

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

**ORDER No. R2-2019-0010**

**UPDATED WASTE DISCHARGE REQUIREMENTS and  
RESCISSION OF ORDER No. 97-072 for:**

**NAPA VALLEJO WASTE MANAGEMENT AUTHORITY  
AMERICAN CANYON CLASS III SOLID WASTE DISPOSAL FACILITY  
NAPA 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 American Canyon municipal refuse disposal site (Landfill) is a closed Class III landfill located on the eastern bank of the Napa River in the City of American Canyon in southern Napa County. The discharger owns approximately 122 acres of land, of which the Landfill occupies approximately 99 acres (Figure 1).
2. The American Canyon Development Company owned and operated the Landfill from 1942 to 1993, when ownership was transferred to the Napa Vallejo Waste Management Authority (hereinafter, the Discharger). The Napa Vallejo Waste Management Authority represents Napa County and the cities of American Canyon, Napa, and Vallejo. The Discharger continues to own the Landfill and 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. Continue to monitor and correct leachate mounding within the Landfill; 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. In June 1985, the Board adopted WDR Order No. 85-083, prescribing waste discharge requirements and compliance time schedules for the Landfill.
  - b. In June 1997, the Board adopted WDR Order No. 97-072, which rescinded Order No. 85-083 and revised the WDRs to comply with Title 27 of the California Code of Regulations (CCR) (Title 27), establish closure and post-closure requirements for the facility, and

revise the groundwater, surface water and leachate monitoring programs to evaluate the impact to water Quality.

- c. This Order rescinds and supersedes WDR Order No. 97-072.

## LANDFILL DESCRIPTION AND HISTORY

### 5. Dates of Operation:

The Landfill began operating in 1942. Open burning continued until 1957 when a modified open burning sanitary landfill operation was implemented. All burning operations were terminated in the late fall of 1971. The Landfill was acquired by the Discharger from the American Canyon Development Company on September 8, 1993. The Landfill has not accepted waste since July 1995 and achieved full, final closure in 2005.

6. **Wastes Accepted:** During its operation between 1942 and 1995, the Landfill accepted an estimated 4.8 million cubic yards of municipal solid waste (i.e., Class III waste), including non-hazardous residential, commercial, and industrial waste. All waste from the Landfill's former service area is now directed to the nearby Devlin Road Transfer Station.

## GEOLOGICAL AND HYDROGEOLOGICAL SETTING

7. **Geology:** The Landfill is located in the Coast Range geomorphic province, north of San Pablo Bay. The Landfill is situated in the alluvial floodplain of the Napa River. The site is bounded on the west by the Napa River and surrounded on the remaining three sides by sloughs and drainages. Sediments beneath the Landfill are comprised predominantly of unconsolidated, fine-grained silts and clays (bay muds) with isolated lenticular, fine sand interbeds. The lenticular sand interbeds generally have a north-south orientation and are more frequent beneath the eastern portion of the site.
8. **Seismicity:** The West Napa Fault is located approximately 1 mile east of the Landfill and is the closest Holocene-aged fault. No final cover damage was observed from the 2014 Mw 6.0 earthquake on the West Napa Fault.
9. **Hydrogeology:** Groundwater beneath the Landfill is first encountered in the younger bay muds at depths ranging from 4 to 8 feet. Because of the limited areal extent of any sand units and the low permeability of Bay Muds, groundwater velocities and corresponding well yields tend to be very low in the upper bay muds. Water quality in these stratigraphic units is generally brackish with elevated total dissolved solids. The groundwater potentiometric surface at the site slopes generally eastward, indicating recharge from the Napa River.

10. **Groundwater Quality:** Shallow groundwater at the site is not used as a source of drinking water given that its average natural electrical conductivity exceeds 5,000 microsiemens per centimeter ( $\mu\text{S}/\text{cm}$ ) and total dissolved solids exceed 3,000 milligrams per liter ( $\mu\text{g}/\text{L}$ ), typically by a factor of ten. In general, the groundwater chemistry of monitoring wells located close to the Napa River (which is tidally influenced in this area) closely resembles that of seawater. The most recent Quarterly Monitoring Report for the Landfill indicates that groundwater degradation has occurred in two of the upgradient monitoring wells. Benzene was detected in one well at 0.13  $\mu\text{g}/\text{L}$ .

Other volatile organic compounds (VOCs) have also been detected in site groundwater, including isopropylbenzene (0.23  $\mu\text{g}/\text{L}$ ), o-xylenes (0.1  $\mu\text{g}/\text{L}$ ), chlorobenzene (1.8  $\mu\text{g}/\text{L}$ ), and carbon disulfide (.61  $\mu\text{g}/\text{L}$ ) since the late 1980s. In general, the concentrations of VOCs have declined since initial detection in the late 1980s. Past quarterly monitoring reports have presented possible sources of chemical impacts to these wells that include the upgradient levee (which is partially constructed of refuse debris and located to the southwest of the wells), other upgradient sources (such as the abandoned landfill on State Lands Commission property to the west of the Landfill), the Napa River, or leakage from the Landfill.

11. **Surface Water Quality:** Surface water in the area surrounding the landfill drains via channels to the adjacent Napa River, and flow in these channels is intermittent and only occurs during rain fall events. The Napa River at this location is brackish due to the significant influence of tidal surges from the San Pablo Bay to the south.

