

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

ORDER No. R2-2023-xxxx

**UPDATED WASTE DISCHARGE REQUIREMENTS and RESCISSION
OF ORDER Nos. 82-55, 95-130, and R2-2007-0039 for:**

CITY OF BURLINGAME

**SANITARY SOLID WASTE DISPOSAL SITE
BURLINGAME, SAN MATEO 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. This Order prescribes waste discharge requirements for the closed Burlingame Sanitary Solid Waste Disposal Site (Landfill) in San Mateo, California. The site is located in the City of Burlingame and is surrounded by Airport Boulevard and San Francisco Bay to the north, Doubletree Hotel to the east, and a marsh and the Burlingame Lagoon, a tributary to San Francisco Bay, to the south (Figure 1). A wastewater treatment plant and city park are located adjacent to the west of the site. The site is presently maintained as a community recreational facility, with multiple amenities including a golf driving range, clubhouse/restaurant, soccer field, baseball field, dog run and pedestrian pathways, and an asphalt parking lot.
2. The City of Burlingame (hereinafter, the Discharger) owned and operated the Landfill during its active life from 1957 to 1987, and until closure in 2002. The Discharger continues to own the Landfill and retains responsibility for managing and monitoring the Landfill and is responsible for compliance with this Order.

PURPOSE OF ORDER UPDATE

3. The primary objectives of this Order are to:
 - a. Acknowledge the planned post-closure land use (i.e., construction of a TopGolf commercial/recreational facility on top of the closed landfill where the current golf driving range resides), and planned upgrades to the Landfill cover and gas collection system;
 - b. Specify groundwater monitoring requirements consistent with Title 27, Division 2 of the California Code of Regulations (CCR) and due to the change in post-closure land use; and,
 - c. Rescind Order Nos. 82-55, 95-130, and R2-2007-0039 as amended by R2-2022-0031, the previous Waste Discharge Requirements (WDRs) for the Landfill, to reflect the current state and planned development of the Landfill.

REGULATORY HISTORY

4. The Regional Water Board regulates the Landfill under the authority of Title 27 CCR, Division 2, which prescribes requirements for the disposal of waste to land. In 1982, the Board adopted Order No. 82-55, which prescribed WDRs for the Landfill. The WDRs were updated in 1995 (Order No. 95-130) and amended in 2007 (Order No. R2-2007-0039). These orders established tasks necessary to characterize and contain landfill waste materials and to monitor and prevent impacts to water quality.
5. WDR Order No. R2-2007-0039 was amended in 2022 by Order No. R2-2022-0031 (Amendment to Waste Discharge Requirements for Long-Term Flood Protection Considerations at Closed and Operating Municipal Solid Waste Bayfront Landfills). This general amendment required the Burlingame Landfill (and other Bayfront landfills) to submit a Long-Term Flood Protection Plan that identifies strategies for the long-term protection of the Landfill from flooding and inundation due to sea level rise, groundwater rise, and extreme climate/weather events.

LANDFILL OPERATION

6. **Dates of Operation:** The Landfill was in operation from 1957 until 1987 and accepted inorganic construction debris, concrete rubble, wood, plastic, garden refuse, metal, and clean soil. No household garbage or hazardous wastes were accepted. Soil and refuse fill reached a maximum thickness of approximately 30 feet. The final Landfill cap was completed in 2002 when recreation facilities were constructed on the site.

