

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION**

**TENTATIVE ORDER No. R2-2014-00XX**

**UPDATED WASTE DISCHARGE REQUIREMENTS and  
RESCISSION OF ORDER No. 94-049 for:**

**WASTE MANAGEMENT OF ALAMEDA COUNTY, INC.  
TRI-CITIES RECYCLING AND DISPOSAL FACILITY  
CLOSED FILL AREA 1 LANDFILL**

7010 AUTO MALL PARKWAY  
FREMONT, ALAMEDA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter the Regional Water Board or Board), finds that:

**DISCHARGER AND LOCATION**

1. The Tri-Cities Recycling and Disposal Facility's Fill Area 1 Landfill (Landfill) is a closed San Francisco bayfront landfill located at the western terminus of Auto Mall Parkway in Fremont. The Landfill occupies approximately 115 acres located within a 378-acre parcel (Site) bounded on the south and west by part of the Don Edwards San Francisco Bay National Wildlife Refuge used as salt evaporation ponds and on the north and east by undeveloped land (Figure 1). The Landfill is now a closed Class III disposal unit and comprises the entire permitted waste fill area.
2. Waste Management of Alameda County, Inc., (hereinafter, the Discharger) owns and operated the Landfill during its active life from 1967 to 2013. The Discharger retains responsibility for managing and monitoring the Landfill and is responsible for compliance with this Order.

**PURPOSE OF ORDER UPDATE**

3. The primary objectives of this Order are to:
  - a. Update the Waste Discharge Requirements (WDRs) to reflect the current closed status of the Landfill;
  - b. Require an operations and maintenance plan for the Landfill for the post-closure period; and
  - c. Update the Landfill's Self-Monitoring Program for the post-closure period.

**REGULATORY HISTORY**

4. The Regional Water Board has regulated the Landfill under the following orders:
  - a. On January 19, 1984, the Board adopted WDR Order No. 84-7.
  - b. On March 18, 1990, the Board adopted WDR Order No. 90-051 and rescinded Order No. 84-7.
  - c. On September 15, 1993, the Board adopted Order No. 93-113, a general WDR order regulating all municipal solid waste landfills in the region to comply with the federal Solid Waste

Disposal Act, as amended by the Resource Conservation and Recovery Act (42 USC § 6901 et seq.).

- d. On April 20, 1994, the Board adopted updated WDR Order No. 94-049 for the Discharger to consolidate the requirements of Subtitle D (title 40, Part 258 of the Code of Federal Regulation (CFR)) and the requirements of Article 5, title 23, Division 3, Chapter 15 of the California Code of Regulations (CCR) into one order; to set construction specifications for a height increase to the Landfill; and to update the Landfill's Detection Monitoring Program.
- e. This Order rescinds and supersedes WDR Order No. 94-049.

## LANDFILL DESCRIPTION AND HISTORY

5. **Dates of Operation, Wastes Accepted, and Closure:** The Landfill began accepting waste in 1967 and continued operations until 2013. The Landfill ceased accepting waste for disposal on August 1, 2012. During operation, the Landfill accepted municipal solid waste (i.e., Class III waste), including non-hazardous residential, commercial, and industrial waste. Over 45 years, approximately 12,500,000 tons of waste material was disposed in the Landfill. The Landfill ultimately reached a maximum elevation of 150 feet above mean sea level (MSL). The closure of the Landfill was the subject of an environmental impact report (EIR) prepared in accordance with the California Environmental Quality Act (CEQA) and issued in May 2007 (State Clearinghouse #2006112013).
6. **Landfill Construction:** The Landfill was constructed on the Bay margin by filling tidal mudflats in accordance with accepted practices of the time. The site was originally planned for development in three waste management unit phases (areas 1, 2, and 3); however, Area 1 is the only part of the site that ever received waste. The natural topography of the area upon which the Landfill was constructed is nearly flat. Base grade elevations range from almost 1 foot MSL in the southwest corner to about 6 feet MSL (plus/minus 1 foot) along the northeast facility limit. Depth to groundwater beneath the Landfill is as little as 1 foot. Thus, the Landfill would not meet the siting criteria for new Class III landfills specified in CCR, title 27, section 20240(c), which requires that the base of waste be a minimum of 5 feet above the highest anticipated elevation of underlying groundwater.
7. **Landfill Base Liner:** The Landfill does not have an engineered base liner. In accordance with practices accepted at the time the Landfill opened, wastes were deposited directly onto San Francisco Bay Mud. Due to its intrinsically low permeability, the Bay Mud forms a fairly effective barrier to vertical leachate migration if it is present in sufficient thickness. Based on the results of in-situ permeability tests, the hydraulic conductivity of Bay Mud clays is estimated to be between  $2 \times 10^{-6}$  cm/sec and  $1 \times 10^{-7}$  cm/sec (Hydro-Search, Inc., 1988). Sandy and silty water-bearing units contained within the Bay Mud range from  $7 \times 10^{-4}$  centimeters per second (cm/sec) to  $3 \times 10^{-3}$  cm/sec.
8. **Landfill Closure and Final Cover Construction:** In September 2012, after the Landfill ceased accepting waste for disposal, the Discharger began construction of the final cap liner system. In preparation for final cap liner system construction, waste was removed from specified areas of the Landfill and relocated for disposal in other parts of the Landfill. Soil and suitable fill materials

were accepted by the Landfill until October 2013 for foundation layer construction to achieve desired subgrade elevations underlying the final cap liner system. A prescriptive final cover was installed in 2012 and 2013 and consisted of (from bottom to top) two or more feet of foundation layer soil, one or more feet of low-permeability soil barrier layer, and one or more feet of a vegetative layer.

