

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

ORDER No. R2-2022-0011

**UPDATED WASTE DISCHARGE REQUIREMENTS and
RESCISSION OF ORDERS No. 96-079, R2-2002-0066, and R2-2006-0008 for:**

WEST COUNTY LANDFILL, INC.

WEST CONTRA COSTA SANITARY LANDFILL, INC.

**WEST CONTRA COSTA SANITARY LANDFILL, CLASS II SOLID WASTE
MANAGEMENT FACILITY**

RICHMOND, CONTRA COSTA 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 West Contra Costa Sanitary Landfill (Landfill) is a closed Class II landfill located north of Interstate 580 and the Richmond-San Rafael Bridge on the San Pablo Bay shoreline at the west end of Parr Boulevard in the City of Richmond in Contra Costa County. The Landfill property covers 350 acres, of which the closed Class II Landfill occupies approximately 160 acres and a closed Class I Hazardous Waste Management Facility occupies an adjacent 28-acre parcel (Figure 1). The adjacent Class I Hazardous Waste Disposal Facility is regulated by the Department of Toxic Substances Control (DTSC) and is not addressed under this Order. The Landfill site is mostly surrounded by San Pablo Bay and wetlands associated with Wildcat and San Pablo Creeks. San Pablo Creek borders the Landfill on the east.
2. West County Landfill, Inc., owns the Landfill, while West Contra Costa Sanitary Landfill, Inc. (WCCSL, Inc.), manages the Landfill. West County Landfill, Inc. and WCCSL, Inc., were acquired by Republic Services, Inc. in May 2001. West County Landfill, Inc. and WCCSL, Inc., are hereinafter referred to as the Discharger.

LANDFILL BACKGROUND

3. The Landfill began operation in 1953 and served as the primary solid waste disposal facility for the cities of Richmond, San Pablo, El Cerrito, Pinole, and the unincorporated West County area. The site has also received wastes from San Francisco, Oakland, Berkeley, Marin County, and central Contra Costa County. As a permitted Class II disposal facility, the Landfill was permitted to accept municipal solid wastes, inert wastes, nonhazardous solid waste, and designated wastes as defined by the California Water Code (CWC or Water Code). Acceptance and disposal of hazardous waste was prohibited under the Landfill permit.

The landfill reached capacity in September 2006 and was closed over a four-year period with a final cover in 2010. The Landfill was certified as closed by the Regional Water Board on June 15, 2011. Since closure, The Discharger has operated an organic material processing and

composting facility on top of the closed landfill.

PURPOSE OF ORDER UPDATE

4. 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. Update the WDRs to reflect the Landfill’s continued use of its upper deck for an organic material processing and composting operation, which is authorized and regulated under the State Water Resources Control Board’s Order No. WQ 2020-012-DWQ, General Waste Discharge Requirements for Compost Operations (hereafter referred to as “General Composting Order”). A Notice of Applicability for the composting operation’s coverage under the General Composting Order was issued by the San Francisco Regional Water Board on December 8, 2021.
 - c. Require the Dischargers to continue to monitor and manage leachate elevations within the Landfill in accordance with the requirements of this Order;
 - d. Clarify beneficial uses of adjacent waters;
 - e. Require the submittal of a time schedule of actions to prevent contaminated stormwater runoff from entering and degrading Pond B; and
 - e. Update the Landfill’s Self-Monitoring Program.

REGULATORY HISTORY

5. The Regional Water Board has regulated the Landfill under the following orders:
 - a. Resolution 569 (1964)
 - b. WDR Order No. 76-28, amended by Order No. 78-9
 - c. Cease and Desist Order No. 77-106
 - d. WDR Order No. 79-114, updated by Order No. 88-109 and amended by Order Nos. 88-172 and 89-025
 - e. Cleanup and Abatement Order Nos. 83-011, 85-013, and 86-009
 - f. WDR Order No.96-079
 - g. WDR Order No. R2-2002-0066, which updated waste discharge requirements and compliance time schedules for the Landfill. The Order also updated WDR Order No. 96-079.
 - h. WDR Order No. 2006-0008, which amended WDR Order No. R2-2002-0066 to allow disposal of waste to continue for an additional eight months and modify deadlines for an updated leachate management plan, closure plan and closure report.

This Order (R2-2021-XXXX) rescinds and supersedes WDR Order Nos. 96-079, R2-2002-0066, and R2-2006-0008.

6. The Regional Water Board issued four notices of violation (NOV) between February 2017 and May 2019 for issues related to the Landfill's compost operation (including ponding/infiltration, cover materials, and discharges to waters of the state), slope stability, and stormwater sampling. These violations have been addressed under Administrative Civil Liability Order No. R2-2021-1010. Except as specified within, these aspects of the Landfill's operations are managed through compliance with the General Composting Order and the Landfill's Stormwater Pollution Prevention Plan (SWPPP).

GEOLOGY, GROUNDWATER, and SURFACE WATER

7. **Geology:** The Landfill lies on Bay Mud sediments in the Richmond Basin portion of San Francisco Bay. Bay Mud is predominantly interfingering alluvial fan/stream channel and estuarine deposits. Locally, the Bay Mud is divided into Older and Younger units. The Younger Bay Mud generally extends from the ground surface to a depth of approximately 50 to 70 feet below mean sea level (MSL) and consists mostly of relatively soft clay and silt units that are interfingered with relatively thin and discontinuous permeable sand and gravel layers. Older Bay Mud consisting of stiff layer of clay and silty clay underlies the Younger Bay Mud and extends to a depth of about 100 feet below MSL. Sand layers up to 20 feet thick occur at depths greater than 100 feet below MSL. Bedrock exists beneath the site at a depth of approximately 300 feet.
8. **Seismicity:** The Landfill is located within the San Francisco Bay Area, which lies at the edge of a major plate tectonic boundary between the North American and Pacific Plates. This boundary is defined by the San Andreas Fault Zone. There are several known active faults in the vicinity of the Landfill. Active faults are defined by displacement of Holocene deposits (soil or rock less than 11,000 years old), evidence of fault creep and/or well-defined seismic activity on traces of known faults. The maximum credible earthquake (MCE) is the maximum earthquake magnitude that could occur under the presently known geologic framework. California Code of Regulations, Title 27 (27 CCR or Title 27) requires Class II Landfill facilities to be designed to withstand the MCE without damage to the leachate, surface water, groundwater, and/or landfill gas containment structures.
9. **Hydrogeology and Ambient Groundwater Quality:** Groundwater beneath the landfill has been classified into four laterally discontinuous water-bearing zones (WBZs):
 - a. Surficial WBZ — the uppermost zone, which occupies the interval from +20 feet to -10 feet MSL. This WBZ is discontinuous perched aquifer that occurs within thin and discontinuous sand and gravel lenses of relatively higher permeability within the Bay Mud.
 - b. Shallow WBZ — underlies the surficial WBZ from -10 to -30 feet MSL and occurs primarily in Bay Mud sediments. This WBZ is discontinuous perched aquifer that occurs within thin and discontinuous sand and gravel lenses of relatively higher permeability within the Bay Mud.
 - c. Medium WBZ — underlies the shallow zone from -30 to -60 feet MSL and contains Bay Mud sediments which consists of mostly clay and silty clay, with some sand lenses or layers.

- d. Deep WBZ — underlies the medium zone from -60 to -135 feet MSL and consists of mostly clays and silts with some sand lenses or layers.

The surficial, shallow, and medium WBZs and the uppermost portion of the deep WBZ beneath the Landfill contain brackish to saline water and typically have very low well yields and therefore have not been used as sources of drinking water. Groundwater in the lower portion of the deep WBZ (sand units between -113 and -132 feet MSL) has lower total dissolved solids (TDS) and higher well yield values and therefore qualifies as a potential drinking water source under State Water Board Resolution 88-63 and Regional Water Board Resolution No. 89-39. There is no current groundwater use at the site, and there are no plans for its future use.