GEOLOGICAL AND HYDROGEOLOGICAL SETTING

7. **Geology:** The Landfill is located on the western side of San Francisco Bay. The Bay occupies a major structural depression between the Coast Ranges and the Berkeley Hills. Subsurface geology is characterized by a series of continental and marine sediments overlying bedrock. Bedrock is exposed in the surrounding highlands. Most of the bedrock consists of Jurassic to Pliocene marine sediments with rocks of the Franciscan Complex predominating.
8. **Local Seismic Setting:** The Landfill is located in a seismically active area between three major northwest-trending faults that lie on either side of the Bay: the San Andreas Fault to the west and the Hayward and Calaveras Faults to the east. Tectonic activity along these faults and associated down-warping of the area between them are responsible for the formation of the Bay. The site is not located within an Alquist-Priolo Earthquake Fault Zone but is located within a liquefaction hazard zone.
9. **Hydrogeology:** The subsurface geology below the Landfill refuse is characterized by a series of interfingering sand, silt, and clay lenses that are primarily alluvial fan, stream, and outwash plain deposits. The stratigraphic sequence has been described as consisting of an upper clay, upper sand, lower clay, and lower sand unit. However, recent geologic investigations have not identified a lower sand unit in soil borings. The Young Bay Mud below the site has been found to be discontinuous across the site, likely due to regrading during Landfill operations.

10. **Ambient Groundwater Quality:** Shallow groundwater at the Landfill is not used as a source of drinking water given its immediate proximity to the San Francisco Bay and the effects of saltwater mixing and intrusion. The natural electrical conductivity of the groundwater typically ranges from 4,000 to over 40,000 microsiemens per centimeter ($\mu\text{S}/\text{cm}$). Groundwater in the vicinity of the Landfill is tidally influenced and the chemistry resembles brackish water typically observed along the San Francisco Bay margins.
11. **Surface Water Bodies and Sea Level Rise:** Surface water bodies in the vicinity of the Landfill include the San Francisco Bay to the north and the Burlingame Lagoon, a tributary to the San Francisco Bay, to the south. The Landfill and the low-lying land around it are vulnerable to the effects of sea level rise, which could impact water quality. Therefore, Provision 9 of this Order requires the Discharger to submit a climate change vulnerability assessment and adaptation plan (Long-Term Flood Protection Plan) acceptable to the Executive Officer. This requirement was previously set forth in Order No. R2-2022-0031, which amended WDRs for Bayfront Landfills.

CONSTRUCTION AND CLOSURE

12. **Final Cover Construction:** In 1987, a seepage barrier, leachate drain, and landfill gas (LFG) collection system were constructed along the east side of the Landfill in conjunction with the construction of a nearby hotel and the extension of Anza Boulevard. During the Airport Boulevard renovation in 1989 and 1990 a vertical clay containment barrier and leachate drain immediately north of the landfill also were constructed. The west end of the containment barrier was keyed into clean fill which had been placed there during construction of the existing adjacent wastewater treatment plant to the west of the Landfill. The east end was tied into the seepage barrier along the eastern perimeter. The barrier was keyed into at least two feet of Bay Mud.
13. **Stormwater Drainage and Permit Requirements:** Runoff from the relatively flat surface of the Landfill is conveyed as surface flow and collected in various drain inlets, which are connected to below-grade pipes that ultimately discharge to the City of Burlingame's stormwater system. Proposed enhancements to the lateral flow across the redevelopment area are outlined in the updated Post-Closure Maintenance Plan (2023).
14. **LFG Collection and Removal System:** The LFG collection system includes an extensive network of gas collection wells, which are connected to an extraction header via laterals to each LFG well. The details and operation of the LFG system are detailed in the Post-Closure Maintenance Plan (2023).
15. **Operation and Maintenance Plan:** SCS Engineers, on behalf of the City of Burlingame, is currently preparing an amended Final Closure & Post-Closure Maintenance Plan (PCMP) document to reflect the City of Burlingame's approval for further redevelopment a portion of the Landfill by TopGolf, USA. This program details site operations and clarifies responsibilities for:
 - Drainage system inspections and maintenance program;
 - Vegetative cover inspections and maintenance program;
 - Groundwater monitoring system inspections and maintenance program;

- Leachate monitoring system inspections and maintenance program; and,
- LFG control system inspections and maintenance program.