9. **Stormwater Drainage:** The final cover of the Landfill is graded to allow stormwater to sheet-flow directly to the Bay or into drainage ditches that discharge to the Bay. Regular maintenance of this system is necessary to minimize infiltration of storm and irrigation water into the Landfill. Provision C.7 of this Order requires the Discharger to submit an Operations and Maintenance Plan that includes stormwater preparations and maintenance.
10. **Leachate Collection and Removal System (LCRS):** The Landfill's LCRS consists of a perimeter trench that acts as a barrier between the Landfill and the surrounding shallow groundwater zone. The LCRS consists of approximately 7,200 linear feet of collection trench around the footprint of the Landfill. Extraction from the trench draws groundwater from the adjacent shallow sand and silt lenses, creating an inward gradient around the Landfill perimeter (RUST, 1995). The trench also collects landfill leachate. The extracted fluid (a mixture of leachate and groundwater) is pumped to the Union Sanitary District (USD) wastewater treatment plant. A total of 3,926,800 gallons of liquid were discharged to the USD wastewater treatment plant during the winter/spring 2012-2013 period. The Discharger is required to maintain and operate the LCRS during the closure and post-closure period and continue maintaining an inward gradient.

## **GEOLOGICAL AND HYDROGEOLOGICAL SETTING**

11. **Geology:** The Landfill is located on the San Francisco Bay Plain near the contact of the Niles Cone alluvial fan deposits and the estuarine deposits of San Francisco Bay. The geologic units underlying the Site are either alluvial or estuarine in nature and are essentially flat-lying or dipping slightly westward. They consist of Holocene-aged Interfluvial Basin Deposits along the northeastern portion of the Site, Pleistocene-aged older Bay Mud in the central portion of the Site, and Holocene-aged recent Bay Mud in the majority of the Site (USGS Halley, et al, 1972). The Site is located in a structural depression formed by movement along the active Hayward and San Andreas faults and tectonic downwarping of the intervening area. The Hayward Fault is located approximately 3.1 miles (5 km) east of the Site; the Calaveras Fault is located approximately 8.7 miles (14 km) southeast of the Site; and the San Andreas Fault is located approximately 15 miles (24 km) west of the Site. The Silver Creek Fault is located approximately 1.5 miles west of the Site according to a geophysical gravity survey conducted by the California Department of Water Resources.
12. **Hydrogeology and Groundwater Quality:** The Landfill is located within the Niles Cone groundwater basin, which includes unconfined and confined water-bearing zones. Regional groundwater flow is to the west, towards the Bay. Water levels fluctuate seasonally in response to changes in precipitation. Beneath the Landfill, groundwater flow is to the west and southwest, and there is some temporal variation in flow direction due to the influence of the flood control channel on the northwest and west sides of the Landfill, the salt evaporation ponds located to the west and southwest, and extraction of water from the Landfill's perimeter trench.

The shallowest groundwater beneath the Landfill occurs in sandy and silty interbeds within the Younger Bay Mud. The Landfill's groundwater monitoring wells are screened in these water-bearing units. The Older Bay Mud serves as a confining layer that separates the groundwater in the Younger Bay Mud from the underlying, confined aquifers. From top to bottom, these include the Newark, Centerville, and Fremont aquifers. The Newark Aquifer is encountered at elevations of approximately 11 to 90 feet below ground surface. The Centerville Aquifer is a potable water-bearing formation first encountered at approximately 180 feet below ground surface. The Centerville and Fremont aquifers have no hydraulic connection to the Younger Bay Mud and have not been impacted by the Landfill.

Shallow groundwater within the Younger Bay Mud is non-potable given that its average natural electrical conductivity exceeds 5,000 microsiemens per centimeter ( $\mu\text{S}/\text{cm}$ ). In general, the groundwater chemistry of monitoring wells located close to the Bay closely resembles that of seawater. Water quality in the Newark Aquifer near the Landfill is also very poor. Geochemically, this groundwater contains elevated sodium chloride with high total dissolved solids, indicating that the aquifer has been naturally affected by salt water intrusion.

13. **Surface Water Quality:** The Landfill is bordered to the west and south by salt ponds, marshes, and sloughs that are in contact with South San Francisco Bay and affected by tidal processes. A typical diurnal high tide elevation for the Bay is approximately 0.25-ft. to 7.95-ft. relative to mean tide level. Average rainfall is approximately 13.55 inches, occurring primarily between November and April.

