

## INFORMATION SHEET

ORDER NO. \_\_\_\_\_  
GRIZZLY RANCH COMMUNITY SERVICES DISTRICT  
WASTEWATER COLLECTION, TREATMENT, AND RECYCLING FACILITY  
PLUMAS COUNTY

### GENERAL INFORMATION

The Grizzly Ranch Community Services District (GRCS D or Discharger) is located in Plumas County, on Grizzly Road, approximately 2 miles north of Highway 70. The intersection of Grizzly Road and Highway 70 is approximately 2 miles east of the Town of Portola. The Discharger's service area is almost entirely above 5,000 feet elevation.

The Discharger owns and operates a wastewater collection system (sewer system) and wastewater treatment plant (Facility), and provides sewer service to domestic and commercial users within the GRCS D. As part of the wastewater treatment and disposal process, the Discharger will also produce recycled water that can be used for golf course irrigation. The project area will consist of 380 single-family homes, an 18-hole golf course, golf clubhouse, and some commercial facilities. The golf course will be owned by Grizzly Creek Golf, LLC. Grizzly Creek Golf LLC will be issued separate water recycling requirements for their use of the recycled water.

The Facility will be located near the southwest boundary of the property in the GRCS D. The Facility will consist of:

- A headworks with flow metering and a rotary drum screen for grit and large solids removal. Influent flow will be measured by a magnetic flow meter. The wastewater collection system will consist entirely of low pressure force mains.
- A Sequencing Batch Reactor (SBR) for removal of BOD, TSS, and nitrogen. The California Department of Health Services (DHS), Division of Drinking Water, has reviewed specifications for the SBR, as well as other items critical to compliance with recycling requirements as required in the California Code of Regulations, Title 22 (Title 22).
- Multimedia filters for additional removal of BOD, TSS, and turbidity, in preparation for disinfection to meet the recycled water requirements of Title 22 for tertiary quality recycled wastewater;
- An Emergency Storage Pond (Emergency Pond). The Emergency Pond will be lined with a synthetic liner. This pond is intended to contain wastewater only infrequently and will be utilized only when there is a problem with the treatment process that could cause a violation of waste discharge requirements or the water recycling permit.
- An Irrigation Storage Pond (Irrigation Pond). This pond will be constructed with a synthetic liner and will be used for the storage of wastewater in minor amounts compared to the total pond volume. The remaining pond volume will be made up by potable water from onsite wells.

- During irrigation, water from the Irrigation Pond will discharge to a wet well prior for pumping to the golf course. Treated wastewater will also be discharged to the wet well, where the two irrigation water sources will mix. At the end of a daily irrigation cycle the wet well can be drawn down by discontinuing the supply of pond water, while continuing irrigation solely with recycled water. After cessation of irrigation, recycled water can be discharged to the partially empty wet well until the subsequent irrigation cycle begins. In this manner, little treated wastewater will be discharged to the Irrigation Pond, and questions of irrigation pond liner integrity—potentially necessary to prevent groundwater contamination—are not a significant concern.
- An outfall diffuser for discharge into Big Grizzly Creek. The diffuser will be designed such that effluent mixing with Big Grizzly Creek occurs rapidly and within a very short distance of the point of discharge.
- Redundancy features. Title 22 requires minimum redundancy features to avoid irrigation with wastewater that does not meet all applicable criteria. Redundancy features for this system include:
  1. Multiple units of SBR system equipment if the original equipment malfunctions.
  2. Sludge storage for approximately 14 days. Although 14 days of sludge storage does not fulfill the Title 22 requirement (20 days of storage is required by Title 22), the SBR system can be operated at increased mixed liquor solids concentrations for additional solids storage within the wastewater.
  3. For the coagulation system, availability of stand-by feeders;
  4. Adequacy of chemical storage and reserve chemical supply; automatic dosage control; and the availability of an alarm and stand-by replacement equipment or standby coagulation process.

### **WATER RECYCLING REQUIREMENTS**

The GRCSD will treat the wastewater to the standards required in Title 22 for unrestricted golf course irrigation. During the irrigation season, 16 May to 15 November, the recycled water will be used on the golf course.