POST-CLOSURE LAND USE AND PROPOSED DEVELOPMENT

16. The facility is divided into two areas, referred to as the lower deck and upper deck. Each area is underlain by a cap of either low-permeability clay or geosynthetic clay liner (GCL) (permeability of 1×10^{-6} cm/s or less). The lower deck area contains a baseball field, dog park, planting area, and a maintenance road/public walking trail. The top deck area consists of the golf driving range, soccer field, and practice area. The driving range is currently undergoing redevelopment in coordination with TopGolf, USA, to construct a new driving range recreational facility. The new development will entail replacement of the existing Landfill top deck driving range with a TopGolf commercial recreation and sports complex on an approximately 13-acre portion of the Landfill. The new facility will consist of the recreational building, outfield area, and parking lot.

The proposed 71,024 square-foot, three-level building will include 102 climate-controlled hitting bays along with a restaurant, outdoor dining, and indoor event space. The building will be supported by foundation piles driven approximately 90 feet below grade extending through refuse and Young Bay Mud layers to the underlying alluvium. The lower level of the building will be constructed above grade on metal decking. The outfield area will be approximately 5 acres and will contain an approximately 240-yard driving range from the edge of the building to the net line. The redevelopment will also include 475 parking spaces surrounding the building and driving range.

REQUIRED PROTECTIVE MEASURES FOR DEVELOPMENT

17. This Order continues the requirements from the existing waste discharge requirements and sets forth numerous requirements to ensure that the proposed development sufficiently protects water quality, human health, and the environment and does not cause water quality impacts. These requirements are contained in the Prohibitions, Specifications, and Provisions in this Order. The need for these requirements is discussed below.

18. **Penetrations of Landfill for Support Piles:** The proposed redevelopment requires the installation of over one hundred structural support piles that will penetrate the Landfill final cover, buried waste, and the Landfill base and extend into the underlying geologic media that are saturated with groundwater. These penetrations have the potential to cause or allow migration of Landfill leachate into unimpacted groundwater. Prohibitions 1, 10, and 11 of this Order prohibit migration of contaminants from the Landfill. Specification 12 and Provision 5 of this Order require the Discharger to mitigate these concerns in project design. Nonetheless, leachate migration associated with these penetrations remains a possibility. Specification 1 and Provisions 3 and 4 require the Discharger to perform detection monitoring to identify any water quality impacts that may be caused by development activities, to control leachate migration, and to perform corrective actions if needed.

MONITORING PROGRAMS

19. The Self-Monitoring Program (SMP) attached to this Order revises the groundwater monitoring program previously required by WDR Order No. R2-2007-0039. The groundwater

monitoring network at the Burlingame Landfill includes eight groundwater monitoring wells, two leachate wells, one leachate line manhole, and two designated surface water sampling points.

Groundwater samples obtained from monitoring wells are to be analyzed for field parameters (pH, specific conductance, water level, etc.), site specific detection monitoring parameters (total organic carbon, total Kjeldahl nitrogen, and volatile organic compounds [VOCs]), and additional parameters including per- and polyfluorinated alkyl substances (PFAS). See Tables B-1 and B-2 in the attached SMP.

FINANCIAL ASSURANCE

20. The Discharger provides documentation every five years that adequate Financial Assurances (FA) exist for post-closure maintenance and potential water-related and non-water-related corrective action in accordance with Title 27 CCR, Division 2, Subdivision 1, Chapter 6. The Discharger must demonstrate adequate financial assurance until landfilled wastes no longer pose a threat to water quality. FA mechanisms and future updates of the FA mechanism shall consider groundwater rise as it relates to the stability of the saturated waste mass, integrity of the Landfill cap, structural stability of any building constructed on top of a landfill, and additional methane gas generation due to a wetter waste mass, including methane monitoring probes near the perimeter of the site and methane detection systems inside any overlying building.

ANTIDegradation POLICY

21. The State Water Resources Control Board (State Water Board) established California's antidegradation policy through State Water Board Resolution 68-16, which requires that existing high water quality be maintained unless degradation is justified based on specific findings. Adoption of this order will not result in lower water quality and complies with the antidegradation policy. It requires existing water quality in the vicinity of the Landfill to be maintained; directs the continued operation of the groundwater and LFG containment systems and maintenance of the Landfill cap; and requires verification that degradation has not occurred through regular monitoring and inspections.