## MONITORING PROGRAMS

14. **Groundwater:** The Self-Monitoring Program (SMP) attached to this Order revises the groundwater monitoring program that had been defined by WDR Order Nos. 93-113 and 94-049 and the *Site Specific Monitoring and Reporting Program* (EarthTech, November 1998). The groundwater monitoring program consists of a network of eight monitoring wells, which are listed in Table B.1 of the SMP.
15. In 1996, the Discharger reported the detection of tetrahydrofuran in monitoring wells MW07A and MW15A and placed these wells under corrective action. Tetrahydrofuran has not been detected in well MW15A since August 1999 and in well MW07A since October 2007. Because there is no longer any evidence of Landfill impacts to groundwater, the SMP attached to this Order returns wells MW07A and MW15A to the detection monitoring program. Detection monitoring will be performed semi-annually for required monitoring parameters and every five years for constituents of concern, as defined in the SMP.
16. **Leachate:** Leachate is pumped from the Landfill's LCRS to control leachate levels in the Landfill and to maintain an inward hydraulic gradient. The quantity of leachate pumped from the LCRS to USD is routinely measured and is reported in the semi-annual monitoring reports.
17. **Surface Water:** Surface water runoff monitoring is conducted in accordance with the site's Stormwater Pollution Protection Plan (SWPPP). No routine monitoring of permanent surface water bodies bordering the Site is performed. If a seep from the Landfill is observed coming into contact with any bordering surface water body, the Discharger is to immediately notify the

Regional Water Board, and sampling of upstream and downstream locations on that surface water body may be required on a schedule to be determined by Regional Water Board staff.

18. **Facilities:** The following facilities are inspected quarterly by the Discharger:

- a) Landfill gas collection and control system
- b) Landfill perimeter leachate extraction system;
- c) Groundwater monitoring wells; and
- d) Stormwater conveyance system.

## **BASIN PLAN**

19. The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) is the Regional Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives. The Basin Plan was duly adopted by the Regional Water Board and approved by the State Water Resources Control Board (State Water Board), U.S. EPA, and the Office of Administrative Law, where required.

## **FINANCIAL ASSURANCE**

20. The Discharger is required to submit to the Regional Water Board, pursuant to CCR Title 27, an Irrevocable Post-Closure Fund, or provide other financial means acceptable to the Executive Officer, to ensure closure and post-closure maintenance of the Landfill. On August 6, 2004, Regional Water Board staff approved the Landfill's Corrective Action Cost Estimate for all Known or Reasonably Foreseen Releases. In May 2013, the Discharger submitted the Specific Non-Water Release Corrective Action Plan and Cost Estimate to the Local Enforcement Agency (LEA) and CalRecycle in accordance with Title 27 requirements. The plan was approved by the LEA and CalRecycle on October 11, 2013. The highest cost of all the potential release events of the non-water release corrective action plan were determined to be less than the Known or Reasonably Foreseen Releases cost estimate approved by the Regional Water Board.

## **ANTIDegradation POLICY**

21. CFR Title 40, part 131.12, requires that state water quality standards include an anti-degradation policy consistent with federal policy. The State Water Board established California's anti-degradation policy through State Water Board Resolution 68-16, which incorporates the federal anti-degradation policy where federal policy applies. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings.

## **BENEFICIAL USES AND SOURCES OF DRINKING WATER**

22. Historically, shallow groundwater from the Newark Aquifer was used as domestic supply water in the area known as Drawbridge, located approximately two miles south of the Site. Due to salt water intrusion, the western portion of the Newark Aquifer (including the area beneath the Site) is not potable.

23. In May 2003, the San Francisco Bay Regional Water Board Groundwater Committee, in coordination with the Alameda County Water District, the Santa Clara Valley Water District, and the San Mateo County Environmental Health Services Division issued a report entitled "A

Comprehensive Groundwater Protection Evaluation for South San Francisco Bay Basins," which included an evaluation of the Niles Cone Groundwater Basin.

24. The existing beneficial uses of the receiving waters are as follows:

- a. South San Francisco Bay wetlands (the salt water marshes) (Basin Plan, Table 2-4):
  - i. Estuarine habitat
  - ii. Fish spawning
  - iii. Fish migration
  - iv. Wildlife habitat
  - v. Preservation of rare and endangered species
  - vi. Commercial and sport fishing
  - vii. Water contact recreation
  - viii. Non-contact water recreation.
  
- b. Santa Clara Valley Basin Niles Cone Sub-Basin Groundwater (Basin Plan, Table 2-2):
  - i. Industrial service supply
  - ii. Industrial process supply
  - iii. Agricultural water supply
  - iv. Municipal and domestic water supply (however, due to the proximity of tidal marshes, groundwater at the Landfill contains elevated electrical conductivity levels that render the groundwater non-potable).