### **SUMMARY OF DRAFT PERMIT**

Permitted discharge flow is limited to a monthly average value of 0.081 million gallons per day. Monthly average effluent BOD, total suspended solids, and total nitrogen effluent limitations are 10 mg/L, 10 mg/L, and 10 mg/L respectively. The hourly average chlorine effluent concentration is limited to 0.02 mg/L. The seven day median value of total coliform is not to exceed 2.2 MPN/100 mL, only one coliform value per month may exceed 23 MPN/100 mL, and no value may exceed 240 MPN/100 mL. The Order requires the Discharger to develop and submit: 1) a Sanitary Sewer

System Operation, Maintenance, and Overflow Prevention and Response Plan; 2) an annual sludge disposal plan; and 3) a Title 22 Engineering Report regarding the recycled water irrigation of the golf course at the development. The Order may be reopened to promulgate revised water quality based effluent limitations if supplemental data indicates any pollutants have a reasonable potential to cause an exceedance of a water quality objective.

Monitoring and Reporting Program No. \_\_\_\_\_ requires that an additional acute toxicity test be initiated immediately in case of any test indicating mortality in excess of 70 percent, or at any time the median survival of the previous three tests is less than 90 percent.

### **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.

The Basin Plan on page II-2.00 states: “The beneficial uses of any specifically identified water body generally apply to its tributary streams.” This statement is sometimes referred to as the “Tributary Rule.”

The Basin Plan does not specifically identify any beneficial uses for Big Grizzly Creek and its tributaries. However, the Basin Plan does identify present and potential beneficial uses for the Middle Fork of the Feather River, to which Big Grizzly Creek is directly tributary, which include; municipal and domestic supply (MUN); water contact recreation and canoeing and rafting (REC-1); non-contact recreation (REC-2); cold freshwater habitat (COLD); warm fresh water habitat (WARM) cold water spawning, reproduction, and/or early development (SPWN); and wildlife habitat (WILD).

The Regional Board finds that, based on hydraulic continuity, aquatic life migration, existing and potential water rights, and the presence of contact recreational activities, the beneficial uses of the Middle Fork of the Feather River apply to Big Grizzly Creek and its tributaries.

#### *a. Municipal and Domestic Supply*

The Regional Board is required to apply the beneficial uses for municipal and domestic supply to Big Grizzly Creek and its tributaries based on SWRCB Resolution No. 88-63 which, in turn, was incorporated into the Basin Plan pursuant to Regional Board Resolution No. 89-059. The State Water Resources Control Board (SWRCB) has issued water rights to water users along Big Grizzly Creek and at Lake Davis primarily for agricultural and domestic supply. Domestic supply in Portola area is provided exclusively by groundwater. However, prior to 1998, Lake Davis was Portola’s primary drinking water source. Plumas County plans to reactivate the water treatment plant using Lake Davis water; however, prior to reactivation, approximately \$5.5 million of improvements must be made to the water treatment plant. Although the use of Big Grizzly Creek and its tributaries as domestic supply is limited at present, the potential for expanded use exists.

*b. Water Contact and Noncontact Recreation*

Big Grizzly Creek and its tributaries flow through rural and residential areas and there is ready public access. Contact and noncontact recreational activities, including rafting, fishing, ice-skating during the winter, and others, exist and are likely to increase as the population in the area increases. These uses were confirmed by a recreation study performed by the Department of Fish and Game in 1998. The Middle Fork of the Feather River also offers recreational opportunities.

*c. Cold and Warm Freshwater Habitat, Migration of Aquatic Organisms, Spawning, Reproduction, and/or Early Development, and Wildlife Habitat*

Big Grizzly Creek flows to the Middle Fork of the Feather River. Fish species present in Big Grizzly Creek and its tributaries are consistent with cold-water and warm-water fisheries. The California State Department of Fish and Game has noted trout in Big Grizzly Creek, as well as potential spawning areas. The Basin Plan (Table II-1) designates the Middle Fork of the Feather River as having a cold habitat. The outflow from Lake Davis into Big Grizzly Creek is controlled to maintain the trout fishery. Therefore, pursuant to the Basin Plan (Table II-1, Footnote (2)), the COLD and WARM designations and Spawning, Reproduction, and/or Early Development, and Wildlife Habitat (SPWN) designation applies to Big Grizzly Creek and its tributaries. The cold-water habitat designation necessitates that the in-stream dissolved oxygen concentration be maintained at, or above, 7.0 mg/L.

The riparian areas along Big Grizzly Creek and its tributaries support wildlife habitat. Therefore, the wildlife habitat designation (WILD) applies to Big Grizzly Creek.

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

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

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 limitations, the Regional Board assure that the Discharger meets the more stringent of the: 1) technology based effluent limitations found in 40 CFR Part 133; or 2) limitations 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 or contribute to such an exceedance. The latter requirement applies to both numeric and narrative water quality objectives.

