

## INFORMATION SHEET

MASTER RECLAMATION PERMIT NO. R5-2011-XXXX  
TEHACHAPI-CUMMINGS COUNTY WATER DISTRICT  
TEHACHAPI-CUMMINGS RECYCLING SYSTEM  
KERN COUNTY

### Background

The Tehachapi-Cummings Water District (hereafter [District or Distributor](#)) proposes to distribute disinfected tertiary recycled water for irrigation of the Horse Thief Golf Course in nearby Stallion Springs and to approximately 560 acres of sod farms in the Cummings Valley. The disinfected recycled water is produced by the California Department of Corrections and Rehabilitation (hereafter [Department](#)), California Correctional Institution in Tehachapi (hereafter [Producer or Prison](#)) at the Prison's recently upgraded Wastewater Treatment Facility (WWTF). The WWTF is currently regulated by Waste Discharge Requirements ([WDR](#)) Order R5-2011-XXXX.

The District was formed in 1965 to provide and imported water supply, water resource management, and flood protection for the region. The District provides groundwater from three basins (Brite, Cummings, and Tehachapi) and imports surface water from the California Aqueduct.

The upgraded tertiary WWTF consists of headworks with screening and filtering, an extended aeration basin, two new secondary clarifiers; coagulation of clarified effluent; six continuous backwash sand filters; an ultraviolet light disinfection chamber; and three new effluent storage ponds. The design flow capacity of the WWTF is 1.1 million gallons per day ([mgd](#)).

The WWTF is designed to provide tertiary treatment and is regulated under Waste Discharge Requirements (WDRs) Order No. [R5-2011-XXXX](#). Order No. [R5-2011-XXXX](#) contains requirements to ensure protection of public health and compliance with Title 22 requirements. The tertiary recycled water shall, at a minimum, be adequately oxidized, coagulated, filtered, and disinfected. The monthly average biochemical oxygen demand ([BOD](#)) and total suspended solids shall not exceed 10 mg/L or a daily maximum of 20 mg/L. The median concentration of total coliform bacteria measured in the disinfected effluent shall not exceed 2.2 MPN/100 milliliters utilizing the bacteriological results of the last seven days for which the analyses have been completed, the number of total coliform bacteria shall not exceed 23 MPN/100 milliliters in more than one sample in any 30-day period, and no sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.

### Water Recycling Requirements

The Department of Public Health ([DPH](#)) (formerly Department of Health Services) has established statewide recycling water criteria in Title 22, California Code of Regulations, Section 60301 et seq., (hereafter [Title 22](#)) for the use of recycled water and has developed guidelines for specific uses. Revisions of the water recycling criteria in Title 22 became effective on 2 December 2000. The revised Title 22 expands the range of allowable uses of recycled water, establishes criteria for these uses, and clarifies some of the ambiguity contained in the previous regulations.

The Producer will treat the wastewater to the standards required in Title 22 for unrestricted irrigation of a golf course and other public use areas. As the responsible party named in the Master Reclamation Permit, the District is responsible for the operation and maintenance of transport facilities and associated appurtenances used to distribute the tertiary disinfected recycled water. The District shall hold its Users responsible for the application and use of recycled water on the designated Reclamation Areas and associated operations and maintenance in accordance with all applicable Title 22 requirements and this Order. The Order, as proposed, includes requirements for District to establish and enforce rules and regulations for recycled water users in accordance with statewide recycling criteria, and for its Users to conduct periodic inspections of the recycled water use sites.

Recycled water Users will include the owners of Horse Thief Golf Course and the Pacific and Superior Sod Farm Companies. The District will be responsible for administering User Agreements and informing individual owners regarding the use and application of recycled water as well as obtaining recorded covenants for land dedicated for effluent disposal to ensure unrestricted availability of land for disposal of effluent.

This Order as proposed would require the District as the Distributor of recycled water to implement and enforce specific measures relating to the use of recycled water. These include: (a) posting of appropriate warning signs around Use Areas, (b) maintaining setback distances, (c) ensuring distribution and delivery systems are well maintained and operational, and (d) requiring that recycled water be applied at agronomic rates.

The proposed Order would require the District and /or User to monitor its application in accordance with the proposed Monitoring and Reporting Program. Specifically, the proposed Order would require the District and/or its User to report the amounts of recycled water applied to the Use Areas, calculate nitrogen and salt loading to individual Use Areas, inspect the Use Areas on at least a monthly basis to ensure that water recycling is in compliance with the proposed Order; and submit required annual monitoring reports to the Regional Water Board.

The golf course and other application areas may contain numerous hills and sloped areas that would promote runoff unless closely managed during irrigation. In addition, the golf course may use ponds to store the recycled water that, during wet weather, may overflow and enter surface waters. Such runoff cannot occur except under an NPDES permit, and the District and/or its Users are required to provide all runoff controls necessary to keep wastewater irrigation runoff out of drainage channels or surface waters. However, minor amounts of incidental runoff or over-spray cannot be completely prevented. The proposed Order requires that incidental runoff or over-spray be minimized to the extent practicable through operational strategies.

### **Site and Groundwater Conditions**

Topography in the area of the golf course consists of gently to moderately rolling hills, while the topography in the area of the sod farms is generally flat with surface flow to the west/northwest. The depth to groundwater in the vicinity of the WWTF is variable, but

available information indicates first encountered groundwater ranges from about 15 to 65 feet below the ground surface (bgs) with a direction of flow to the west/northwest.

Various groundwater monitoring wells are available in the vicinity of the Prison and the WWTF, but limited analytical data was available. Field electrical conductivity (EC) values for background wells present in the vicinity of the Prison range from about 500 to 600 micromhos per centimeter ( $\mu\text{mhos/cm}$ ).