The mean annual precipitation at the Landfill is about 22 inches (National Oceanic and Atmospheric Administration). Most rain falls between November and April.

## CONSTRUCTION AND CLOSURE

13. **Landfill Construction:** The Landfill location was primarily a low-lying marsh until its development for landfill operations. Early Landfill operations included excavating several feet into the bay mud to increase disposal capacity and for use as landfill cover material.

The groundwater table is presently at a higher elevation than the base of waste at the Landfill. Thus, the Landfill would not meet the siting criteria for new Class III landfills specified in 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.

14. **Landfill Base Liner:** The Landfill does not have an engineered base liner. In accordance with accepted practices at the time the Landfill began receiving waste, wastes were deposited directly onto the Bay Mud. Due to its naturally low permeability, the Bay Mud is a fairly effective barrier to vertical leachate migration.
15. **Landfill Closure:** The Landfill was completely closed in 2005 in phases. The 99-acre Landfill was closed in two main phases; Phase I consisted of approximately 63 acres and Phase II consisted of approximately 36 acres. Phase I was closed in the following four stages:

- Area A, encompassing approximately 15 acres of side slopes on the northern portion of the site, was closed during the summer of 1996.
- Area B, encompassing approximately 13 acres of side slopes around the southern portion of the site, was closed during the summer of 2000.
- Area C, encompassing approximately 23 acres of the top deck area at the northern end of the site, was closed in 1997 and 1998.
- Area D encompassing approximately 12 acres of the top deck area south of Area C and north of the Phase II area was closed in the summer of 1999.

Phase 2 was closed in two stages:

- Area A/B, encompassing approximately 18 acres, was closed in 2004.
- Area C/D, encompassing approximately 18 acres, was closed in 2005.

- 16. Final Cover Construction:** The final cover includes: a 2-foot thick foundation layer overlying compacted waste; a 1-foot thick low-permeability clay layer placed above the foundation layer; and a vegetative/protective soil layer ranging from 1 to 5 feet overlying the clay cover. All general fill, foundation layer, and vegetative layer soils came from a Caltrans project site in Napa, California. The low-permeability layer soil was obtained from a combination of sources including the existing on-site stockpiles, the nearby Oat Hill Quarry, and/or the Caltrans site.
- 17. Stormwater Drainage:** The final cover of the Landfill is graded to allow stormwater to sheet-flow into drainage ditches that discharge to the Napa River. Regular maintenance of this system is necessary to minimize infiltration of stormwater into the Landfill. In 2015, the State Board granted a Notice of Termination (NOT) from compliance with the industrial stormwater activities because the facility had ceased operations, completed closure activities, and prevented exposure all industrial-related pollutants.
- 18. Leachate Collection and Removal System:** The Landfill pre-dates waste disposal practices and regulations requiring engineered base liners and leachate collection and removal systems (LCRS). Although neither was constructed at the base of the Landfill prior to refuse placement, an LCRS consisting of twenty-eight 6-inch diameter extraction wells was installed in 1995. Furthermore, Bay Mud underlying the landfill consists largely of clayey soils with a permeability less than  $1 \times 10^{-6}$  cm/sec, which forms a natural barrier to downward movement of leachate beneath the Landfill. Leachate elevations are measured quarterly in eighty-three monitoring wells, which helps to ensure that any leachate migration will be detected in a timely manner. Six of these wells are leachate monitoring level wells, twenty-eight are leachate extraction wells, and forty-nine are landfill gas extraction wells.

Leachate is pumped from the Landfill extraction well network and pumped and discharged under an Industrial Waste Discharge Permit to the nearby Vallejo Sanitation and Flood

Control District's publicly owned treatment works (POTW). The quantity of leachate pumped from the LCRS to the POTW is measured and reported in the quarterly monitoring reports.

19. **Leachate Mounding:** When the LCRS was put in place in 1995, a leachate mound in the northern portion of the Landfill exceeded 35 feet msl in elevation. Since that time the southern portion of the Landfill has developed an inward gradient, as demonstrated by the leachate contour maps included in the quarterly monitoring reports. The leachate mound in the northern portion of the Landfill has decreased to 15 feet above mean sea level (msl). The gradient in the southern portion and the reduction of the leachate mound from approximately 35 feet msl to approximately 15 feet msl demonstrate the LCRS is functioning effectively. This Order requires the Discharger to maintain and operate the LCRS during the post-closure period and maintain an inward flow gradient. Continued operation of the LCRS is expected to continue to reduce the leachate mound in the northern portion of the Landfill over time.
20. **Landfill Gas Collection and Removal System:** The Landfill gas recovery system consists of seventy-six landfill gas extraction wells, which are connected by a pipe network above the vegetative soil cover. Twenty-seven of these landfill gas extraction wells are also dual purpose leachate extraction wells. Extracted landfill gas is transported from the extraction wells to the on-site flare for destruction.
21. **Operation and Maintenance Plan:** The Final Closure and Post-closure Maintenance Plan (FCPCMP) was approved in 2004. The Discharger provided an update to the FCPCMP in May 2018. The updated FCPCMP that addresses site operations and maintenance through:
  - Quarterly stormwater drainage infrastructure inspection and maintenance.
  - Quarterly stormwater runoff inspections.
  - Quarterly Final cover system inspections.
  - Periodic maintenance of the LCRS, leachate monitoring wells, and landfill gas monitoring and control systems.
  - Periodic inspection of perimeter levees for failures.

