is required to obtain additional data on effluent and receiving water electrical conductivity in Monitoring and Reporting Program No. R5-2003-0110. If a reasonable potential to violate the receiving water objective for electrical conductivity is demonstrated, this permit will be reopened and effluent limits will be adopted. If the Order is reopened, the Discharger may utilize effluent dilution information to apply for consideration of dilution credits in accordance with the Basin Plan.
29. This permit contains effluent limits for BOD and total suspended solids (TSS). Federal regulations in 40 Code of Federal Regulations (CFR) Part 133 provide technology based effluent limitations for BOD and TSS, as well as means of adjustment of these limits where waste stabilization ponds are the principal processes used for secondary treatment. Pursuant to the regulations at 40 CFR Parts 133.105(a), (b), and 133.103, absent any adjustment, the BOD and TSS 30-day average discharge limits for such stabilization pond systems shall not exceed 45 mg/L, the 7-day average shall not exceed 65 mg/L, and the 30-day BOD and TSS percent removal shall not be less than 65 percent. Effluent percentage removal limits for BOD for this discharge are being set at 85 percent, as this removal has been shown to be achievable. Effluent TSS limits are being set at 65 percent in accordance with the allowable limits in the CFR and past Plant performance.
30. On 5 January 2001, the Discharger was issued a letter under the authority of California Water Code (CWC) Section 13267 requesting effluent and receiving water monitoring to meet the data collection requirements of the SIP. The Discharger has sampled Plant effluent and receiving water on three occasions to determine if the priority pollutants established in the CTR and NTR were detected. A listing of the priority pollutants identified in the NTR and CTR are given in Attachment C, with the results of the Discharger's sampling and the water quality objective for the pollutant. This data was used to determine the necessity of including effluent limits for priority pollutants in this permit.

31. The SIP also requires that the Discharger's effluent be tested at least once for all seventeen congeners of 2,3,7,8 substituted dibenzo-dioxins and dibenzofurans. None of the congeners were detected in plant effluent.
32. The SIP establishes expected minimum levels (MLs) for each of the priority pollutants in the NTR and CTR. Water quality criteria have been established for forty-three of the volatile and semi-volatile organic priority pollutants, including pesticides, at concentrations less than current laboratory MLs.
33. The MLs in the SIP were not achieved for the following metals in the initial round of the Discharger's sampling: antimony, arsenic, beryllium, cadmium, copper, lead, mercury, nickel, silver, thallium, and zinc. However, all the MLs were below CTR water quality objectives. Therefore, the failure to achieve the desired ML does not prevent the performance of a reasonable potential analysis in accordance with the SIP.
34. For pollutants with MLs below their water quality objectives, the Regional Board finds that there is no reasonable potential, except for copper, lead, and cyanide (see below), based upon current analytical data, the nature of the domestic wastewater, and Plant operations, for an exceedance of a water quality objective in the River. Additional monitoring is required in Monitoring and Reporting Program No. R5-2003-0110 to assure that the basis of this finding remains unchanged.
35. For the forty-three compounds that have MLs established at concentrations higher than their water quality objectives, the Regional Board finds that, based on current Plant operations and the nature of the waste treated, these compounds should not be present in concentrations in the Plant effluent that cause or contribute to violations of water quality objectives. Additional monitoring is required in Monitoring and Reporting Program No. R5-2003-0110 to assure that the basis of this finding remains unchanged. If and when method levels for these compounds become more sensitive, or additional data or information warrants, this permit may be reopened to establish effluent limits for those compounds determined to have a reasonable potential in accordance with the provisions of this Order.
36. Based on analysis of effluent samples collected by the Discharger, and in accordance with the SIP, the discharge may have a reasonable potential to cause or contribute to an in-stream excursion above the CTR standard for:
  - a. Copper: The Discharger submitted effluent results showing copper concentrations ranging from 3.1 ug/L to 14 ug/L. Receiving water concentrations ranged from 0.2 ug/L to 1.2 ug/L. Copper toxicity is hardness dependant and the worst-case hardness for the receiving water to date has been 53 mg/L. This hardness value was used to evaluate the possibility of reasonable potential because it is the lowest value recorded for both receiving water and effluent (resulting in the most conservative effluent limit), and because hardness of the effluent will cause minimal increases in river hardness (due to

- effluent dilution). Based on a hardness of 53 mg/L, the CTR receiving water standards are 5.4 ug/L as the Criterion Continuous Concentration and 7.7 ug/L as the Criterion Maximum Concentration. The Ambient Water Quality Criteria for metals are presented as dissolved concentrations. Lacking site-specific conversion factors, USEPA recommends conversion factors to translate dissolved concentrations to total concentrations. The conversion factors for copper in freshwater are 0.96 for both the acute and the chronic criteria.
- b. Lead: The Discharger submitted effluent results showing effluent lead concentrations ranging from 0.08 ug/L to 6 ug/L and receiving water concentrations ranging from non-detect to 0.23 ug/L. Lead criterion are hardness dependant, similar to copper. Based on the river hardness of 53 mg/L, the CTR standards are 1.4 ug/L as the Criterion Continuous Concentration and 37 ug/L as the Criterion Maximum Concentration. The Ambient Water Quality Criteria for metals are presented as dissolved concentrations. Lacking site-specific conversion factors, USEPA recommends conversion factors to translate dissolved concentrations to total concentrations. Conversion factors for lead are dependant on water hardness. The conversion factors for lead in freshwater for a hardness of 53 mg/L are 0.88 for both the acute criteria and the chronic criteria.
- c. Cyanide: Cyanide was detected in an effluent sample at a concentration of 8 ug/L and in the receiving water at a concentration of 10 ug/L. The CTR standards are 5.2 ug/L as the Criterion Continuous Concentration and 22 ug/L as the Criterion Maximum Concentration. Due to the fact that the receiving water concentration may exceed the water quality objective, there may be no dilution credits available for cyanide.
37. These requirements prohibit the discharge of effluent to the River when River flow is less than 40 cubic feet per second (cfs). Discharge to the River is also prohibited between 15 May and 30 October. At this River flow, dilution of effluent in the River, after complete mixing, is approximately 50:1 (this analysis does not take into account any dilution that is the result of mixing of effluent with water in the wetlands, which has not been quantified but will likely increase dilution). It is unlikely that the dilution of wastewater in the River approaches 50:1 value in the immediate vicinity of the discharge, because there is presently no effluent outfall diffuser. However, in accordance with the SIP, Section 1.4, and the Discharger's CTR monitoring data, compliance with CTR criteria for copper and lead can be achieved with a dilution of approximately 4:1 or more. This amount of dilution should be easily achievable, and it is likely that it is currently being achieved. In consideration of the minimal dilution necessary to comply with CTR criterion, the Regional Board is not setting effluent limits for copper and lead at this time. After dilution studies required by this permit are performed, this permit will be re-opened and effluent limits will be established for copper and lead. The Regional Board also finds that at this time sampling results for cyanide are inadequate to determine whether there is a reasonable potential for exceedance of cyanide criteria. This Order requires the discharger to obtain additional data on cyanide concentrations, and if reasonable potential is determined the permit will be reopened, and a cyanide effluent limit will be established.



38. This Order contains provisions and monitoring program requirements that require the Discharger to conduct additional sampling to provide information on the levels of priority pollutants in the discharge.
39. Section 13263.6(a), CWC, requires that “the regional board shall prescribe effluent limitations as part of the waste discharge requirements of a POTW [Publicly Owned Treatment Works] for all substances that the most recent toxic chemical release data reported to the state emergency response commission pursuant to Section 313 of the Emergency Planning and Community Right to Know Act of 1986 (42 U.S.C. Sec. 11023) (EPCCKA) indicate as discharged into the POTW, for which the state board or the regional board has established numeric water quality objectives, and has determined that the discharge is or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to, an excursion above any numeric water quality objective.” Review of the Office of Emergency Services (OES), the state emergency response commission referenced by the Water Code, reporting data for 1998 through 2002 did not reveal any release of toxic chemicals to the Plant. Therefore, under the requirements of EPCCKA, there is no requirement for setting of effluent limitations for any toxic chemical regulated in accordance with this section of the Water Code.
40. Effluent limitations, and toxic and pretreatment effluent standards established pursuant to Sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 304 (Information Guidelines), and 307 (Toxic Pretreatment Effluent Standards) of the Clean Water Act (CWA), and amendments thereto, are applicable to the discharge.

#### **COMPLIANCE WITH STATE AND FEDERAL POLICIES REGARDING WATER QUALITY DEGRADATION**

41. The permitted discharge is consistent with the anti-degradation provisions of 40 CFR Part 131.12 and with SWRCB Resolution 68-16 (Policy with Respect to Maintaining High Quality Water of Waters in California). Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.

