CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

BOARD ORDER NO. 6-00-55A1
WDID NO. 6B190343001

AMENDED WASTE DISCHARGE REQUIREMENTS

FOR
WASTE MANAGEMENT OF CALIFORNIA, INC.
LANCASTER LANDFILL AND RECYCLING CENTER AND
GROUNDWATER TREATMENT DISCHARGE

Los Angeles County

The California Regional Water Quality Control Board, Lahontan Region (Water Board) finds:

1. Discharger

Waste Management of California, Inc. (WMI) owns and operates the Lancaster Landfill and Recycling Center (LLRC) and Groundwater Treatment Discharge. On May 28, 2010, WMI submitted an amended Joint Technical Document (JTD) to support proposed revisions to the Preliminary Closure Post Closure Maintenance Plan (PCPCMP).

WMI has specifically requested that the Water Board amend the existing Waste Discharge Requirements (WDRs) (Board Order No. 6-00-55) for the LLRC to incorporate an engineered alternative final cover into the PCPCMP. The amended JTD provides the necessary support and rationale required by California Code of Regulations (CCR), title 27, section 20080, subsection (b), describing how the construction of the prescriptive standard is not feasible, and that there is a specific engineered alternative that is consistent with the performance goal addressed by the particular construction of the prescriptive standard and that the engineered alternative affords equivalent protection against water quality impairment. The JTD is attached and incorporated by reference into this Water Board Order (Order).

For the purposes of this Order, WMI is referred to as the "Discharger."

2. Facility

The LLRC is an active class III landfill facility that receives and stores waste. For the purposes of this Order, the LLRC is referred to as the "Landfill." The Landfill consists of the existing landfill area, the Western Expansion Area, and the Eastern Expansion Area. The currently permitted waste footprint of the Landfill totals 276 acres. Depth to groundwater beneath the Landfill ranges from 53 feet to 84 feet below ground surface. Groundwater beneath the Landfill has been impacted with volatile organic compounds. The Discharger has shown that those impacts are

attributed to landfill gas migration. Because there is a Corrective Action Program (CAP) to remediate the release from the Landfill, the Discharger is operating a groundwater pump and treatment system at the site of the Landfill to restore groundwater quality. Extracted groundwater is treated and discharged to injection wells located hydrologically cross-gradient (east) of the Landfill, is used for dust control and landscape irrigation at the Landfill, and may be used for emergency fire suppression at the Landfill. The injection well discharge is outside the plume of degraded groundwater. For the purposes of this Order, the Groundwater Treatment System is referred to as the "Treatment System," and collectively, the Landfill and the Treatment System are referred to as the "Facility."

3. Reason for Action

The Water Board is amending the WDRs to incorporate an engineered alternative to the prescriptive final cover into the PCPCMP, as described in Board Order No. 6-00-55, Finding No. 28, as amended.

4. California Environmental Quality Act (CEQA)

This amendment to Board Order No. 6-00-55 is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000 et seq.) in accordance with CCR, title 23, section 15301. The amendment consists of permitting an existing facility with no expansion of use beyond that already existing, and therefore, fits within the Class 1 exemption, and no exceptions to the exemptions, as set forth in CCR, title 14, section 15300.2, have been identified.

5. Public Notification

The Water Board has notified the Discharger and interested agencies and persons of its intent to amend WDRs for the Facility. The Water Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the Discharger must comply with the following amended requirements:

1. Add the following as Finding No. 36, Order No. 6-00-55, as amended:

36. This Finding replaces Finding No. 28, Order No. 6-00-55. In April 1999, a PCPCMP was submitted as part of the JTD for the existing landfill area and the Western and Eastern Expansion Areas of the LLRC. The PCPCMP was prepared by Earth Tech, Inc., and generally proposed in-place closure of the waste and monitoring of the unsaturated zone, groundwater, and final cover materials. The PCPCMP included a prescriptive final cover system, the requirements for which are outlined in CCR, title 27, section 21090,

subsection (a). In November 2006 and February 2007, a revised PCPCMP was submitted as part of a JTD update for the Landfill. The updates to the JTD and PCPCMP were made to reflect current conditions at the Landfill and involved no changes to the design and operation of the Landfill.

