Regional Water Quality Control Board
Central Valley Region
Board Meeting-7/8 December 2006

Response to Written Comments for Gridley Wastewater Treatment Plant
Tentative Waste Discharge Requirements

The following are responses to written comments received from interested parties in response to the Tentative Waste Discharge Requirements for the Gridley Wastewater Treatment Plant (WWTP) issued on 20 September 2006. Written comments from interested parties on the proposed Order were required to be received by the Regional Water Quality Control Board (Regional Board) by 22 October 2006 in order to receive full consideration. Comments were received by the due date from the following party:

1. California Sportfishing Protection Alliance (CSPA)

CSPA requested status as a designated party for this agenda item at the Regional Board hearing. The requested status has been granted. Written comments from the above interested party are summarized below, followed by the response from Regional Board staff.

CALIFORNIA SPORTFISHING PROTECTION ALLIANCE (CSPA) COMMENTS

CSPA COMMENT #1: The Regional Board cannot adopt the tentative Waste Discharge Requirements (WDR) without completion of the California Environmental Quality Act (CEQA). Regional Board staff failed to provide meaningful comments within the CEQA process and has "given the green light for the Discharger to proceed with the WWTP expansion project . . . the public has not been afforded the opportunity to submit comments regarding the facility prior to construction."

RESPONSE
A mitigated negative declaration was prepared for this project pursuant to the provisions of CEQA and a notice of determination was filed on 19 September 2006, one day prior to the distribution of the tentative Order. Regional board staff did not receive confirmation that CEQA was complete until after the tentative requirements were distributed. Finding No. 31 in the tentative Order has been revised to include the date the notice of determination was filed. Regional Board staff provided comments on the report of waste discharge (RWD) with respect to groundwater, soils, surface water impacts, emergency storage ponds, CEQA, and signatory certification.

Regional Board staff did not "give the green light for the Discharger to proceed" with the expansion. The Discharger has not commenced with construction and is currently receiving construction bids for the WWTP expansion. The Discharger assumes full responsibility if construction starts prior to adoption of the WDR. It should be noted that construction of many WWTPs begin prior to adoption of WDR.

CSPA COMMENT #2: The hydraulic capacity and septage receiving capacity of the WWTP was not evaluated.

RESPONSE
The Discharger evaluated the hydraulic capacity of the WWTP by providing a water balance and field permeability test results in the RWD, both of which are referenced in the tentative Order. The water balance indicated that the existing WWTP, before expansion, has the hydraulic capacity to maintain four feet of freeboard in all six ponds, assuming the percolation capacity of the percolation ponds is 3.07 gallons per day per square foot. Double-ring infiltrometer tests were performed on the percolation ponds and the percolation capacity averaged 2.81 to 9.21 gallons per day per square foot.

The septage receiving capacity of the WWTP was incorporated in the water balance since septage flow was included in the WWTP average daily flow of 1.7 MGD. There is no flow limitation on the amount of septage that the WWTP can receive; the only stipulation is that the WWTP must comply with their permitted effluent flow limit. It should be noted that the Discharger has maintained compliance with the current flow limitation of 1.05 MGD for combined wastewater and septage flows.

CSPA COMMENT #3: A National Pollutant Discharge Elimination System (NPDES) permit is required since the WWTP is hydraulically connected to the Feather River.

RESPONSE
The RWD stated that there is typically at least five feet of clearance between the pond bottoms and the Feather River water surface elevation. Since 1 January 1984, there have only been eight incidences where the river surface was higher than the pond bottoms and these incidences corresponded to unusually high river flow events (flood conditions). It is likely that the Feather River water surface elevation influences the surrounding groundwater table, but a slow response time is expected. The tentative Order requires groundwater monitoring which will provide information on the influence of the Feather River on the surrounding groundwater.

Regional Board staff was concerned that the facility could impact Feather River water quality and required the Discharger to sample the river upstream and downstream of the facility. The river sampling data showed slight increases in total and fecal coliform levels downstream of the WWTP. The slight increases in coliform levels cannot be directly attributed to the WWTP since many factors can influence coliform levels, such as animals, fishermen, and stream flow conditions. Also, the units used to express coliform levels, most probable number per 100 milliliters, is not the absolute concentration of organisms but rather a statistical estimate of the concentration. Other indicator parameters that were sampled (total nitrogen, specific conductance, biological oxygen demand (BOD), carbonaceous BOD, total Kjeldahl nitrogen, and nitrate as N) did not show increases between the upstream and downstream locations. Therefore, the slight increases in coliform levels downstream of the WWTP are not verification that

the facility is impacting the Feather River. The RWD also included monitoring of polishing pond effluent in conjunction with Feather River sampling. It should be noted that polishing pond effluent is not representative of final wastewater quality since the soil column below the ponds provides additional biological treatment.