Soils in the area are typically sandy loams underlain by decomposed granite and are generally of moderate permeability. Soil units are generally thin to up to 350 feet thick. Soils in the area of the Sod Farms consist primarily of the Havala sandy loam and the Steuber sandy loam, both derived of granitic rocks. The Havala sandy loam is described as deep, well drained, and exhibits moderately slow permeability. The Steuber sandy loam is described as deep, well drained, and exhibits moderately rapid permeability. Soils in the area of the golf course consist primarily of the Walong sandy loam with lesser amounts of the Havala and Steuber sandy loams. The Walong sandy loam is described as well drained and exhibits moderately rapid permeability.

### **Basin Plan, Beneficial Uses, and Regulatory Considerations**

The Reclamation Areas lie within the Tulare Lake Hydrologic Basin, specifically the Grapevine Hydrologic Unit (No. 556.00), Tejon Creek Hydrologic Area (No. 556.20), as depicted on interagency hydrologic maps prepared by DWR in 1986. The *Water Quality Control Plan for the Tulare Lake Basin* (2nd Edition, January 2004) (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting all waters of the basin, and incorporates by reference plans and policies of the State Water Resources Control Board (State Water Board). The Basin Plan establishes several salt management requirements to limit the incremental increase of salts and states that the maximum EC of discharges shall not exceed the EC of the source water plus 500  $\mu\text{mhos/cm}$  and the Basin Plan also states that discharges to areas that may recharge good quality groundwater shall not exceed an EC of 1,000  $\mu\text{mhos/cm}$ .

### **Antidegradation**

The antidegradation directives of State Water Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality Waters in California," or "Antidegradation Policy" require that waters of the State that are better in quality than established water quality objectives be maintained "consistent with the maximum benefit to the people of the State." Waters can be of high quality for some constituents or beneficial uses and not others. Policy and procedures for complying with this directive are set forth in the Basin Plan.

The technology, energy, water recycling, and waste management advantages of municipal utility service far exceed any benefits derived from a community otherwise reliant on numerous concentrated individual wastewater systems. Degradation of groundwater by some of the typical waste constituents released with discharge from a municipal wastewater utility after effective source control, treatment, and control is consistent with maximum benefit to the people of the State, provided the terms of the Basin Plan are met. Constitutes of concern that

have the potential to degrade groundwater include, in part, nutrients and salts. However, the resulting concentrations of nitrogen and salts will not cause degradation in excess of water quality objectives because:

- a. For nitrogen, the Producer's WDR Order R5-2011-XXXX sets a nitrogen limit of 10 mg/L or requires that the disinfected tertiary recycled water be applied at agronomic rates reflecting the seasonal hydraulic and nutrient requirements of the Reclamation Areas. Additionally, the District's Master Reclamation Permit contains Finding 27 requiring the application of the disinfected tertiary recycled water at agronomic rates. With application at agronomic rates, no degradation of groundwater for nitrates is expected to occur.
- b. For salinity, the Producer's WDR Order R5-2011-XXXX contains effluent limits (EC of SW + 500  $\mu$ mhos/cm, 1,000  $\mu$ mhos/cm max; chloride - 175 mg/L; and boron - 1.0 mg/L) that are considered best practicable treatment and control. The average EC of the disinfected tertiary treated water in 2010 was about 675  $\mu$ mhos/cm, while the EC of the underlying groundwater is anticipated to be about 500 to 600  $\mu$ mhos/cm. While some degradation may occur, the degradation will be less than the Basin Plan effluent EC limit and the resulting groundwater quality will be protective of the most stringent water quality objective for EC.

### **Title 27**

Title 27, CCR, section 20005 et seq. ([Title 27](#)) contains regulations to address certain discharges to land. Title 27 establishes a waste classification system, specifies siting and construction standards for full containment of classified waste, requires extensive monitoring of groundwater and the unsaturated zone for any indication of failure of containment, and specifies closure and post-closure maintenance requirements. Generally, no degradation of groundwater quality by any waste constituent in a classified waste is acceptable under Title 27 regulations.

The discharge of treated wastewater (disinfected tertiary recycled water) can be allowed under Title 27, provided any resulting degradation of groundwater is in accordance with the Basin Plan and the waste need not be managed as hazardous waste. With treatment to remove organics and recycling of effluent at agronomic rates, the discharge of disinfected tertiary recycled water to the Reclamation Areas authorized by this Order is in accordance with the Basin Plan and the Antidegradation Policy and is, therefore, exempt from Title 27 pursuant to Title 27, Section 20090(b).

### **CEQA**

The District adopted a Negative Declaration on 13 December 2006. Central Valley Water Board staff reviewed the Negative Declaration and concurred that all potential water quality and related nuisance impacts have been mitigated to a less-than-significant level with regards to potential impacts to water quality.

The discharge described in Order R5-2011-XXXX is consistent with the Notice of Exemption because it:

- a. Requires application of recycled water at reasonable agronomic rates;
- b. Requires areas irrigated with recycled water be managed to prevent nuisance conditions or breeding of mosquitoes; and
- c. Establishes a Monitoring and Reporting Program, which includes inspections and regular maintenance of areas irrigated with recycled water.

**Reopener**

The conditions of discharge in the proposed Order were developed based on currently available technical information and applicable water quality laws, regulations, policies, and plans, and are intended to assure conformance with them. The proposed Order would set limitations based on the information provided thus far. It may be appropriate to reopen the Order if applicable laws and regulations change. The California Water Code requires that water recycling requirements implement all applicable requirements.