

## **APPENDIX A**

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

**REVISED TENTATIVE ORDER**

**UPDATED WASTE DISCHARGE REQUIREMENTS and  
RESCISSION OF ORDER NO. 01-022 for:**

**SAN QUENTIN SOLID WASTE DISPOSAL LANDFILL,  
CAL-POX, INC. AND GLENDALE WEST, LLC  
SAN RAFAEL, MARIN COUNTY**

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

**DISCHARGERS AND LOCATION**

1. The San Quentin Solid Waste Disposal Landfill (Landfill) is currently owned by Cal-Pox Incorporated (Cal-Pox) and Glendale West, LLC (Glendale). The Landfill encompasses an area of approximately 38 acres of low-lying diked land and is located at 1615 East Francisco Boulevard, San Rafael (Figure 1). The Landfill is bounded on the north by the San Rafael Drainage Assessment Holding Pond, on the east by San Pablo Bay and City of San Rafael open space, on the south by the Marin Municipal Water District's retention pond, on the southwest by Kerner Boulevard, and on the west by open space (Figure 2).
2. Glendale purchased a portion of the Landfill known as Lot 6 for construction of a Target retail store. Lot 6 is a 15.8-acre parcel located north of the terminus of Shoreline Parkway (Figure 2). The store will be situated between a public pedestrian trail system along the San Pablo Bay margin to the east and a Home Depot retail warehouse to the west that was constructed in 1993.
3. Glendale, as owner of Lot 6 at the Landfill, and Cal-Pox, as owner of the remainder of the Landfill, are hereby collectively referred to as Dischargers and responsible for complying with the requirements of this Order. Home Depot Corporation, as a lessee of Cal-Pox, and Target Corporation, as a lessee of Glendale, are not named as dischargers in this Order.

**PURPOSE OF ORDER UPDATE**

4. This Order updates the existing 2001 Waste Discharge Requirements (WDRs) and the Landfill's Self-Monitoring Program.
5. This Order includes requirements necessary for commercial real estate development of Lot 6 on the Landfill and necessary for compliance with the appropriate portions of title 27 of the California Code of Regulations (Title 27).
6. Technical information pertinent to protection of water quality during and following Landfill development is included in the Provisions, Specifications, and Prohibitions of this Order.

## LOT 6 DEVELOPMENT PLAN

7. Prior to construction, the Dischargers must submit a Development Plan that provides information demonstrating that any new development will be constructed in such a manner as to not adversely impact waste containment features of the Landfill, water quality, or human or ecological health. Provision 5 of this Order requires submittal of the Development Plan.

## LANDFILL DESCRIPTION AND HISTORY

8. **Dates of Operation, Closure, and Post-Closure Development:** The Landfill is a closed Class III Landfill. It operated from 1967 to 1987 and was used for the disposal of non-hazardous solid wastes such as construction and yard debris. In 1987, the Landfill conducted final closure procedures, including placement of final cover. No waste has been disposed at the Landfill since 1987. Following closure in 1987, the Landfill was divided into multiple parcels for future land development. In 1996 and 1999, two buildings were constructed within the refuse limits of the closed Landfill, a Home Depot retail store and a commercial office building. In 1999, BMW completed construction of a car dealership directly adjacent and southwest of the closed Landfill. The Landfill is currently a mixture of undeveloped land and developed open space.
9. **Landfill Construction:** Before the City of San Rafael began landfilling in 1967, the area now occupied by the Landfill was part of San Pablo Bay. From 1967 through closure in 1987, the Landfill was constructed using land reclamation methods accepted at the time, including dredging of bay floor sediments and construction of dikes made from dredged materials. Waste fill was placed behind the dikes directly on the dredged surface, which consisted primarily of Bay Mud. Although individual cells were constructed for disposal convenience, no portion of the Landfill floor was lined and waste materials were not segregated. By the time the Landfill closed, dike construction and Landfill operations had moved the shoreline approximately 2,000 feet to the northeast of the original shoreline's location.
10. **Waste Characterization:** According to available documents, only construction debris and yard trimmings were accepted at the Landfill. Hazardous wastes and household refuse (municipal wastes) were prohibited. Approximately 841,500 tons of materials were disposed of at the Landfill.
11. **Landfill Base Liner:** The Landfill does not have an engineered base liner. In accordance with practices common at the time, wastes were disposed directly onto native Bay Mud. The hydraulic conductivity of Bay Mud typically ranges between  $10^{-4}$  and  $10^{-8}$  centimeters per second (cm/s).
12. **Landfill Final Cover:** Final cover consisted of approximately one foot of foundation soil, a minimum of at least one foot of low hydraulic conductivity layer ( $<10^{-6}$  cm/s), and approximately three feet of topsoil. All of the cover materials were compacted to at least 90 percent of the maximum dry density as determined by ASTM method D1557-78. In portions of the Landfill, the foundation layer and part of/or the entire topsoil layer consists of low permeability clay.

13. **Stormwater Drainage:** The final cover surface of the Landfill is graded to allow stormwater to sheet flow directly to the Bay or into a City of San Rafael stormwater detention basin. A drainage ditch surrounds the perimeter of the Landfill and runoff collected is conveyed to the stormwater detention basin west of the Landfill. Existing drainage facilities within the project area include an 18-inch diameter storm drain located in Shoreline Parkway that runs from the northeast to the southwest to Kerner Boulevard, where flow is conveyed to the stormwater detention basin. Following the planned construction of the Target store, stormwater runoff from Lot 6 will discharge exclusively to the stormwater detention basin.
14. **Leachate:** Leachate at this landfill is brackish to saline, reflecting its bayfront location. The leachate elevation within the footprint of the Landfill is approximately six feet above mean sea level (msl) and does not appear to fluctuate significantly during the year. The primary sources of leachate in the Landfill are a combination of groundwater and tidal seepage from the Bay.
15. **Leachate Extraction System:** A leachate extraction system is operated at the Landfill. It consists of two french drains constructed at the toe of the sideslope at the northwest corner of Lot 6 (i.e., the leachate extraction system does not lie within Lot 6). Leachate collected in the drains is discharged to the sanitary sewer on Shoreline Parkway under permit with the Central Marin Sanitation Agency.