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

## 1. Coliform (Total and Fecal)

Technology based effluent limitation: None

Receiving water objective: The Basin Plan states "The fecal coliform concentration [in surface waters] 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." In a letter to the Regional Board dated 8 April 1999, DHS indicated that they would consider wastewater discharged to water bodies with identified beneficial uses of irrigation, contact recreation, or a drinking water source to be adequately disinfected if: 1) the wastewater receives dilution of more than 20:1; 2) the effluent coliform concentration does not exceed 23 MPN/100 mL as a 7-day median; and 3) the effluent coliform concentration does not exceed 240 MPN/100 mL more than once in any 30 day period.

Order Effluent Limitation: Because the effluent dilution in Big Grizzly Creek will be maintained at a minimum of 100:1, an effluent limitation of 23 MPN/100 mL is appropriate. However, wastewater will be disinfected to 2.2 MPN/100 mL for application to the golf course; therefore this limitation is also specified for discharge to Big Grizzly Creek. Additional reasons for requiring this effluent limitation for Big Grizzly Creek discharge are the pristine nature of the stream and the existence of a youth summer camp for disadvantaged and disabled children to the southwest and downstream of the development, which could result in additional public exposure to the wastewater--although effluent discharge will not generally occur during the recreational season. In accordance with Title 22 regulations, monitoring of reclaimed wastewater used for unrestricted irrigation of golf courses, the Discharger will be required to monitor for effluent coliform at least daily during irrigation.

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 analytical detection procedures for these bacteria, this effluent limitation will implement the Basin Plan water quality objective for fecal coliform.

## 2. Biostimulatory substances

Technology based effluent limitation: None

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

Order Effluent Limitation: Although nutrients and other biostimulatory substances may be present in the discharge, as the minimum dilution of effluent in Big Grizzly Creek will be 100:1 after complete mixing (1Q10 in Big Grizzly Creek is 4.5 cfs). Therefore no effluent limitation for biostimulatory substances is established in this permit, except for total nitrogen. Because nitrogen may cause unacceptable eutrophication of surface waters, especially when the flow in the Middle Fork of the Feather River is very low, effluent total nitrogen in the effluent has been limited to 10 mg/L. In addition, receiving water quality limitations prohibit the discharge from causing fungi, slimes, or other objectionable growths.

### 3. Chemical Constituents

Technology based effluent limitation: None

Receiving water objective: At a minimum, water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in the following provisions of Title 22 of the California Code of Regulations, which are incorporated by reference into this plan: Tables 64431-A (Inorganic Chemicals) and 64431-B (Fluoride) of Section 64431, Table 64444-A (Organic Chemicals) of Section 64444, and Tables 64449-A (Secondary Maximum Contaminant Levels-Consumer Acceptance Limitations) and 64449-B (Secondary Maximum Contaminant Levels-Ranges) of Section 64449. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect. At a minimum, water designated for use as domestic or municipal supply (MUN) shall not contain lead in excess of 0.015 mg/L. The Regional Water Board acknowledges that specific treatment requirements are imposed by state and federal drinking water regulations on the consumption of surface waters under specific circumstances. To protect all beneficial uses the Regional Board may apply limitations more stringent than MCLs.

Order Effluent Limitation: Examination of the results of priority pollutant testing required by the CTR, as well as general information on water quality illustrates that there should be no exceedance of primary or secondary MCLs in Big Grizzly Creek if effluent limitations in the Order are complied with. Therefore there are no effluent limitations for any of these chemical constituents.

### 4. Color

Technology based effluent limitation: None

Receiving water objective: The Basin Plan states that “Water shall be free of discoloration that causes nuisance or adversely affects beneficial uses.”

Order Effluent Limitation: There should be no significant coloration to the discharge; therefore no effluent limitations for color have been included in the Order.

### 5. Dissolved Oxygen (DO)

Technology based effluent limitation: 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 Order prohibits discharge to Big Grizzly Creek from 16 May to 15 November, with certain exceptions. During discharge periods the flow in Big Grizzly Creek consists of storm water runoff and flow gained from groundwater recharge, which generally are high in dissolved oxygen. In addition, the dilution of effluent in Big Grizzly Creek will be at least 100:1. The effluent discharge, therefore, should not contribute to a decrease in DO in Big Grizzly Creek.

Order Effluent Limitation: 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.