10. **Nearby Surface Water Bodies:** The Landfill is located adjacent to San Pablo Bay. Other surface water bodies within about one mile of the Landfill include:

- a. San Pablo Creek, a perennial tidally influenced estuarine stream immediately east of the Landfill. Fresh water in the creek is tidally mixed with saltwater from San Pablo Bay in a zone that extends over 1,000 feet upstream of the Landfill.
- b. Wildcat Creek, a perennial tidally influenced estuarine stream, enters Wildcat Marsh about 0.8 miles south of the Landfill.
- c. Castro Creek, an estuarine stream about 0.75 miles southwest of the Landfill. The brackish water creek flows northwestward into San Pablo Bay.
- d. Pond B comprises both a former portion of San Pablo Bay in roughly its northern half and tidal wetlands in roughly its southern half. Figure 3 depicts how this pond on the Landfill property currently receives stormwater runoff from the Landfill property, both directly from the south-facing landfill surfaces and through culverts directing overflow from Area A on the southeast portion of the Landfill property. Pond B is seasonally flooded by rainfall and runoff, with much but not all the water evaporating and/or infiltrating to expose the former tidal wetlands before the next wet season.

Stormwater runoff from the closed Landfill flows into Pond B, but Pond B cannot be used for storage or treatment of water that has come in contact with landfill leachate, contaminated runoff from the construction and demolition waste processing deck (C&D deck), or contact water runoff from the active compost facility operation. Runoff from the compost operation is managed under the General Composting Permit Order and conveyed to the lined Pond A storage basin, and cannot be allowed to discharge to Pond B).

11. **Pond B as a Water of the State:** Pond B was diked off from San Pablo Bay and adjacent tidal wetlands during the early years of Landfill development. Historical aerial photos going back to 1939 show that Pond B was once open Bay water and tidal marsh before it was diked off from the Bay (Figure 4). The Regional Water Board never authorized the use of Pond B as a disposal site but treated it as a receiving water (e.g., Order No. 1988-109 and Order No. 96-079).¹

¹ For example, when the Board issued Order No. 76-28, Pond B, which was then referred to as Area IIB and a portion of Area IC, was excluded from permitted areas of disposal, and leachate or ponded water containing

Water Code section 13050(e) broadly defines “waters of the state” as “any surface water or groundwater, including saline waters, within the boundaries of the state.” The California Attorney General’s Office has opined that “waters of the state” is very broad and include all waters, whether public or private waters and whether natural or artificial. This includes irrigation systems, waters diverted into constructed canals, and all waters in basins and sinks used to store drainage and other waters. (48 Ops. Cal. Atty. Gen. 30.) As described above, Pond B was once part of San Pablo Bay’s open water and tidal marsh complex. Since being diked off, Pond B has continued to contain surface waters especially during the wet season each year due to precipitation and stormwater runoff. As such, Pond B is a water of the state under Water Code section 13050(e).

Recognition of Pond B as a water of the state is relevant because it affects how Pond B can be used by the Discharger. As a water of the state, Pond B, like other adjacent receiving waters, can receive unimpacted stormwater runoff from the landfill, but cannot be used for storage or treatment of water that has come in contact with landfill leachate or runoff from the compost operation.

12. **Stormwater Management:** The site is currently regulated under the State’s General Permit for Storm Water Discharges Associated with Industrial Activities, Order No. 2014-0057-DWQ, NPDES No. CAS000001 (Industrial General Permit). The Industrial General Permit covers discharges related to the ongoing compost operation at the Landfill.

Much of the precipitation on the western and northeastern slopes of the Landfill is intercepted by mid-slope benches and directed to downdrains to discharge points to the San Pablo Bay. Stormwater discharges at these locations are sampled per the facility’s Storm Water Pollution Prevention Plan (SWPPP, updated September 29, 2021). Some of the runoff from the upper northeastern slopes is captured by the mid-slope bench and directed to the unlined pond in Area A. All other unimpacted surface water drains along slope benches to downdrains for conveyance to the unlined pond in Area A or Pond B, shown in Figure 3. The base of the southern portion of the Pond A and Pond B runoff retention basins are presumably formed by native low-permeability clay called the Young Bay Mud with an in-situ permeability of about 1×10^{-6} cm/sec or less.

In 2017, the Discharger constructed a bermed pond in the northern portion of Area A. This pond is lined with a low-permeability geomembrane. The lined pond, called Lined Pond A,

leachate were required to be confined to areas authorized for disposal. The order did not authorize the Landfill owner’s proposal to develop additional acres of the site as a Class I disposal area, pending the outcome of disputes over jurisdiction and land ownership with the Army Corps and State Lands Commission, respectively. Order No. 76-28 stated that wastes were not to be placed in, or allowed to contact, “ponded water of any source whatsoever,” and required construction of a low permeability barrier to prevent the vertical or lateral movement of wastes from permitted fill areas of the Landfill to unpermitted areas, including Areas IIB and IC (i.e., Pond B). On July 19, 1977, the Regional Board issued Cease and Desist Order No. 77-106 to stop discharges in violation of Order No. 76-28, and specifically required plans to construct leachate control facilities between permitted disposal Area IIA and unpermitted Areas IIB and IC (i.e., Pond B) and Area IIC (now referred to as Pond C, to the west of Pond B). On September 18, 1979, the Regional Water Board issued Order No. 79-114, which continued Order No. 76-28’s requirement prohibiting wastes from contacting ponded water, as well as the requirement for a low permeability barrier to prevent movement of waste to unpermitted areas, including Pond B.

was designed and constructed to capture runoff that has come in contact with the organic materials associated with the composting operation.

Drainage structures consist of earthen berms, lateral bench drains, erosion resistant down-chutes, rip-rapped discharge areas, and rip-rapped surfaces around the diked Area B (Pond B) and where the landfill borders the San Pablo Bay. Best Management Practices (BMPs) and vegetated slopes are used to filter out sediment prior to discharge of drainage to Pond B.

CONSTRUCTION AND CLOSURE

13. **Landfill Construction:** The Landfill does not have an engineered base liner. The landfill was constructed and began accepting waste before Title 27 and Subtitle D regulations requiring engineered base liners were adopted. Wastes were deposited directly onto the Bay Mud which was considered to significantly restrict the downward migration of Landfill leachate. Because of significant subsidence, 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 municipal solid waste 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. **Bay Mud Barriers:** Between 1977 and 1996, low-permeability subsurface containment structures were installed around the Landfill perimeter to restrict lateral migration of leachate to adjacent areas. These included the Bay Mud barrier (BMB) cut-off wall and subsequent slurry walls which were constructed and re-constructed after additional studies revealed leachate had migrated through the BMB in some areas (see Finding 20).
15. **Landfill Closure:** The Landfill was closed in two phases. The first phase of closure was completed between 1995 and 2006. A Final Closure Plan was approved by the Contra Costa County Environmental Health Division acting as the Local Enforcement Agency (LEA), and California Department of Resources Recycling and Recovery (CalRecycle) in September 2008. The Regional Water Board approved a Revised Final Post-Closure Maintenance Plan (PCMP) in January 2010. Closure activities for the final remaining areas were conducted between 2007 and 2010. The final Certification of Closure was approved by CalRecycle, the LEA, and the Regional Water Board in June and July of 2011. The post-closure maintenance period began on July 12, 2011. Figure 2 shows the different areas and dates of closure construction at the Landfill.
16. **Final Cover Construction:** A prescriptive final cover system consistent with Title 27 requirements was constructed on the landfill at closure. The prescriptive final cover consists of, from bottom to top: a minimum of 2 feet of foundation layer soil; a minimum of 1 foot of low-permeability soil; and a minimum of 1 foot of vegetative soil. The top deck includes an additional 3-foot buffer layer consisting of compacted soil or a mixture of soil and rock or other inert material on top to protect the final cover system from damage by post-closure land use activities such as composting operations. Additionally, a Geosynthetic Clay Liner (GCL) was used in places to tie in the last phase (2008 through 2010) of final cover to earlier phases. The final closed grades for the landfill were surveyed in 2011.