## REGULATORY HISTORY

16. In 1967, the Regional Water Board initially adopted WDRs for the Landfill in Resolution No. 67-36. The Resolution required action to address a dike failure, which placed Landfill waste in direct contact with Bay water. The Resolution prohibited the following: the discharge of readily decomposable material or oil or grease into waters of the State; the presence of visible, floatable waste material in any position where it could be carried from the Landfill by water; atmospheric odors emanating from the Landfill; and any substance, or any combination of substances, in concentrations that would be harmful to fish or aquatic life. The Resolution also set water quality criteria for dissolved oxygen, dissolved sulfides, and pH.
17. In 1969, the Regional Water Board adopted updated WDRs for the Landfill in Resolution No. 69-2. The Resolution prohibited the discharge of waste or water in contact with waste (i.e., leachate) from the Landfill. It also prohibited discharges of decomposable material, oil or grease, and suspended solids to waters of the State, and prohibited direct discharges of liquid and/or toxic industrial wastes from the Landfill. Resolution No. 69-2 further prohibited changes in apparent color, temperature, or turbidity beyond present natural background levels in waters of the State caused by waste disposal activities.
18. Later in 1969, the Regional Water Board adopted Resolution No. 69-50 ordering the San Quentin Disposal Landfill and Mr. H. Heifetz to cease and desist in response to violations of requirements prescribed in Resolution No. 69-2.
19. In 1979, the Regional Water Board adopted Order No. 79-11 and rescinded Resolution Nos. 67-36, 69-2, and 69-50. Order No. 79-11 required submittal of a Landfill closure plan and updated the Specifications and Prohibitions for the Landfill.

20. In 1982, the Regional Water Board adopted Order No. 82-11, which amended the Landfill closure specifications required by Order No. 79-11.
21. In 1985, the Regional Water Board adopted Order No. 85-103. Order No. 85-103 updated the WDRs and rescinded Order Nos. 79-11 and 82-11. Order No. 85-103 accomplished the following: it prohibited disposal of wastes containing less than 50 percent solids into the Landfill, prohibited discharge of truck wash water or oil into the Landfill, required that the leachate containment pond be lined in accordance with sections 2542 and 2341 of Subchapter 15, and required graded slopes of a minimum of 3 percent for all closed portions of the Landfill.
22. In 1986, the Regional Water Board adopted Order No. 86-70. Order No. 86-70 updated the WDRs and rescinded Order No. 85-103.
23. In 2001, the Regional Water Board adopted Order No. 01-022, which updated the WDRs and rescinded Order No. 86-70. Order No. 01-022 established a system for the sale and development of portions of the Landfill and to assure compliance with the appropriate portions of Title 27.
24. Reports submitted in accordance with the 2001 WDRs have documented that the Landfill is in compliance and that no significant groundwater impacts from the Landfill have been detected.
25. This Order rescinds Order No. 01-022.

## **GEOLOGICAL AND HYDROGEOLOGICAL SETTING**

26. **Geology:** The Landfill is a relatively flat to slightly domed, artificial fill area with a surface elevation of 7 to 25 feet above msl. The Landfill overlies alluvium consisting of fine-grained estuarine deposits referred to as Bay Mud. Bay Mud deposits occur throughout the San Francisco Bay Region and generally consist of sedimentary, silty marine clays with high organic content. Bay Mud attains a thickness of up to 90 feet in the vicinity of the Landfill. Bay Mud typically contains localized lenticular deposits of poorly graded sand, silt, peat beds, and fossiliferous horizons. Bedrock composed of Franciscan Complex sandstone, shale and conglomerate of Upper Jurassic to Lower Cretaceous age underlies Bay Mud at the site. These rocks are exposed on the western portion of the Landfill.
27. **Seismicity:** The Landfill is located approximately halfway between two major, active fault systems, the San Andreas and the Hayward. The San Andreas Fault is located approximately 10 miles to the southwest and has an expected maximum credible earthquake (MCE) Richter magnitude of 8.5 and has displayed significant movement as recently as October 17, 1989, during the Loma Prieta Earthquake (Richter magnitude = 7.1), the epicenter of which was located approximately 65 miles to the south-southwest of the Landfill. The Hayward Fault is located approximately 8 miles to the northeast and has a MCE Richter magnitude of 7.25. Both faults are considered historic faults and could potentially cause excessive damage to improperly engineered structures. Other Holocene faults (i.e., active during the past 10,000 years) located within 30 miles of the Landfill include the Rodgers Fault, West Napa Fault, Green Valley Fault, Concord Fault, and the Calaveras Fault. Each of these faults has the potential to cause damage to the Landfill.

28. **Hydrogeology:** The hydrogeologic units in the vicinity of the Landfill include the Franciscan Formation, Bay Mud, and the Landfill wastes. Basal portions of the Landfill wastes that are saturated with groundwater at least part of the time constitute an unconfined hydrostratigraphic unit. An 80 to 90 foot sequence of Bay Mud located beneath the Landfill acts as a confining layer between the Landfill refuse and the underlying Franciscan Formation.
29. **Groundwater Elevations:** Due to the low hydraulic conductivity of the Bay Mud beneath the Landfill and comprising the Landfill perimeter berms, the Landfill can be conceptualized as a “bowl” that holds water that has infiltrated through the Landfill final cover. Due to the presence of an outward hydraulic gradient from the Landfill, infiltrated rainwater slowly leaking from the bowl appears to be influencing the elevation of the water table in groundwater wells located at the perimeter of the Landfill. Within the Landfill, leachate levels remain fairly stable at approximately 6 feet above msl. Groundwater elevation in perimeter groundwater monitoring wells ranges from 2 to 6 feet above msl, depending upon the location of the well relative to the edge of waste. Wells located closer to the Landfill tend to have higher groundwater elevation levels. Groundwater elevations in background wells show a greater range, from -2 to 11 feet msl.

Tidal influence on groundwater and leachate levels was assessed in a Solid Waste Assessment Test (SWAT) in 1988. Water levels in the monitoring wells were observed over a 24-hour period and compared with the fluctuations in the sea water elevation. There appeared to be little, if any, correlation between groundwater elevation fluctuations in the Landfill’s monitoring wells and fluctuations in the adjacent Bay. The SWAT report also noted the presence of a steep hydraulic gradient between the leachate and the Bay. The SWAT report concluded that, “*attenuated tidal response observed in the monitoring wells was indicative of low permeability within the bay mud and fill*”. Leachate contour maps included in recent environmental monitoring reports indicate that the steep hydraulic gradient remains in place.