#### **SEWER SYSTEM OVERFLOW PREVENTION**

42. A “sanitary sewer overflow” is defined as a discharge to the ground surface, surface water, or groundwater from the sewer system at any point upstream of the Plant.
43. The chief potential causes of sanitary sewer overflows that may affect this sewer system include grease blockages, root blockages, debris blockages, air relief/vacuum valve failures, vandalism, storm or groundwater inflow/infiltration, snow melt infiltration, lift station pump failure or blockage, and lack of capacity, both hydraulic capacity of the sewer and pumping station capacity. Sanitary sewer overflows pose a threat to public health, may adversely affect aquatic life, and may impair the recreational use and aesthetic enjoyment of surface waters in the area.

44. Adequate steps must be taken to maintain and operate the sewer system and prevent sewer system overflows. This Order requires the Discharger to prepare and implement a sewer system operation, maintenance, overflow prevention, and overflow response plan.

#### **MANAGEMENT OF STORMWATER**

45. The USEPA, on 16 November 1990, promulgated storm water regulations (40 CFR Parts 122, 123, and 124) that require specific categories of industrial facilities which discharge storm water to obtain NPDES permits and to implement Best Available Technology Economically Achievable and Best Conventional Pollutant Control Technology to reduce or eliminate industrial storm water pollution.
46. On 17 April 1997, the SWRCB adopted Order No. 97-03-DWQ (General Permit No. CAS000001), specifying waste discharge requirements for discharge of storm water associated with industrial activities, excluding construction activities, and requiring submittal of a Notice of Intent by industries covered under the permit. This municipal discharge is less than 1.0 MGD and the Discharger is not required to obtain a permit for storm water.

#### **COMPLIANCE WITH THE CALIFORNIA ENVIRONMENTAL QUALITY ACT AND PERMIT NOTIFICATION REQUIREMENTS**

47. The action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000, et seq.), in accordance with Section 13389 of the CWC.
48. The Regional Board has considered the information in the attached Fact Sheet in developing the findings of the Order. The attached Fact Sheet is part of this Order.
49. The Regional Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
50. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.
51. This Order shall serve as an NPDES permit pursuant to Section 402 of the CWA, and amendments thereto, and shall take effect upon the date of hearing, provided the USEPA has no objections.

#### **MISCELLANEOUS**

52. The Wild and Scenic Rivers Act (U.S.C. 1271-1287) of 2 October 1968 designated the Middle Fork Feather River as a component of the National System of Wild and Scenic Rivers. The discharge from the Plant enters that portion designated as the Recreational River Zone.

IT IS HEREBY ORDERED that Order No. 98-108 is rescinded (Order 92-147 remains in full force and effect to support CDO 93-068) and the City of Portola, its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, shall comply with the following:

**A. Discharge Prohibitions**

1. The discharge of effluent at a location or in a manner different from that described in Finding Nos. 2 and 4 is prohibited.
2. Discharge from the wetlands to the River is prohibited when flow at the Beckwourth gauging station is less than 40 cfs. The Discharger may provide an engineering analysis to determine the amount of flow increase between the gauging station and Plant discharge. With the Executive Officer’s approval this analysis may be used to establish that flow in the river is a minimum of 40 cfs at the point of Plant discharge, and that the Discharger is therefore in compliance with this provision.
3. Discharge from the wetlands to the River is prohibited between 15 May and 31 October.
4. The by-pass or overflow of wastes, except as allowed by Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES) A.13, is prohibited.
5. Discharge of materials, other than storm water, that are not otherwise permitted by this Order to surface waters or surface water drainage courses is prohibited.

**B. Effluent Limitations**

1. The effluent discharge to the wetlands shall not exceed the following limits:

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Weekly Average</u>	<u>Monthly Median</u>	<u>Daily Maximum</u>	<u>Hourly Average</u>	<u>4-day Average</u>
BOD <sup>1</sup>	mg/L	45	65	--	90	--	--
	lbs/day <sup>2</sup>	125	188	--	376		
Total Suspended Solids	mg/L	30	45	--	90	--	--
	lbs/day <sup>2</sup>	125	188	--	376		

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 CITY OF PORTOLA  
 WASTEWATER TREATMENT PLANT  
 PLUMAS COUNTY

Chlorine Residual <sup>2,3</sup>	mg/L	--	--	--	--	0.02	0.01
Total Coliform Organisms <sup>3</sup>	MPN/100mL	--	--	23	500	--	--

<sup>1</sup>5-day, 20°C biochemical oxygen demand

<sup>2</sup>Based upon a design treatment capacity of 0.50 mgd.

<sup>3</sup>Chlorine residual and Total Coliform shall be measured at the chlorine contact chamber effluent.

2. The arithmetic mean BOD in effluent samples collected over a monthly period shall not exceed 15 percent of the arithmetic mean of the values for influent samples (85 percent removal).
3. The arithmetic mean TSS in effluent samples collected over a monthly period shall not exceed 35 percent of the arithmetic mean of the values for influent samples (65 percent removal).
4. For compliance determination for the removal requirements in Effluent Limitation Nos. 4 and 5, the Discharger shall compare the concentrations of effluent BOD and TSS for the month being monitored to a 6 month moving average of influent BOD and TSS.
5. The discharge shall not have a pH less than 6.0 nor greater than 9.0.
6. The 30-day average daily dry weather discharge flow to the wetlands shall not exceed 0.50 million gallons.
7. Survival of test fishes in 96-hour bioassays of undiluted effluent shall be no less than:  
 Minimum for any one bioassay - - - - - 70%  
 Median for any three or more bioassays - - - - - 90%
8. The Discharger shall use the best practicable cost-effective control technique currently available to limit mineralization to no more than a reasonable increment.

**C. Discharge Specifications**

1. Objectionable odors originating at the Plant shall not be perceivable beyond the property.
2. Ponds shall be managed to prevent breeding of mosquitoes. In particular,
  - a. An erosion control program shall assure that small coves and irregularities are not created around the perimeter of the water surface;
  - b. Weeds shall be minimized;

- c. Dead algae, vegetation, and debris shall not accumulate on the water surface.
3. The Discharger shall maintain a minimum two feet of freeboard in all ponds at all times. Freeboard shall be measured vertically from the lowest elevation of the pond berm.
4. The ponds shall have sufficient capacity to accommodate allowable wastewater flow and design seasonal precipitation and I/I. Design seasonal precipitation shall be based on total annual precipitation using a return period of 25 years, distributed monthly in accordance with historical rainfall patterns.
5. On or about **1 October** of each year, available pond storage capacity shall at least equal the volume necessary to comply with Discharge Specification 5. By **15 October** of each year the Discharger shall submit confirmation that the ponds have adequate capacity.
6. Public contact with wastewater shall be precluded to the best practicable extent possible through such means as fences, signs, and other acceptable alternatives
7. The discharge to the ponds or wetlands shall not cause degradation of any water supply.
8. Neither the discharge nor its treatment shall create a nuisance as defined in Section 13050 of the CWC.

**D. Sludge Disposal**

1. Collected screenings, sludge, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer and consistent with *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, as set forth in Title 27, CCR, Division 2, Subdivision 1, Section 20005, et seq.
2. Any proposed change in sludge use or disposal practice from a previously approved practice shall be reported to the Executive Officer and USEPA Regional Administrator at least **90 days** in advance of the change.
3. Use and disposal of sewage sludge shall comply with existing federal and state laws and regulations, including permitting requirements and technical standards included in 40 CFR Part 503.
4. If the SWRCB and the Regional Boards are given the authority to implement regulations contained in 40 CFR Part 503, this Order may be reopened to incorporate appropriate time schedules and technical standards. The Discharger must comply with the standards and time schedules contained in 40 CFR Part 503 whether or not they have been incorporated into this Order.

5. By **30 January of each year**, the Discharger shall submit a sludge disposal plan describing the annual volume of sludge generated by the plant and specifying their disposal practices.

**E. Receiving Water Limitations**

Receiving water limitations are based upon water quality objectives contained in the Basin Plan. As such, they are a required part of this permit.

The discharge shall not cause the following in the River:

1. Electrical conductivity to exceed 150 umho's/cm.
2. Concentration of dissolved oxygen to fall below 7.0 mg/L. The monthly median of the mean daily dissolved oxygen concentration shall not fall below 85 percent of saturation in the main water mass, and the 95<sup>th</sup> percentile concentration shall not fall below 75 percent of saturation.
3. Oils, greases, waxes, or other materials to form a visible film or coating on the water surface or on the stream bottom.
4. Oils, greases, waxes, floating material (liquids, solids, foams, and scums), or suspended material to create a nuisance or adversely affect beneficial uses.
5. Aesthetically undesirable discoloration.
6. Fungi, slimes, or other objectionable growths.
7. Turbidity to increase as follows:
  - a. More than 1 Nephelometric Turbidity Units (NTUs) where natural turbidity is between 0 and 5 NTUs.
  - b. More than 20 percent where natural turbidity is between 5 and 50 NTUs.
  - c. More than 10 NTUs where natural turbidity is between 50 and 100 NTUs.
  - d. More than 10 percent where natural turbidity is greater than 100 NTUs.