POST-CLOSURE LAND USE

17. Permitted commercial/industrial post-closure land uses overlying the Class II final cover footprint include:

- Organics materials processing and composting,
- Concrete/asphalt processing,
- Soil reclamation/processing,
- Biosolids operation,
- Waste solidification operation (wet wastes/powdery materials processing), and
- Construction and demolition (C&D) waste processing on a separate deck on the south side of the landfill.

Commercial/industrial post-closure land uses outside the Class II Landfill footprint include the Golden Bear Waste Recycling Center, a landfill gas recovery power plant, and the Class I hazardous waste management leachate treatment, which is regulated by the DTSC.

The organics materials processing and composting operation is regulated under the State Water Board's General Composting Order No. WQ 2020-012-DWQ. Based on the volume of material received and processed at the facility (greater than 25,000 cubic yards) and type of feedstock, the compost operation qualifies for all requirements listed in the General Composting Order for "All Tiers" and "Tier II only."

18. Additional cover materials were placed on top of the Landfill's final cover as an operations or buffer layer to support post-closure activities and to laterally expand the top deck and C&D deck for composting and C&D operations, respectively. Site investigation activities completed in 2019 showed that the buffer layer is at least 3 feet thick across the top deck of the landfill and below the C&D area. Based on Board review of available aerial photographs, the lateral limits of a portion of the top deck were extended by placing "wedge fills" of mixed soil, organic debris, and limited and sporadic miscellaneous debris (plastics, wood, etc.) appears to have been placed at the margins of the working deck mostly between 2015 and 2017. The thickness of the wedge fill is more than 10 feet in some places. This fill was not engineered and may have contributed to a slope failure that occurred on the south side of the C&D deck, as documented in the August 9, 2017 Notice of Violation. Between 2017 and 2019, in response to Water Board enforcement activities, the Discharger hardened the upper deck surface to minimize infiltration into the operations/buffer layer and reshaped the upper deck crown to facilitate proper drainage. Discharger also upgraded the drainage infrastructure to segregate the contact surface water from the compost and C&D areas and constructed contained piping to direct runoff to the new lined retention pond in Area A.

On November 18, 2019, Geo-logic Associates submitted a Revised Final Cover Evaluation for the Landfill. Soil borings drilled through the cover to the waste unit encountered up to 14 feet of material above the waste at the construction and demolition (C&D) deck, and up to 31 feet of material above the waste at the top compost operation deck. The low permeability landfill cap barrier layer was interpreted to lie as deep as 8 feet at the C&D deck and as deep as 22 feet

at the top deck. In both areas, relatively loose, and likely permeable, materials were encountered within the uppermost layers above the landfill cap in nearly all borings. Wet soil layers were also noted above the landfill cap in over a third of the borings.

19. **Impacts to Surface Water:** During periods of heavy rainfall, the capacity of Lined Pond A has occasionally been exceeded and stormwater runoff that has been in contact with compost materials has entered unlined Pond A and from there flowed through the existing culvert into Pond B. Such runoff of impacted water into Pond B is out of compliance with Prohibition A.1. CWC Section 13300 states “Whenever a regional board finds that a discharge of waste is taking place or threatening to take place that violates or will violate requirements prescribed by the regional board, or the state board, or that the waste collection, treatment, or disposal facilities of a discharger are approaching capacity, the board may require the discharger to submit for approval of the board, with such modifications as it may deem necessary, a detailed time schedule of specific actions the discharger shall take in order to correct or prevent a violation of requirements.” The existing stormwater management system, as currently designed and operated, does not prevent impacted water from occasionally going into Pond B and needs to be modified. Therefore, pursuant to CWC Section 13300, Provision 6 of this Order requires the Discharger to submit a time schedule of specific actions the Discharger will take to correct or prevent a violation of Prohibition A.1 of this Order. The Discharger has indicated it can comply by July 1, 2023. The schedule, including final compliance date, will be subject to the Executive Officer’s approval through a time schedule order under Water Code section 13300.

20. **Impacts to Groundwater:** A report submitted in 2004 (Pegasus Geoscience, September 2004) pursuant to Provision 7 of Order No. R2-2002-0066 noted the presence of tert-butyl alcohol (TBA), tetrahydrofuran (THF), 1,4-dioxane, and diethyl ether (DE) in select Shallow WBZ groundwater monitoring wells and, to a lesser extent, Medium WBZ wells outboard of the perimeter barrier/slurry walls surrounding the Class II Landfill. These results were attributed to the migration of volatile organic compounds (VOCs) beyond these barriers before they were constructed. The report compared the concentrations of these contaminants to Regional Water Board’s environmental screening levels (ESLs) available at the time and concluded that there was no significant risk to human health or the environment. The report proposed hydraulic containment as well as continuing other remedial measures that were in place at the time.

More recent groundwater monitoring results indicate rising concentration trends in these volatile organic compounds (VOCs) as well as detections of naphthalene, chlorobenzene, and un-ionized ammonia. Regional Board staff interpret these data as suggesting a potential new or continuing release of landfill leachate. Provision 5 of this Order requires the Dischargers to evaluate this situation and perform corrective actions as needed to reverse the rising concentration trends.

21. **Leachate Collection and Removal System:** The Landfill is required to maintain an inward gradient where shallow groundwater is in contact with waste, with leachate control relying on an extensive lateral barrier and in-fill leachate extraction system. Specification B.23 and Provision C.4(a) of this Order require the Dischargers to continue maintaining the inward gradient. The lateral barrier system includes low-permeability vertical slurry walls around the Landfill to allow pumping of leachate to maintain an inward hydraulic gradient toward the

Landfill (except where hydraulic gradients must be inward toward the Class I Hazardous Waste Management Facility along the common border). Leachate extracted from the Landfill is directed to an onsite storage tank for transport to the West County Wastewater District (WCWD) for treatment.

The leachate extraction system includes a subsurface Leachate Collection and Removal System (LCRS) drain that extends approximately 10,000 feet along the perimeter of the landfill boundary and leachate extraction is performed at eight leachate sumps: QR-17S, QR-20S, QR-21S, QR-22S, QR-24S, QR-26S, QR-28S, QR-33S, and five dual landfill gas/leachate extraction wells. Leachate sumps are electrically powered and automatically controlled by the Landfill's Supervisory Control and Data Acquisition (SCADA) system computer to maintain design levels in each of the sumps.

The effectiveness of leachate extraction is measured by comparing levels in paired monitoring wells and documenting inward versus outward gradients on a monthly basis. These data are documented in semi-annual corrective action groundwater monitoring program reports. These reports have shown that as many as eight well pairs have often been out of compliance since 2017. Beginning in first quarter of 2021, the Discharger has undertaken substantial efforts to improve the reliability of the leachate extraction system, including:

- Re-setting pumps to optimize capture of leachate at each extraction point;
- Performance of tidal studies to assess the effects of tidal influence on outboard wells;
- Performance of down-hole video surveys to evaluate screen condition of extraction wells and to identify well-clogging issues that need to be addressed;
- Installing flow meters and live level gauges at all extraction wells to enable automatic monitoring;
- Installing improved check valves to control flow and manage back-flow of leachate at extraction points;
- Conducting an intensive audit of the electrical system (wiring and components) that provide power to extraction wells and implementing numerous system improvements and upgrades to improve reliability;
- Upgrading the SCADA system to allow for improved management and control of leachate extraction wells;
- Re-developing and acid-washing multiple leachate extraction wells to improve well efficiency;
- Re-designing the daily leachate extraction plan to target areas where piezometer data indicate that flow direction is not optimal.

Additional evaluation of the potential for leachate leakage through or around the perimeter barriers, along with proposed corrective actions to address the concern is required by Provision 4 of this Order.