## POST-CLOSURE LAND USE

22. The current and intended future use of the closed landfill site is an open space for walking on a perimeter trail that is off of the footprint of the Landfill. The Landfill surface is fenced off and no public access is allowed to the surface of the Landfill. A 55 kW solar energy installation, which provides supplemental power to the gas extraction system, is located in the northwestern portion of the top deck of the Landfill.

## MONITORING PROGRAMS

23. **Groundwater and Leachate:** The Self-Monitoring Program (SMP) attached to this Order revises the groundwater monitoring program that was contained in WDR Order No. 97-072. The groundwater monitoring program consists of a network of fifteen monitoring wells (listed in Table B.1 of the SMP). The leachate chemistry monitoring program consists of

taking a single composite leachate sample from the leachate tank farm.

24. **Surface Water:** The surface water monitoring program consists of collecting samples from location S-1 and S-2 as shown on Figure 2.

### **FINANCIAL ASSURANCE**

25. In June 2018, Regional Water Board staff approved the Landfill's Corrective Action Cost Estimate for all Known or Reasonably Foreseen Releases. In May 2018, the Discharger submitted the Specific Non-Water Release Corrective Action Plan and Cost Estimate to the LEA and CalRecycle in accordance with Title 27 requirements. The plan is currently under review by the LEA and CalRecycle.

Post-Closure financial assurance is in the form of a Pledge of Revenue by the Discharger. The Pledge of Revenue financial assurance agreement between the Discharger and CalRecycle went into effect in 2005 when the landfill was officially closed. The recent pledge of revenue was submitted to CalRecycle on May 2018.

### **ANTIDegradation POLICY**

26. CFR Title 40, part 131.12, requires that state water quality standards include an antidegradation policy consistent with federal policy. The State Water Board established California's antidegradation policy through State Water Board Resolution 68-16, which incorporates the federal antidegradation policy where federal policy applies. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. This order complies with the antidegradation policy by prohibiting degradation of existing water quality in the vicinity of the Landfill, directing continued operation of the LCRS and maintenance of the Landfill cap, and requiring verification that degradation has not occurred, through regular monitoring and inspections.

### **BASIN PLAN**

27. 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.

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

28. The existing beneficial uses of the Napa River and San Pablo Bay are as follows:
- i. Estuarine habitat;
  - ii. Commercial and sport fishing;
  - iii. Fish migration;
  - iv. Wildlife habitat;
  - v. Preservation of rare and endangered species;

- vi. Water contact recreation;
- vii. Non-contact water recreation;
- viii. Industrial service supply;
- ix. Navigation;
- x. Fish spawning; and
- xi. Shellfish harvesting.

State Water Board Resolution 88-63 and Regional Board Resolution No. 89-39, both entitled “Sources of Drinking Water,” define potential sources of drinking water to include all groundwater, with limited exceptions for areas containing high TDS, high background contaminant levels, or those areas with a low-yield. The groundwater underlying the Landfill is not a potential source of drinking water because it meets the exception for s high salinity and TDS. The high salinity also prevents use of groundwater beneath the site for any other beneficial use.

### **SAFE DRINKING WATER POLICY**

29. It is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This Order promotes that policy by requiring Dischargers to maintain the integrity of the Landfill cover, to continue operating the LCRS and sending leachate to a POTW for treatment, and to ensure that stormwater does not come into contact with leachate or waste, thereby protecting the use of the Napa River for contact recreation.

### **CALIFORNIA ENVIRONMENTAL QUALITY ACT**

30. 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**

31. 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.
32. 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) section 13263, and CCR, Title 27, Division 2, Subdivision 1, that the Discharger shall meet the applicable provisions contained in 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 shall be deposited or stored at this Landfill, with the exception of waste temporarily contained in receptacles may be stored temporarily but not deposited at the Landfill.
3. Waste materials 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 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 approval except for routine maintenance as described in the FCPCMP or in the event of an emergency repair to the environmental control system (landfill gas collection system and the leachate collection system) to protect human health and the environment.
7. The Discharger shall not disturb the Landfill cap to control vegetative growth. For subsidence repairs on the cap, repairs are allowable if suitable soils and methods as described in the FCPCMP are utilized to repair the cap and maintain positive surface water flow.
8. Excavation within, or reconfiguration of, any existing waste management unit is prohibited without prior concurrence of Regional Water Board. Minor excavation or reconfiguration activities, such as installation of signs or landscaping or for routine maintenance and repair, do not require prior staff concurrence.
9. Surface drainage shall be intercepted and controlled so as to not contact or percolate through wastes during the Landfill post-closure period.
10. Leachate or 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 of leachate levels within the Landfill that adversely impacts waters of the State is prohibited and shall be prevented by operation of the Landfill's LCRS.
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 Title 27 section 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 Title 27 section 20390. The SMP attached to this Order is intended to constitute the DMP for the Landfill.
2. 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.
3. 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 water-bearing zone each well is intended to monitor.
4. 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.
5. 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.
6. 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.
7. 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).