In determining compliance with the above limits, appropriate averaging periods may be applied upon approval by the Executive Officer.

8. The normal ambient pH to fall below 6.5, exceed 8.5, or change by more than 0.5 units. In determining compliance with the above limits, appropriate averaging periods may be applied upon approval by the Executive Officer.
9. Deposition of material that causes nuisance or adversely affects beneficial uses.

10. The normal ambient temperature to be altered by more than 5°F.
11. Radionuclides to be present in concentrations that exceed maximum contaminant levels specified in the California Code of Regulations, Title 22; that harm human, plant, animal or aquatic life; or that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.
12. Aquatic communities and populations, including vertebrate, invertebrate, and plant species, to be degraded.
13. Taste or odor-producing substances to impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or to cause nuisance or adversely affect beneficial uses.
14. The fecal coliform concentration in any 30-day period to exceed a geometric mean of 200 MPN/100 mL or cause more than 10 percent of total samples to exceed 400 MPN/100 mL.
15. Toxic pollutants to be present in the water column, sediments, or biota in concentrations that adversely affect beneficial uses; that produce detrimental response in human, plant, animal, or aquatic life; or that bioaccumulate in aquatic resources at levels which are harmful to human health.
16. Violations of any applicable water quality standard for receiving waters adopted by the Regional Board or the SWRCB pursuant to the CWA and regulations adopted thereunder.

**F. Groundwater Limitations**

Release of waste constituents from any storage, treatment, or disposal component associated with the WWTP shall not, in combination with other sources of waste constituents, cause the following in groundwater:

1. Beneficial uses to be adversely impacted or water quality objectives to be exceeded.
2. Any constituent concentration, when compared with background, to be incrementally increased beyond the current concentration.

**G. Pretreatment Provisions**

1. The Discharger shall implement, as more completely set forth in 40 CFR Part 403.5, the necessary legal authorities, programs, and controls to ensure that the following incompatible wastes are not introduced to the treatment system, where incompatible wastes are:



- a. Wastes which create a fire or explosion hazard in the treatment works;
  - b. Wastes which will cause corrosive structural damage to treatment works, but in no case wastes with a pH lower than 5.0, unless the works is specially designed to accommodate such wastes;
  - c. Solid or viscous wastes in amounts which cause obstruction to flow in sewers, or which cause other interference with proper operation or treatment works;
  - d. Any waste, including oxygen demanding pollutants (BOD, etc.), released in such volume or strength as to cause inhibition or disruption in the treatment works, and subsequent treatment process upset and loss of treatment efficiency;
  - e. Heat in amounts that inhibit or disrupt biological activity in the treatment works, or that raise influent temperatures above 40°C (104°F), unless the Regional Board approves alternate temperature limits;
  - f. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;
  - g. Pollutants which result in the presence of toxic gases, vapors, or fumes within the treatment works in a quantity that may cause acute worker health and safety problems; and
  - h. Any trucked or hauled pollutants, except at points predesignated by the Discharger.
2. The Discharger shall implement, as more completely set forth in 40 CFR Part 403.5, the legal authorities, programs, and controls necessary to ensure that indirect discharges do not introduce pollutants into the sewerage system that, either alone or in conjunction with a discharge or discharges from other sources:
    - a. Flow through the system to the receiving water in quantities or concentrations that cause a violation of this Order, or
    - b. Inhibit or disrupt treatment processes, treatment system operations, or sludge processes, use, or disposal and either cause a violation of this Order or prevent sludge use or disposal in accordance with this Order.
  3. The Discharger shall notify industrial users subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N, of their discharge effluent limits. The limits must be at least as stringent as the pretreatment standards contained in the applicable federal category. The Discharge may develop more stringent technically based limits if it can show cause. The Discharger shall notify the Regional Board if the

effluent discharged to the collection system by an industrial user violates its discharge effluent limits.

## H. Provisions

1. The existing treatment facilities shall be operated and maintained to prevent inundation or washout due to floods with a 100-year return frequency. New facilities shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.
2. The Discharger shall not allow pollutant-free wastewater to be discharged into the collection, treatment, and disposal system in amounts that significantly diminish the system's capability to comply with this Order. Pollutant-free wastewater means rainfall, groundwater, cooling waters, and condensates that are essentially free of pollutants.
3. The Discharger shall conduct the chronic toxicity testing specified in Monitoring and Reporting Program No. R5-2003-0110. If the testing indicates that the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the water quality objective for toxicity, the Discharger shall submit a workplan to conduct a Toxicity Reduction Evaluation (TRE) and upon approval conduct the TRE, and this Order will be reopened and a toxicity limitation included and/or a limitation for the specific toxicant identified in the TRE included. Additionally, if a chronic toxicity water quality objective is adopted by the SWRCB, this Order may be reopened and a limitation based on that objective included.
4. When requested by USEPA, the Discharger shall complete and submit Discharge Monitoring Reports. The submittal date shall be no later than the submittal date specified in the Monitoring and Reporting Program for Discharger Self-Monitoring Reports.
5. The Discharger shall provide certified wastewater treatment plant operators in accordance with regulations adopted by the SWRCB.
6. The Discharger shall comply with the attached Monitoring and Reporting Program No. R5-2003-0110, which is a part of this Order, and any revisions thereto as ordered by the Executive Officer.
7. Within **30 days** of the adoption of this Order, the Discharger shall provide the name and grade of the primary Plant operator. **Fifteen days prior** to any change in the Operations and Maintenance Manual (O&M Manual) or primary Plant operator, the Discharger shall notify the Regional Board. The Discharger shall certify that the new operator is familiar with the O&M Manual and this Order **within fifteen days** of the change of primary plant operator.
8. **Within 180 days of the adoption of this Order**, the Discharger shall remove any sludge stored on site and transport the sludge to an approved disposal site.

9. **Within 180 days of the adoption of this Order, the Discharger shall submit a *sewer system Operation, Maintenance, Overflow Prevention, and Overflow Response Plan (SSS Plan)* that describes the actions designed to prevent or minimize the potential for sanitary sewer overflows. The Discharger shall amend the SSS Plan as necessary. The Discharger shall ensure that the up-to-date SSS Plan is readily available to maintenance personnel at all times and that personnel are familiar with the plan.**
  - a. At a minimum, the Operation and Maintenance portion of the SSS Plan shall contain or describe the following:
    - i Plans of the sewer system, identifying sewer mains, manholes, cleanouts, any air relief valves, and any other specific critical equipment or infrastructure;
    - ii A listing of equipment and elements to be inspected, a description of inspection procedures and inspection frequency, and sample inspection forms;
    - iii A schedule for routine inspection and testing of manholes, sewer system piping, valves, and other key system components, and rehabilitation procedures to be followed in the case that such rehabilitation is necessary;
  - b. At a minimum, the Overflow Prevention and Response portion of the SSS Plan shall contain or describe the following:
    - i Response procedures for sanitary sewer overflows. Procedures shall minimize the volume of sewage that may enter surface waters, and minimize the adverse effects of sewer overflows on water quality and public health. Procedures shall also ensure that all overflows are properly identified, responded to and reported; and
    - ii A plan to notify the Plumas County Environmental Health Department and a public notification plan, in which any posting of areas contaminated with sewage is performed at the direction of the Plumas County Environmental Health Department. All parties with a reasonable potential for exposure to an overflow event shall be notified. Any spill in excess of 1,000 (one thousand) gallons to a surface water must also be immediately reported to the State of California Office of Emergency Services. Failure to report such a spill in accordance with the above laws and regulations is a misdemeanor punishable by fine and imprisonment.
10. **Within 180 days of the adoption of this permit, the discharger shall:** 1) submit a report analyzing the dilution available at the discharge point, and how this dilution may be used for establishment of dilution credits in accordance with the Basin Plan and the SIP (The

report shall address the necessity of installing an effluent outfall diffuser in the River), and 2) submit a report discussing the concentrations of cyanide found in the River and effluent, including additional sampling, and, along with the dilution study determine if dilution credits may be allowable for a cyanide effluent limitation, if a reasonable determination is made for cyanide. After these studies are completed, if the Regional Board determines that 1) dilution credits are appropriate for copper, lead, or cyanide, or 2) there is reasonable potential for exceedance of the cyanide water quality objective in the River, this Order will be reopened and effluent limits considered. If the report on dilution indicates that an effluent outfall diffuser is necessary to provide any necessary dilution credits, the Discharger will be given **2 years** from the date of report submittal install the diffuser

11. **Within one year of the adoption of this permit**, the Discharger shall use the data collected in accordance with Monitoring and Reporting Program No. R5-2003-0110, and the dilution information required in Provision 11. to determine if the discharge of ammonia or total dissolved solids have a reasonable potential to cause toxicity to aquatic organisms in the receiving water, or otherwise cause exceedance of any water quality objective, including electrical conductivity. If reasonable potential is determined for ammonia or total dissolved solids (electrical conductivity), this Order will be reopened and effluent limitations adopted.
12. If monitoring of priority pollutants required in Monitoring and Reporting Program No. R5-2003-0110 indicates that additional priority pollutants (in addition to copper, lead, and cyanide) may have the reasonable potential to cause or contribute to an in-stream excursion above a water quality standard, including Basin Plan numeric and narrative objectives or NTR and CTR criteria, the Regional Board will utilize the additional data and the dilution information required by Provision 11 to determine whether reasonable potential exist. If reasonable potential is determined for any additional pollutant, the Regional Board will reopen this Order and include effluent limitations for those pollutants.
13. The requirements prescribed by this Order amend the requirements prescribed by Order No. 92-147, adopted on 14 August 1992. Cease and Desist Order No. 93-068, adopted 21 May 1993, pertaining to the discharge shall remain in full force and effect.
14. The Discharger shall report to the Regional Board **within 15 days** any toxic chemical release data it reports to the State Emergency Response Commission pursuant to Section 313 of the "Emergency Planning and Community Right to Know Act of 1986."
15. The Discharger shall comply with all the items of the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES)," dated 1 March 1991, which are a part of this Order. This attachment and its individual paragraphs are referred to as "Standard Provision(s)."