22. Leachate Mounding: The Landfill lies on Young Bay Mud that compresses under the weight of the overlying refuse, possibly causing groundwater to move into the waste from below, thereby forming leachate. The elevations of leachate within the limits of the landfill are measured in leachate piezometers, in selected dual landfill gas-leachate extraction wells, and in certain landfill gas extraction wells that are inundated. The results of monitoring are included

in the Semiannual Monitoring Reports. Although the distribution of monitoring points may not provide an accurate representation of leachate in the landfill and there is uncertainty with the validity of the leachate elevation information collected from the LFG wells, the available data suggest that leachate levels within the waste mass are elevated compared to surrounding water levels. The monitoring data for the site indicate leachate elevations are highest near the middle of the Landfill and decrease towards the perimeter. It is not known whether the waste mass is entirely saturated below the observed leachate levels or if leachate is perched on relatively impermeable layers within the waste mass. An outward leachate gradient could lead to leachate migration and a significant thickness of saturated waste (if present) could affect landfill stability. Provision 4 of this Order requires further evaluation, and corrective active if needed, of leachate mounding within the Landfill.

23. **Landfill Gas Collection and Removal System:** Gas monitoring at the Landfill is provided by a series of subsurface perimeter probes. The landfill gas collection and control system for the Class II landfill consists of 106 extraction wells (86 vertical and 20 horizontal), associated well head valves, over 30,000 feet of buried and above-ground collection piping, a condensate system, an internal combustion engine for generation of electricity, a main flare, and one backup flare.

Landfill gas condensate is gravity-drained to low points of the collection system and automatically pumped via level sensors to the leachate system. Condensate represents a very small fraction of liquids collected, with the ratio of condensate to leachate approximately 1 to 280. Condensate is not recirculated within the Landfill.

The flare is used to destroy landfill gas concurrent with operation of the combustion engine and is also used to destroy the low-flow landfill gas generated from the Class I Landfill. The flare provides excess capacity as is designed to combust up to 1,500 standard cubic feet per minute.

24. **Operation and Maintenance Plan:** The Final Closure Plan was initially approved in 1994 and subsequently revised in 2004, 2005, 2006, 2007, and 2008, to address the different phases of construction. The Post-Closure Maintenance Plan (PCMP) was updated in May 2018 and approved by the Regional Water Board staff on October 12, 2021. The updated PCMP 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.

MONITORING PROGRAMS

25. **Groundwater and Leachate:** The Self-Monitoring Program (SMP) attached to this Order contains the groundwater monitoring program for the 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.

26. **Surface Water:** Stormwater monitoring is performed currently at eight (8) outfall locations defined in the SWPPP (updated September 29, 2021). Additional outfall monitoring locations may be needed to monitor stormwater runoff into Pond B.

FINANCIAL ASSURANCE

27. 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 2011 when the landfill was officially closed. CalRecycle approved the financial assurance mechanism, documented in Appendix P of the Post Closure Maintenance Plan, in May 2017. The most recent pledge of revenue was submitted to CalRecycle on April 2021.

ANTIDEGRADATION POLICY

28. 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 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

29. 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

30. The existing beneficial uses of 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.

31. The existing beneficial uses of San Pablo Creek are as follows:

- i. Estuarine habitat;
- ii. Fish migration;
- iii. Wildlife habitat;
- iv. Preservation of rare and endangered species;
- v. Non-contact water recreation;
- vi. Fish spawning; and
- vii. Shellfish harvesting.

32. The existing beneficial uses of other surface waters adjacent to the Landfill are as follows:

- i. Estuarine habitat;
- ii. Wildlife habitat;
- iii. Preservation of rare and endangered species; and
- iv. Industrial service supply.

State Water Board Resolution 88-63 and Regional Water 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 shallow groundwater underlying the Landfill is not a potential source of drinking water because it meets the exception for high salinity and TDS. The high salinity also prevents use of groundwater beneath the site for any other beneficial use. Groundwater underlying and adjacent to the site within the Deep Water-Bearing Zone qualifies as a potential source of drinking water, although there is no current use of the site's groundwater, nor any anticipated plans for its future use.

HUMAN RIGHT TO WATER POLICY

33. Under Water Code § 106.3, the State of California’s policy is that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. (Wat. Code, § 106.3; see also State Water Board Resolution No. 2016- 0010.) The human right to water extends to all Californians, including disadvantaged individuals and groups and communities in rural and urban areas. This Order promotes the Human Right to Water Policy by regulating discharges to waters of the State.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

34. 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 to comply with discharge prohibitions and requirements to protect water quality. It will not result in any additional actions that may have an effect on the environment beyond the existing baseline conditions.

NOTIFICATIONS AND MEETING

35. 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.
36. 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 CWC section 13263, and CCR, Title 27, Division 2, Subdivision 1, that the Dischargers shall meet the applicable provisions contained in Title 27 and shall comply with the following:

A. PROHIBITIONS

1. Untreated or inadequately treated groundwater, leachate or runoff from the composting operation or contaminated runoff from the C&D deck 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 municipal solid waste shall be deposited or stored at this Landfill, with the exception of waste contained in receptacles which 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 waters of the United States during the post-closure maintenance period.
4. The relocation of wastes is prohibited without prior Regional Water Board concurrence. 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.
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 PCMP 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 damage the Landfill cap to control vegetative growth. For subsidence repairs on the cap and sideslopes, repairs are allowable provided that suitable soils (not compost or compost feedstocks or overages) and methods as described in the PCMP are utilized to perform repairs and maintain positive surface water flow.
8. Surface drainage shall be intercepted and controlled so as to not contact or percolate through wastes or compost materials (including compost feedstocks, finished compost product, and overages) into waters of the state or of the United States unless specifically authorized under an NPDES permit.
10. Buildup of leachate levels and/or mounding of leachate within the Landfill that have the potential to adversely impact waters of the state is prohibited and shall be prevented by operation of the Landfill's LCRS.
11. 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 operate the composting operation in full compliance with State Water Resources Control Board's Order No. WQ 2020-012-DWQ, General Waste Discharge Requirements for Compost Operations.

2. 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.
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.
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 water-bearing zone each well is intended to monitor.
5. The Discharger shall install new groundwater monitoring wells or surface monitoring stations to replace any monitoring wells or stations designated as a part of the SMP that are damaged, destroyed, or rendered non-functional during the Landfill's post-closure maintenance period.
6. 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.
7. 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.
8. 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).
9. The WQPS for the Landfill shall include constituents of concern, monitoring parameters, concentration limits, points of compliance and monitoring points, as described below:
 - 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). Data analysis methods shall be in accordance with Title 27 Section 20415(e)(8) or alternative method as approved by the Executive Officer. Background data concentrations shall be updated in accordance with the approved analytical method.
 - 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.)
10. The Discharger shall maintain the Landfill to prevent a measurably significant increase in water quality parameters at points of compliance.
 11. Whenever there is measurably significant geochemical evidence of an exceedance of concentration limits or significant physical evidence of a release, the Discharger shall notify the Regional Water Board, and be prepared to implement an Evaluation Monitoring Program (EMP). In such a case, the Discharger shall continue implementing the DMP as prescribed in the SMP. If required by the Executive Officer, an EMP shall be implemented in addition to the DMP monitoring to confirm whether a release has occurred, and if so, to determine the nature and extent of the release and evaluate corrective action alternatives.
 12. 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.
 13. The final cover system shall be graded and maintained to promote lateral runoff and prevent ponding and infiltration of water.
 14. The Landfill shall be protected from any washout or erosion of wastes from inundation.
 15. 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.
 16. The Discharger shall provide and maintain a minimum of four to six 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.