### **CALIFORNIA ENVIRONMENTAL QUALITY ACT**

25. Adoption of this Order is exempt from the California Environmental Quality Act (CEQA). Under CEQA Guidelines §15061(b)(3), CEQA applies only to projects that have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA. This Order requires the Discharger to continue site monitoring and maintenance activities, and these will not result in any additional actions that may have an effect on the environment beyond the existing baseline conditions.

### **NOTIFICATIONS AND MEETING**

26. The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to amend the Landfill's WDRs and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
  
27. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to this amendment of WDRs.

**IT IS HEREBY ORDERED**, pursuant to the authority in California Water Code (CWC) sections 13263 and 13267, and CCR, title 27, Division 2, Subdivision 1, that the Discharger shall meet the applicable provisions contained in CCR Title 27 and shall comply with the following:

**A. PROHIBITIONS**

1. Untreated or inadequately treated groundwater or leachate shall not create a condition of pollution or nuisance, nor degrade the quality of waters of the State or of the United States.
2. No additional waste, with the exception of purge water from monitoring wells or litter receptacles, shall be deposited or stored at this Landfill.
3. Wastes shall not be exposed or relocated to any position where they can migrate from the Landfill to adjacent geologic materials, waters of the State, or of the United States during the post-closure maintenance period.
4. The relocation of wastes is prohibited without prior Regional Water Board staff concurrence.
5. The creation of any new waste management unit is prohibited.
6. The Discharger shall not perform any intrusive activities on the Landfill surface that have the potential to negatively affect the integrity and proper function of the Landfill cap, such as digging or trenching, without prior Regional Water Board staff approval.
7. The Discharger shall not disc the Landfill cap. Alternate methods of controlling vegetative growth that do not affect the integrity of the Landfill cap shall be utilized.
8. Excavation within or reconfiguration of any existing waste management unit is prohibited without prior concurrence of Regional Water Board staff. Minor excavation or reconfiguration activities, such as for installation of signs or landscaping or for routine maintenance and repair, do not require prior staff concurrence.
9. Surface drainage from tributary areas and internal site drainage from surface sources shall be intercepted and controlled so as to not contact or percolate through wastes during the Landfill post-closure period.
10. Leachate, stormwater or groundwater containing leachate, or in contact with waste, shall not be discharged to waters of the State or of the United States unless specifically authorized under an NPDES permit.
11. Buildup or mounding of leachate levels within the Landfill, which adversely impacts waters of the State, is prohibited and shall be prevented by operation of the Landfill's LRCS or as otherwise approved by the Regional Water Board staff.
12. The Discharger, or any future owner or operator of the Landfill, shall not cause the following conditions to exist in waters of the State or of the United States at any place outside existing waste management units:
  - a. Surface Waters:

- i. Floating, suspended, or deposited macroscopic particulate matter or foam;
  - ii. Bottom deposits or aquatic growth;
  - iii. Adverse changes in temperature, turbidity, or apparent color beyond natural background levels;
  - iv. Visible, floating, suspended, or deposited oil, or other products of petroleum origin; or
  - v. Toxic or other deleterious substances to exist in concentrations or quantities that may cause deleterious effects on aquatic biota, wildlife, or waterfowl, or that render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.
- b. Groundwater:
- i. Degradation of groundwater quality; or
  - ii. Significant migration of pollutants through subsurface transport.

## **B. SPECIFICATIONS**

1. The Discharger shall implement a Detection Monitoring Program (DMP), pursuant to CCR title 27 §20420. The DMP shall be designed to identify any water quality impacts from the Landfill and demonstrate compliance with the Water Quality Protection Standard (WQPS), which is required pursuant to CCR title 27 §20390. The SMP attached to this Order is intended to constitute the DMP for the Landfill.
2. The WQPS for the Landfill shall include the following:
  - a. Constituents of Concern (COCs): CCR title 27 §20395 defines COCs as “all waste constituents, reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the Unit.” Site-specific COCs were developed for this Landfill based on the chemicals identified in leachate. They are the monitoring parameters identified in the SMP attached to this Order, as well as volatile organic compounds (VOCs) and metals (see Table B-1) or any future COCs added by the Regional Water Board.
  - b. Monitoring Parameters (MPs): MPs, a subset of the COCs, are typically the most mobile and commonly-detected COCs in leachate at the Landfill and are measured on a more frequent basis than the COCs. Their purpose is to indicate whether a potential leak from the Landfill has occurred. The MPs shall include, at a minimum, all constituents identified as MPs in the SMP attached to this Order or any future MPs added by the Regional Water Board.

The Discharger may propose modification to the MPs as additional data become available concerning site-specific source characteristics and natural background water quality. However, modifications shall only be made upon written concurrence from the Executive Officer.