8. The WQPS for the Landfill shall include constituents of concern, concentration limits, point of compliance and all monitoring points. The WQPS shall establish and comply with all of the following:
  - a. Constituents of Concern: Constituents of Concern (COCs) include “all waste constituents, reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the Unit.” (Cal. Code Regs., Title 27, § 20395(a).) COCs include monitoring parameters identified in the SMP attached to this Order or any future amendment thereof.
  - b. Monitoring Parameters: Monitoring parameters (MPs), a subset of the COCs, are typically the most mobile and commonly detected COCs in groundwater at the site and are measured on a more frequent basis than the other COCs. The MPs for the site shall include, at a minimum, all constituents identified as such in the SMP attached to this Order or any future amendments thereof. 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.
  - c. Concentration Limits: Concentration limits (CLs) for all COCs detected at the specified points of compliance shall be established using the background value set pursuant to Title 27, section 20400, subdivision (a)(1). A prediction limit (PL) or control limit (CL) shall be calculated from the background data set using statistical methods as appropriate. CLs are equal to background values for individual constituents in individual wells and are re-determined periodically in accordance with the approved statistical procedure. Specific CLs are, therefore, presented in monitoring reports submitted to the Regional Water Board, with the most recent report providing the most up-to-date concentration limits.
  - d. Point of Compliance (POC): The POC is the "vertical surface located at the hydraulically downgradient limit of the Unit that extends through the uppermost aquifer underlying the Unit." (Cal. Code Regs., Title 27, § 20405(a).)
  - e. Background Monitoring Points: A Background Monitoring Point is “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.” (Cal. Code Regs., Title 27, § 20164.)
9. The Discharger shall maintain the Landfill so as to prevent a measurably significant increase in water quality parameters at points of compliance.

10. 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 by the Executive Officer, the EMP shall be implemented to determine the nature and extent of any release detected by the DMP.
11. 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.
12. The final cover system 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.
14. 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.
15. 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 closure, and post-closure maintenance periods. These monuments shall be installed by a licensed land surveyor or registered civil engineer.
16. 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.
17. 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.
18. 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.
19. 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.
20. 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.

21. The Discharger shall comply with all applicable provisions of Title 27 that are not specifically referred to in this Order.
22. The Discharger is required to maintain and operate the LCRS during the closure and post-closure period and maintain an inward gradient.
23. The operations and maintenance of the entire Landfill site shall comply with the FCPCMP approved in 2004 as updated in 2018. In addition, inspection of perimeter levees for failures that may cause erosion or any other condition that could threaten water quality, or expose debris or waste shall be performed at least semi-annually.
24. If a seep from the Landfill is observed coming into contact with any bordering surface water body, the Discharger shall immediately notify the Water Board. Sampling of upstream and downstream locations on that surface water body may be required on a schedule to be determined by Water Board staff.

### 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 section 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 section 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 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. Conversely, the Discharger may incorporate both semi-annual monitoring event data into one annual report to be submitted no later than October 31. 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 each year**

4. **Post-Closure Material Change in Land Use Reporting:** The Discharger shall submit a technical report, acceptable to the Executive Officer, describing any proposed change in land use 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 Regional Water Board.

**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. **Long-Term Flood Protection Report:** The Discharger shall submit a report consistent with *State of California Sea-Level Rise Guidance* and *BCDC's Bay Plan*, acceptable to the Executive Officer, which proposes strategies for the long-term protection of the [site or landfill] from flooding and inundation due to sea level rise (SLR) and extreme climate/weather events. This report shall be prepared by a qualified engineer and be based on providing protection from the estimated 100-year total water level (TWL) on top of [0.6 to 1.1 feet (low risk) or 1.9 feet (medium to high risk)] of SLR by 2050. The 100-year TWL shall take into account astronomical tides and storm surge as well as Pacific swell, wind waves, and wave run-up. The report shall propose an adaptive management strategy that provides for protection from [2.4 to 3.4 feet (low risk) or 5.7 to 6.9 feet (medium to high risk)] of SLR by 2100, or the most recent 0.5% probability scenario as determined by the official state of California sea level rise guidance. This report shall provide technical justification for the selection of both the 2050 and 2100 protective strategies. The report shall be updated and submitted every five years throughout the operational life of the site with the most recently available and credible information and climate change adaptation guidance at the time of the update.

**REPORT DUE DATE: August 31, 2019, and update every five years thereafter**

8. **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**

9. **Change in Site Conditions:** The Discharger shall immediately notify the Regional Water Board of any flooding, ponding, settlement, equipment failure, 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.

**NOTIFICATION DUE DATE: Immediately upon occurrence**

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

10. **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.
11. **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. The new owner then must apply for an amendment to this order for the Water Board to acknowledge the transfer of ownership and responsibilities under the order.
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

determined to be invalid by the State Water Resources Control Board or a court, 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:
  - a. 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;
  - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;
  - c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
  - d. 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 Water Resources Control Board, Division of Drinking Water. 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 section 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 his or her delegate, 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 his or her delegate, 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. Napa County Environmental Health Division (Local Enforcement Agency)

The Executive Officer may modify this distribution list as needed.