CSPA COMMENT #4: The WWTP must have adequate flood protection.

RESPONSE
The WWTP is located in the l00-year flood plain. The 100-year flood plain elevation is 95 feet North American Vertical Datum 1988 (NAVD88). The tops of the levees for the treatment ponds are 100 feet NAVD88, providing 5 feet of freeboard. The tops of the levees for the disposal ponds are 98.7 feet NAVD88, providing 3.7 feet of freeboard. Therefore, the WWTP has adequate protection from a 100-year flood event.

The WWTP also has emergency storage ponds that can be used during a flood event. The emergency storage ponds have a storage capacity of 26.5 million gallons, which corresponds to 15.6 days of storage (assuming no percolation) at an average flow of 1.7 MGD.

CSPA COMMENT #5: The tentative Order fails to comply with BPTC and does not meet secondary treatment standards for domestic facilities. The commenter was also concerned about lack of disinfection, separation from groundwater, percolation rates, ammonia levels, and effluent quality.

RESPONSE
The WWTP is not required to meet secondary treatment standards set forth in the Code of Federal Regulations because it is not an NPDES facility. The RWD and tentative Order state that the proposed upgrades to the WWTP would improve polishing pond effluent quality to the 30-day average secondary treatment standard for BOD and total suspended solids. In addition, the soil below the ponds provides additional biological treatment of the wastewater and is part of the treatment process. In Finding No. 11 and the Information Sheet of the tentative Order, “effluent” was changed to “polishing pond effluent” to clarify that wastewater is additionally treated by percolation through the soil column.

The RWD states that subsurface soils below the percolation ponds consist of fine sandy loam to a depth of 80 inches and the saturated hydraulic conductivity ranges from 8.0×10^{-4} to 1.4×10^{-2} centimeters per second (cm/sec). Infiltration rates that were determined by double-ring infiltrometer testing of the percolation ponds ranged from 1.3×10^{-3} to 5.6×10^{-4} cm/sec. Therefore, wastewater in the percolation ponds reaches underlying groundwater in approximately two to six days. The RWD also states that groundwater depth in the vicinity of the WWTP averages between 10 to 25 feet below grade, which far exceeds the required five feet of separation for pond systems.

Ammonia levels were reported in the RWD for existing polishing pond effluent. The levels reported are not representative of final ammonia levels in the wastewater because ammonia is biologically oxidized into nitrate during percolation through the soil column. The Monitoring and Reporting Program requires nitrate monitoring.

Discharges to land routinely use the soil column to provide pathogen reduction. Disinfection could contribute additional pollutants to groundwater in the form of trihalomethanes since the percolation ponds are not lined. The tentative order requires installation and sampling of groundwater monitoring wells to determine if the WWTP is degrading groundwater.

Some degradation of groundwater by the typical waste constituents released with discharge from a municipal WWTP after effective source control, treatment, and control is consistent with maximum benefit to the people of California. The technology, energy, and waste management advantages of a WWTP far exceeds any benefits derived from a community otherwise reliant on numerous concentrated individual wastewater systems, and the impact on water quality will be substantially less.

CSPA COMMENT #6: The tentative Order does not contain a legally defensible antidegradation analysis.

RESPONSE
In order to better determine compliance with Resolution 68-16 (antidegradation analysis), the tentative Order sets forth a schedule for installation and sampling of groundwater monitoring wells to formally determine background groundwater concentrations for selected constituents. A full antidegradation analysis is only required when a reasonable expectation of possible groundwater degradation exists. If it is determined that groundwater is being degraded or there is sufficient evidence that the discharge may cause degradation beyond permitted levels, the Order states that the Discharger will be required to evaluate and implement additional BPTC measures for each conveyance, treatment, storage, and disposal component of the WWTP. This will ensure that BPTC and the highest water quality consistent with the maximum benefit to the people of the State will be achieved. It should be noted that the WWTP expansion is scheduled to occur over a period of 20 years. Therefore providing Regional Board staff with adequate time to review groundwater monitoring results and implement necessary changes to effluent limitations, groundwater limitations, and/or the treatment and disposal system.

Economic prosperity of local communities and associated industry is of benefit to the people of California, and therefore sufficient reason exists to accommodate growth and some groundwater degradation around the WWTP, provided that the terms of the Basin Plan are met.