## 6. Biochemical Oxygen Demand (BOD)

Technology based effluent limitation: Federal regulations, 40 CFR, Part 133, provide technology based effluent limitations for BOD. Pursuant to the regulations at 40 CFR Parts 133.105(a), (b), and 133.103, the BOD 30-day average discharge limitation for a secondary treatment system shall not exceed 30 mg/L, the 7-day average shall not exceed 45 mg/L, and the 30-day BOD percent removal shall not be less than 85%.

Receiving water objective: As indicated in Item C. 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 limitation is the relevant criterion to consider for setting an effluent limitation.

Order Effluent Limitation: The BOD effluent limitation for this permit has been set at 15 mg/L because the treatment technology can accomplish this BOD removal, and the effluent limitation is necessary to assure consistent disinfection to the required coliform effluent limitation of 2.2 MPN/100mL.

## 7. Floating Material:

Technology based effluent limitation: None

Receiving water objective: The Basin Plan states, “Water shall not contain 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.

Order Effluent Limitation: With the wastewater treatment processes, particularly effluent filtration, there is little chance of any substantial amount of floating material being discharged by this Plant. Therefore no effluent limitation for floating material is established. However, receiving water quality limitations prohibit the Discharger from causing a nuisance or adversely affecting beneficial uses due to floating material.

## 8. Oil and Grease

Technology based effluent limitation: 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.

Order Effluent Limitation: 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.

## 9. pH

Technology based effluent limitation: 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.

Order Effluent Limitation: Wastewater treatment plants in general produce wastewater with variable pH. Therefore, this Plant has a reasonable potential to generate effluent with a 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.

## 10. Pesticides

Technology based effluent limitation: None

Receiving water objective: The Basin Plan States: “1) No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses; 2) Discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses; 3) Total identifiable persistent chlorinated hydrocarbon pesticides shall not be present in the water column at concentrations detectable within the accuracy of analytical methods approved by the USEPA or the Executive Officer; 4) Pesticide concentrations shall not exceed those allowable by applicable antidegradation policies (see SWRCB Resolution 68-16 and 40 CFR Section 131.12.); 5) Pesticide concentrations shall not exceed the lowest levels

technically and economically achievable; 6) Waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of pesticides in excess of the Maximum Contaminant Levels set forth in California Code of Regulations, Title 22, Division 4, Chapter 15; and 7) Waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of thiobencarb in excess of 1.0 µg/l.”

Order effluent limitation: Due to the nature of the development, primarily residential, pesticides are not expected to be present in significant amounts. Therefore there are no effluent limitations for pesticides in this Order. However, a requirement for the Discharger to provide a chemical management plan for the golf course is included in the Order.

## 11. Radioactivity

Technology based effluent limitation: None

Receiving water objective: The Basin Plan States; “Radionuclides shall not be present in concentrations that are harmful to human, plant, animal or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal or aquatic life. At a minimum, waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of radionuclides in excess of the maximum contaminant levels (MCLs) specified in Table 4 (MCL Radioactivity) of Section 64443 of Title 22 of the California Code of Regulations, which are incorporated by reference into this plan. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect.”

Order effluent limitation: No unacceptable levels of radionuclides are expected the in Big Grizzly Creek or in the GRCSO’s effluent. Therefore, no effluent limitations for radionuclides are contained in this Order.

## 12. Salinity

Technology based effluent limitation: None

Receiving water objective: The Basin Plan objective for electrical conductivity in the Middle Fork of the Feather River is 150 umhos/cm (as a 90<sup>th</sup> percentile).

Order Effluent Limitation: Data obtained from the Middle Fork of Feather River by the Discharger and by the town of Portola indicate that the river’s electrical conductivity ranges from 139 umhos/cm to 150 umhos/cm. Because of the high dilution of effluent in Big Grizzly Creek (minimum of 100:1), 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. In addition, receiving water limitations prohibit an increase in electrical conductivity above the water quality objective of 150 umhos/cm in the Middle Fork of the Feather River.

### 13. Total Suspended Matter

Technology based effluent limitation: Federal regulations, 40 CFR, Part 133, provides technology based effluent limitations for total suspended solids (TSS). Pursuant to the regulations at 40 CFR Parts 133.105(a), (b), and 133.103, the TSS 30-day average discharge limitation for secondary systems shall not exceed 30 mg/L, the 7-day average shall not exceed 45 mg/L, and the 30-day TSS percent removal shall not be less than 85%.

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, in this case potentially from the malfunction of a filter.