30. **Upward Gradient:** Wells screened in the Bay Mud beneath Landfill materials exert higher potentiometric surfaces than wells screened directly within waste fill. Wells screened deeper in Bay Mud exert higher potentiometric surfaces than wells screened in shallower Bay Mud deposits. Thus, an upward vertical gradient exists at the Landfill. The observed upward gradient is likely caused either by surface loading or recharge under confined conditions. Surcharging of the Bay Mud by surface loading can cause high Bay Mud pore pressure, which dissipates slowly because of the low hydraulic conductivity of Bay Mud. High pore pressures within Bay Mud would subsequently cause locally higher potentiometric surface for groundwater.

Recharge under confined conditions can also cause an upward vertical gradient. Recharge into the Franciscan Formation occurs at local upland areas directly west of the Landfill, where the Franciscan Formation is exposed at the surface. Beneath the Landfill, where the Franciscan Formation is covered and confined by Bay Mud, the groundwater exerts a higher potentiometric surface, creating the observed upward vertical gradient. The potentiometric surface increases with depth in the vicinity of groundwater discharge areas, such as the San Pablo Bay. Together, the thick sequence of Bay Mud and the observed

upward vertical groundwater gradient likely inhibit the downward migration of contaminants at the Landfill.

31. **Groundwater Quality:** Groundwater in perimeter wells is brackish to saline and is not suitable for human consumption. Salinity of native groundwater at the Landfill is similar to the water in the Bay. This finding does not necessarily suggest that there is hydraulic communication between groundwater and Bay water. Rather, it reflects the groundwater quality based on the saline depositional environment of Bay Mud (within which the monitor wells are constructed) and its similarity to brackish bay water quality.
32. **Surface Water:** Several surface water bodies are near the Landfill (Figure 2). San Pablo Bay is immediately east of the Landfill. A wetlands area is located to the north and a stormwater detention basin to the west. Shoreline Parkway and the Marin Municipal Water District retention pond are south of the Landfill. There is no evidence of impacts to these surface water bodies from the Landfill.

## MONITORING PROGRAMS

33. **Groundwater Monitoring:** Groundwater conditions at the Landfill are monitored by eight monitoring wells (G-1B, G-2R, G-4A, G-5C, G-6C, G-7A, G-8A, and G-11A), as shown in Figure 3. Four of these wells were installed in 2003 (G-1B, G-5C, G-6C and G-11A), subsequent to the 2001 Order. The Landfill currently implements a detection monitoring program for groundwater. The Self-Monitoring Program (SMP) requires the Dischargers to monitor groundwater levels quarterly and chemistry semi-annually in the eight groundwater monitoring wells. Monitoring Parameters (MPs, indicators of a release, monitored regularly) include field parameters (pH, EC, ground water elevation) and inorganics (TDS, ammonia, nitrate). Constituents of Concern (COCs, considered potential contaminants given the nature of the waste, monitored once every five-years) include volatile organic compounds (VOCs), semi-volatile organic compound (SVOCs), organochlorine pesticides and poly-chlorinated biphenyls (PCBs). The groundwater monitoring program is detailed in the SMP attached to this Order. The groundwater quality in perimeter wells has consistently shown no significant impacts from the Landfill.
34. **Leachate Monitoring:** The Landfill contains six leachate monitoring wells (GR-1B, GR-2A, GR-3A, GR-4, GR-8A, and GR-9). The SMP requires that the Dischargers monitor leachate levels quarterly and chemistry semi-annually in the six leachate monitoring wells shown on Figure 3. MPs include field parameters (pH, EC, ground water elevation) and inorganics (TDS, ammonia, nitrate). COCs include VOCs, SVOCs, organochlorine pesticides, and PCBs. The leachate monitoring program is included in the SMP attached to this Order. Anthropogenic compounds have been detected in leachate at the Landfill, but the frequency of their detection is low. The concentrations of the compounds do not exceed the Regional Water Board's Environmental Screening Levels and do not pose significant risk to either human health or the environment.
35. **Surface Water Monitoring:** Surface water monitoring shall be conducted as part of the SMP and approved Industrial and Construction Stormwater Monitoring Plans. Surface water is currently monitored at the two outfalls shown in Figure 3.

36. **Vadose Zone Monitoring:** Limited vadose zone monitoring is conducted through the Landfill gas monitoring program approved as part of the post-closure land use plan.
37. **Facility Inspections:** The following portions of the Landfill facility will be inspected by the Dischargers as required by the SMP:
- a) Surface water monitoring points;
  - b) Monitoring wells (groundwater and leachate);
  - c) Stormwater conveyance system.

## **BASIN PLAN AND BENEFICIAL USES**

38. 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 Regional Water Board (State Water Regional Water Board), U.S. EPA, and the Office of Administrative Law where required.
39. Regional Water Board Resolution No. 89-39, "Sources of Drinking Water," defines potential sources of drinking water to include all groundwater in the region, with limited exceptions for areas containing high TDS, high background contaminant levels, or those areas with a low-yield. Shallow groundwater at the Landfill exceeds TDS concentrations of 3000 mg/L and as such is not considered a potential drinking water source; however, deeper groundwater quality has not been fully evaluated. As such, any groundwater at the Landfill meeting Resolution No. 89-39 requirements of TDS concentrations below 3000 mg/L, electrical conductivities below 5,000 micro-Siemens per centimeter, and with production yields greater than 200 gallons per day will be considered a potential drinking water source. There is no current use of the Landfill's shallow or deep groundwater, nor any anticipated plans for its use.
40. The existing beneficial uses of the receiving waters (San Pablo Bay), as defined in the Basin Plan, Table 2-1, include:
- a) Navigation;
  - b) Fish spawning;
  - c) Wildlife habitat;
  - d) Contact water recreation
  - e) Non-contact water recreation
  - f) Estuarine habitat;
  - g) Fish migration;
  - h) Industrial process supply;
  - i) Commercial and sport fishing;
  - j) Industrial Processing;
  - k) Preservation of rare and endangered species; and
  - l) Shellfish harvesting.