The MPs shown on the attached SMP are based on prior studies by the Discharger that examined the contrast between constituent concentrations in leachate versus those in Site groundwater. However, with the exception of VOCs, these MPs are naturally occurring, and the poor natural water quality has on occasion produced monitoring results for these

MPs above calculated Concentration Limits for the DMP. The Discharger has documented instances where monitoring results exceeding statistically derived background Concentration Limits appear to be a result of naturally poor groundwater quality conditions rather than a release from the Landfill. Pursuant to CCR title 27 §20420(k)(7), the Discharger has performed "Optional Demonstrations" (that the unit is not at cause) for the naturally occurring MPs or otherwise has periodically performed verification resampling pursuant to CCR title 27 §20415(e)(7) to demonstrate false-positive monitoring results. These efforts underscore the difficult nature of establishing background Concentration Limits for the naturally occurring MPs in a naturally organic-rich saline environment.

- c. Concentration Limits: Concentration Limits for all COCs detected at the specified monitoring wells are typically established using the background data set. However, use of background data is inappropriate at the Landfill because, as noted above, background water quality conditions are difficult to measure. Further, the flat hydraulic gradient at the Site, combined with tidal influences on groundwater, creates a setting such that there is no true up-gradient or side-gradient, and background concentrations would not function as intended by CCR title 27.

An effective monitoring alternative to background-based statistical Concentration Limits is the identification of trends in concentrations over time using intra-well statistical analyses. Therefore, Sen's Slope Test will be conducted for the current MPs in the attached SMP: Bicarbonate Alkalinity, Total Organic Carbon, and Total Kjeldahl Nitrogen. It should be noted that these MPs are naturally occurring in groundwater and their concentrations are naturally highly variable, necessitating a reduction in the sensitivity of the trend test (to minimize false positives) as well as the trigger for retesting. Therefore, the Sen's Slope Test at 99% confidence will be performed on the MPs Bicarbonate Alkalinity, Total Organic Carbon, and Total Kjeldahl Nitrogen semi-annually in groundwater, using a five-year moving window. Should an increasing trend be identified in a DMP well in two out of three consecutive events, the Discharger will notify the Regional Water Board and retesting may be required.

While 95% confidence is more typical to detect small increasing trends and to enhance the power of the statistical test, 99% should be sufficient at the Landfill. The primary constituent of concern with the potential to impair beneficial uses is ammonia (as represented by Total Kjeldahl Nitrogen); however, the deleterious effects of ammonia are relatively minor (i.e., in comparison to more typical leachate constituents such as VOCs), and the adjacent marshes have some ability to assimilate ammonia. Therefore, a focus on larger trends is prudent. In addition, despite the 99% confidence limit applied, the statistical power of the Sen's Slope Test should be sufficient given the small number of tests required (power decreases with the number of tests, in this case ten wells for three constituents).

- d. Point of Compliance: Point of Compliance (POC) are the "vertical surface located at the hydraulically downgradient limit of the Unit that extends through the uppermost aquifer underlying the Unit." The POC shall be the hydraulically downgradient perimeter of the waste fill area and therefore circumscribes the Landfill.
- e. Monitoring Points: CCR title 27 §20164 defines Monitoring Points as "a well, device, or location specified in the waste discharge requirements at which monitoring is conducted

and at which the water quality protection standard . . . applies.” Monitoring Points for the Landfill, which are located along the POC and at additional locations, are specified in the SMP attached to this Order or may be added in future amendments thereto. The Monitoring Points for this Landfill include all groundwater monitoring wells specified in Table B-1 of the SMP and any future additions or replacements.

3. The Discharger shall conduct monitoring activities according to the SMP, and as may be amended by the Executive Officer, to verify the effectiveness of the Landfill’s systems for monitoring, containment, collection, treatment, and removal of leachate and landfill gas (to minimize the impairment of beneficial uses of water due to gas migration).
4. All monitoring wells shall be constructed in a manner that maintains the integrity of the drill hole, prevents cross-contamination of saturated zones, and produces representative groundwater samples from discrete zones within the aquifer unit each well is intended to monitor.
5. The Discharger shall install any reasonable additional groundwater and leachate monitoring devices required to fulfill the terms of any future SMP issued by the Executive Officer.
6. All samples shall be analyzed by State-certified laboratories, or laboratories accepted by the Regional Water Board, using approved U.S. EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control records for Regional Water Board review. This specification does not apply to analyses that can only be reasonably performed onsite (e.g., pH).
7. The Discharger may file a written request (including supporting documentation) with the Executive Officer proposing modifications to the attached SMP. If the proposed modifications are acceptable, the Executive Officer may issue a letter of approval that incorporates the proposed revisions into the SMP.
8. The Discharger shall maintain the Landfill so as to prevent a measurably significant increase in water quality parameters at points of compliance.
9. Whenever there is “measurably significant” geochemical evidence of an exceedance of concentration limits or significant physical evidence of a release, the Discharger shall be prepared to implement an Evaluation Monitoring Program (EMP) at the direction of the Regional Water Board. In such a case, the Discharger shall continue implementing the DMP as prescribed in the SMP. If required, the EMP shall be implemented to determine the nature and extent of any release detected by the DMP.
10. All reports submitted pursuant to this Order shall be prepared under the supervision of and signed by appropriately licensed professionals, such as a California registered civil engineer, registered geologist, and/or certified engineering geologist, and acceptable to the Executive Officer.
11. The Discharger shall notify the Regional Water Board immediately of any failure occurring in the Landfill. Any failure that threatens the integrity of containment or control features or

