

INFORMATION SHEET

ORDER R5-2012-XXXX
CITY OF LAKEPORT MUNICIPAL SEWER DISTRICT
LAKEPORT WASTEWATER TREATMENT FACILITY
LAKE COUNTY

Background

The City of Lakeport Municipal Sewer District (CLMSD) owns and operates the City of Lakeport Wastewater Treatment Facility (WWTF) located in Lake County. The WWTF services approximately 2,600 residential units. Domestic wastewater is treated in two unlined aeration basins, chlorine disinfected, then stored in a storage reservoir prior to land application to approximately 242 acres with native vegetation. The WWTF is regulated under Waste Discharge Requirements (WDRs) Order 98-207. A Cease and Desist Order (CDO) R5-2007-0010 was issued to the Discharger due to numerous violations related to sanitary sewer overflows, spills, storage capacity, land application area, and groundwater. CDO Task 16 required the Discharger to submit a Report of Waste Discharge (RWD) to reflect the proposed upgrades in the Sewer System Master Plan and demonstrate that the proposed improvements are compliant with State Water Resources Control Board Resolution 68-16 (The Antidegradation Policy). The following changes were completed as part of the 2007 Effluent Irrigation System Expansion:

- Irrigation spray fields were increased from 242 acres to 332 acres.
- Two new tail-water pump stations were constructed to capture and return runoff from the new spray fields.
- Diversion ditch bypass pipe installed to intercept storm water runoff and divert runoff away from the WWTF's recapture basin, thus increasing storage capacity of the effluent storage reservoir.

The derivation of selected terms and conditions of the Order is discussed below.

Order Terms and Conditions

The antidegradation directives of State Water Board Resolution 68-16 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. Policies and procedures for complying with this directive are set forth in the Basin Plan (including by reference State Water Board Resolution 68-16, "Statement of Policy with Respect to Maintaining High Quality Waters in California," or "Antidegradation" Policy).

Resolution 68-16 is applied on a case-by-case, constituent-by-constituent basis in determining whether a certain degree of degradation can be justified. It is incumbent upon the Discharger to provide technical information for the Central Valley Water Board to evaluate that fully characterizes:

- All waste constituents to be discharged;

- The background quality of the uppermost layer of the uppermost aquifer;
- The background quality of other waters that may be affected;
- The underlying hydrogeologic conditions;
- Waste treatment and control measures;
- How treatment and control measures are justified as best practicable treatment and control;
- The extent the discharge will impact the quality of each aquifer; and
- The expected degree of degradation.

In allowing a discharge, the Central Valley Water Board must comply with California Water Code (Water Code) section 13263 in setting appropriate conditions. The Central Valley Water Board is required to implement the Basin Plan and consider the beneficial uses to be protected along with the water quality objectives essential for that purpose. The Central Valley Water Board need not authorize the full utilization of the waste assimilation capacity of the groundwater (Water Code section 13263(b)) and must consider other waste discharges and factors that affect that capacity.

Some degradation of the groundwater for certain constituents is consistent with maximum benefit to the people of California because the technology, energy, and waste management advantages of municipal utility service far outweigh the environmental impact of a community that would otherwise be reliant on numerous individual wastewater systems, and the impact on the water resource will be substantially less. The Order authorizes some degradation consistent with the maximum benefit to the people of the State.

The following treatment and controls will be implemented at the WWTF:

- Technology using physical and biological processes to reduce the suspended solids and BOD;
- Technology for disinfection of municipal wastewater;
- Land application of treated wastewater at agronomic rates for nutrients;
- A tailwater system to collect and re-circulate irrigation runoff back into the WWTF and prevent the discharge of irrigation/storm water mixtures into surface waters; and
- A diversion ditch bypass to intercept storm water runoff and divert runoff from the tailwater recapture basins; therefore increasing storage capacity of the reservoir.
- A backup generator for emergency power to the WWTF.
- Alarms to alert power and equipment failure.
- Certified operators to assure proper operation and maintenance.

At this time, there is no reason to believe that additional measures are needed to protect groundwater quality. This Order establishes effluent and groundwater limitations; discharge specifications; land application area requirements; and monitoring requirements to assure protection of the beneficial uses of groundwater.