In May 2010, the Discharger submitted amendments to the JTD and a revised PCPCMP for the Landfill. Revisions to the PCPCMP consisted of a proposal for an engineered alternative final cover, specifically an evapotranspirative (ET) soil cover. The proposed ET cover is a 3-foot thick monolithic cover and proposed for both the lined and unlined portions of the Landfill upon closure. The main concept of this type of landfill cover is to store moisture between the soil particles during the rainy season and release that moisture during the dry season through plant uptake and evaporation. "An Alternative Final Cover Performance Analysis Report," prepared by Geosyntec, was submitted as part of the amended JTD package and provided rationale that the ET cover is consistent with the performance goal of the prescriptive final cover, which is to minimize the infiltration of water into the waste.

Regulations contained in CCR, title 27, section 20080, subsection (b), allows for an engineered alternative provided that the Discharger demonstrates that the construction or prescriptive standard is not feasible and that the engineered alternative is consistent with the performance goal of the prescriptive standard and affords equivalent protection against water quality impairment. Based on the results of the alternative final cover performance evaluation as provided by Geosyntec, the proposed ET cover meets the requirements of CCR, title 27, section 20080, subsection (b), as summarized below:

a. The prescriptive standard will be unnecessarily burdensome and cost substantially more to construct than the proposed ET cover. The Discharger has identified a suitable on-site soil borrow source for the ET cover. The soils range from silty sand to sandy silty clay, with little to no plasticity. The onsite availability of the soil material translates into a reduction in material costs and transportation-related impacts to the environment. Additionally, ET covers are easier to construct than multi-component prescriptive covers, with no significant potential for construction or installation related damage. Construction cost savings for the proposed ET cover are estimated to be in excess of $200,000 per acre when compared to the prescriptive standard for the Landfill.

b. To maximize the "store and release" characteristics of the ET cover, the proposed alternative is designed to utilize the most effective combination of the physical properties of the soil source materials, the native vegetative communities that will be growing on the final cover, and site-specific climatic conditions. Based on an average rainfall of

7 inches per year, an average evapotranspiration rate of 68 inches per year, and a vegetative cover of 50 percent over the surface area of the cover, the total volume of precipitation that will percolate through the ET cover (the amount of water that does not either evaporate, transpire, or remain in the soil matrix) is estimated to be approximately 0.1 inch per acre per year. This estimation is conservative and does not account for the additional protection against percolation that will be afforded by the 1-foot thick foundation layer that will be placed between the base of the ET cover and the top of the waste. While the theoretical total volume of precipitation that will percolate through a final cover designed to prescriptive standards is considered negligible (less than 0.1 inch per acre per year), the actual amount of percolation is controlled by several variables including defects in the materials (if using a geosynthetic liner), quality control during installation, the plasticity of the soil materials (clayey soils tend to shrink and crack in arid environments and under differential settlement conditions), and post-closure maintenance and repair. Based on site-specific conditions, the proposed ET cover will provide, at minimum, equal performance with respect to minimizing infiltration of water into the waste when compared to the prescriptive standard for the Landfill.

c. Prescriptive final covers constructed with a low-permeability layer can trap landfill gas thereby resulting in the potential for landfill gas to migrate laterally and vertically and potentially impact groundwater and the vadose zone. ET covers do not significantly affect landfill gas dynamics, but rather will allow for some movement of landfill gas through the cover system. In addition, landfill gas collection and management systems are easier to modify and maintain over an ET cover, with general repairs to the cover being performed by adding soil to restore grade. Maintenance and modifications to landfill gas systems over a prescriptive final cover requires complicated installation to maintain cover integrity and allow for waste settlement. When compared to the prescriptive standard, the proposed ET cover will provide superior protection against water quality impairment from landfill gas migration for the Landfill.

This order approves the proposed engineered alternative evaluated in "An Alternative Final Cover Performance Analysis Report," prepared by Geosyntec and submitted as part of the amended JTD on May 28, 2010. The Water Board also requires the Discharger to review the plans annually to determine if significant changes in the operation of the Landfill warrant an update of the plan.

2. Replace the following as IV. Provisions, D. Closure and Post-Closure, Order No. 6-00-55, as amended:

   This Order provides Water Board approval of the amended PCPCMP. The PCPCMP shall be updated if there is substantial change in site operations and/or design. A summary report shall be submitted annually indicating conformance with the existing operations. Pursuant to CCR, title 27, section 21710, subsection (a)(2), a Final Closure Post Closure Maintenance Plan (FCPCMP) shall be submitted at least 180 days prior to beginning any partial or final closure activities or at least 120 days prior to discontinuing the use of the site for waste disposal, treatment, or storage, whichever is greater. The Water Board must approve the FCPCMP prior to implementation.

I, Harold J. Singer, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Lahontan Region, on October 14, 2010.

Harold J. Singer

HAROLD J. SINGER
EXECUTIVE OFFICER

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