24. **Reporting Requirements:** All reports submitted pursuant to this Order must be in accordance with the State Water Board-adopted regulations requiring electronic report and data submittal to the State's GeoTracker database (CCR §§ 3890-3895). Email notification should be provided to Regional Water Board staff whenever a file is uploaded to GeoTracker. In addition, the Discharger shall submit hard copies of reports to Regional Water Board staff upon request.

The Discharger is responsible for submitting the following via GeoTracker:

- a. All chemical analytical results for soil, water, and vapor samples;

- b. The latitude and longitude of any sampling point for which data is reported, accurate to within 1 meter and referenced to a minimum of two reference points from the California Spatial Reference System, if available, unless specified in the SMP;
- c. The surveyed elevation relative to a geodetic datum of any permanent sampling point;
- d. The elevation of groundwater in any permanent monitoring well relative to the surveyed elevations;
- e. A site map or maps showing the location of all sampling points;
- f. The depth of the sampling point or depth and length of screened interval for any permanent monitoring well;
- g. PDF copies of boring logs; and
- h. PDF copies of all reports, workplans, and other documents (the document, in its entirety [signature pages, text, figures, tables, etc.] must be saved to a single PDF file) including the signed transmittal letter and professional certification by a California professional civil engineer or a professional geologist.

Upon request, monitoring results shall also be provided electronically in Microsoft Excel<sup>®</sup> to allow for ease of review of site data and to facilitate data computations and/or plotting that Water Board staff may undertake during the review process. 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. 97-072

I, Michael Montgomery, 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 March 13, 2019.

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Michael Montgomery  
Executive Officer

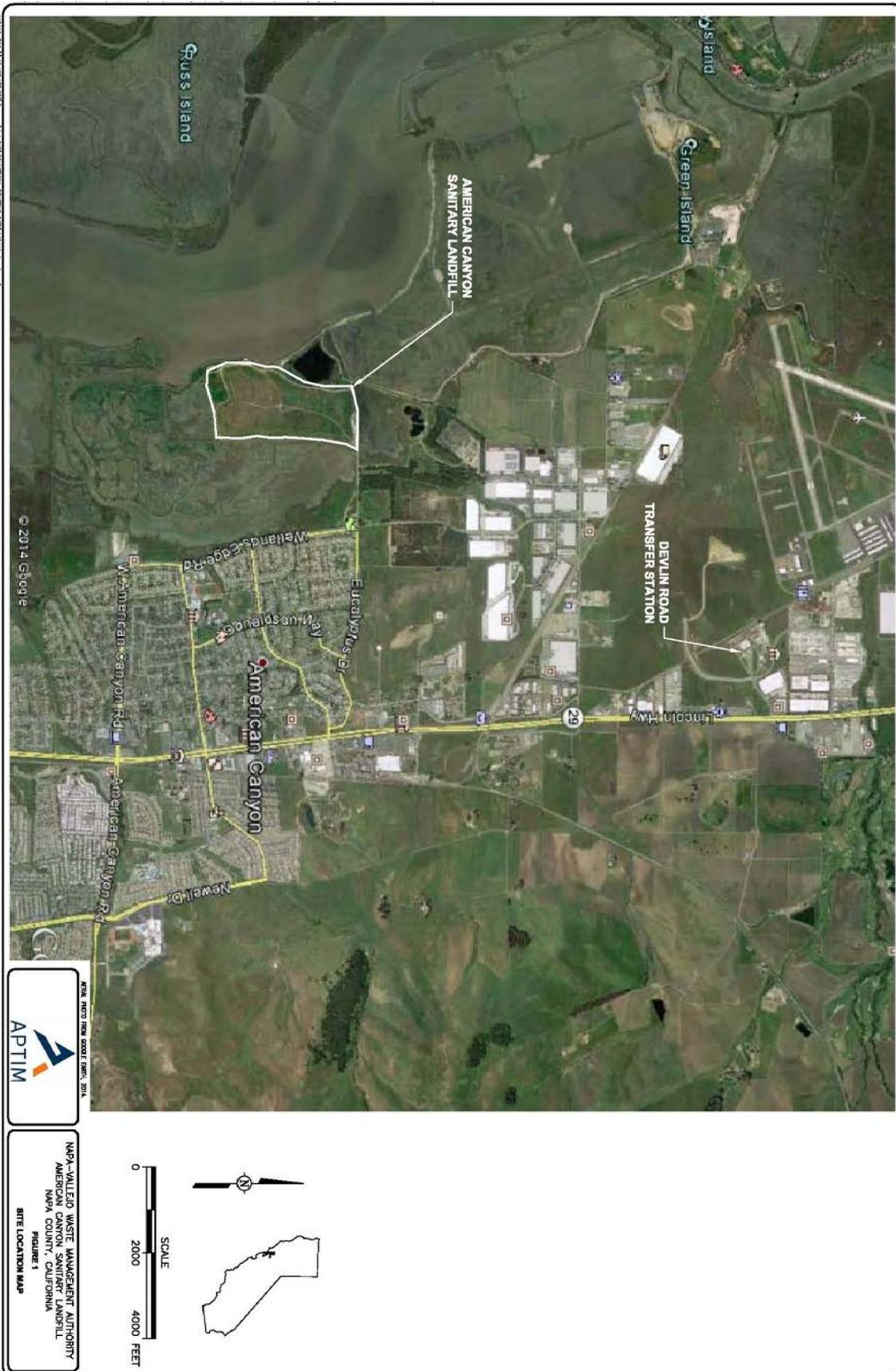
Attachments:

Figure 1 – American Canyon Sanitary Landfill Site Location

Figure 2 – American Canyon Sanitary Landfill Monitoring Points

Self-Monitoring Program

Figure 1. American Canyon Sanitary Landfill Site Location.