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. All reports submitted pursuant to this Order shall be prepared under the supervision of and signed and stamped by appropriately licensed professionals, such as a California registered civil engineer, professional geologist, and/or certified engineering geologist, and acceptable to the Executive Officer.
22. The Discharger shall comply with all applicable provisions of Title 27 that are not specifically referred to in this Order.
23. The Discharger is required to maintain and operate the LCRS during the post-closure period and maintain an inward gradient along the entire perimeter, except where the Class II Landfill is adjacent to the Class I Landfill, in which case the dischargers are required to maintain an outward gradient.
24. The operations and maintenance of the entire Landfill site shall comply with the PCMP approved on October 12, 2021. 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.
25. If a seep from the Landfill is observed discharging into, or coming into contact with, any adjacent surface water body, the Discharger shall immediately notify the Regional Water Board. 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.

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 reports required by this Order are required pursuant to CWC section 13267. The need for the technical reports is demonstrated by the Landfill's real and potential impacts to surface and ground waters. The reports will enable the Water Board to detect releases and require corrective actions as needed. The burden of preparing these reports bears a reasonable relationship to the reports' necessity and the benefits they will provide. 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. Alternatively, 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 where required.

COMPLIANCE DATE: Immediately upon adoption of this Order
REPORT DUE DATE: April 30 and October 31 each year

4. (a) **Maintenance of Inward Hydraulic Gradient and Minimization of Leachate Buildup:** The Discharger shall submit a technical report including a work plan and schedule acceptable to the Executive Officer, for actions necessary to consistently maintain an inward hydraulic gradient at the Class II landfill at all locations except for the border with the Class I landfill, where an outward hydraulic gradient must be established. As noted in Findings 21 and 22, recent monitoring suggests that the Landfill does not consistently maintain an inward gradient and leachate mounding appears to occur in the landfill interior. The inward hydraulic gradient shall be sufficient to maintain minimal leachate levels (as defined in Prohibition A.10) in the landfill and prevent migration of leachate or contaminants beyond the Bay Mud Barrier or landfill waste boundary. The technical report shall describe the methods utilized to determine the optimum pumping rates and leachate elevations, and the work plan shall include any investigation and infrastructural changes necessary to determine the causes and remedies to establish an inward hydraulic gradient and minimize leachate buildup.

COMPLIANCE DATE: 90 days after adoption of this Order

(b) **Implementation of Actions Necessary to Maintain Inward Gradient and Minimize Leachate Buildup:** The Discharger shall submit a technical report, acceptable to the Executive Officer, documenting the implementation of actions necessary to establish an

inward hydraulic gradient and minimize leachate buildup as described in Provision C.4a.

COMPLIANCE DATE: 180 days after Executive Officer approval of the report required in 4(a)

5. **(a) Investigation and Evaluation Monitoring to Define the Extent of Contaminants present in Groundwater and Surface Water Beyond the Leachate Barrier Walls:** The Discharger shall submit a technical report, acceptable to the Executive Officer, which proposes a scope and schedule of work to define groundwater and surface water contamination originating from the Class II Landfill and extending beyond the leachate barrier walls, as noted in Finding 21. The work plan shall evaluate historic site conditions and recent leachate system modifications to determine the cause of contaminant migration beyond the landfill and propose collection of groundwater and surface water samples utilizing the appropriate methods.

COMPLIANCE DATE: 180 days after adoption of this Order

(b) Report Documenting the Results of Groundwater and Surface Water Investigation: The Discharger shall implement the scope of work approved by the Executive Order required in Provision C.5(a), and submit a technical report, acceptable to the Executive Officer, which documents the results of the investigation. The report shall describe any variations from the work plan as described in Provision C.5(a). If necessary, the report shall propose additional investigations as needed to define the extent of groundwater contamination beyond the leachate barrier walls. Depending upon the results, additional reports may be required to propose and implement corrective actions needed to address groundwater and/or surface water pollution caused by migration of leachate beyond the barrier walls.

COMPLIANCE DATE: 180 days after Executive Officer approval of the report required in 5(a)

6. **Time Schedule for Modification of Stormwater Capture and Conveyance System:** Pursuant to Water Code section 13300, the Discharger shall submit for approval of the Executive Officer a detailed time schedule of specific actions the Discharger will take in order to correct or prevent a violation of requirements, specifically to prevent stormwater runoff that has been in contact with materials associated with the composting operation and/or the C&D deck from entering and degrading the water quality in Pond B.

COMPLIANCE DATE: May 31, 2022

7. **Supplemental Report Evaluating Landfill Stability:** The Discharger shall submit a technical report, acceptable to the Executive Officer, that supplements the November 2019 landfill stability evaluation and that addresses compliance with the landfill stability criteria specified in Title 27 CCR Section 21750(f)(5).. The report shall evaluate factors including, but not limited to, observed slope movements, variances in groundwater and leachate levels within and adjacent to the landfill, static and dynamic slope stability, and observed changes in slopes measured by the permanent elevation monuments. The report shall include an evaluation of underlying material properties and settlement assumptions, engineering

calculations, modeling results, and consider alternative methods of design. The report shall also assess whether unstable landfill conditions may result from wedge fill extensions of the top deck and C&D deck areas between 2015 and 2017 (noted in Finding 18), and if shown to not meet the Title 27 criteria, include a work plan to reconstruct the landfill cap and cover to re-establish stable conditions.

COMPLIANCE DATE: 180 days after adoption of this Order

8. **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

9. **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

10. **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

11. **Long-Term Flood Protection Plan:** The Discharger shall submit a sea level rise vulnerability assessment and adaptation plan (SLR Plan) consistent with the most current *State of California Sea-Level Rise Guidance (Ocean Protection Council [OPC], currently 2018)* and *BCDC's Bay Plan*, acceptable to the Executive Officer. The SLR plan shall identify strategies for the long-term protection of the landfill from flooding and inundation due to SLR and extreme climate/weather events. The plan shall:

- a. Be prepared by a qualified engineer and be based on providing protection from the estimated 100-year total water level (TWL) on top of 3.5 feet of SLR from the current sea level. The 100-year TWL shall take into account astronomical tides and storm surge as well as wind waves and wave run-up;
- b. Identify baseline conditions for the landfill, which include, but are not limited to sitewide elevations, vulnerable infrastructure (i.e., waste containment features, wetlands, roads, buildings, remediation systems, piping, wells) and sea level elevations at which flooding will impact the landfill;
- c. Propose an adaptive management strategy that will be updated every five years and compared against actual SLR measured at the landfill plus a projected 3.5 feet of future SLR;
- d. Include an implementation schedule, acceptable to the Executive Officer, that will protect vulnerable features and infrastructure prior to the projected timing of SLR impacts (e.g., prior to projected flooding). The projected timing will be determined using the current State of California Sea Level Rise Guidance.

The plan shall also evaluate and select strategies consistent with the most recent version of the San Francisco Bay Shoreline Adaptation Atlas (currently 2019), prepared by the San Francisco Estuary Institute (Adaptation Atlas). The Adaptation Atlas serves as an important science-based tool for developing adaptation strategies for the Bay shoreline as climate change impacts the shoreline. The Adaptation Atlas uses a framework of Operational Landscape Units (OLUs) where the key purpose of the OLU framework is to identify where it may be possible to use nature-based approaches, such as beaches, marshes, and subtidal reefs, to create a resilient shoreline with multiple benefits. Nature-based approaches, and hybrid measures that integrate nature with engineered structural approaches, may perform better than traditional engineered infrastructure alone.

REPORT DUE DATE: March 31, 2023, and update every five years thereafter

12. **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 magnitude 6 or greater at or within 30 miles of the Landfill or if an earthquake capable of generating ground motions exceeding a site peak ground acceleration (PGHA) of 0.15g occurs within 60 miles of the site. The report shall identify any containment features, groundwater monitoring, and control facilities potentially impacted by seismic deformations of the Landfill and describe any observed damage. Damage to any waste containment facility, including infrastructure associated with the compost operations, that may impact waters of the State must be reported immediately to the Executive Officer.