BASIN PLAN

22. 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 Board, U.S. EPA, and the Office of Administrative Law, where required.

BENEFICIAL USES AND SOURCES OF DRINKING WATER

23. The beneficial uses of Lower San Francisco Bay and Burlingame Lagoon are:

- a. Industrial Service Supply
- b. Commercial and sport fishing
- c. Shellfish Harvesting

- d. Estuarine habitat
- e. Fish migration and spawning
- f. Preservation of rare and endangered species
- g. Wildlife Habitat
- h. Water contact recreation
- i. Non-contact water recreation
- j. Navigation

24. The existing and potential uses of shallow groundwater beneath and adjacent to the Burlingame Landfill in the lower sand are limited due to the highly saline nature of the water, reflecting proximity to the San Francisco Bay.

HUMAN RIGHT TO WATER POLICY

25. Under Water Code section 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 prohibiting discharges of waste and leachate from the Landfill.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

26. This Order updates the existing waste discharge requirements for the Landfill to acknowledge a post-closure land use change and upgrades to the Landfill cover and gas collection system. The City of Burlingame approved the TopGolf development at the Landfill site through a Design Review and Conditional Use Permit on May 11, 2020. In connection with the approval, the City of Burlingame adopted a Mitigated Negative Declaration (MND) under the California Environmental Quality Act (Pub. Resources Code section 21000 et seq.; CEQA), finding that the project, as mitigated, would not have any significant effect on the environment. The Regional Water Board, as a responsible agency under CEQA, considered the MND and finds that adoption of this Order will not have significant effects on the environment. Furthermore, this Order includes requirements to prevent significant water quality impacts as a result of the city-approved development.

NOTIFICATIONS AND MEETING

27. 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.

28. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to this amendment of WDRs.

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

A. PROHIBITIONS

1. Post-closure development of the Landfill shall not result in adverse impact to waters of the State. Wastes exposed temporarily during construction shall not be allowed to exist in any position where they can migrate from the Landfill to adjacent geologic materials or waters of the State.
2. The creation of any new waste management unit is prohibited.
3. No additional waste shall be deposited or stored at this Landfill, except for waste temporarily contained in trash receptacles at the recreational sites developed on the Landfill. Such waste may be stored temporarily, but not disposed of, at the Landfill.
4. Relocation of Landfill wastes is prohibited without prior Regional Water Board concurrence.
5. 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.
6. Untreated or inadequately treated groundwater or leachate shall not create a condition of pollution or nuisance nor degrade the quality of waters of the State or waters of the United States.
7. The Discharger shall not perform any intrusive activities, such as digging or trenching, on the Landfill surface that have the potential to negatively affect the integrity and proper function of the Landfill cap without prior Regional Water Board approval. The only exceptions to this prohibition are for routine maintenance or improvements as described in the PCMP or, in the event of an emergency, repair to the landfill gas collection system (LGCS) to protect human health and the environment. In addition, the Discharger may perform subsidence repairs if suitable soils and methods, as described in the PCMP, are utilized to repair the cap and maintain positive surface water flow.
8. The Discharger shall not damage the Landfill cap during vegetative growth control.
9. Excavation within, or reconfiguration of, any existing waste management unit is prohibited without prior written concurrence of Regional Water Board. Minor excavation or reconfiguration activities, such as replacement of LFG/leachate collection and control system elements, installation of signs or landscaping or for routine maintenance and repair, do not require prior staff concurrence.
10. Piers, piles, or columns placed through the Landfill's waste material shall not cause adverse impacts to groundwater quality, nor serve as a conduit for the downward migration of Landfill leachate or contaminants into underlying groundwater. Piers, piles, or columns shall not serve as a conduit for the upward migration of LFG that are not fully captured by the LFG control system, which protects buildings and structures above the Landfill cap. All wells and borings that are no longer being used at the site shall not pose

a threat of leachate or contaminant migration below the refuse or LFG migration above the cap.