## CALIFORNIA ENVIRONMENTAL QUALITY ACT

41. A final Environmental Impact Report (EIR) was prepared for the proposed Target development. On September 29, 2009, the City of San Rafael Planning Commission recommended to the City Council certification of the final EIR. On October 19, 2009, the City Council adopted Resolution No. 12858 certifying the final EIR was completed in accordance with the requirements of the California Environmental Quality Act (CEQA). An Addendum EIR was submitted in October 2010 to slightly modify the acreage of Lot 6, add three additional parking spaces, from 550 to 553, and modify the proposed building specifications to achieve Leadership in Energy and Environmental Design (LEED) Gold certification. The Regional Water Board, as a responsible agency under CEQA, reviewed the EIR and considered the effects to water quality and beneficial uses associated with the project.
42. The EIR determined that the development may have potential geological and soil-related impacts to the Landfill. Such impacts include settlement, seismic-related ground movement, subsidence, deformation of foundation piles, alteration of the soil cap, contamination of stormwater run-on and runoff, and potential accumulation of landfill gas. These potential impacts will be addressed by measures that include grading and compacting Landfill materials, using pile-supported building foundations, installation of surface drainage structures, and installing landfill gas control and monitoring systems.
43. The EIR also determined that water quality impacts may also result from grading waste materials, installation of foundation piles, increases in stormwater runoff, alteration of the Landfill cap, and landscape irrigation. These potential impacts will be addressed by institution of stormwater best management controls during and following construction, preparation of a Development Plan, installation of impervious surfaces that reduce infiltration, and use of sophisticated irrigation controls. With these mitigation measures, the Dischargers will eliminate or substantially lessen all significant effects to the environment.

## NOTIFICATIONS AND MEETING

44. The Regional Water Board has notified the Dischargers and interested agencies and persons of its intent to prepare WDRs, and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
45. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to this update of WDRs.

**IT IS HEREBY ORDERED** pursuant to the authority in section 13263 of the California Water Code (CWC) and California Code of Regulations titles 23 and 27 (Titles 23 and 27), the Dischargers, their agents, successors, and assigns shall meet the applicable provisions contained in the CWC and Titles 23 and 27 and shall comply with the following:

## A. PROHIBITIONS

1. Migration of leachate from the Landfill shall not create a condition of pollution or nuisance, nor degrade the quality of waters of the State or of the United States.
2. The creation of any new waste management unit is prohibited. No additional waste, with the exception of purge water from monitoring wells, shall be deposited or stored at this Landfill.
3. Wastes shall not be exposed, or allowed to exist in 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. Leachate, stormwater, or groundwater containing leachate or in contact with waste, shall not be discharged to waters of the State or of the United States unless specifically authorized under an NPDES permit.
5. Buildup or mounding of leachate levels within the Landfill that could adversely impact waters of the State is prohibited and shall be prevented by operation of a leachate extraction system.
6. The Dischargers 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. Minor surface excavation or reconfiguration activities, such as for installation of signs or landscaping, or for routine maintenance and repair do not require prior concurrence.
7. The Dischargers shall not disc the Landfill cap. Alternate methods of controlling vegetative growth that do not affect the integrity of the Landfill cap shall be utilized.
8. Surface drainage water shall not be allowed to pond on the Landfill surface and shall not be allowed to contact or percolate through wastes during the life of the Landfill.
9. The Dischargers, 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 Dischargers shall implement a Detection Monitoring Program (DMP), pursuant to Title 27, section 20420. The DMP shall be designed to identify any water quality impacts from the Landfill and demonstrate compliance with the Water Quality Protection Standard (WQPS), which is required pursuant to Title 27, section 20390. The SMP attached to this Order is intended to constitute the DMP for the Landfill.
2. The WQPS for the Landfill shall include the following:
  - a. Constituents of Concern: Title 27, section 20395, defines Constituents of Concern (COCs) as “all waste constituents, reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the Unit.” Site-specific COCs were developed for this Landfill based on the chemicals identified in leachate. They are the monitoring parameters identified in the SMP attached to this Order, as well as VOCs and metals (see Table B-1) or any future COC added by the Regional Water Board.
  - b. Monitoring Parameters: MPs, a subset of the COCs, are typically the most mobile and commonly-detected COCs in groundwater at the Landfill and are measured on a more frequent basis than the COCs. Their purpose is to indicate whether a potential leak from the Landfill has occurred. The MPs are chemicals identified in leachate at the Landfill in significantly greater concentrations than those found in groundwater and surface water. The MPs shall include, at a minimum, all constituents identified as MPs in the SMP attached to this Order or any future MPs added by the Regional Water Board.

The Dischargers 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 for all COCs detected at the specified monitoring wells are typically established using the background data set. However, use of background data is inappropriate at the Landfill because background conditions are difficult to measure. Groundwater flow direction changes periodically due to tidal influence. Often, groundwater flows radially outward beneath the central portion of the Landfill from areas of highest piezometric head. Thus, there is no true upgradient or side-gradient, and background concentrations would not function as intended by Title 27.

An alternative is identification of trends in concentrations over time using intrawell statistical analyses. Should an increasing trend be identified, the Dischargers shall notify the Regional Water Board and retesting may be required.

- d. Point of Compliance: Point of Compliance (POC) is the "vertical surface located at the hydraulically downgradient limit of the Unit that extends through the uppermost aquifer underlying the Unit." The POC shall be the hydraulically downgradient perimeter of the waste fill area and therefore circumscribes the Landfill.
  - e. Monitoring Points: Title 27, section 20164, defines Monitoring Points as "a well, device, or location specified in the waste discharge requirements at which monitoring is conducted and at which the water quality protection standard . . . applies." Monitoring points for the Landfill, which are located along the POC and at additional locations, are specified in the SMP attached to this Order or may be added in future amendments thereto. The monitoring points for this Landfill include all groundwater monitoring wells specified in Table B-1 of the SMP and any future additions or replacements.
3. The Dischargers 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 groundwater, surface water, leachate, and landfill gas (to minimize the impairment of beneficial uses of water due to gas migration).
  4. All monitoring wells shall be constructed in a manner that maintains the integrity of the drill hole, prevents cross-contamination of saturated zones, and produces representative groundwater samples from discrete zones within the aquifer unit each well is intended to monitor.
  5. The Dischargers shall install any reasonable additional groundwater and leachate monitoring devices required to fulfill the terms of any future SMP issued by the Executive Officer.
  6. All samples shall be analyzed by State-certified laboratories, or laboratories accepted by the Regional Water Board, using approved U.S. EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control records for Regional Water Board review. This specification does not apply to analyses that can only be reasonably performed onsite (e.g., pH).
  7. The Dischargers may file a written request (including supporting documentation) with the Executive Officer proposing modifications to the attached SMP. If the proposed modifications are acceptable, the Executive Officer may issue a letter of approval that incorporates the proposed revisions into the SMP.
  8. The Dischargers shall maintain the Landfill so as to prevent a measurably significant increase in water quality parameters at the POC.
  9. Whenever there is "measurably significant" geochemical evidence of an exceedance of concentration limits or significant physical evidence of a release, the Dischargers shall be prepared to implement an Evaluation Monitoring Program (EMP) at the direction of the Regional Water Board. In such a case, the Dischargers shall continue implementing the DMP as prescribed in the SMP. If required, the EMP shall be implemented to determine the nature and extent of any release detected by the DMP.