Order Effluent Limitation: The TSS effluent limitation for this permit has been set at 15 mg/L because the treatment technology can accomplish the necessary TSS removal, and the effluent limitation is necessary to achieve adequate disinfection.

### 14. Temperature

Technology based effluent limitation: 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.”

Order Effluent Limitation: The current practice of effluent discharge is not expected to cause variation in receiving water temperature by more than 1° F. Dilution of the wastewater will also reduce any temperature increases. Consequently, no effluent limitation has been included in this Order.

### 15. Toxicity

Technology based effluent limitation: 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%

Order Effluent Limitation: 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 the SWRCB adopts a chronic toxicity water quality objective, this Order may be reopened and a limitation based on that objective included.

## 16. Turbidity

Technology based effluent limitation: 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 limitations:

Where natural turbidity is between 0 and 5 (NTUs), increases shall not exceed 1 NTU.

Where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent.

Where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs.

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

Order Effluent Limitation: 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 Big Grizzly Creek 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.

## 17. Chlorine

Technology based effluent limitation: None

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

Aquatic habitat based upon the COLD designation is a beneficial use of Big Grizzly Creek and its tributaries. 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.” The Discharger disinfects treated effluent with chlorine, which is toxic to some aquatic life. The USEPA has developed recommended chlorine ambient water quality criteria to protect freshwater aquatic organisms. Their criteria are used in this Order 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 ug/L as a 4-day average (chronic) concentration, and 19 ug/L as a one-hour average (acute) concentration.

Order Effluent Limitation:

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 maximum 1-hour average, 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. EPA guidelines and the Basin Plan allow for mixing zones where water quality objectives may be exceeded.

**18. Ammonia**

Technology based effluent limitation: None

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

Order Effluent Limitation: 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. This Facility is designed to denitrify, which requires that a substantial portion of influent nitrogen be converted from ammonia to nitrate. An effluent limitation for ammonia nitrate is therefore not included in this Order.

**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.

As part of the report of waste discharge for this facility, the Discharger has sampled receiving water on two occasions to determine if the priority pollutants established in the CTR and NTR are present in receiving water. In Attachment C, the priority pollutants regulated by the NTR and CTR are listed, as well as the most stringent receiving water quality objective for the given beneficial uses. The results of receiving water quality testing are also presented.

The beneficial uses pertinent to Big Grizzly Creek in terms of a reasonable potential analysis for the NTR and CTR priority pollutants include freshwater aquatic habitat, municipal water supply, and human consumption of fish and other food from the Creek. 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 Finding No. 43. 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 Plan. The hardness used for these adjustments was the lowest hardness detected in Big Grizzly Creek (31 ppm). Use of the lowest hardness in Big Grizzly Creek provides the most conservative estimate of the potential for exceedance of a water quality objective.

The SIP establishes expected minimum levels for laboratory analysis for each of the priority pollutants in the NTR and CTR. These minimum levels were achieved for the required priority pollutant testing.

Asbestos, dioxin (2,3,7,8-tetrachlorodibenzo-p-dioxin) and all other organic pollutants were undetected in the 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 and proposed plant operating procedures, for an exceedance of water quality objectives in Big Grizzly Creek. Further monitoring is required in the Monitoring and Reporting Program to confirm this finding. Many treatment plants have had difficulty assuring that discharge of some metals such as copper does not cause potential exceedance of water quality objectives. However the treatment train proposed for this discharge will result in removal of much higher percentages of BOD, total suspended solids, and settleable solids than these other Plants. Removal of additional solids generally corresponds to additional removal of metals. In addition, copper piping often contributes to lead and copper contamination of municipal wastewater. Plumas County allows plastic plumbing, and modern copper solders contain very little lead, which should reduce the amount of these metals being discharged to the treatment plant.

The forty-three compounds that have minimum levels established at concentrations higher than their water quality objectives will not be present in concentrations in the Facility effluent that cause or contribute to violations of water quality objectives based on proposed Facility operations and the nature of the waste treated. 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 limitations for those compounds determined to have reasonable potential to exceed water quality objectives.

Discharge to Big Grizzly Creek is prohibited between 16 May and 15 November. At the minimum creek flow, dilution of effluent in Big Grizzly Creek, after complete mixing, should be in excess of 100:1. The outfall diffuser for the Facility is designed to produce rapid and complete mixing.

#### **FLOW LIMITATIONS:**

The monthly average daily dry weather flow limitation of 0.081 MGD is based on the design capacity of the treatment facility.

#### **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  
10/14/05