11. Leachate, stormwater, or groundwater containing leachate or in contact with waste, shall not be discharged to waters of the State or waters of the United States.
12. Buildup of leachate levels within the Landfill that adversely impacts waters of the State is prohibited.
13. The Discharger shall not cause the following conditions to exist in waters of the State or waters of the United States at any place outside existing waste management units:
 - a. Surface Waters:
 - i. Floating, suspended, or deposited macroscopic particulate matter or foam;
 - ii. Bottom deposits or aquatic growth;
 - iii. Adverse changes in temperature, turbidity, or apparent color beyond natural background levels;
 - iv. Visible, floating, suspended, or deposited oil, or other products of petroleum origin; or,
 - v. Toxic or other deleterious substances to exist in concentrations or quantities that may cause deleterious effects on aquatic biota, wildlife, or waterfowl, or that render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.
 - b. Groundwater:
 - i. Degradation of groundwater quality; or,
 - ii. Significant migration of pollutants through subsurface transport.

B. SPECIFICATIONS

1. The Discharger shall implement a Detection Monitoring Program (DMP) pursuant to Title 27, section 20420. The DMP shall be designed to identify any water quality impacts from the Landfill and demonstrate compliance with the Water Quality Protection Standard (WQPS), which is required pursuant to Title 27 CCR, section 20390. The SMP attached to this Order is intended to constitute the DMP for the Landfill.

The WQPS for the Landfill shall include constituents of concern, concentration limits, point of compliance and all monitoring points. The WQPS shall establish and comply with all of the following:

- a. Constituents of Concern: Constituents of Concern (COCs) include “all waste constituents, reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the Unit.” (Cal. Code Regs., Title 27, § 20395[a].) COCs include monitoring parameters identified in the SMP attached to this Order or any future amendment thereof;

- b. Monitoring Parameters: Monitoring parameters (MPs), a subset of the COCs, are typically the most mobile and commonly detected COCs in groundwater at the site and are measured on a more frequent basis than the other COCs. The MPs for the site shall include, at a minimum, all constituents identified as such in the SMP. 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. Water Standard: The Water Standard for corrective action COCs at the specified points of compliance shall be set at the maximum contaminant level (MCL) specified in Title 22 CCR or 40 Code of Federal Regulations (CFR) parts 141 and 143, whichever is lower;
 - 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].); and,
 - e. Monitoring Points: A 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, under section 20390, applies." (Cal. Code Regs., Title 27 § 20164.).
 - f. Background Monitoring Points: A Background Monitoring Point is "a well, device, or location specified in the waste discharge requirements at which monitoring for background water quality or background soil quality is conducted." (Cal. Code Regs., Title 27, § 20164.).
2. The Discharger shall conduct monitoring activities according to the SMP attached to this Order, 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 LFG.
 3. All monitoring wells shall be constructed in a manner that maintains the integrity of the drill hole, prevents cross-contamination of saturated zones, and produces representative groundwater samples from discrete zones within the water-bearing zone each well is intended to monitor.
 4. The Discharger shall repair or install new monitoring wells to replace any monitoring well designated as a Monitoring Points that is damaged, destroyed, or rendered non-functional during the Landfill's post-closure maintenance period.
 5. The Discharger shall maintain all devices or designed features installed in accordance with this Order, and in accordance with the SMP, such that they continue to operate as intended without interruption.
 6. The Discharger shall install any additional groundwater and leachate monitoring features required to fulfill the terms of the SMP.