10. All reports submitted pursuant to this Order shall be prepared under the supervision of and signed by appropriately licensed professionals, such as a California registered civil engineer, registered geologist, and/or certified engineering geologist, and acceptable to the Executive Officer.
11. The Dischargers shall notify the Regional Water Board immediately of any failure occurring in the Landfill. Any failure that threatens the integrity of containment or control features or structures at the Landfill shall be promptly corrected after approval of the method and schedule by the Executive Officer.
12. Final cover systems for waste management units shall be graded, constructed, and maintained to promote lateral runoff and prevent ponding and infiltration of water.
13. The Landfill shall be protected from any washout or erosion of wastes from inundation, which could occur as a result of a 100-year, 24-hour storm event, or as the result of flooding with a return frequency of 100 years. The Target store and ancillary structures (parking lots, landscaped areas) will be designed to accommodate a 100-year storm.
14. The Dischargers shall install new monitoring stations to replace any monitoring wells designated as monitoring stations that are destroyed or lost during Landfill development or maintenance.
15. The Dischargers shall maintain all devices or designed features, installed in accordance with this Order, such that they continue to operate as intended without interruption.
16. The Dischargers shall provide and maintain a minimum of two permanent, surveyed monuments near the Landfill from which the location and elevation of wastes, containment structures, and monitoring facilities can be determined throughout operation, closure, and post-closure maintenance periods. These monuments shall be installed by a licensed land surveyor or registered civil engineer.
17. Containment, collection, drainage, and monitoring systems for groundwater, surface water, and leachate shall be maintained and operated as long as waste or leachate is present and poses a threat to water quality.
18. Methane and other landfill gases shall be adequately vented, removed from the Landfill, or otherwise controlled to minimize the danger of explosion, adverse health effects, nuisance conditions and the impairment of beneficial uses of water due to gas migration.
19. The Dischargers shall assure that the structures that control leachate, surface drainage, erosion, and gas are constructed and maintained to withstand conditions generated during the maximum probable earthquake (MPE). MPE is terminology used in Title 27 but is no longer used to define the Design Earthquake (DE). The 2010 California Building Code requires seismic design parameters to be developed for the Maximum Considered Earthquake (MCE), and the DE is taken as two-thirds of the MCE. The MCE is defined as ground motions having 2 percent probability of exceedance in 50 years (return period of about 2,475 years) with a limit of 150 percent of the median deterministic spectral acceleration values. Assuming that the MPE could be defined as the median deterministic

spectral acceleration values from the controlling fault, the seismic design parameters associated with the DE will be at least equal to the MPE values.

20. The Dischargers shall provide reasonable access to any property they own or lease at the Landfill to allow for installation, sampling, monitoring, etc., of all devices and equipment necessary for compliance with the requirements of this Order.
21. When there are multiple landowners or lease holders involved, the Dischargers shall provide reasonable access to any property they own or lease at the Landfill to allow for installation, sampling, monitoring, etc., of all devices and equipment necessary for compliance with the requirements of this Order.
22. The Dischargers shall comply with all applicable provisions of Title 27 that are not specifically referred to in this Order.

### **C. PROVISIONS**

1. **DUTY TO COMPLY:** The Dischargers 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 Dischargers must also comply with all conditions of these WDRs. Violations may result in enforcement actions, including Regional Water Board orders or court orders requiring corrective action or imposing civil monetary liability, or in modification or revocation of these WDRs by the Regional Water Board.
2. **AUTHORITY:** All technical and monitoring reports required pursuant to this Order are being requested pursuant to CWC section 13267. Failure to submit reports in accordance with schedules established by this Order or failure to submit a report of sufficient technical quality to be acceptable to the Executive Officer may subject the Dischargers to enforcement action pursuant to CWC section 13268.
3. **SELF-MONITORING PROGRAM:** The Dischargers shall implement and comply with the SMP attached to this Order and any revisions issued by the Executive Officer. The attached SMP is a component of the DMP designed to identify significant water quality impacts from the Landfill and demonstrate compliance with the WQPS. The Dischargers shall submit semi-annual monitoring reports, acceptable to the Executive Officer, no later than March 30 and September 30 of each year in accordance with the SMP.

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

**REPORT DUE DATES: Semi-Annual Monitoring Reports are due March 30 and September 30 of each year; COC Monitoring Report is due once every five years, and the next COC report due is March 30, 2017.**

4. **REPORT OF WASTE DISCHARGE:** The Dischargers shall submit a technical report, acceptable to the Executive Officer, describing any proposed material change in the character, location, or volume of a discharge, or in the event of a proposed change in use or development of the Landfill. The technical report shall describe the project, identify key changes to the design that may impact any portion of the Landfill, and specify components

of the design necessary to maintain the integrity of the Landfill cover and prevent water quality impacts. No material changes to any portion of the Landfill shall be made without approval by the Executive Officer.

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

5. **LOT 6 DEVELOPMENT PLAN:** The Dischargers shall submit a Development Plan acceptable to the Executive Officer that describes proposed changes to Landfill development or redevelopment projects at the Landfill. The plan shall describe the project, identify key design components which may impact existing containment or monitoring structures, and specify components of the design necessary to maintain integrity of those structures and prevent water quality impacts.

**COMPLIANCE DATE: 60 days prior to start of construction**

6. **CONSTRUCTION-RELATED STORMWATER PERMIT:** Prior to proposed grading or development greater than one acre in size, the Dischargers shall submit a Notice of Intent to the State Water Resources Control Board, submit a Stormwater Pollution Prevention Plan acceptable to the Executive Officer, and implement Best Management Practices for the control of stormwater in accordance with requirements specified in the State Water Resources Control Board's General Permit for Stormwater Discharges Associated with Construction Activities (Order No. 2010-0014-DWQ, NPDES Permit No. CAS000002).

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

7. **WELL INSTALLATION OR DESTRUCTION REPORT:** The Dischargers 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**

8. **ANNUAL MAINTENANCE REPORT:** The Dischargers shall submit a technical report to the Regional Water Board, acceptable to the Executive Officer, detailing the repair and maintenance activities that need to be completed prior to the commencement of the next rainy season. This letter report shall also include a schedule for repair and maintenance activities, and a cost analysis detailing the anticipated expense for all repairs, maintenance and monitoring during the next 12 months. Repair and maintenance estimates shall be based on rainy season inspections conducted throughout the winter as required in the SMP.