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

**SELF-MONITORING PROGRAM FOR  
AMERICAN CANYON  
CLASS III SOLID WASTE DISPOSAL FACILITY**

NAPA COUNTY

**ORDER NO. R2-2019-0010**

CONSISTS OF PART A

AND

PART B

## **PART A**

This Self-Monitoring Program (SMP) specifies monitoring and reporting requirements, including:

- a. General monitoring requirements for Landfills and waste management units (Part A);
- b. Self-monitoring report content and format (Part A);
- c. Self-monitoring report submittal frequency and schedule (Part B);
- d. Monitoring locations and frequency (Part B); and
- e. Monitoring parameters and analytes (Part B).

### **A. AUTHORITY AND PURPOSE**

For discharges of waste to land, water quality monitoring is required pursuant to the California Code of Regulations (CCR), Title 27, sections 20380 through 20435. The principal purposes of an SMP are: (1) to document compliance with waste discharge requirements (WDRs) and prohibitions established by the Regional Water Board; (2) to facilitate self-policing by waste dischargers in the prevention and abatement of pollution arising from the waste discharge; (3) to develop or assist in the development of effluent standards of performance and toxicity standards; and (4) to assist dischargers in complying with the requirements of Title 27.

### **B. MONITORING REQUIREMENTS**

Monitoring refers to the observation, inspection, measurement, and/or sampling of environmental media, the Landfill containment and control facilities, and waste disposed in the Landfill. The following defines the types of monitoring that may be required.

#### **Monitoring of Environmental Media**

The Regional Water Board may require monitoring of groundwater, surface water, leachate, landfill gas, and any other environmental media that may pose a threat to water quality or provide an indication of a water quality threat at the Landfill.

Sample collection, storage, and analyses shall be performed according to the most recent version of U.S. EPA-approved methods or in accordance with a sampling and analysis plan approved by Regional Water Board staff. Analytical testing of environmental media required by this SMP shall be performed by a State-approved laboratory for the required analyses. The director of the laboratory whose name appears on the certification shall be responsible for supervising all analytical work in his/her laboratory and shall have signing authority for all reports or may designate signing of all such work submitted to the Regional Water Board.

All monitoring instruments and devices used to conduct monitoring in accordance with this SMP shall be maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once every two years.

“Receiving waters” refers to any surface water that actually or potentially receives surface or groundwater that passes over, through, or under waste materials or impacted soils. In this case, the groundwater beneath and adjacent to the Landfill and the surface runoff from the Site are considered “receiving waters.”

## **Standard Observations**

“Standard observations” refers to observations within the limits of the Landfill, at the Landfill perimeter, and of the receiving waters. Standard observations to be performed and recorded include:

1. The Landfill:
  - a. Evidence of ponded water on the Landfill, including a map of approximate locations, and an estimate of the size of the area affected and the volume of water;
  - b. Evidence of odors, including presence or absence, characterization, source, and distance of travel from source; and
  - c. Evidence of erosion and/or exposed waste, including a map of the approximate location and an assessment of the likelihood that soil or waste was discharged to the waters of the State.
  
2. Perimeter of the Landfill:
  - a. Evidence of liquid leaving or entering the Landfill, estimated size of affected area and flow rate (show affected area on map);
  - b. Evidence of odors, including presence or absence, characterization, source, and distance of travel from source;
  - c. Evidence of erosion and/or exposed waste;
  - d. Vegetation coverage; and
  - e. Measurement of groundwater elevations.
  
3. Receiving Waters:
  - a. Floating and suspended materials of waste originating from the Landfill, including their presence or absence, source, and size of affected area;
  - b. Discoloration and turbidity: description of color, source, and size of affected area;
  - c. Evidence of odors, including presence or absence, characterization, source, and distance of travel from source;
  - d. Evidence of beneficial use, such as presence of water associated with wildlife;
  - e. Estimated flow rate; and
  - f. Weather conditions, such as estimated wind direction and velocity, total precipitation.

## **Facilities Inspections**

“Facilities inspections” refers to the inspection of all containment and control structures and devices associated with the Landfill. Containment and control facilities may include the following:

1. Final cover;
2. Stormwater management system elements such as perimeter drainage and diversion channels, ditches and down-chutes, and detention and sedimentation ponds or collection tanks;
3. Landfill gas collection and control system; and
4. Leachate extraction system elements such as leachate storage tanks or sumps, piping, pumps and control equipment.