16. If noncompliance is being reported, the reasons for such noncompliance shall be stated plus an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Board by letter when compliance has been achieved.
17. The Discharger may be required to submit technical reports as directed by the Executive Officer.
18. This Order expires on 1 July 2008, and the Discharger must file a ROWD in accordance with Title 23, CCR, not later than **180 days** in advance of such date as application for issuance of new waste discharge requirements.
19. Prior to making any change in the discharge point, place of use, or purpose of use of the effluent the **Discharger** shall obtain approval of, or clearance from, the SWRCB, Division of Water Rights.
20. In the event of any change in control or ownership of land or waste discharge facilities presently owned or **controlled** by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office.

To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name; the state of incorporation, if a corporation; the address and telephone number of the persons responsible for contact with the Regional Board; and a statement. The statement shall comply with the signatory paragraph of Standard Provision D.6 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

I, THOMAS R. PINKOS, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 11 July 2003.

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THOMAS R. PINKOS  
Executive Officer

WASTE DISCHARGE REQUIREMENTS ORDER NO. R5-2003-0110  
CITY OF PORTOLA  
WASTEWATER TREATMENT PLANT  
PLUMAS COUNTY

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RSD:sae

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2003-0110

NPDES NO. CA0077844

FOR  
CITY OF PORTOLA  
WASTEWATER TREATMENT PLANT  
PLUMAS COUNTY

**INFLUENT MONITORING**

Samples shall be representative of the influent for the period sampled. The following shall constitute the influent monitoring program:

<u>Constituent</u>	<u>Unit</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Flow	mgd	Meter	Continuous
BOD	mg/L, lbs/day	24-Hr. Composite	Weekly
Total Suspended Solids	mg/L, lbs/day	24-Hr. Composite	Weekly

**POND MONITORING**

The Discharger shall record the following regarding all ponds (Aeration Pond, Emergency Storage Pond, Ponds 1-5, and the Six-Acre Pond):

<u>Constituent</u>	<u>Unit</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Liquid Depth and Freeboard	Feet	Visual	Monthly
Seepage through pond dikes	Presence/ Absence	Visual	Monthly
Excessive odors or other nuisances	Presence/ Absence	Observation	Monthly
Excessive weed growth in pond	Presence/ Absence	Visual	Monthly



### DISINFECTION MONITORING

The discharge to the Six-Acre Pond shall be monitored continuously for chlorine residual and once per week for total coliform. If a coliform violation occurs, the Discharger shall obtain samples twice weekly thereafter until two consecutive samples show a total coliform value of 23 or less MPN/ 100 mL. The monitoring and reporting form shall note daily whether or not a discharge to the Six-acre Pond occurred.

### EFFLUENT MONITORING

Effluent monitoring shall be conducted when discharge from the Six-acre Pond to the wetlands occurs, and analyzed as indicated below. The monitoring and reporting form shall note daily whether or not discharge to the wetlands occurred. Samples shall be collected at the effluent of the Six-acre Pond. Samples collected from the outlet structure of ponds will be considered adequately composited. The time of collection of grab samples shall be recorded

<u>Constituent</u>	<u>Unit</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
pH	pH Units	Grab	Daily
Flow	Mgd	Cumulative	Daily
BOD	mg/L, lbs/day	Grab	Weekly
Total Suspended Solids	mg/L, lbs/day	Grab	Weekly
Temperature	°F	Grab	Weekly
Ammonia Nitrogen <sup>1,2</sup>	mg/L, lbs/day	Grab	Weekly
Nitrate Nitrogen	mg/L, lbs/day	Grab	Monthly
TKN	mg/L, lbs/day	Grab	Monthly
Electrical Conductivity	µmho/cm	Grab	Monthly <sup>3</sup>
Total Copper	mg/L	Grab	Monthly <sup>3</sup>
Total Lead	mg/L	Grab	Monthly <sup>3</sup>
Total Cyanide	mg/L	Grab	Monthly <sup>3</sup>
Dissolved Oxygen	mg/L	Grab	Monthly
Total Dissolved Solids	mg/L	Grab	Monthly <sup>3</sup>
Acute Bioassay <sup>4</sup>	% Survival	---	Twice per year
Total Phosphorus	mg/L	Grab	Annually
Oil and Grease	mg/L	Grab	Annually

<sup>1</sup>Concurrent with biotoxicity monitoring.

<sup>2</sup>Report as both total and un-ionized ammonia.

<sup>3</sup>Sampling for these constituents shall be obtained at least quarterly for the first year, even if no discharge to the River is occurring, and monthly during times of discharge to the River. If no discharge is occurring when the sample is due to be obtained, the sample shall be taken near the pond discharge point. After the first year, monitoring will be required monthly, and only when discharge to the wetlands occurs

<sup>4</sup>The acute bioassay samples shall be analyzed using EPA/821-R-02-12, Fifth Edition, or later amendment with Regional Board approval. Temperature and pH shall be recorded at the time of bioassay sample collection. Test species shall be salmonids, with no pH adjustment unless approved by the Executive Officer. Sample concurrent with ammonia sampling.

Acute bioassay samples shall be collected on the first day of discharge and 90 days thereafter. If the discharge is intermittent rather than continuous, then on the first day of each such intermittent discharge, the Discharger shall monitor and record data for all of the constituents listed above, after which the frequencies of analysis given in the schedule shall apply for the duration of each such intermittent discharge. In no event shall the Discharger be required to monitor and record data more often than twice the frequencies listed in the schedule.

### RECEIVING WATER MONITORING

Receiving water monitoring shall be conducted when a discharge from the wetlands to the River occurs. When discharge to the wetlands is occurring wetland freeboard shall be checked weekly. When freeboard is less than one feet, the wetlands area shall be checked daily to determine whether a discharge is occurring, and the observation shall be noted in the monitoring report. All receiving water samples shall be grab samples. Receiving water samples shall be taken from the following:

Station	Description			
R-1	At the Gulling Street bridge crossing the River			
R-2	200 feet downstream of the point of discharge to the River			
Constituent	Unit	Station	Sampling Frequency	
Dissolved Oxygen	mg/L	R-1, R-2	Weekly	
Total and Fecal Coliform	MPN/100 mL	R-1, R-2	Weekly	
pH	pH Units	R-1, R-2	Weekly	
Turbidity	NTU	R-1, R-2	Weekly	
Total Copper	mg/L	Grab	Monthly <sup>1</sup>	
Total Lead	mg/L	Grab	Monthly <sup>1</sup>	
Total Cyanide	mg/L	Grab	Monthly <sup>1</sup>	
Hardness	mg/L	Grab	Monthly <sup>1</sup>	
Temperature	°F	R-1, R-2	Weekly	
<u>Electrical Conductivity</u>	µmho/cm	R-1, R-2	Weekly	

<sup>1</sup>Sampling for these constituents shall be obtained quarterly for the first year, even if no discharge to the River is occurring, and monthly during times of discharge to the River. After the first year, monitoring will be required monthly, and only when discharge to the River occurs.

In conducting the receiving water sampling, a log shall be kept of the receiving water conditions at the monitoring stations. Receiving water shall be inspected for the presence or absence of:

- a. Floating or suspended matter
- c. Bottom deposits

b. Discoloration

d. Aquatic life

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

### **THREE SPECIES CHRONIC TOXICITY MONITORING**

Chronic toxicity monitoring shall be conducted to determine whether the effluent is contributing toxicity to the River. The testing shall be conducted as specified in USEPA 821-R-02-013 or its most recent edition. Chronic toxicity samples shall be collected at the discharge of the Six-acre Pond to the wetlands prior to its entering the River. Samples shall be representative of the volume and quality of the discharge. Time of collection of samples shall be recorded. The effluent tests must be conducted with concurrent reference toxicant tests. Monthly laboratory reference toxicant tests may be substituted upon approval. Both the reference toxicant and effluent test must meet all test acceptability criteria as specified in the USEPA chronic manual. If the test acceptability criteria is not achieved, then the Discharger must resample and retest within 14 days. If undiluted effluent exhibits toxicity, the Discharger shall sample during the next available discharge event and conduct the test using a dilution series bracketing the concentration of effluent in the receiving water. Dilution water shall be receiving water from the River taken upstream from the discharge point. Laboratory water may be used for dilution water if upstream water exhibits toxicity. Chronic toxicity monitoring shall include the following:

Species: Pimephales promelas, Ceriodaphnia dubia, and Selenastrum capricornutum

Frequency: Once within 180 days of adoption of this permit and once 365 days prior to the permit expiration.