**COMPLIANCE DATE: July 31 of each year**

9. **OPERATIONS AND MAINTENANCE PLAN:** The Dischargers shall submit an Operations and Maintenance Plan, acceptable to the Executive Officer, including:
  - a. Specifications for wet season preparations; including for stormwater drainage infrastructure inspection, construction, and maintenance;

- b. The periodic assessment of stormwater, including monitoring; or demonstration that monitoring stormwater at the Landfill is not necessary;
- c. The periodic inspection of the Landfill cover, including subsidence or other disturbance that might increase infiltration of stormwater;
- d. The periodic assessment of rodent population control and any impacts that might threaten the Landfill cover;
- e. The periodic assessment of the vegetative cover, and;
- f. The periodic inspection and maintenance of the monitoring system.

**REPORT DUE DATE: July 31, 2013, and update biennially**

10. **EMERGENCY RESPONSE CONTINGENCY PLAN:** The Dischargers shall submit a technical report, acceptable to the Executive Officer, outlining measures necessary in order to stop and contain the migration of pollutants to receiving waters as the result of any earthquake generating ground shaking, excessive rainfall, tidal action, or other significant events. The contingency plan shall describe the containment features, and groundwater monitoring and leachate monitoring facilities potentially impacted by such events. The plan shall also include methods of containment and cleanup of waste exposed or displaced at the Landfill. Inspection and reporting for earthquake damage shall be mandatory for any earthquake of Richter Magnitude 7 or greater at or within 30 miles of the Landfill. The plan shall provide for reporting results of the post-earthquake inspection to the Regional Water Board within 72 hours of the occurrence of the earthquake. Immediately after an event causing damage to the Landfill structures, the corrective action plan shall be implemented and the Dischargers shall give immediate notification to the Regional Water Board as well as the Local Enforcement Agency (LEA) of any damage, including corrective actions and cleanup activities, and the related environmental impacts.

**COMPLIANCE DATE: July 31, 2013**

11. **CONSTRUCTION AND QUALITY ASSURANCE REPORT:** The Dischargers shall prepare and submit a technical report, acceptable to the Executive Officer, which documents pursuant to Title 27 completion of the landfill gas control system for Lot 6, the Glendale parcel, as described in the Development Plan.

**COMPLIANCE DATE: 60 days following completion of construction**

12. **FINANCIAL ASSURANCE INSTRUMENT:** The Landfill was formally closed in 1987 and is therefore not subject to the CalRecycle financial assurance requirements for post-closure maintenance (Title 27, section 22210(b)). Title 27 section 22212(a) states that in the case where CalRecycle does not require a closure fund, dischargers must “establish an irrevocable fund (or to provide other means) pursuant to the CIWMB-promulgated section of this chapter but with the (Regional Water Board) named as beneficiary, to ensure post-closure maintenance of each classified Unit...” The Dischargers shall provide evidence of post-closure financial assurance, acceptable to the Executive Officer.



**COMPLIANCE DATE: July 31, 2013**

13. **LEACHATE ASSESSMENT REPORT:** If ongoing leachate monitoring shows a buildup of leachate, the Regional Water Board will request that the Dischargers prepare and submit a technical report, acceptable to the Executive Officer that provides an evaluation of leachate buildup within the waste management unit. The report shall include a proposal for corrective action including plans for leachate collection, extraction, and disposal. The leachate extraction system shall be designed to establish an inward or flat hydraulic gradient.

**COMPLIANCE DATE: 90 days following Regional Water Board request**

14. **CHANGE IN LANDFILL CONDITIONS:** The Dischargers shall immediately notify the Regional Water Board of any flooding, ponding, settlement, equipment failure, slope failure, exposure of waste, or other change in Landfill conditions that could impair the integrity of the Landfill cap, waste or leachate containment facilities, and/or drainage control structures and shall immediately make repairs. Within 30 days, the Dischargers shall prepare and submit a technical report, acceptable to the Executive Officer, documenting the corrective measures taken.

**NOTIFICATION DUE DATE: Immediately upon occurrence**

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

15. **WELL INSTALLATION REPORT:** The Dischargers 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 as part of the present or future SMP.

**COMPLIANCE DATE: 45 days after completion of well installation activities**

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

**REPORT DUE DATE: August 31, 2013, and update every five years thereafter**

17. **EARTHQUAKE INSPECTION REPORT:** The Dischargers shall submit a detailed Post-Earthquake Inspection Report, acceptable to the Executive Officer, in the event of any earthquake generating ground shaking of Richter Magnitude 7 or greater, at or within 30 miles of the Landfill. The report shall describe the containment features, groundwater monitoring, and control facilities potentially impacted by seismic deformations of the

Landfill. Damage to any waste containment facility that may impact waters of the State must be reported immediately to the Executive Officer.

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

18. **Availability:** A copy of these WDRs shall be maintained by the Dischargers and shall be made available by the Dischargers to all employees or contractors performing work (maintenance, monitoring, repair, construction, etc.) at the Landfill.
19. **Change in Ownership:** The Dischargers must notify the Executive Officer, in writing, at least 30 days in advance of any proposed transfer of this Order's responsibility and coverage to a new discharger. The notice must include a written agreement between the Dischargers and the new discharger containing a specific date for the transfer of this Order's responsibility and coverage between the Dischargers and the new discharger. This agreement shall include an acknowledgment of which dischargers are liable for violations up to the transfer date and which dischargers are liable from the transfer date on.
20. **Report of Waste Discharge Reporting:** When a Discharger becomes aware that it failed to submit any relevant facts in a Report of Waste Discharge (ROWD) or submitted incorrect information in a ROWD or in any report to the Regional Water Board, it shall promptly submit such facts or information.
21. **Revision:** This Order is subject to review and revision by the Regional Water Board.
22. **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 Dischargers from liability under federal, State or local laws, nor do they create a vested right for the Dischargers to continue the waste discharge.
23. **Severability:** Provisions of this Order are severable. If any provision of these WDRs is invalid, the remainder of these requirements shall not be affected.
24. **Operation and Maintenance:** The Dischargers 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 Dischargers 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.
25. **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 Dischargers 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.