NOTIFICATION DUE: Immediately after earthquake

REPORT DUE DATE: Within 6 weeks of earthquake

13. **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: Immediately upon occurrence
REPORT DUE DATE: 30 days after initial notification

14. **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.
15. **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 Regional Water Board to acknowledge the transfer of ownership and responsibilities under the order.
16. **Information Correction:** If the Discharger become aware that they 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, they shall promptly submit such facts or information.
17. **Revision:** This Order is subject to review and revision by the Regional Water Board.
18. **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.
19. **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.
20. **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.
21. **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.

22. **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.
23. **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.
24. **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.
25. **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 become 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.
26. **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,
- b. Contra Costa County Environmental Health Solid Waste Local Enforcement Agency (LEA), and
- c. CalRecycle

The Executive Officer may modify this distribution list as needed.

27. **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 (Title 23, Cal. Code Regs., §§ 3890-3895). Email notification should be provided to Regional Water Board staff whenever a file is uploaded to GeoTracker. In addition, the Dischargers shall submit hard copies of reports to Regional Water Board staff upon request.

The Dischargers are 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, work plans, 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[®] to allow for ease of review of site data and to facilitate data computations and/or plotting that Regional 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

- subsurface geology);
- 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.

28. This Order supersedes and rescinds Orders No. 96-079, R2-2002-0066, and R2-2006-0008.

I, Thomas Mumley, Interim 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 9, 2022.

Thomas Mumley
Interim Executive Officer

Attachments:

Figure 1 - West Contra Costa Sanitary Landfill Site Location

Figure 2 - West Contra Costa Sanitary Landfill Closure Construction

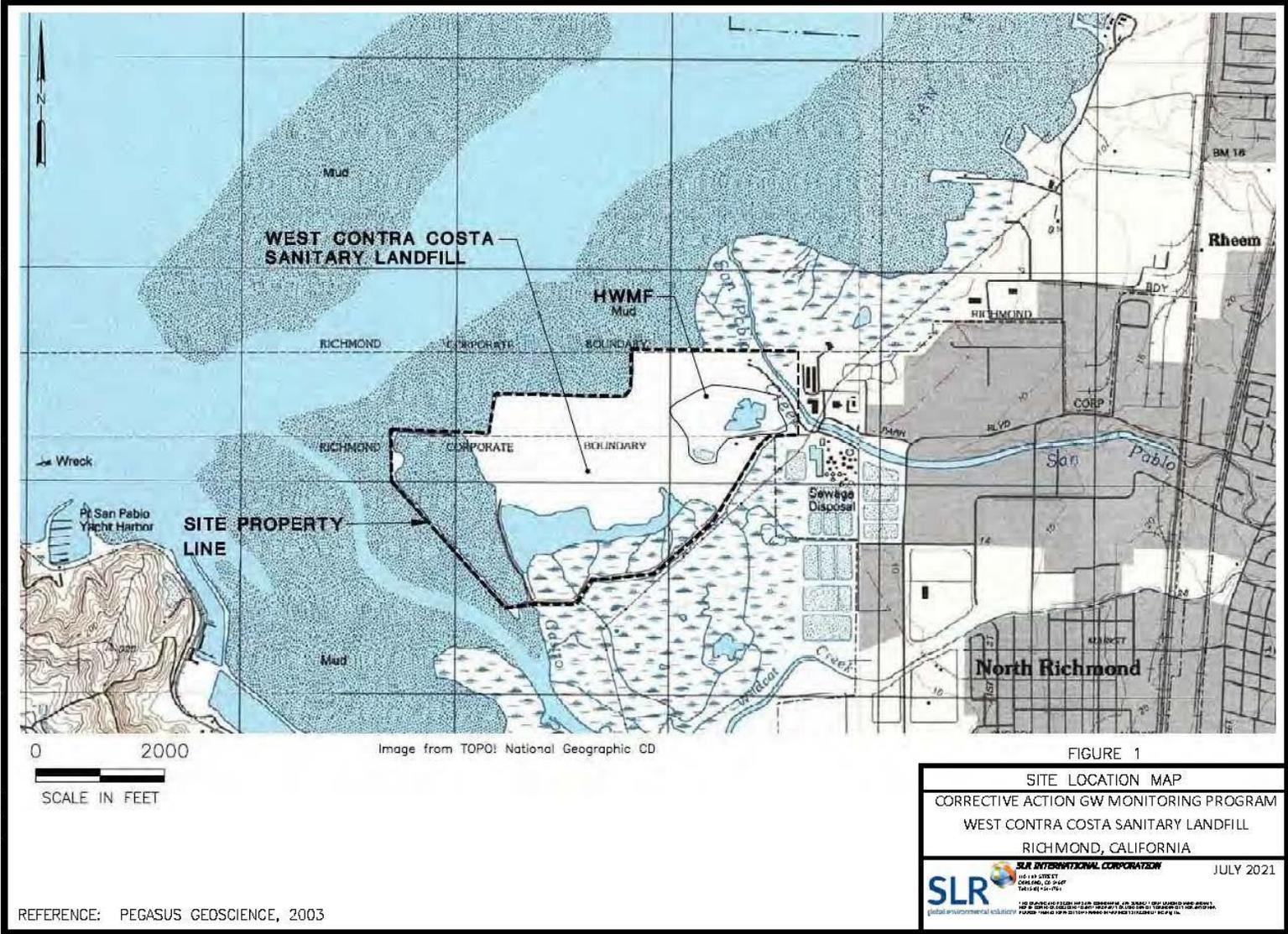
Figure 3 – West Contra Costa Sanitary Landfill Surface Water Drainage Structures

Figure 4 – Pond B Before and After Landfill Development

Figure 5 – West Contra Costa Sanitary Landfill Monitoring Points

Self-Monitoring Program

Figure 1. West Contra Costa Sanitary Landfill Site Location



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Figure 2. West Contra Costa Sanitary Landfill Closure Construction

