

INFORMATION SHEET

WASTE DISCHARGE REQUIREMENTS ORDER NO. R5-2012-XXX
FOR COUNTY OF FRESNO
CONSTRUCTION, OPERATION, AND CORRECTIVE ACTION
AMERICAN AVENUE MUNICIPAL SOLID WASTE LANDFILL
FRESNO COUNTY

The County of Fresno (hereafter Discharger) owns and operates the American Avenue Municipal Solid Waste Landfill, at 18950 W. American Ave, about five miles southwest of the City of Kerman.

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Central Valley Water Board) adopted Order 5-2005-0067 on 29 April 2005, which classified the Unit as a Class III landfill as defined in Title 27, California Code of Regulations, Section 20005 et seq. (hereafter Title 27). The proposed Order revises the existing Waste Discharge Requirements to provide for changes in the monitoring and reporting program, allow for future expansion, allow excavation of an existing unlined waste management unit (Phase 1), and implement corrective action.

The landfill consists of a closed unlined waste management unit (WMU) covering 30 acres (Phase I), and active-composite-lined WMU covering 160 acres (Phase II 8 modules), and a 250 acre composite lined WMU (Phase III) comprised of active Modules 1-3 and future Modules 4-12.

The facility is located near the trough of the San Joaquin Valley, which is the southern portion of the Central Valley of California. The Central Valley is a large, northwest trending structural trough bounded by the Sierra Nevada to the east and the Coast Ranges to the west, and filled with both marine and continental deposits of Jurassic to Holocene age.

The first encountered groundwater ranges from about 112 feet to 140 feet below the native ground surface. Groundwater elevations range from 48 feet MSL to

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70 feet MSL. The groundwater is unconfined. The depth to groundwater fluctuates seasonally as much as 10 feet. The direction of groundwater flow is generally toward the southeast. The direction of groundwater flow varies seasonally and periodically flows toward the south. The estimated average groundwater gradient is approximately 0.0016 feet per foot

Volatile organic compounds (VOCs) were first detected in groundwater when the detection monitoring wells were installed in 1987. Several waste constituents were detected in 1987 at concentrations below primary water quality standards including: chloroethane; chloromethane; dichlorodifluoromethane; cis-1,3-dichloropropylene; tetrachloroethylene; 1,1,1-trichloroethane; trichloroethylene; and trichlorofluoromethane. These and other volatile organics continue to be detected sporadically in detection monitoring wells at concentrations below primary water quality standards.

The Discharger submitted an Addendum to the Evaluation Monitoring Program dated November 2009, to the original Evaluation Monitoring Program (1 February 2006), detailing the current release of waste constituents to groundwater, which are: 1,2,3-trichloropropane, 1,2-dichloropropane, dichlorodifluoromethane, trichlorofluoromethane, 1,1-dichloroethane, tetrachloroethene, and trichloroethene.

The Discharger completed an Evaluation Monitoring Program for the release of waste constituents to the groundwater. The nature of the release was demonstrated to be volatile organic compounds that originated from landfill gas. The extent of the release is a plume downgradient from the Phase I waste management unit approximately 2,400 feet to the eastern boundary of the facility.

The Discharger completed an Engineering Feasibility Study in accordance with Section 20425 (c) of Title 27. The Engineering Feasibility Study concluded that

the most technically and economically feasible corrective action alternative is monitored natural attenuation in conjunction with landfill gas extraction. The Discharger submitted an Amended Report of Waste Discharge for Corrective Action in accordance with Section 20425(d) of Title 27.

Section 20080(b) of Title 27 allows the Central Valley Water Board to consider the approval of an engineered alternative to the prescriptive standard for landfill liner systems. In order to approve an engineered alternative in accordance with Title 27, sections 20080(c)(1) and (2), the Discharger must demonstrate that the prescriptive design is unreasonably and unnecessarily burdensome and will cost substantially more than an alternative which will meet the criteria contained in Title 27, section 20080(b), or would be impractical and would not promote attainment of applicable performance standards.

The Discharger demonstrated that the proposed engineered alternative liner system is consistent with the performance goal addressed by the particular prescriptive standard, and provides protection against water quality impairment equivalent to the prescriptive standard in accordance with Title 27, section 20080(b)(2).

The engineered alternative liner proposed by the Discharger for the bottom liner of the future landfill modules consists of, in ascending order: subgrade; geosynthetic clay liner (GCL); 60-mil HDPE single sided textured geomembrane; geonet drainage layer, non-woven filter geotextile, two-foot thick soil operations layer, and an LCRS. The components for the side slope are proposed to be constructed of the same materials and in the same sequence and manner as the bottom liner system, with the exception of the subgrade. The subgrade for the side slopes will not be over excavated and replaced with an engineered fill. It will be prepared in an appropriate manner using accepted engineering and

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construction methods so as to provide a surface that is smooth and free from rocks, sticks, and other debris that could damage or otherwise limit the performance of the geosynthetic clay layers and/or geomembranes.

The action to revise waste discharge requirements for this existing facility is exempt from the provisions of the California Environmental Quality Act (CEQA), Public Resource Code section 21000, et seq., and the CEQA guidelines, in accordance with Title 14, section 15301.

This order requires full containment of wastes and does not permit degradation of surface or groundwater. Further antidegradation analysis is therefore not needed. The discharge is consistent with the antidegradation provisions of State Water Resource Control Board Resolution No. 68-16.

EAM:4/6/2012