26. **Entry and Inspection:** The Dischargers 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 CWC, any substances or parameters at any location.
27. **Analytical Methods:** Unless otherwise permitted by the Executive Officer, all analyses shall be conducted at a laboratory-certified for such analyses by the California Department of Public Health. The Executive Officer may allow use of an uncertified laboratory under exceptional circumstances, such as when the closest laboratory to the monitoring location is outside the State's boundaries and therefore not subject to certification. All analyses shall be required to be conducted in accordance with the latest edition of "Guidelines Establishing Test Procedures for Analysis of Pollutants" promulgated by U.S. EPA.
28. **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 federal Clean Water Act and discharges subject to a general NPDES permit) must file an NPDES permit application with the Regional Water Board.
29. **Endangerment of Health or the Environment:** The Dischargers shall report any event of noncompliance that may endanger human health or the environment. Any such information shall be provided orally to the Executive Officer, or an authorized representative, within 24 hours from the time the Dischargers becomes aware of the circumstances by calling (510) 622-2369. A written submission to the Regional Water Board shall also be provided within 5 days of the time a Dischargers becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Executive Officer, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.
30. **Document Distribution:** Copies of all correspondence, technical reports, and other documents pertaining to compliance with this Order shall be provided to the following agencies:

- a. Regional Water Board and
- b. Marin County Department of Environmental Health (Local Enforcement Agency).

The Executive Officer may modify this distribution list as needed.

### 31. Reporting Requirements:

#### a. Hard copies:

- i. Technical reports/plans submitted by the Dischargers in compliance with the Prohibitions, Specifications, and Provisions of this Order, shall be submitted to the Regional Water Board on the schedule specified herein. Hard copies of these reports/plans shall consist of a letter report that includes the following:
  - a) Identification of any obstacles that may threaten compliance with the schedule;
  - b) In the event of non-compliance with any Prohibition, Specification or Provision of this Order, written notification which clarifies the reasons for non-compliance and which proposes specific measures and a schedule to achieve compliance. This written notification shall identify work not completed that was projected for completion, and shall identify the impact of non-compliance on achieving compliance with the remaining requirements of this Order;
  - c) In the self-monitoring reports, an evaluation of the current groundwater monitoring system and a proposal for modifications as appropriate; and
  - d) A signed transmittal letter and professional certification by a California licensed civil engineer or a professional geologist.
- ii. All application reports or information to be submitted to the Executive Officer shall be signed and certified as follows:
  - a) For a corporation – by a principle executive officer or the level of vice-president or an appropriate delegate;
  - b) For a partnership or sole proprietorship – by a general partner or the proprietor, respectively; or
  - c) For a municipality, state, federal, or other public agency – by either a principal executive officer or ranking elected official.

#### b. Electronic Submittals:

- i. The State Water Resources Control Board has adopted regulations requiring electronic report and data submittal to Geotracker [<http://www.geotracker.swrcb.ca.gov/>]. The text of the regulations can be found at the following link: [http://www.waterRegionalWaterBoards.ca.gov/ust/electronic\\_submittal/](http://www.waterRegionalWaterBoards.ca.gov/ust/electronic_submittal/)
- ii. The Dischargers are responsible for submitting the following via the internet:
  - a) Groundwater analytical data;
  - b) Surveyed locations of monitoring wells;
  - c) Boring logs describing monitoring well construction;
  - d) Portable data format (PDF) copies of all reports identified in 24a. above (the document, in its entirety [signature pages, text, figures, tables, etc.] must be saved to a single PDF file); and

- e) Any additional submittal to GeoTracker the Executive Officer requires.
- iii. Upon request, monitoring results shall also be provided electronically in Microsoft Excel® to allow for ease of review of data and to facilitate data computations and/or plotting that Regional Water Board staff may undertake during the review process. Data tables submitted in electronic spreadsheet format will not be included and should therefore be submitted on CD and included with the hard copy of the report. Electronic tables shall include the following information:
- a) Well designations;
  - b) Well location coordinates (latitude and longitude);
  - c) Well construction (including top of well casing elevation, total well depth, screen interval depth below ground surface, screen interval elevation, and a characterization of geology of subsurface the well is located in);
  - d) Groundwater depths and elevations (water levels);
  - e) Current analytical results by constituent of concern (including detection limits for each constituent);
  - f) Historical analytical results (including the past five years, unless otherwise requested); and
  - g) Measurement dates.

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

---

Bruce H. Wolfe  
Executive Officer

Attachments:

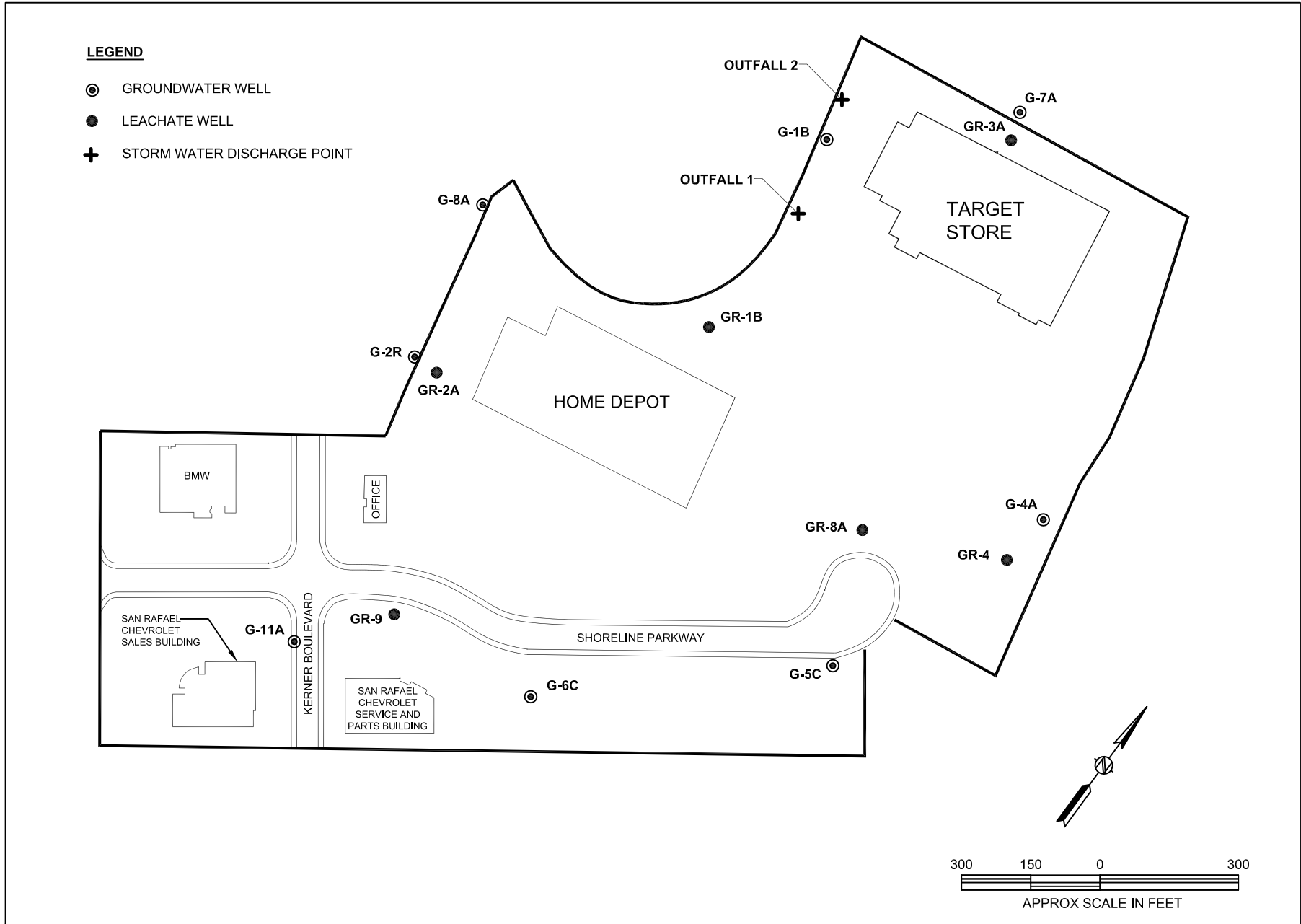
Figure 1, San Quentin Solid Waste Disposal Landfill Location  
 Figure 2, San Quentin Solid Waste Disposal Landfill and Target Store Location Map  
 Figure 3, Landfill Plan  
 Self-Monitoring Report