7. All samples collected at the Landfill shall be analyzed by state-certified laboratories, or laboratories accepted by the Regional Water Board, using approved U.S. EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control records for Regional Water Board review. This specification does not apply to analyses that can only be reasonably performed onsite (e.g., pH).
8. The Discharger shall maintain the Landfill to prevent a measurably significant increase in water quality parameters at points of compliance.
9. Whenever there is “measurable significant” evidence (as defined in CCR Title 27, section 20164) or significant physical evidence of a release, the Discharger shall be prepared to implement an Evaluation Monitoring Program (EMP) pursuant to CCR Title 27, section 20425, at the direction of the Executive Officer. In such a case, the Discharger shall continue implementing the DMP as prescribed in any SMP attached to this Order. If required, the EMP shall be implemented to determine the nature and extent of any release detected by the DMP.
10. 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 will issue a letter of approval that incorporates the proposed revisions into the SMP.
11. The final cover system shall be graded and maintained to promote lateral runoff and prevent ponding and infiltration of water.
12. Landfill piles or piers shall be designed and constructed so as not to impact water quality, serve as conduits for leachate or LFG/VOCs, and be able to withstand stresses caused by settlement and seismic activity. Monitoring ports shall be installed through the platform structure to observe and measure settlement around the piles or columns.
13. The Discharger shall incorporate a contingency plan into all work plans for drilling through the refuse, whether for investigation purposes or for installation of wells, structural piles, or any excavation that may encounter waste. This contingency plan shall establish a protocol to implement if hazardous wastes are encountered during drilling.
14. The Landfill shall be protected from any washout or erosion of wastes from inundation. Provision 9 of this Order requires the Discharger to prepare and submit a Long-Term Flood Protection Plan.
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 two permanent, surveyed monuments near the Landfill from which the location and elevation of wastes, containment structures, and monitoring facilities can be determined throughout closure, and post-closure maintenance periods. These monuments shall be installed by a licensed

land surveyor or registered civil engineer. The data obtained from these monuments shall be evaluated with respect to sea level rise risk scenarios and incorporated into the Long-Term Flood Protection Plan.

17. Containment, collection, drainage, and monitoring systems constructed 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 LFG 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 LFG migration.
19. The Discharger shall assure that the structures that control leachate, surface drainage, erosion, and LFG 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, and monitoring 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 by appropriately licensed professionals, such as a California professional civil engineer, professional geologist, and/or certified engineering geologist, and shall be 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. If a seep from the Landfill is observed coming into contact with any bordering 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.
24. Surface drainage shall be intercepted and controlled to promote flow off the Landfill and prevent ponding during the post-closure period.

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 for Reports:** All technical and monitoring reports required by this Order and the attached SMP are required pursuant to CWC section 13267. The Regional Water Board needs the reports to ensure the landfill containment system continues to be protective of water quality. The burden, including costs, of these reports bears a reasonable relationship to the need for the report and the benefits to be obtained from the reports. The estimated total cost to prepare a semi-annual monitoring report is from \$5,000 to \$75,000, which bears a reasonable relationship to the need for the report and the benefit monitoring and preventing any immediate threats to water quality. The evidence supporting requiring the reports is contained in the files for the Landfill. 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 assess the effectiveness of the corrective action program and demonstrate compliance with the WQPS. The Discharger shall submit semi-annual monitoring reports, acceptable to the Executive Officer, no later than April 30 and October 31 of each year in accordance with the SMP. The Discharger may incorporate both semi-annual monitoring event data into one annual report to be submitted no later than January 31. The report shall include a section detailing repair and maintenance activities needed and performed during each semi-annual monitoring period and a section detailing compliance with maintaining hydraulic control of Landfill leachate.

COMPLIANCE DATE: Immediately upon adoption of this Order

REPORT DUE DATE: April 30 and October 31 (semi-annual) or January 31 (annual) each year.

4. **Detection Monitoring Program Review:** The Discharger shall evaluate and determine if changes are needed to ensure adequacy of the Landfill's DMP to promptly detect any releases to groundwater or surface water from the Landfill or any changes in water quality that may have been caused by post-closure development activities. Based on the results of the evaluation, the Discharger shall propose to the Executive Officer any improvements, such as new monitoring wells, that may be needed to identify water quality impacts from the Landfill and demonstrate compliance with the WQPS and Prohibition 1 of this Order.

COMPLIANCE DATE: 60 days from the adoption of this Order

5. **Pile Installation Work Plan:** The Discharger shall submit a Work Plan acceptable to the Executive Offer detailing the method of pile installation to be used during redevelopment activities at the Landfill. The Work Plan must be specific as to the measures taken prior to, and during drilling and installation, that are protective of water quality.