Groundwater Limitations

With the exception of salts (primary TDS), nutrients (nitrate as N), and total coliform organisms, the WDRs will set narrative groundwater limits not to exceed current groundwater quality.

- High TDS concentrations detected in wells MW-1 and MW-2, indicate some salinity degradation has occurred. Therefore, the WDRs include a numeric groundwater limitation of 1,000 mg/L for TDS to protect groundwater quality.
- Groundwater can be shallow at locations throughout the site. Therefore, the WDRs includes a numeric groundwater limitations of 10 mg/L for nitrate (as N) to protect the municipal and domestic use of groundwater.
- The Basin Plan's numeric water quality objective for total coliform organism is 2.2 MPN/100mL.

Discharge Specification B.1

The Division of Safety of Dams regulates the storage reservoir and the concrete spillway is set at 4.75 feet below the dam crest. The current WDRs require two feet of freeboard below the top of the spillway, which drains to a surface water drainage course. The Discharger wants to reduce the reservoir freeboard. Any minimal wave action could cause a spill with a zero freeboard, and therefore a violation of the WDRs. Based on the rainfall data from three Lakeport weather stations (Department of Water Resources), a spill would unlikely occur (at a one foot freeboard) during a 100-year rainfall, 24-hour precipitation event. The reservoir is located in an area such that trees and surrounding mountains provide some protection, and therefore substantial wave action is unlikely to occur. Therefore, the monthly average dry weather flow and annual flow to the reservoir was based on a one foot freeboard.

Wastewater Reclamation Specifications

The WDRs include Title 22 requirements for reclaimed water use areas if the Discharger chooses to graze cattle in the land application areas.

Effluent Limitations F.2, F.3 and Provision H.1.c

A monthly average coliform limit of 23 MPN/100 mL and a daily maximum coliform limit of 240 MPN/100 mL (in accordance with Title 22 requirements) appear to be an appropriate discharge requirement for the type of waste being discharged. However, based on recent effluent monitoring data, it appears that the Discharger may not be able to immediately comply. Therefore, the WDRs will require interim limits to allow the Discharger to evaluate the disinfection system, sampling procedures, and facility operations; and determine whether facility and/or operational improvements are necessary to protect groundwater quality. Final

effluent limitations will become effective 1 March 2014, following completion of any facility and operational improvements.

Provision H.1.f

The RWD indicates significant sludge accumulation in the existing treatment ponds. The Discharger envisions the sludge to be dried onsite prior to offsite disposal or onsite land application as a soil conditioner and fertilizer supplement. The RWD did not provide the information necessary to develop appropriate sludge discharge requirements. Therefore, prior to any sludge removal and disposal, the Discharger shall submit a *Sludge Cleanout Plan*.

The use and disposal of biosolids is subject to comply with Title 40, Code of Federal Regulations, Part 503 and valid waste discharge requirements, such as the General Biosolids Order (State Water Resources Control Board Water Quality Order 2009-10-DWQ, *General Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities*). If the Discharger proposes to land apply biosolids at the effluent recycling site, the *Sludge Cleanout Plan* shall include a RWD and filing fee to apply for separate waste discharge requirements.

Provisions H.1.e

Effective 1 December 2013, the grazing of non-milk producing animals on pasture irrigated with treated wastewater is prohibited unless the Discharger submits proof of CDPH approval of Title 22 Engineering Report and obtains approval by the Executive Officer.

Monitoring Requirements

The Order requires monitoring of the wastewater influent, effluent, groundwater, and water supply. Effluent and groundwater limitations are necessary to protect the municipal and domestic use of groundwater. If results of monitoring reveal a previously undetected threat to water quality or indicate a change in waste character such that the threat to water quality is significantly increase, the Central Valley Water Board may reopen this Order to reconsider groundwater limitations and other requirements to comply with Resolution 68-16.

Reopener

The conditions of discharge in the 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. If the information obtained from the monitoring activities indicate a significantly increased threat to water quality, it may be appropriate to reopen the Order to address compliance with the Basin Plan.