## **Quality Assurance/Quality Control Sample Monitoring**

The Discharger shall collect duplicate, field blank, equipment blank (if appropriate) and trip blank

samples for each semiannual monitoring event at the following frequencies:

1. Duplicate sample – one sample per 20 regular samples;
2. Field blank – one per semiannual monitoring event;
3. Equipment blank – one sample per 10 monitoring stations (except where dedicated equipment is used); and
4. Trip blank – one sample per cooler.

### **C. REPORTING REQUIREMENTS**

Reporting responsibilities of waste dischargers are specified in Water Code sections 13260, 13267 subdivision (b), and 13383, and this Regional Water Board's Resolution No.73-16 and Order No. 93-113. At a minimum, each Self-Monitoring Report (SMR) shall include the following information:

1. Transmittal Letter: A cover letter transmitting the essential points of the monitoring report shall be included with each monitoring report. The transmittal letter shall discuss any violations during the reporting period and actions taken or planned to correct the problem. The letter shall also certify the completion of all monitoring requirements. The letter shall be signed by the Discharger's principal executive officer, or his/her duly authorized representative, and shall include a statement by the official, under penalty of perjury, that the report is true and correct to the best of the official's knowledge.
2. Graphic Presentation: The following maps, figures, and graphs (if applicable) shall be included in each SMR to visually present data collected pursuant to this SMP:
  - a. Plan-view maps showing all monitoring and sampling locations, waste management units, containment and control structures, treatment facilities, surface water bodies, and site/property boundaries;
  - b. Leachate and groundwater level/piezometric surface contour maps for each groundwater-bearing zone of interest showing inferred groundwater gradients and flow directions under/around the Landfill based upon the past and present water level elevations and pertinent visual observations; and
  - c. Any other maps, figures, photographs, cross-sections, graphs, and charts necessary to visually demonstrate the appropriateness and effectiveness of sampling, monitoring, characterization, investigation, or remediation activities relative to the goals of this SMP.
3. Tabular Presentation: The following data (if applicable) shall be presented in tabular form and included in each SMR to show a chronological history and allow easy reference:
  - a. Well designation;
  - 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, and screen interval elevation);
  - d. Groundwater depths;
  - e. Groundwater elevations;
  - f. Current analytical results (including analytical method and detection limits for each constituent);
  - g. Historical analytical results (including at least the past five years unless otherwise requested); and
  - h. Measurement dates.

4. Compliance Evaluation Summary and Discussion:

- a. A summary and certification of completion of all environmental media monitoring, standard observations, and facilities inspections;
- b. The signature of the laboratory director or his/her designee indicating that he/she has supervised all analytical work in his/her laboratory; and
- c. A discussion of the field and laboratory results that includes the following information:
  - i. Data interpretations
  - ii. Conclusions
  - iii. Recommendations
  - iv. Newly implemented or planned investigations and remedial measures
  - v. Data anomalies
  - vi. Variations from protocols
  - vii. Condition of wells, and
  - viii. Effectiveness of leachate monitoring and control facilities.

5. Appendices: The following information shall be provided as appendices in electronic format only unless requested otherwise by Regional Water Board staff and unless the information is already contained in a sampling and analysis plan approved by Regional Water Board staff:

- a. New boring and well logs;
- b. Method and time of water level measurements;
- c. Purging methods and results, including:
  - i. The type of pump used, pump placement in the well, and pumping rate;
  - ii. The equipment and methods used to monitor field pH, temperature, and electrical conductivity;
  - iii. The calibration of the field equipment used to measure pH, temperature, conductivity, and turbidity; and
  - iv. The method of disposing of the purge water;
- d. Sampling procedures, field, equipment, and travel blanks, number and description of duplicate samples, type of sample containers and preservatives used, the date and time of sampling, the name of the person actually taking the samples, and any other relevant observations; and
- e. Documentation of laboratory results, analytical methods, detection limits (DLs) and reporting limits (RLs), and Quality Assurance/Quality Control (QA/QC) procedures for the required sampling.

**D. CONTINGENCY REPORTING**

1. The Discharger shall report to the Regional Water Board by telephone (510-622-2369) any measurably significant discharge from the Landfill immediately after it is discovered. The Discharger shall submit a written report with the Regional Water Board within five days of discovery of any discharge. The written report shall contain the following information:
  - a. A map showing the location(s) of discharge;
  - b. Approximate flow rate;
  - c. Nature of effects (e.g., all pertinent observations and analyses); and
  - d. Corrective measures underway or proposed.

2. The Discharger shall submit a written report to the Regional Water Board within seven days of determining that a statistically significant difference occurred between a SMP sample set and an approved Water Quality Protection Standard (WQPS). The written report shall indicate which WQPS(s) has been exceeded. If appropriate, within 30 days the Discharger shall resample at the compliance point(s) where this difference occurred.
3. If re-sampling and analysis confirms the earlier finding of a statistically significant difference between SMP results and WQPS(s), the Discharger shall, upon determination by the Executive Officer, submit to the Regional Water Board an amended Report of Waste Discharge (ROWD) for establishment of an Evaluation Monitoring Program (EMP) meeting the requirements of Title 27, section 20425.

#### **E. REPORTING REQUIREMENTS**

The Discharger shall submit SMRs to Regional Water Board staff in accordance with the schedule indicated in Table B-1. Reports due at the same time may be combined into one report for convenience, as long as monitoring activities and results pertaining to each monitoring period are clearly distinguishable. Reports shall be submitted in accordance with Provision C.24 of the WDR.