- structures at the Landfill shall be promptly corrected after approval of the method and schedule by the Executive Officer.
12. Final cover systems for waste management units shall be graded and maintained to promote lateral runoff and prevent ponding and infiltration of water.
  13. The Landfill shall be protected from any washout or erosion of wastes from inundation, which could occur as a result of a 100-year, 24-hour storm event, or as the result of flooding with a return frequency of 100 years.
  14. The Discharger shall install new monitoring stations to replace any monitoring wells designated as monitoring stations that are damaged, destroyed, or rendered non-functional during the Landfill's post-closure maintenance period.
  15. The Discharger shall maintain all devices or designed features, installed in accordance with this Order, such that they continue to operate as intended without interruption.
  16. The Discharger shall provide and maintain a minimum of two permanent, surveyed monuments near the Landfill from which the location and elevation of wastes, containment structures, and monitoring facilities can be determined throughout operation, closure, and post-closure maintenance periods. These monuments shall be installed by a licensed land surveyor or registered civil engineer.
  17. Containment, collection, drainage, and monitoring systems for groundwater, surface water, and leachate shall be maintained and operated as long as waste or leachate is present and poses a threat to water quality.
  18. Methane and other landfill gases shall be adequately vented, removed from the Landfill, or otherwise controlled to minimize the danger of explosion, adverse health effects, nuisance conditions, and the impairment of beneficial uses of water due to gas migration.
  19. The Discharger shall assure that the structures that control leachate, surface drainage, erosion, and landfill gas are constructed and maintained to withstand conditions generated during the maximum probable earthquake.
  20. The Discharger shall provide reasonable access to any property it owns or leases at the Landfill to allow for installation, sampling, monitoring, etc., of all devices and equipment necessary for compliance with the requirements of this Order.
  21. When there are multiple landowners or lease holders involved, the Discharger shall provide reasonable access to any property it owns or leases at the Landfill to allow for installation, sampling, monitoring, etc., of all devices and equipment necessary for compliance with the requirements of this Order.
  22. The Discharger shall comply with all applicable provisions of CCR Title 27 that are not specifically referred to in this Order.

## C. PROVISIONS

1. **Duty to Comply:** The Discharger shall comply immediately, or as prescribed by the time schedule below, with all Prohibitions, Specifications, and Provisions of this Order. All required submittals must be acceptable to the Executive Officer. The Discharger must also comply with all conditions of these waste discharge requirements. Violations may result in enforcement actions, including Regional Water Board orders or court orders requiring corrective action or imposing civil monetary liability, or in modification or revocation of these WDRs by the Regional Water Board.
2. **Authority:** All technical and monitoring reports required by this Order are required pursuant to CWC §13267. Failure to submit reports in accordance with schedules established by this Order or failure to submit a report of sufficient technical quality to be acceptable to the Executive Officer may subject the Discharger to enforcement action pursuant to CWC §13268.
3. **Self-Monitoring Program:** The Discharger shall implement and comply with the SMP attached to this Order and any revisions issued by the Executive Officer. The attached SMP is intended to constitute a DMP designed to identify significant water quality impacts from the Landfill and demonstrate compliance with the WQPS. The Discharger shall submit semi-annual monitoring reports, acceptable to the Executive Officer, no later than **April 30 and October 31** of each year in accordance with the SMP. The April 30 report shall include an annual summary as described in the SMP. The report shall include a section detailing repair and maintenance activities needed and performed prior to each rainy season and a section detailing compliance with maintaining an inward gradient.

**COMPLIANCE DATE: Immediately upon adoption of this Order**

**REPORT DUE DATE: April 30 and October 31 of each year**

4. **Post-Closure Material Change in Discharge and Land Use Reporting:** The Discharger shall submit a technical report, acceptable to the Executive Officer, describing any proposed material change in the character, location, or volume of a discharge, or in the event of a proposed change in use, reuse, or post closure development of the Landfill. The technical report shall describe the project, identify key changes to the design that may impact any portion of the Landfill, and specify components of the design necessary to maintain the integrity of the Landfill cover and prevent water quality impacts. No material changes to any portion of the Landfill shall be made without approval by the Executive Officer.

**COMPLIANCE DATE: 120 days prior to any proposed material change**

5. **Construction-Related Stormwater Permit:** For any proposed grading or development project greater than one acre in size, the Discharger shall submit a Notice of Intent to the State Water Board, submit a SWPPP acceptable to the Executive Officer, and implement Best Management Practices for the control of stormwater in accordance with requirements specified in the State Water Board's General Permit for Storm Water Discharges Associated with Construction Activities (NPDES Permit No. CAS000001). The Discharger will be deemed in compliance with this Provision if another party constructing improvements on property owned by the

Discharger, pursuant to an easement granted by the Discharger, has obtained coverage under the General Permit.