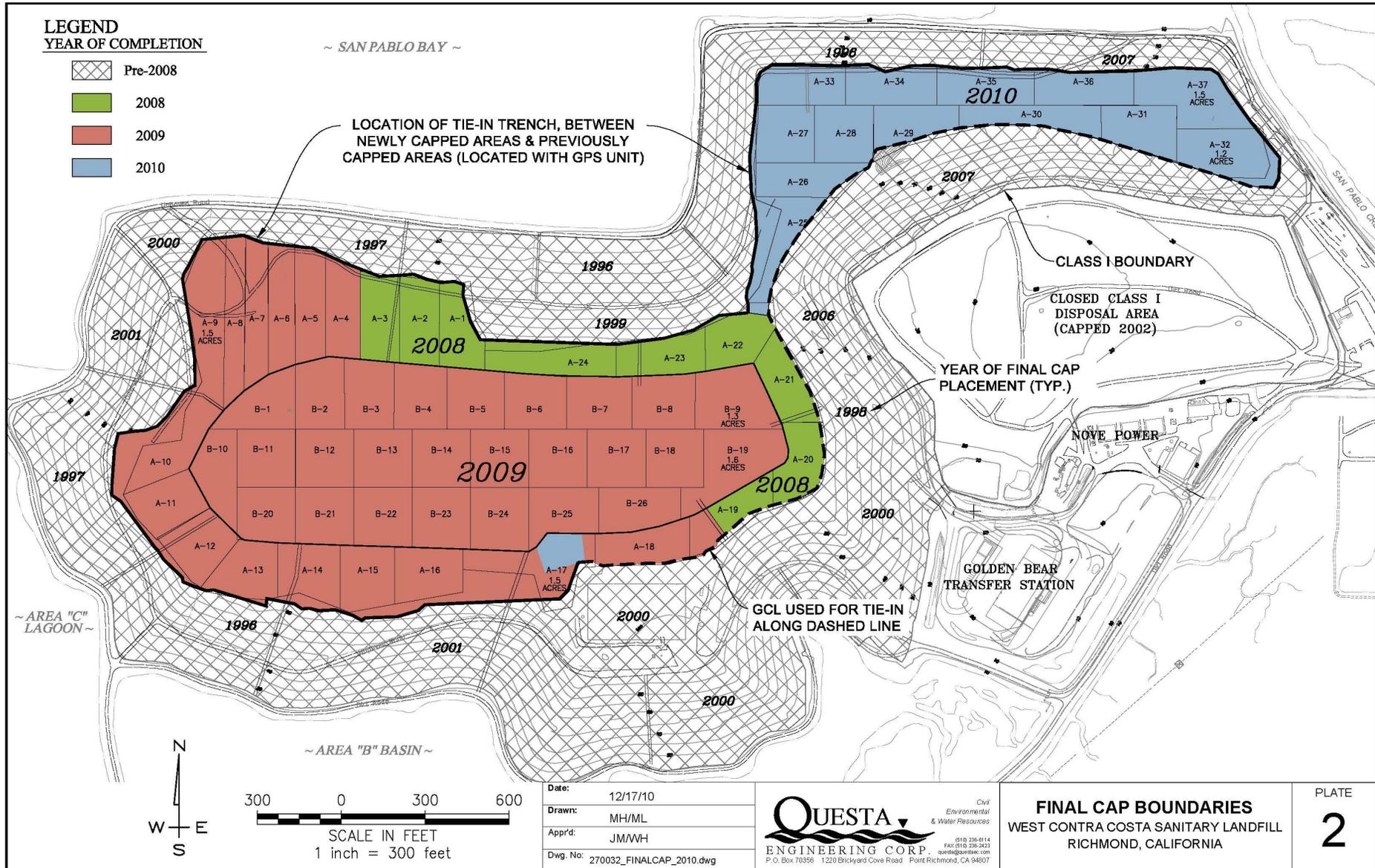


Figure 3. West Contra Costa Sanitary Landfill Surface Water Drainage

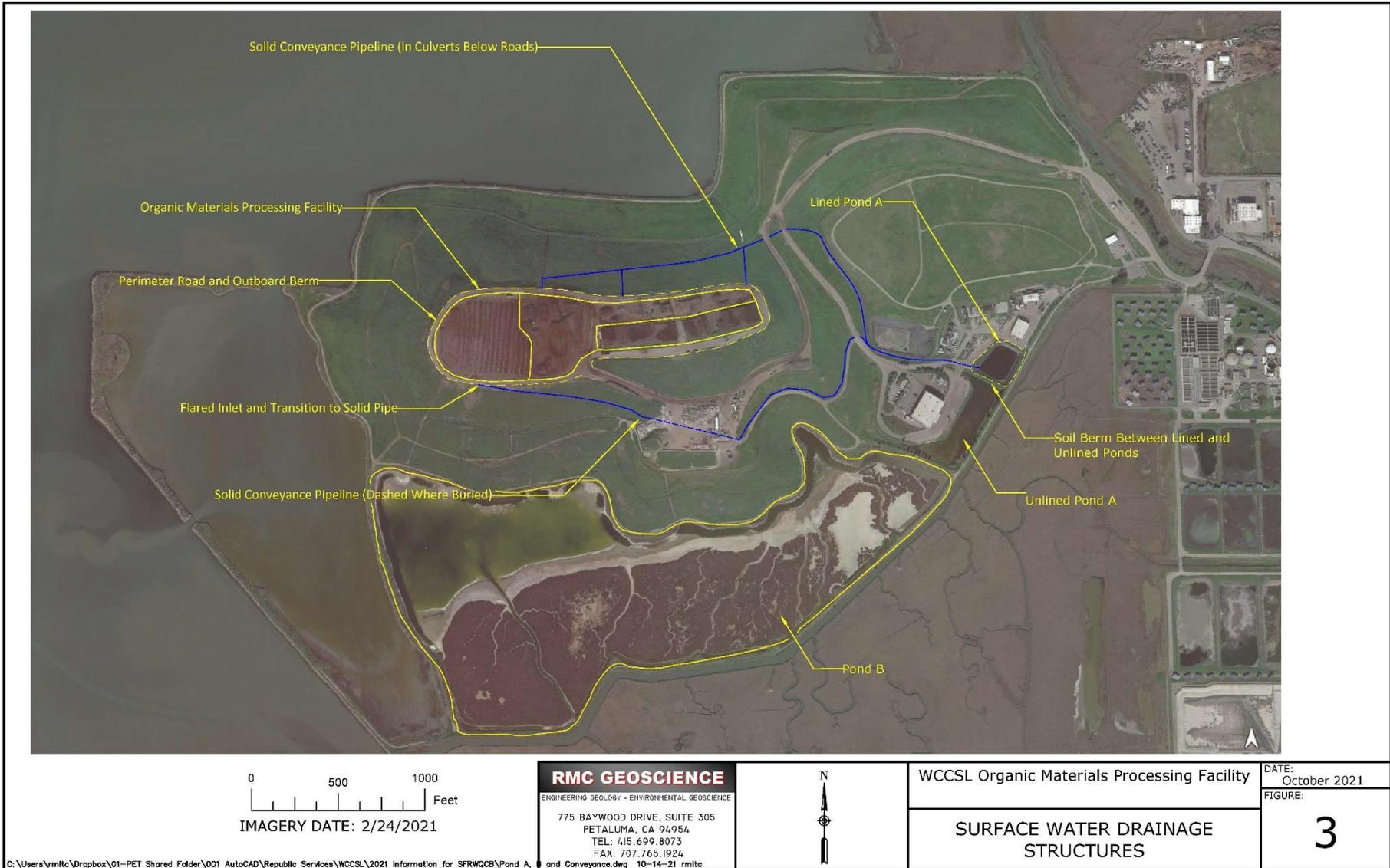


Figure 4. West Contra Costa Sanitary Landfill Pond B 1939 (top) and 1987 (bottom) Contours