### **PRIORITY POLLUTANT MONITORING**

The Discharger shall conduct two additional sampling events to provide additional information on effluent priority pollutants

The first sampling event shall be conducted **within 180 days of the adoption of the Order**. During this first sampling event, grab samples shall be collected from the effluent discharge and upstream receiving water station R-1 and analyzed for the pollutants identified in Attachment C. The second sampling event shall be conducted no later than 365 days prior to permit expiration. Results shall be reported within **90 days of sample collection**.

Effluent and upstream samples must include pH and hardness in order to calculate translators, which are needed for metals that are hardness and/or pH dependent. All analyses shall be performed at a laboratory certified by the California Department of Health Services. The laboratory is required to submit the Minimum Level (ML) and the Method Detection Limit (MDL) with the reported results for each of the constituents listed in Attachment E. Analyses by methods other than those specified in this monitoring and reporting program must receive prior approval by the Executive Officer.

All organic analyses shall be by Gas Chromatography/Mass Spectrometry (GCMS), Method 8260B for volatiles and Method 8270C for semi-volatiles. Pesticides shall be analyzed by Method 8081A. Dioxins

shall be analyzed by Method 1613/8290. If organic analyses are run by Gas Chromatography (GC) methods, any detectables are to be confirmed by GCMS. Inorganics shall be analyzed by the following Methods:

ICP/MS-EPA Method 1638	Antimony, beryllium, cadmium, copper, lead, nickel, selenium, silver, thallium, total chromium, zinc
CVAA-EPA Method 1631	Mercury
HYDRIDE-EPA Method 206.3	Arsenic
FAA-EPA Method 218.4	Chromium VI
Colorimetric-EPA Method 335./ 2 or 3	Cyanide

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Abbreviations:

FAA-Flame Atomic Absorption	ICP/MS-Inductively Coupled Plasma/Mass Spectrometry
CVAA-Cold Vapor Atomic Absorption	HYDRIDE-Gaseous Hydride Atomic Absorption

### SLUDGE MONITORING

A composite sample of sludge shall be collected whenever sludge is removed from the ponds, in accordance with EPA's *POTW Sludge Sampling and Analysis Guidance Document*, August 1989, and tested for the following metals:

cadmium	copper	nickel
chromium	lead	zinc

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

1. **Within 90 days of the effective date of this Order, and annually by 30 January** thereafter, the Discharger shall submit:
  - a. Annual sludge production in dry tons and percent solids.
  - b. A schematic diagram showing sludge handling facilities and a solids flow diagram.
  - c. Depth of application and drying time for sludge drying beds.
  - d. A description of disposal methods. If more than one method is used, include the percentage of annual sludge production disposed by each method.

### WATER SUPPLY MONITORING

The Discharger shall forward all testing (excluding bacteriological testing), performed on water supply wells that is required by the Department of Health Services.

## REPORTING

Monitoring results shall be submitted to the Regional Board by the **1<sup>st</sup> day of the second month** following sample collection (e.g., the January report is due by 1 March). Quarterly and annual monitoring results shall be submitted by the **1<sup>st</sup> day of the second month** following each calendar quarter and year, respectively

In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner to illustrate clearly the compliance with waste discharge requirements.

If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be included in the calculation and reporting of the values required in the discharge monitoring report form. Such increased frequency shall be indicated on the discharge monitoring report form.

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

- a. The names, certificate grades, and general responsibilities of all persons employed at the Plant (Standard Provision A.5).
- b. The names and telephone numbers of persons to contact regarding the plant for emergency and routine situations.
- c. A statement certifying when flow meters and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration (Standard Provision C.6).
- d. A statement certifying whether the current operation and maintenance manual, and contingency plan, reflect the wastewater treatment plant as currently constructed and operated, and the dates when these documents were last revised and last reviewed for adequacy.

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

All reports submitted in response to this Order shall comply with the signatory requirements of Standard Provision D.6.

The Discharger shall implement the above monitoring program on the first day of the month following effective date of this Order.

MONITORING AND REPORTING PROGRAM No. R5-2003-0110  
CITY OF PORTOLA  
WASTEWATER TREATMENT PLANT  
PLUMAS COUNTY

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Monthly monitoring reports shall be submitted to the regional Board by the **1st day of the second month** following sample collection.

The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported to the Board.

Ordered By: \_\_\_\_\_

THOMAS R. PINKOS  
Executive Officer

\_\_\_\_\_  
11 July 2003

(Date)

RSD/sae

## FACT SHEET

ORDER NO. R5-2003-0110  
CITY OF PORTOLA  
WASTEWATER TREATMENT PLANT  
PLUMAS COUNTY

### GENERAL INFORMATION

The City of Portola is situated in Plumas County, on Highway 70, approximately 25 miles southeast of Quincy and 45 miles northwest of Reno, Nevada. Portola is at the eastern boundary of the Cascade Mountains, just to the west of Sierra Valley, the headwaters of the Middle Fork of the Feather River (River).

Portola has traditionally been a lumber and railroad town. Much of the incorporated area consists of single-family homes. There are some commercial facilities adjacent to Highway 70 such as restaurants, grocery stores, motels, gasoline stations, and other small office buildings or businesses. There is an older, small commercial district on 1<sup>st</sup> Street and Commercial Avenue South of the River. The River is the predominant surface water feature in the area, and flows west through the town, separating it into roughly equal halves north and south of the river's stream channel. The population of Portola is approximately 2,500 in accordance with the year 2000 census.

The Discharger owns and operates a wastewater collection system, and a wastewater treatment plant with disposal to wetlands. The Plant lies south of the River and State Highway 70, just west of Portola, north of the Union Pacific Rail Yard, and east the Dellecker Wastewater Treatment Ponds, in Section 2, T22N, R13E, MDB&M. The wetlands may discharge to the River. Due to the residential and light commercial uses in the town, the characteristics of wastewater discharged to the treatment plant are predominantly those expected of residential waste.

The wastewater treatment plant consists of:

- A headworks (a manually cleaned bar screen, two Parshall flumes, and sonic level sensors);

- A 1.8 acre aeration pond with two ten-horsepower aerators;

- A 0.6 acre emergency storage pond;

- 12.5 acres of stabilization ponds (Ponds 1-5). The stabilization ponds have buried, valved piping manifolds at their east and west boundaries, that allow the Discharger to remove any stabilization pond from service as necessary, while continuing the operation of the remaining ponds;

- Chlorination/de-chlorination facilities consisting of sodium hypochlorite injection, sodium bisulfite injection, and a chlorine contact chamber. The chlorine contact chamber is located downstream of Pond 5;

- A six acre storage/polishing pond (Six-acre Pond) downstream of the chlorination station, and; Approximately 1.4 acres of natural and constructed wetlands west of the Six-acre Pond. The original wetlands were enlarged by removal of gravel from the existing wetlands, construction of

islands from the excavated gravel, and installation of a two- to three-foot high berm at the original wetlands outlet.

The area, depth, and volume of each pond are given in the following table:

Portola Wastewater Treatment and Storage Ponds

Pond	Area (Acres)	Depth (ft)	Storage (Acre-ft with 2' freeboard)
Aeration	1.8	5	9
Emergency	0.60	5	3.0
Pond 1	1.60	5	8.0
Pond 2	3.0	5	15
Pond 3	3.0	5	15
Pond 4	3.0	5	15
Pond 5	2.0	5	10
Six-acre Pond	6.0	4	28 <sup>1</sup>
Total	21	-----	103

<sup>1</sup>The volume of the Six-acre Pond is given assuming approximately three feet of freeboard. If the pond freeboard is reduced to less than three feet, wastewater backs up into the chlorine contact chamber.

Wastewater is disinfected by injection of a 12% sodium hypochlorite solution as the wastewater is discharged to the chlorine contact chamber. When discharge to the Six-acre Pond is necessary (because of high level in the stabilization ponds), flow to the chlorine contact chamber is set at a constant rate by: 1) opening a slide gate into the chlorine contact chamber; 2) adjusting a gate valve at the point of discharge of Pond 5 and; 3) determining flow rate into the chamber using a propeller meter in the line from Pond 5 to the chamber. Chlorine dose is determined by calculating the volume of hypochlorite needed to maintain target residual chlorine concentrations at the entrance and exit of the chamber. Chlorine concentrations are measured at these locations to assure that the chlorine dose is adequate.