COMPLIANCE DATE: 60 days prior to pile installation

6. **Material Change in Post-Closure Land Use Reporting:** The Discharger shall submit a report, acceptable to the Executive Officer, describing any material change in the proposed land use or post-closure development of the Landfill. The 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

7. **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 Resources Control Board, submit a Storm Water 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 Board's General Permit for Storm Water Discharges Associated with Construction Activities (NPDES Permit No. CAS000001). The Discharger may comply with this Provision through another party constructing improvements on property owned by the Discharger obtaining coverage under the General Permit.

COMPLIANCE DATE: 30 days prior to construction

8. **Groundwater 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 groundwater monitoring wells and LFG extraction wells installed or destroyed.

REPORT DUE DATE: 60 days following well installation or destruction

9. **Long-Term Flood Protection Plan:** The Discharger shall submit a climate change vulnerability assessment and adaptation plan acceptable to the Executive Officer. The plan shall identify strategies for the long-term protection of the Landfill from flooding and inundation due to sea level rise (SLR), groundwater rise, and extreme climate/weather events. The plan shall:
 - a. Be prepared by qualified experts and consider and reference the most current official State of California climate change guidance documents, including but not limited to the 2018 State of California Sea Level Rise Guidance developed by the Ocean Protection Council, The San Francisco Bay Shoreline Adaptation Atlas prepared by the San Francisco Estuary Institute (SFEI), the Bay Conservation and Development Commission's Bay Plan Climate Change Amendment, and the Coastal Storm Modeling System;
 - b. Be based on providing protection from the estimated 100-year storm event, on top of the 2050 "medium-high" (0.5% probability of exceedance) or "extreme" risk aversion SLR scenarios as described in the most recent official state of California sea level rise guidance (e.g., the 2018 OPC Sea-Level Rise Guidance). The 100-year storm event shall take into account astronomical tides and storm surge as well as wave run-up,

- seasonal effects (e.g., El Niño conditions), and discharge from local tributaries (e.g., as modeled by the USGS CoSMoS tool);
- c. Describe how vulnerable features and infrastructure will be protected (such as landfill caps, monitoring wells, LFG wells, flares, levees, etc.), and how building uses, and public access will be protected prior to the projected timing of SLR, groundwater rise, and extreme storm event impacts (e.g., prior to projected flooding);
 - d. Propose a phased adaptation strategy that briefly describes the potential future projects that may be necessary to provide for protection from the 2100 “medium-high” or “extreme” risk aversion SLR scenarios as described in the most recent official State of California sea level rise guidance, as well as potential accompanying changes in groundwater rise and extreme storm events. The strategy shall allow for a range of future actions at different climate change thresholds to address uncertainty and allow for flexibility over the long term;
 - e. Provide technical justification for the selection of both the 2050 and 2100 sea level rise risk aversion scenarios;
 - f. Identify baseline conditions for the Landfill and show at a minimum the following on a map(s): sitewide elevations, vulnerable infrastructure (i.e., waste containment features, wetlands, roads, buildings, remediation systems, piping, wells), existing groundwater levels, the degree of SLR, groundwater rise, and/or extreme storm event exposure already noted at the Landfill (if any), sea level elevations at which flooding will impact the Landfill, areas potentially vulnerable to groundwater rise;
 - g. Be updated and submitted every five years with the most recently available and credible information and climate change adaptation guidance at the time of the update, including observed changes in sea levels, groundwater levels, and flooding measured at or as near as possible to the Landfill (e.g., from local tide gauges and monitoring wells), and any observed or potential changes in the adaptive capacity and risk tolerance of vulnerable infrastructure, including an implementation schedule with key milestones that have been or will be met in the future; and,
 - h. When preparing and implementing adaptive management plans, the Discharger shall take into consideration how rising shallow groundwater and any associated flooding may affect long-term cap stability, increase in leachate amounts, leachate and LFG migration, and post-closure monitoring and maintenance goals at the site. Groundwater monitoring data from the site should be used for the most accurate water level onsite; however, if groundwater wells are not present at the Landfill, databases such as GeoTracker can be used to access water table elevations nearby, using USGS, California Department of Water Resources, or other nearby cleanup site well observations. Additionally, shallow groundwater response to SLR across four Bay Area counties is currently under development (Pathways Climate Institute and SFEI, 2022).