**COMPLIANCE DATE: 30 days prior to construction**

6. **Well Installation or Destruction Report:** The Discharger shall submit a technical report, acceptable to the Executive Officer, which provides well construction details, geologic boring logs, and well development logs for all new wells installed or destroyed as part of the DMP.

**REPORT DUE DATE: 60 days following well installation or destruction**

7. **Operations and Maintenance Plan:** The Discharger shall submit an Operations and Maintenance Plan, acceptable to the Executive Officer, including:
  - a. Specifications for wet season preparations; including for stormwater drainage infrastructure inspection, construction, and maintenance;
  - b. The periodic assessment of stormwater, including monitoring, or demonstration that monitoring stormwater at the site is not necessary;
  - c. The periodic inspection of the Landfill cover, including subsidence or other disturbance that might increase infiltration of stormwater;
  - d. The periodic assessment of rodent population control and any impacts that might threaten the Landfill cover;
  - e. The periodic assessment of the vegetative cover;
  - f. The periodic inspection of perimeter levees for failures that may cause erosion or any other condition that could threaten water quality, or expose debris or waste; and
  - g. The periodic inspection and maintenance of the monitoring system and the leachate extraction system.

**REPORT DUE DATE: June 30, 2014, and update every five years thereafter**

8. **Long-Term Flood Protection Report:** The Discharger shall submit a report, acceptable to the Executive Officer, for long-term flood protection of the Landfill. The report shall include a consideration of feasible options for achieving protection from a 100-year flood in the face of rising sea levels and increasing flood frequency and intensity. The report shall consider methods developed by the San Francisco Bay Conservation and Development Commission to predict and protect against future flooding. The report shall be updated every 5 years throughout the post-closure maintenance period of the Landfill utilizing the most recently available and credible information at the time of the update.

**REPORT DUE DATE: October 31, 2014, and update every five years thereafter**

9. **Earthquake Inspection:** The Discharger shall submit a detailed Post-Earthquake Inspection Report, acceptable to the Executive Officer, in the event of any earthquake generating ground shaking of Richter Magnitude 7 or greater at or within 30 miles of the Landfill. The report shall describe the containment features, groundwater monitoring, and control facilities potentially impacted by seismic deformations of the Landfill. Damage to any waste containment facility that may impact waters of the State must be reported immediately to the Executive Officer.

**COMPLIANCE DATE: Within 6 weeks of earthquake**

10. **Change in Site Conditions:** The Discharger shall immediately notify the Regional Water Board of any flooding, ponding, settlement, equipment failure, change in gradient away from the trench, slope failure, exposure of waste, liner leakage, or other change in site conditions that could impair the integrity of the Landfill's cap, waste or leachate containment facilities, and/or drainage control structures and shall immediately make repairs. Within 30 days, the Discharger shall prepare and submit a technical report, acceptable to the Executive Officer, documenting the corrective measures taken. In the event monitoring reveals evidence of a gradient away from (not toward) the trench, the Discharger shall evaluate the potential cause(s) of the reversed gradient and implement measures to remediate the problem and provide a consistent inward gradient for the landfill.

**NOTIFICATION DUE DATE: Immediately upon occurrence**

**REPORT DUE DATE: 30 days after initial notification**

11. **Availability:** A copy of these WDRs shall be maintained by the Discharger and shall be made available by the Discharger to all employees or contractors performing work (maintenance, monitoring, repair, construction, etc.) at the Landfill.
12. **Change in Ownership:** The Discharger must notify the Executive Officer, in writing, at least 30 days in advance of any proposed transfer of ownership of the Landfill.
13. **Information Correction:** When a Discharger becomes aware that it failed to submit any relevant facts in a Report of Waste Discharge (ROWD) or submitted incorrect information in a ROWD or in any report to the Regional Water Board, it shall promptly submit such facts or information.
14. **Revision:** This Order is subject to review and revision by the Regional Water Board.
15. **Vested Rights:** This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, do not protect the Discharger from liability under federal, State or local laws, nor do they create a vested right for the Discharger to continue the waste discharge.
16. **Severability:** Provisions of this Order are severable. If any provision of these WDRs is invalid, the remainder of these requirements shall not be affected.