#### **F. MAINTENANCE OF WRITTEN RECORDS**

The Discharger shall maintain information required pursuant to this SMP for at least five years. The five-year period of retention shall be extended during the course of any unresolved litigation regarding a discharge or when requested by the Regional Water Board.

## **PART B**

### **A. MONITORING LOCATIONS AND FREQUENCY**

Monitoring locations, frequencies, parameters, and analytes are specified in Table B-1 of this SMP and as indicated below. Monitoring locations are shown in Figure 2.

#### **1. Environmental Media**

- a. Groundwater: Groundwater shall be monitored at the locations specified in Table B-1 and shown on Figure 2. Monitoring frequencies, parameters, and analytes shall be in accordance with Table B-1.
- b. Leachate: Leachate elevations shall be monitored at the locations specified in Table B-1 and leachate chemistry shall be monitored at the leachate tank. Monitoring frequencies, parameters, and analytes shall be in accordance with Table B-1.
- c. Stormwater: As outlined in the FCPCMP.

#### **2. Standard Observations**

Standard observations (described in Part A) shall be made within the Landfill, along the perimeter of the Landfill, and of the water courses and receiving waters beyond their limits. Standard observations shall be conducted at the frequency specified in Table B-1.

#### **3. Facilities Inspections**

The Discharger shall inspect all containment and control structures and devices associated with the Landfill in accordance with the FCPCMP, to ensure proper and safe operation.

#### **4. Quality Assurance/Quality Control Samples**

The QA/QC samples shall be analyzed for VOCs (field blank, equipment blank and trip blank) or for the same tests as a regular sample (duplicate sample).

### **B. REPORTING SCHEDULE**

The Discharger shall submit SMRs to Regional Water Board staff in accordance with the schedule indicated in Table B-1. Reports due at the same time may be combined into one report for convenience, as long as monitoring activities and results pertaining to each monitoring period are clearly distinguishable.

Attachment: Self-Monitoring Program Table B-1

**Table B-1: Self-Monitoring Program**

**Groundwater (POC) Wells:** 15 in number - G-1, G-1D, G-2, G-2DR, G-3A, G-3D, G-4R, G-6AR2, G-7A, G-8, G-9R, G-10, G-12, GW-4, and GW-6

| Monitoring Event  | Frequency  | Parameters   |
|---|--|--|
| <p align="center"><b>Constituents of Concern</b></p> <p align="center"><b>(POC Wells)</b></p>     | <p><b>Once every five years</b></p> <p>Last COC event was conducted in 2016 (Report due in 2021)</p>                       | <p><b>Monitoring Parameters and Volatile Organic Compounds</b> (Subtitle D Appendix I)</p> <p><b>Dissolved Metals</b> (As, Ba, Co, Cr, Hg, Ni, Se, Ag, Sn, V, Zn)</p> <p><b>Field Parameters</b> – pH, electrical conductivity, temperature, turbidity, and dissolved oxygen</p> |
| <p align="center"><b>Monitoring Parameters (MPs)</b></p> <p align="center"><b>(POC Wells)</b></p> | <p><b>Semi-Annual</b></p> <p><u>1<sup>st</sup> Report due April 30</u><br/><u>2<sup>nd</sup> Report due October 31</u></p> | <p><b>Total Dissolved Solids</b></p> <p><b>Volatile Organic Compounds</b> (Subtitle D Appendix I)</p> <p><b>Field Parameters</b> – pH, electrical conductivity, temperature, turbidity, and dissolved oxygen</p>   |
| <p align="center"><b>Groundwater and Leachate Levels</b></p>                                      | <p align="center"><b>Semi-Annual</b></p>   | <p align="center"><b>As detailed in Part A</b></p>   |
| <p align="center"><b>Standard Observations</b></p>  | <p align="center"><b>Semi Annual</b></p>   | <p align="center"><b>As detailed in Part A</b></p>   |

**Table B-1: Self-Monitoring Program**

**Leachate Level Wells:** 83 in number - L-1 through L-20, L-22 through L-36, EW-1, EW-5, EW-7 through EW-12, EW-14 through EW- 29, GS-2, GS-7, GS-18, GS-19, GS-21, GS-23, GS-25, GS-29, GS-41, GS-59, GS-61, GS-69, GS-70, GS-76, and GS-77

| Monitoring Event   | Frequency   | Parameters   |
|--|---|--|
| <p><b>Monitoring Parameters (MPs)</b></p> <p><b>Sampling Point - Leachate Tank Parameters from POTW requirements</b></p> | <p><b>Semi-Annual</b></p> <p><u>April 30 and October 31 each year</u></p> | <p><b>Dissolved Metals (As, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Zn)</b></p> <p><b>Total Dissolved Solids</b></p> <p><b>Total Phenols</b></p> <p><b>Total Cyanide</b></p> <p><b>Total Oil and Grease</b></p> <p><b>Total Suspended Solids</b></p> <p><b>Biological Oxygen Demand</b></p> <p><b>Organochlorine Pesticides and PCBs</b></p> <p><b>Field Parameters – pH</b></p> |