The volume of the chlorine contact chamber is approximately 20,000 gallons. Contact time at maximum wastewater flow through the chamber is approximately 30 minutes (the maximum flow rate allowed into the chamber by the Discharger is 600 gallons per minute). The length to width ratio of the contact chamber is well in excess of the 20:1 value considered to be a minimum for adequate disinfection. Effluent de-chlorination is accomplished by the injection of a 25% sodium bisulfite (bisulfite) solution prior to discharge of wastewater to the Six-acre Pond. Bisulfite dosage is set at a constant rate based upon the chlorine dosage. Both the chlorine and bisulfite dosage points are equipped with diffusers to promote good mixing. The contact chamber is also constructed with concrete baffles to further aid in mixing of both chlorine and bisulfite.

Wastewater from north of the River is pumped 2,000 feet through an eight inch force main to the Plant from the Northside Pumping Station. The force main is buried beneath the riverbed for its crossing to the River's south shore. From the Southside Pumping Station wastewater from the area south of the River is also pumped through an eight inch force main to the Plant, a distance of approximately



1,000 feet. The individual wastewater streams from the Northside and Southside Pumping Stations combine at the influent to the aeration pond, after being individually measured by Parshall flumes equipped with sonic level sensors.

Discharge from the wastewater treatment plant is presently regulated by Waste Discharge Requirements Orders No. 98-108 and 92-147 (NPDES No. CA0078930), adopted by the Board on 23 January 1998 and 14 August 1992, respectively, and Cease and Desist Order No. 93-068 (CDO), adopted on 21 May 1993. Order No. 92-147 was not rescinded when Order No. 98-108 was adopted, in order that the CDO retain its legal standing by reference to a currently enforceable Waste Discharge Requirements Order.

Collection system inspections and improvements to alleviate chronic Infiltration/Inflow (I/I) problems and collection system overflows were required by the CDO. During the inspections and information gathering required by the CDO, the Discharger discovered that the collection system was in much worse condition than anticipated. The Discharger applied for a small community grant and revolving loan from the State Water Resources Control Board, and received funding for sewer rehabilitation. In addition, Community Block Development Grant funds were obtained for some lateral replacement. Construction of new sewers and sewer repair was completed in 1998 and consisted of the following tasks:

1. Replacement of 3.9 miles of existing sewer line with PVC pipeline ranging from six inch to twelve inch diameter.
2. Repair of four miles of sewer line by sliplining or pipe bursting with High Density Polyethylene (HDPE) plastic liner.
3. Replacement or repair of 71 manholes.
4. Installation of 55 new manholes.
5. Repair of hundreds of leaking lateral connections funded by a Community Block Development Grant.
6. Refurbishing of the Northside Pump Station, including pump and control replacement.
7. Refurbishing of the Southside Pump Station, including pump and control replacement.

#### **EXISTING PERMIT**

The existing waste discharge requirements require maximum 30-day average concentration effluent limits for BOD and TSS of 30 mg/L, and effluent pH between 6.5 and 8.5, effluent total coliform no greater than a monthly median of 23 MPN/100 mL, and a maximum effluent chlorine limit of 0.1 mg/L.

### **SUMMARY OF DRAFT PERMIT**

Based on the new Report of Waste Discharge, permitted discharge flow remains the same as in the previous Order. However, this Order broadens certain effluent limitation guidelines of the previous Order representing the degree of effluent treatment attainable by the technology currently available for wastewater treatment plants (for effluent BOD and TSS). This Order requires the Discharger to develop and submit: 1) an annual sludge disposal plan; and 2) a Sanitary Sewer System Operation, Maintenance, and Overflow Prevention and Response Plan and 3) a report on the mixing of effluent with receiving water and the dilution credits potentially available for determination of compliance with receiving water objectives. This Order also requires the Discharger to provide information on whether certain pollutants in the discharge (ammonia, TDS) have a reasonable potential to cause or contribute to an in-stream excursion above a water quality objective. The Order may be reopened to promulgate revised water quality based effluent limitations if supplemental data indicates these pollutants have a reasonable potential to cause an exceedance of a water quality objective.

### **RECEIVING WATER BENEFICIAL USES**

The Board adopted a Water Quality Control Plan; Fourth Edition, for the Sacramento River and San Joaquin River Basins (Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve water quality objectives for all waters of the Basin. The requirements in this Order implement the Basin Plan.

Existing and potential beneficial uses which currently apply to surface waters of the basins are contained in Figure II-1 and Table II-1 of the Basin Plan. The beneficial uses of the River are specifically identified in the Basin Plan and consist of: Municipal and Domestic Supply (MUN); Water Contact Recreation and Canoeing and Rafting (REC-1); Non-Contact Water Recreation (REC-2); Warm and Cold Fresh Water Habitat (WARM and COLD); Cold Water Spawning, Reproduction, and/or Early Development (SPWN); and Wildlife Habitat (WILD).

The beneficial uses of groundwater in the vicinity of the wastewater treatment plant are municipal, industrial, and domestic supply.

### **WATER QUALITY OBJECTIVES AND BASIS FOR PERMIT EFFLUENT LIMITS**

The Porter Cologne Water Quality Control Act defines water quality objectives as “...*the limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area*”. Water quality objectives designed to protect beneficial uses and prevent nuisances are found in the Basin Plan, and may be stated in either numerical or narrative form.

Federal Regulations require that, in setting effluent limits, the Regional Board assure that the Discharger meet the more stringent of the: 1) technology based effluent limits found in 40 CFR Part 133; or 2) limits developed to assure that water quality objectives are not exceeded when it is shown that there is

a reasonable potential for the pollutant to cause such an exceedance. The latter requirement applies to both numeric and narrative water quality objectives.

The following sections discuss pollutants for which there are numeric water quality objectives, as well as pollutants which could cause exceedance of the Basin Plan's narrative toxicity objectives. If a pollutant is required to have a technology based effluent limit, this fact is noted. The basis for the decision whether or not to set an effluent limit is given, as well as the rationale for the numerical value of the effluent limit, if one is established.

a. Coliform (Total and Fecal)

Technology based effluent limit: None

Receiving water objective: The Basin Plan states "The fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200 MPN/100 mL nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 400 MPN/100 mL." The State Department of Health Services (DHS) has recommended in *Wastewater Disinfection for Health Protection, Executive Summary, Sanitary Engineering Branch, California Department of Health Services, February 1987*, that no discharge be allowed to streams used for drinking water supplies. For cases in which discharge to the water body cannot be avoided, and dilution is between 20:1 and 100:1, DHS recommends that the effluent be disinfected to a median coliform MPN of 23 MPN/100 mL based upon the last seven samples analyzed.

An effluent limit of 23 MPN/100 mL is being applied in this permit in accordance with DHS recommendations. As the fecal coliform concentration of any sample is less than or equal to the total coliform concentration in accordance with the bacteriological definition and laboratory detection procedures for these bacteria, this effluent limit will implement the Basin Plan water quality objective for fecal coliform.

b. Biostimulatory substances:

Technology based effluent limit: None

Receiving water objective: The Basin Plan states, "Water shall not contain biostimulatory substances which promote aquatic growth in concentrations that cause nuisance or adversely affect beneficial uses." The primary constituents of concern for this objective are nitrogen and phosphorus.

As the minimum dilution of effluent in the river will be 50:1 after complete mixing (discharge on allowed only when River flow is 40 cfs or more, and the maximum daily effluent discharge rate is 0.5 mgd), no nuisance conditions such as excess algae growth are anticipated. In addition, this discharge has been occurring for many years, and there is no record in the case files of any complaints or problems with excessive aquatic growth. Therefore no effluent limit for biostimulatory substances is established in this permit. However, receiving water quality limitations prohibit the discharge from causing fungi, slimes, or other objectionable growths.

c. Dissolved Oxygen (DO)

Technology based effluent limit: None

Receiving water objective: The Basin Plan states; “*(For surface water bodies outside the legal boundaries of the Delta, the monthly median of the mean daily dissolved oxygen (DO) concentration shall not fall below 85 percent of saturation in the main water mass, and the 95<sup>th</sup> percentile concentration shall not fall below 75 percent of saturation. The DO concentration shall not be reduced below the following minimum levels at any time):*

*Waters designated WARM 5.0 mg/L  
Waters designated COLD 7.0 mg/L  
Waters designated SPWN 7.0 mg/L”*

The draft Order prohibits discharge to the River from 15 May to 31 October. During discharge periods the flow in the river consists of storm water run-off and flow gained from groundwater recharge, which generally are high in dissolved oxygen. The secondary effluent, therefore, should not contribute to a decrease in DO in the River.