17. **Operation and Maintenance:** The Discharger shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with conditions of this Order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Order.
18. **Reporting of Hazardous Substance Release:** If any hazardous substance is discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, the Discharger shall report such discharge to the Regional Water Board by calling (510) 622-2369. A written report shall be mailed or submitted electronically to the Regional Water Board within five business days. The report shall describe: the nature of the hazardous substance, estimated quantity involved, duration of incident, cause of release, estimated size of affected area, nature of effect, corrective actions taken or planned, schedule of corrective actions planned, and persons/agencies notified.
19. **Entry and Inspection:** The Discharger shall allow the Regional Water Board, or an authorized representative upon the presentation of credentials and other documents as may be required by law, to:
- Enter upon a Discharger's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Order;
  - Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;
  - Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
  - Sample or monitor at reasonable times, for the purposes of assuring compliance with this Order or as otherwise authorized by the California Water Code, any substances or parameters at any location.
20. **Analytical Methods:** Unless otherwise permitted by the Regional Water Board Executive Officer, all analyses shall be conducted at a laboratory certified for such analyses by the State Department of Public Health. The Executive Officer may allow use of an uncertified laboratory under exceptional circumstances, such as when the closest laboratory to the monitoring location is outside the State boundaries and therefore not subject to certification. All analyses shall be required to be conducted in accordance with the latest edition of U.S. EPA SW-846 or other equivalent U.S. EPA Method.
21. **Discharges to Navigable Waters:** Any person discharging or proposing to discharge to navigable waters from a point source (except for discharge of dredged or fill material subject to §404 of the Clean Water Act and discharges subject to a general NPDES permit) must file an NPDES permit application with the Regional Water Board.

22. **Endangerment of Health or the Environment:** The Discharger shall report any event of noncompliance that may endanger human health or the environment. Any such information shall be provided orally to the Executive Officer, or an authorized representative, within 24 hours from the time the Discharger becomes aware of the circumstances by calling (510) 622-2369. A written submission to the Regional Water Board shall also be provided within five days of the time a Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; and, if the noncompliance has not been corrected, the anticipated time it is expected to continue and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Executive Officer, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.
23. **Document Distribution:** Copies of all correspondence, technical reports, and other documents pertaining to compliance with this Order shall be provided to the following agencies:
- a. Regional Water Board and
  - b. Alameda County Department of Environmental Health (Local Enforcement Agency).
- The Executive Officer may modify this distribution list as needed.
24. **Reporting Requirements:**
- a. Hardcopies:
    - i. Technical reports/plans submitted by the Discharger in compliance with the Prohibitions, Specifications, and Provisions of this Order shall be submitted to the Regional Water Board on the schedule specified herein. Hard copies of these reports/plans shall consist of a letter report that includes the following:
      - a) Identification of any obstacles that may threaten compliance with the schedule;
      - b) In the event of non-compliance with any Prohibition, Specification, or Provision of this Order, written notification which clarifies the reasons for non-compliance and which proposes specific measures and a schedule to achieve compliance. This written notification shall identify work not completed that was projected for completion, and shall identify the impact of non-compliance on achieving compliance with the remaining requirements of this Order;
      - c) In the self-monitoring reports, an evaluation of the current groundwater monitoring system and a proposal for modifications as appropriate; and
      - d) A signed transmittal letter and professional certification by a California licensed civil engineer or a professional geologist.
    - ii. All application reports or information to be submitted to the Executive Officer shall be signed and certified as follows:
      - a) For a corporation – by a principle executive officer or the level of vice-president or an appropriate delegate;
      - b) For a partnership or sole proprietorship – by a general partner or the proprietor, respectively; or

- c) For a municipality, State, federal, or other public agency – by either a principal executive officer or ranking elected official.

b. Electronic Submittals:

- i. The State Water Board has adopted regulations requiring electronic report and data submittal to Geotracker [<http://www.geotracker.swrcb.ca.gov/>]. The text of the regulations can be found at the following link:  
[http://www.waterboards.ca.gov/ust/electronic\\_submittal/](http://www.waterboards.ca.gov/ust/electronic_submittal/)
- ii. The Discharger is responsible for submitting the following via the internet:
  - a) Groundwater analytical data;
  - b) Surveyed locations of monitoring wells;
  - c) Boring logs describing monitoring well construction;
  - d) Portable data format (PDF) copies of all reports identified in Provision C.24.a. above (the document, in its entirety [signature pages, text, figures, tables, etc.] must be saved to a single PDF file); and
  - e) Any additional submittal to GeoTracker the Executive Officer requires.
- iii. Upon request, monitoring results shall also be provided electronically in Microsoft Excel® to allow for ease of review of Landfill data and to facilitate data computations and/or plotting that Regional Water Board staff may undertake during the review process. Data tables submitted in electronic spreadsheet format will not be included in the case of file review and should therefore be submitted on CD and included with the hard copy of the report. Electronic tables shall include the following information:
  - a) Well designations;
  - b) Well location coordinates (latitude and longitude);
  - c) Well construction (including top of well casing elevation, total well depth, screen interval depth below ground surface, screen interval elevation, and a characterization of geology of subsurface the well is located in);
  - d) Groundwater depths and elevations (water levels);
  - e) Current analytical results by constituent of concern (including detection limits for each constituent);
  - f) Historical analytical results (including the past five years, unless otherwise requested); and
  - g) Measurement dates.

25. This Order supersedes and rescinds Order No. 94-049.

I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is a full, complete, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on XXXX.

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Bruce H. Wolfe  
Executive Officer

Attachments:

Figure 1 – Fill Area 1 Landfill Location Map

Figure 2 - Site Plan

Self-Monitoring Program