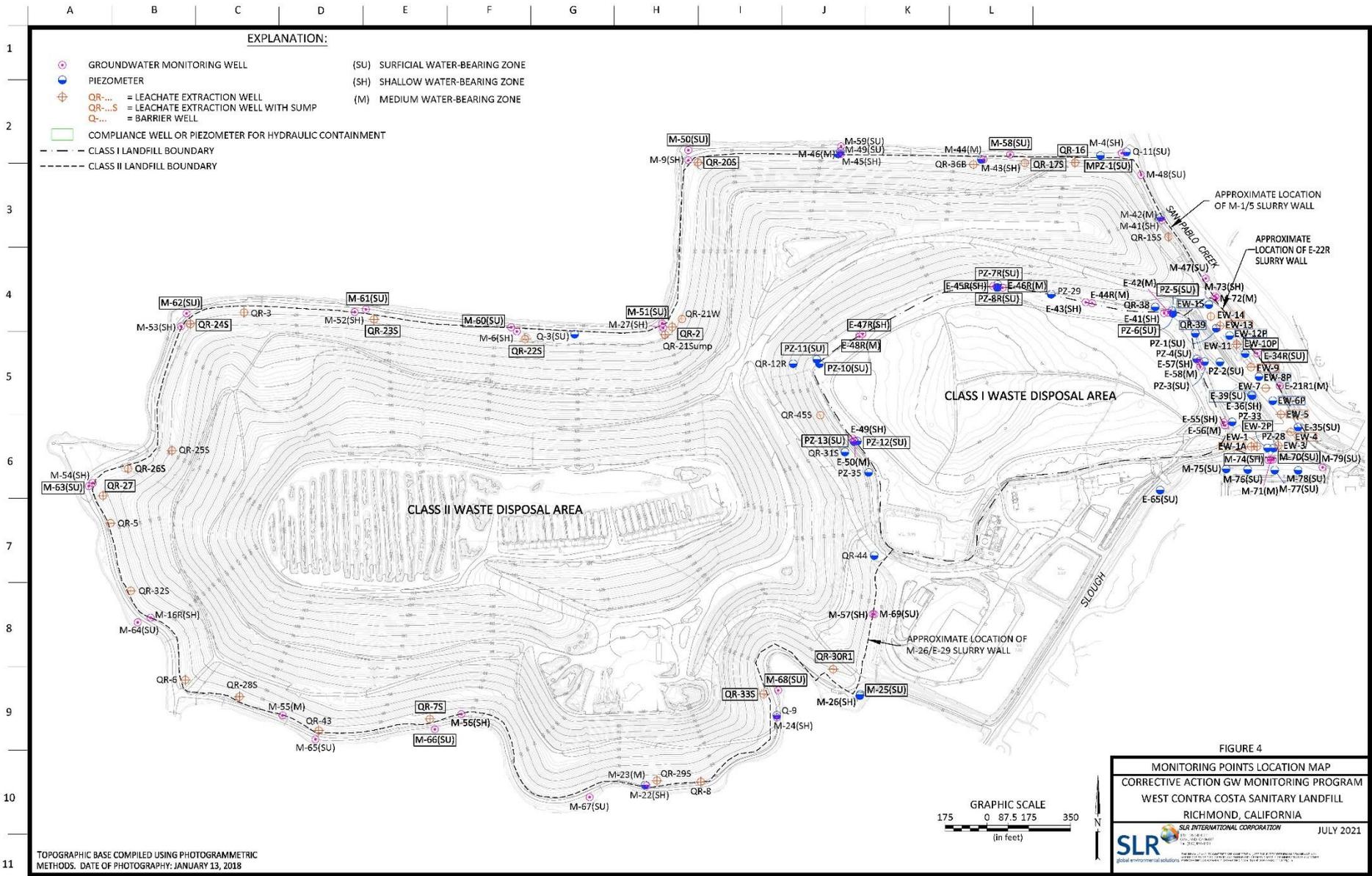


Table 1. Groundwater and Leachate Monitoring Locations

Table 1 GROUNDWATER AND LEACHATE MONITORING LOCATIONS West Contra Costa Sanitary Landfill Richmond, California								
Groundwater					Leachate			
ID	Type	WBZ	Groundwater Quality	Elevation	ID	Type	Leachate Quality	Elevation
E-21R	Groundwater Well	Medium		X	E-39	Well/Sump	X	X
E-34R	Groundwater Well	Surficial		X	QR-12R	Well/Sump		X
E-65	Piezometer	Surficial		X	QR-15S	Well/Sump	X	X
M-16R	Groundwater Well	Shallow		X	QR-16	Well/Sump		X
M-22	Groundwater Well	Shallow		X	QR-17S	Well/Sump	X	X
M-23	Piezometer	Medium		X	QR-2	Well/Sump		X
M-24	Groundwater Well	Shallow	X	X	QR-20S	Well/Sump		X
M-25	Groundwater Well	Surficial	X	X	QR-21S	Well/Sump	X	X
M-26	Groundwater Well	Shallow	X	X	QR-22S	Well/Sump		X
M-27	Groundwater Well	Shallow	X	X	QR-23	Well/Sump		X
M-4	Groundwater Well	Shallow		X	QR-24S	Well/Sump		X
M-41	Groundwater Well	Shallow	X	X	QR-25S	Well/Sump		X
M-42	Piezometer	Medium		X	QR-26	Well/Sump		X
M-43	Groundwater Well	Shallow	X	X	QR-27	Well/Sump		X
M-44	Groundwater Well	Medium	X	X	QR-28S	Well/Sump		X
M-45	Groundwater Well	Shallow	X	X	QR-29S	Well/Sump		X
M-46	Groundwater Well	Medium	X	X	QR-30R	Well/Sump		X
M-47	Groundwater Well	Surficial	X	X	QR-31	Well/Sump		X
M-48	Groundwater Well	Shallow	X	X	QR-32S	Well/Sump		X
M-49	Piezometer	Surficial		X	QR-33S	Well/Sump	X	X
M-50	Groundwater Well	Surficial	X	X	QR-33S	Well/Sump		X
M-51	Groundwater Well	Surficial	X	X	QR-33S	Well/Sump		X
M-52	Groundwater Well	Shallow	X	X	QR-36B	Well/Sump		X
M-53	Groundwater Well	Shallow	X	X	QR-38	Well/Sump		X
M-54	Groundwater Well	Shallow	X	X	QR-38	Well/Sump		X
M-55	Groundwater Well	Medium	X	X	QR-39	Well/Sump		X
M-56	Groundwater Well	Shallow	X	X	QR-43	Well/Sump		X
M-57	Groundwater Well	Shallow	X	X	QR-5	Well/Sump		X
M-58	Groundwater Well	Surficial	X	X	QR-6	Well/Sump		X
M-59	Groundwater Well	Surficial	X	X	QR-7S	Well/Sump		X
M-6	Groundwater Well	Shallow	X	X	QR-8	Well/Sump		X
M-6	Groundwater Well	Shallow		X				
M-60	Groundwater Well	Surficial	X	X				
M-61	Groundwater Well	Surficial	X	X				
M-62	Groundwater Well	Surficial	X	X				
M-63	Groundwater Well	Surficial	X	X				
M-64	Groundwater Well	Surficial	X	X				
M-65	Groundwater Well	Surficial	X	X				
M-66	Groundwater Well	Surficial	X	X				
M-67	Groundwater Well	Surficial	X	X				
M-68	Groundwater Well	Surficial	X	X				
M-69	Groundwater Well	Surficial	X	X				
M-70	Groundwater Well	Surficial		X				
M-71	Groundwater Well	Medium	X	X				
M-72	Groundwater Well	Medium	X	X				

Table 1
GROUNDWATER AND LEACHATE MONITORING LOCATIONS
West Contra Costa Sanitary Landfill
Richmond, California

Groundwater					Leachate			
ID	Type	WBZ	Groundwater Quality	Elevation	ID	Type	Leachate Quality	Elevation
M-73	Groundwater Well	Shallow	X	X				
M-74	Groundwater Well	Shallow	X	X				
M-75	Piezometer	Surficial		X				
M-76	Piezometer	Surficial		X				
M-77	Piezometer	Surficial		X				
M-78	Piezometer	Surficial		X				
M-79	Groundwater Well	Surficial	X	X				
M-9	Groundwater Well	Shallow	X	X				
MPZ-1	Piezometer	Surficial		X				
Q-11	Piezometer	Surficial		X				
Q-3	Piezometer	Surficial		X				
Q-9	Piezometer	Surficial		X				

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

**SELF-MONITORING PROGRAM FOR
WEST CONTRA COSTA SANITARY LANDFILL
CLASS II SOLID WASTE DISPOSAL FACILITY
CONTRA COSTA COUNTY**

ORDER NO. R2-2022-0011

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, including groundwater and leachate seeps, 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 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 and 13267 subdivision (b), 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 Provisions C.20 and 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 4.

1. Environmental Media

- a. Groundwater: Groundwater shall be monitored at the locations specified in Table B-1 and shown on Figure 4. 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 SWPPP and PCMP.

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 PCMP, 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: 56 in number – [E-21R, E-34R, E-65, M-16R, M-22, M-23, M-24, M-26, M-27, M-4, M-41, M-42, M-43, M-44, M-45, M-46, M-47, M-48, M-49, M-50, M-51, M-52, M-53, M-54, M-55, M-56, M-57, M-58, M-59, M-6, M-60, M-61, M-62, M-63, M-64, M-65, M-66, M-67, M-68, M-69, M-70, M-71, M-72, M-73, M-74, M-75, M-76, M-77, M-78, M-79, M-9, MPZ-1, Q-11, Q-3, Q-9].

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

Table B-1: Self-Monitoring Program

Leachate Level Wells: 29 in number – [E-39, QR-12R, QR-15S, QR-16, QR-17S, QR-2, QR-20S, QR-21S, QR-22S, QR-23, QR-24S, QR-25S, QR-26, QR-27, QR-28S, QR-29S, QR-30R, QR-31, QR-32S, QR-33S, QR-36B, QR-38, QR-39, QR-43, QR-5, QR-6, QR-7S, QR8].

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