**FIGURE 1 - SAN QUENTIN SOLID WASTE DISPOSAL SITE LOCATION MAP**



FIGURE 2 - SAN QUENTIN SOLID WASTE DISPOSAL SITE AND TARGET STORE SITE MAP



**FIGURE 3 - MONITORING POINT LOCATION MAP**



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

**SELF-MONITORING PROGRAM**

**FOR**

**SAN QUENTIN SOLID WASTE DISPOSAL LANDFILL  
SAN RAFAEL, MARIN COUNTY**

**REVISED TENTATIVE ORDER**

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 commercial facilities constructed on the Landfill (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, title 27, sections 20380 through 20435 (Title 27). 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, stormwater, 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 Landfill 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. 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 daylighted 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 Landfill:
  - a. Evidence of liquid leaving or entering the Landfill, estimated size of affected area and flow rate (show affected area on map);
  - b. Evidence of odors, including presence or absence, characterization, source, and distance of travel from source;
  - c. Evidence of erosion and/or daylighted waste;
  - d. Vegetation coverage; and
  - e. Measurement of groundwater elevations.
  
3. Receiving Waters:
  - a. Floating and suspended materials of waste origin, 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 portion of the Landfill. Containment and control facilities may include the following:

1. Final cover;

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

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

The Dischargers 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; and
4. Trip blank – one sample per cooler.

### **C. REPORTING REQUIREMENTS**

Discharger reporting responsibilities are specified in CWC sections 13260, 13267 subdivision (b), and 13383 and this Regional Water Board's Resolution No. 73-16 and Order No. 93-113. At a minimum, each 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 Dischargers' 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 Landfill/property boundaries;
  - b. 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 quick and 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 Dischargers 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 Dischargers 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 Dischargers 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 Dischargers 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 Dischargers 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 Dischargers shall submit SMRs to Regional Water Board staff in accordance with the schedule indicated in Table B-1. Reports due at the same time may be combined into one report for convenience, as long as monitoring activities and results pertaining to each monitoring period are clearly distinguishable. Reports shall be submitted in accordance with Provision 3 in the WDRs.

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

The Dischargers 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 3.

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

- a. Groundwater: Groundwater shall be monitored at the locations specified in Table B-1 and shown on Figure 3. Monitoring frequencies, parameters, and analytes shall be in accordance with Table B-1.
- b. Leachate: Leachate shall be monitored at the locations specified in Table B-1 and shown on Figure 3. Monitoring frequencies, parameters, and analytes shall be in accordance with Table B-1.
- c. Stormwater: As outlined in the Operations and Maintenance Plan (Provision 8).

#### **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 Dischargers shall inspect all containment and control structures and devices associated with the Landfill 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 Dischargers 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  
Monitoring Parameters and Frequency**

Groundwater (POC) Wells: G-1B, G-2R, G-4A, G-5C, G-6C, G-7A, G-8A, G-11A

Leachate Wells: GR-1B, GR-2A, GR-3A, GR-4, GR-8A, GR-9

Surface Water Monitoring Points: Outfall 1 and Outfall 2

<b>Monitoring Event</b>	<b>Frequency</b>	<b>Parameters</b>
Constituents of Concern (groundwater and leachate)	Once every five years beginning 2016	<ul style="list-style-type: none"> <li>Monitoring Parameters</li> <li>Volatile Organic Compounds, including MTBE (8260)</li> <li>Semi-Volatile Organic Compounds (8270)</li> <li>Organochlorine Pesticides and PCBs (8080)</li> </ul>
Monitoring Parameters (groundwater and leachate)	Semi-Annually <u>1<sup>st</sup> Semi-Annual</u> Sampling event - January REPORT DUE March 30 <u>2<sup>nd</sup> Semi-Annual</u> Sampling event – July REPORT DUE September 30	<ul style="list-style-type: none"> <li>Metals- Barium and Zinc (6010)</li> <li>Ammonia, un-ionized (350.1)</li> <li>Total Dissolved Solids (160.1)</li> <li>Nitrate (9200)</li> <li>Field Parameters – pH, electrical conductivity</li> </ul>
Surface Water	1 <sup>st</sup> ½" storm of season, one subsequent event	<ul style="list-style-type: none"> <li>pH, turbidity, oil and grease</li> </ul>
Groundwater and Leachate Levels	Quarterly	<ul style="list-style-type: none"> <li>As detailed in Part A</li> </ul>
Standard Observations	Quarterly	<ul style="list-style-type: none"> <li>As detailed in Part A</li> </ul>

POC – Point of Compliance

U.S. EPA analytical method shown in parenthesis