No effluent limitation has been included in this Order due to the lack of reasonable potential for failure to achieve water quality objectives and the lack of a technology based effluent limitation.

d. Biochemical Oxygen Demand (BOD)

Technology based effluent limit: Federal regulations, 40 CFR, Part 133, provide technology based effluent limitations for BOD, as well as means of adjustment of these limits where waste stabilization ponds are the principal processes used for secondary treatment. Pursuant to the regulations at 40 CFR Parts 133.105(a), (b), and 133.103, absent any adjustment, the BOD 30-day average discharge limit for such stabilization pond systems shall not exceed 45 mg/L, the 7-day average shall not exceed 65 mg/L, and the 30-day BOD percent removal shall not be less than 65%.

Receiving water objective: As indicated in Item a. above, the discharge will not cause a decrease in the dissolved oxygen in the receiving water, which is the most likely effect of discharge of BOD. Therefore, the technology based effluent is the relevant criterion to consider for setting an effluent limit.

The Discharger has shown that the wastewater treatment plant is only barely capable of meeting a BOD effluent limit of 30 mg/L and percent removal of 85. Due to the fact that no discharge is allowed with river flows less than 40 cfs, resulting in a dilution of wastewater in the River of approximately 50:1, and the discharger’s potential difficulty in meeting a 30 day average effluent limit of 30 mg/L, the effluent limit has been set using technology based effluent limits. This effluent limit will conform to the Basin Plan water quality objective.

e. Floating Material:

Technology based effluent limit: None

Receiving water objective: The Basin Plan states, “Water shall not floating material in amounts that cause nuisance or adversely affect beneficial uses.” The Receiving Water Limitations in this permit prohibit floating material in amounts that exceed this Basin Plan Water Quality objective.

This discharge has been occurring for many years, and there is no record in the case files of any complaints or problems with excessive floating material. Therefore no effluent limit for floating material is established in this permit. However, receiving water quality limitations prohibit the Discharger from causing a nuisance or adversely affecting beneficial uses due to floating material.

f. Oil and Grease

Technology based effluent limit: None

Receiving water objective: The Basin Plan states “*Waters shall not contain oils, greases, waxes, or other materials in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.*”

The current wastewater treatment activity is not anticipated to generate any oils, greases, waxes, or other materials that can cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.

No effluent limitation has been included in this Order due to the lack of reasonable potential for failure to achieve water quality objectives, and the lack of a technology based effluent limitation.

g. pH

Technology based effluent limit: From 6.0 to 9.0

Receiving water objective: The Basin Plan provides that the pH (of surface waters) shall not be depressed below 6.5 nor raised above 8.5 pH Units. The Basin Plan further provides that changes in normal ambient pH levels shall not exceed 0.5 pH Units in fresh waters with designated COLD or WARM beneficial uses.

The wastewater analysis submitted by the Discharger indicates the lowest and highest pH values of 6.9 and 9.4 in the effluent, respectively. These readings indicate that the current wastewater treatment activity has a reasonable potential to generate effluent with pH value that could adversely affect beneficial uses. Hence, an effluent limitation for this criterion is set at 6.0 (daily minimum) and 9.0 (daily maximum), which is protective of receiving waters.

h. Salinity

Technology based effluent limit: None

Receiving water objective: The Basin Plan objective for electrical conductivity in the River, after complete mixing, is 150 umhos/cm (as a 90<sup>th</sup> percentile).

No data has been obtained in previous permits regarding electrical conductivity of effluent or receiving water. Because of the high dilution of effluent in the River (minimum of approximately 50:1), it is unlikely that the discharge will cause exceedance of this objective. The Discharger is required to obtain data on effluent and receiving water electrical conductivity to confirm that the water quality objective is not exceeded.

i. Total Suspended Matter

Technology based effluent limit: Federal regulations, 40 CFR, Part 133, provides technology based effluent limitations for total suspended solids (TSS), as well as means of adjustment of these limits where waste stabilization ponds are the principal processes used for secondary treatment. Pursuant to the regulations at 40 CFR Parts 133.105(a), (b), and 133.103, absent any adjustment, the TSS 30-day average discharge limit for such stabilization pond systems shall not exceed 45 mg/L, the 7-day average shall not exceed 65 mg/L, and the 30-day TSS percent removal shall not be less than 65%.

Receiving water objective: Regarding suspended material, the Basin Plan states: “*Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.*”

The current wastewater treatment process has a reasonable potential to generate suspended matter in quantities that would cause exceedance of the above narrative standard. Municipal wastewater contains suspended matter, some of which will escape the treatment and/or removal process. At times any of the ponds could discharge excessive solids due to process problems or re-suspension of sludge due to waves formed from wind action. Ponds also produce significant algae which is difficult to remove prior to discharge.

The Discharger has shown that the wastewater treatment plant is capable of meeting a TSS effluent limit of 30 mg/L and an 85 percent removal. As this limit is more stringent than the technology based effluent limit, and due to the dilution of wastewater in the River, this effluent limit will conform to the Basin Plan water quality objective.

j. Temperature

Technology based effluent limit: None

Receiving water objective: The Basin Plan states; “The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses. At no time or place shall the temperature of COLD or WARM intrastate waters be increased more than 5°F above natural receiving water temperature. In determining compliance with the water quality objectives for temperature, appropriate averaging periods may be applied provided that beneficial uses will be fully protected.”

The current practice of effluent discharge is not expected to cause variation in receiving water temperature by more than 1° F because the ponds have a long residence time, causing the water to equilibrate with the ambient temperature. Most of the year, especially at times of discharge, this will result in an effluent temperature that is close to the temperature of the receiving water. Dilution of the wastewater will also significantly reduce any temperature increases. Consequently, no effluent limitation has been included in this Order.

k. Toxicity

Technology based effluent limit: None

Receiving water objective: The Basin Plan provides that relative to toxicity: *“All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances”*.

This Order contains provisions that require characterization of the discharge for chronic and acute toxicity. Effluent must result in survival of test fishes in 96-hour bioassays of undiluted effluent be no less than:

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

The Discharger is required to conduct the chronic toxicity testing as specified in the Monitoring and Reporting Program. If the testing indicates that the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the water quality objective for toxicity, this Order requires the Discharger to initiate a Toxicity Identification Evaluation (TIE) to identify the causes of toxicity. Upon completion of the TIE, the Discharger will submit a work plan to conduct a Toxicity Reduction Evaluation (TRE) and, after Board evaluation, conduct the TRE. This Order will be reopened and a chronic toxicity limitation included and/or a limitation for the specific toxicant identified in the TRE included. Additionally, if a chronic toxicity water quality objective is adopted by the State Water Resources Control Board, this Order may be reopened and a limitation based on that objective included.

In addition, some metals, and cyanide, have been found to have a reasonable potential to exceed the water quality objectives in the CTR. The deleterious effects of these constituents on the River would be primarily due to toxicity to fish and other aquatic species. Effluent limits for these compounds are included in this permit as described below under **“REASONABLE POTENTIAL ANALYSIS FOR CTR AND NTR CONSTITUENTS.”** Chlorine and ammonia are also compounds that may cause toxicity in the River. Methods of addressing potential chlorine and ammonia toxicity are described in items m. and n.

l. Turbidity

Technology based effluent limit: None

Receiving water objective: The Basin Plan states: “*Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases in turbidity attributable to controllable water quality factors shall not exceed the following limits:*

- *Where natural turbidity is between 0 and 5 (NTUs), increases shall not exceed 1 NTU.*
- *Where natural turbidity is between 5 and 50 NTU’s, increases shall not exceed 20 percent.*
- *Where natural turbidity is between 50 and 100 NTU’s, increases shall not exceed 10 NTU’s.*
- *Where natural turbidity is greater than 100 NTU’s, increases shall not exceed 10 percent.”*

There may be a reasonable potential to exceed the receiving water turbidity criteria due to discharges from the ponds. Although discharges occur during the period when a significant dilution in the River is available, small amounts of turbidity laden water can cause significant turbidity increases, even with large dilutions. Therefore, receiving water limitations have been incorporated into this Order in conformance with Basin Plan objectives. In addition, averaging periods for compliance calculations are allowed if approved by the Executive Officer.

m. Chlorine

Technology based effluent limit: None

Receiving water objective: See the Basin Plan objective above under Toxicity.

Chlorine can be toxic to aquatic life and has reasonable potential to be discharged at significant concentrations. The current effluent limitation for total chlorine residual is 0.1 mg/L as a daily maximum. The USEPA developed ambient water quality criteria for chlorine to protect freshwater aquatic organisms. The USEPA’s ambient water quality criteria for protection of aquatic life are 11 µg/L as a 4-day average (chronic) concentration, and 19 µg/L as a 1-hour average (acute) concentration for total chlorine residual. EPA guidelines and the Basin Plan allow for mixing zones where water quality objectives can be exceeded. However, the mixing regime of the effluent after discharge to the River is not well understood. Therefore, this permit contains effluent discharge limitations for total chlorine residual of 0.01 mg/L as a 4-day average, and 0.02 mg/L as an hourly average based on the USEPA ambient criteria to protect aquatic life. Monitoring for this constituent is on a continuous basis. The Discharger has the opportunity to perform studies on the potential for a mixing zone allowance if they so desire.

n. ammonia

Technology based effluent limit: None

Receiving water objective: See the Basin Plan objective above under Toxicity.



Ammonia concentrations in the effluent from domestic wastewater treatment plants without nitrification capabilities (conversion of ammonia to nitrate), in general, are higher than USEPA recommended freshwater criteria. Although the wastewater treatment plant is capable of nitrification, nitrification may not occur year-round due to the cold climate, and therefore there is insufficient data to determine a reasonable potential for effluent ammonia to cause or contribute to an in-stream excursion above the Basin Plan narrative toxicity objective. The USEPA has published revised ambient water quality criteria for ammonia (1999 Ammonia Update), superseding all previous USEPA recommended freshwater criteria for ammonia. This Order contains requirements for monitoring effluent ammonia, and a re-opener to set ammonia effluent limitations if it is determined that ammonia in the effluent presents a reasonable potential for exceedance for a water quality objective.

### **REASONABLE POTENTIAL ANALYSIS FOR CTR AND NTR POLLUTANTS**

Federal regulations contained in 40 CFR Part 122.4 (d) require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numerical water quality standard. The USEPA adopted the National Toxics Rule (NTR) on 5 February 1993 and the California Toxics Rule (CTR) on 18 May 2000. The NTR and CTR contain water quality standards applicable to this discharge. The State Water Resources Control Board (SWRCB) adopted the *Policy for Implementation of Toxics Standards for Inland Surface waters, Enclosed Bays, and Estuaries of California* (known as the State Implementation Plan or SIP), which contains guidance on implementation for the NTR and CTR.

On 5 January 2001, the Discharger was issued a letter under the authority of California Water Code Section 13267 requesting effluent and receiving water monitoring to meet the requirements of the State Implementation Plan. The Discharger has sampled wastewater treatment plant effluent and receiving water three times to determine if the priority pollutants established in the CTR and NTR are present in wastewater treatment plant effluent. In Attachment C, the priority pollutants regulated by the NTR and CTR are listed, with the most stringent receiving water quality objective for the beneficial use. The results of effluent and receiving water quality testing are also presented.

The beneficial uses pertinent to the River in terms of a reasonable potential analysis for the NTR and CTR priority pollutants include freshwater aquatic habitat, municipal water supply, and municipal water supply coupled with human consumption of fish and other food from the River. In addition to the water quality standards given in the NTR and CTR, the Basin Plan objectives were also considered. The most stringent of those applicable water quality objectives or standards is given in the attachment. Water quality objectives for metals based upon the NTR and CTR have been adjusted for water hardness and metals translators as described in the SIP and Basin. The hardness used for these adjustments was the lowest hardness detected in the River (53 ppm). Use of the lowest hardness in the River provides the most conservative estimate of the potential for exceedance of a water quality objective. The water quality objective for PCP has been adjusted for pH as described in the SIP. The lowest pH of the River again has been used to determine the appropriate water quality objective, as this results in the most conservative objective.

The SIP establishes expected minimum levels for laboratory analysis for each of the priority pollutants in the NTR and CTR. The minimum level given in the SIP was not achieved for the following metals in the initial round of sampling: antimony, arsenic, beryllium, cadmium, copper, lead, mercury, nickel, silver, thallium, and zinc. However, minimum levels were substantially below the minimum criteria (water quality objective) for all metals. Therefore, the failure to achieve the desired minimum levels does not affect the Regional Board's ability to perform a reasonable potential analysis, accordance with the SIP.

Based on analytical results of effluent samples collected by the Discharger, the discharge may have a reasonable potential to cause or contribute to an in-stream excursion above the CTR standard for copper. The Discharger submitted effluent results showing copper concentrations ranging from 3.1 ug/L to 14 ug/L. Receiving water concentrations ranged from 0.2 ug/L to 1.2 ug/L. Based on a hardness of 53 mg/l, the CTR standards are 5.4 ug/L as the Criterion Continuous Concentration (CCC) and 7.7 ug/L as the Criterion Maximum Concentration (CMC). The Ambient Water Quality Criteria for metals are presented as dissolved concentrations. Lacking site-specific conversion factors, USEPA recommends conversion factor to translate dissolved concentrations to total concentrations. The conversion factors for copper in freshwater are 0.96 for both the acute and the chronic criteria.

Based on analytical results of effluent samples collected by the Discharger, the discharge may have a reasonable potential to cause or contribute to an in-stream excursion above the CTR standard for lead. The Discharger submitted effluent results showing effluent lead concentrations ranging from 0.08 ug/L to 6 ug/L and receiving water concentrations ranging from non-detect to 0.23 ug/L. Lead criterion are hardness dependant, similar to copper. Based on the river hardness of 53 mg/l, the CTR standards are 1.4 ug/L as the CCC and 37 ug/L as the CMC. The Ambient Water Quality Criteria for metals are presented as dissolved concentrations. Lacking site-specific conversion factors, U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. Conversion factors for lead are dependant on water hardness. The conversion factors for lead in freshwater for a hardness of 53 mg/l are 0.9 for the acute and chronic criteria

Based on information included in analytical laboratory reports submitted by the Discharger, cyanide in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR water quality standard. Cyanide was detected in an effluent sample at a concentration of 8 ug/L and in the receiving water at a concentration of 10 ug/L. The CTR standards are 5.2 ug/L as the CCC and 22 ug/L as the CMC. Effluent limitations for cyanide are included in this Order and are based on the CTR for the protection of freshwater aquatic life. Due to the fact that the receiving water concentration may exceed the water quality objective, there may be no dilution credits available for cyanide. The discharger is required to present additional testing information on the receiving water to demonstrate that dilution credits may be available.

Asbestos, dioxin (2,3,7,8-tetrachlorodibenzo-p-dioxin) and all other organic pollutants were undetected in the effluent and receiving water.

Water quality criteria have been established for forty three of the volatile and semi-volatile organic compounds, as well as pesticides, at concentrations less than current laboratory minimum levels.

For compounds that have minimum levels established at concentrations below their water quality objectives, there is no reasonable potential, based upon current analytical data, for an exceedance of a water quality objectives in the River. Further monitoring is required in the Monitoring and Reporting Program to confirm this finding.

For the forty-three compounds that have minimum levels established at concentrations higher than their water quality objectives, the Regional Board finds, based on current Plant operations and the nature of the waste treated, that these forty-three organic substances will not be present in concentrations in the Plant effluent that cause or contribute to violations of water quality objectives. Further monitoring is required, as described below, and in the Monitoring and Reporting Program to support this finding. If and when minimum levels for these compounds are lowered, or additional data warrants, this permit may be reopened to establish effluent limits for those compounds determined to have reasonable potential to exceed water quality objectives.

The requirements prohibit the discharge of effluent to the River when River flow is less than 40 cubic feet per second (cfs). Discharge to the River is also prohibited between 15 May and 30 October. At the minimum River flow dilution of effluent in the River, after complete mixing, is approximately 50:1. It is unlikely that the dilution of wastewater in the River approaches this value in the immediate vicinity of the discharge, because there is presently no outfall diffuser. However, in accordance with the SIP, Section 1.4, and the Discharger's CTR monitoring data, compliance with CTR criteria for copper and lead can be achieved with a dilution of approximately 4:1 or more. This amount of dilution should be easily achievable, and it is likely that it is already being achieved. In consideration of the minimal dilution necessary to comply with CTR criterion, the Regional Board is not setting effluent limits for copper and lead at this time. After dilution studies required by this permit are performed, this permit will be re-opened, if necessary, and effluent limits will be established for copper and lead. The Regional Board also finds that at this time sampling results for cyanide are inadequate to determine whether there is a reasonable potential for exceedance of its criteria. This Order requires the discharger to obtain additional data on cyanide concentrations, and if reasonable potential is determined the permit will be reopened, and an effluent limit will be set.

#### **FLOW LIMITS:**

The monthly average daily dry weather flow limit of 0.50 MGD is based on the design capacity of the treatment facility and the flow allowed in the pervious permit.

#### **SLUDGE DISPOSAL**

The Order contains provisions requiring the Discharger to comply with current federal and state laws and regulations for disposal of sewage sludge. The facility intends to remove sludge from the treatment works on an unscheduled basis. The Discharger is required to report any proposed change in sludge use or disposal practice 90 days in advance of change.

### **RECEIVING WATER LIMITATIONS**

The receiving water limitations contained in the draft Order are based on water quality objectives contained in the Basin Plan for the Middle Fork of the Feather River.

### **PROCEDURES ON REACHING FINAL DECISION ON DRAFT PERMIT**

The tentative waste discharge requirements have been sent to the Discharger and interested parties for review (at least 30 days) prior to formal presentation to the Regional Board. Any contested items on the permit will be heard and considered for change prior to formal adoption at the Board Meeting.

### **FOR FURTHER INFORMATION**

For further information or questions regarding the NPDES permit, contact Ronald S. Dykstra at the Regional Water Quality Control Board in Redding at (530) 224-4858.

RSD: sae