REPORT DUE DATE: The Long-Term Flood Protection Plan is due July 9, 2023, and shall be updated every five years thereafter

- 10. Earthquake Inspection:** The Discharger shall immediately notify the Regional Water Board 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 Landfill. The Discharger shall also submit a detailed Post-Earthquake Inspection Report, acceptable to the Executive Officer. 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.

NOTIFICATION DUE: Immediately after qualifying earthquake
WRITTEN REPORT DUE: Within 6 weeks of earthquake

- 11. Change in Site Conditions:** The Discharger shall immediately notify the Regional Water Board of 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
WRITTEN REPORT DUE: 30 days after initial notification

- 12. 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.
- 13. Change in Ownership:** Provided there is no material change in the operation of the site, this Order may be transferred to a new owner. The Discharger or new owner must request the transfer in writing and receive written approval from the Executive Officer. Such a request must be submitted to the Executive Officer at least 30 days prior to the transfer of ownership. The request must include a written agreement between the Discharger and the new owner containing a specific date for the transfer of this Order's responsibility and coverage between the Discharger and the proposed new owner. This agreement shall include an acknowledgment that the Discharger is liable for violations up to the transfer date and that the new owner is liable from the transfer date on. (CWC sections 13267 and 13263.) The request must contain the requesting entity's full legal name, the address and telephone number of the persons responsible for contact with the Water Board and statement. The discharge of waste without waste discharge requirements is a violation of the California Water Code.
- 14. Information Correction:** When a Discharger becomes aware that it failed to submit any relevant facts in a Report of Waste Discharge (ROWD) or submitted incorrect information in a ROWD or in any report to the Regional Water Board, it shall promptly submit such facts or information.

15. **Revision:** This Order is subject to review and revision by the Regional Water Board.
16. **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.
17. **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.
18. **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 include 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.
19. **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 into 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. This requirement is in addition to the Office of Emergency Services notification requirement for the discharge of hazardous substances under Water Code section 13271.
20. **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.

21. **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.

22. **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.

23. **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 Regional Water Board within 24 hours of the time the Discharger becomes aware of the circumstances by calling (510) 622-2369. A written submission to the Regional Water Board shall also be provided within five days of the time a Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; and, if the noncompliance has not been corrected, the anticipated time it is expected to continue and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Executive Officer, or his or her delegate, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

24. **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. San Mateo County Health Department, Environmental Health Services Division (Local Enforcement Agency or LEA).

The Executive Officer may modify this distribution list as needed.

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

The Discharger is responsible for submitting the following via GeoTracker:

- a. All chemical analytical results for water samples;
- b. The latitude and longitude of any sampling point for which data is reported, accurate to within one 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 for which data is reported;
- d. The elevation of groundwater in any permanent monitoring well relative to the surveyed elevations for which data is reported;
- e. A site map or maps showing the location of all sampling points for which data is reported;
- f. The depth of the sampling point or depth and length of screened interval for any permanent monitoring well for which data is reported;
- 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, certified engineering geologist, 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. Such electronic tables shall include the following information unless directed otherwise by Water Board staff:

- 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.

26. This Order supersedes and rescinds WDR Order Nos. 82-55, 95-130, and R2-2007-0039 as amended by R2-2022-0031.

27. Under Water Code section 13320, a party aggrieved by the Regional Water Board's action or inaction on this Order may petition the State Water Resources Control Board for review within 30 days of such action or inaction.

I, Eileen White, 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 _____, 2023.

Eileen White
Executive Officer

Figure 1 – Closed Burlingame Landfill Location

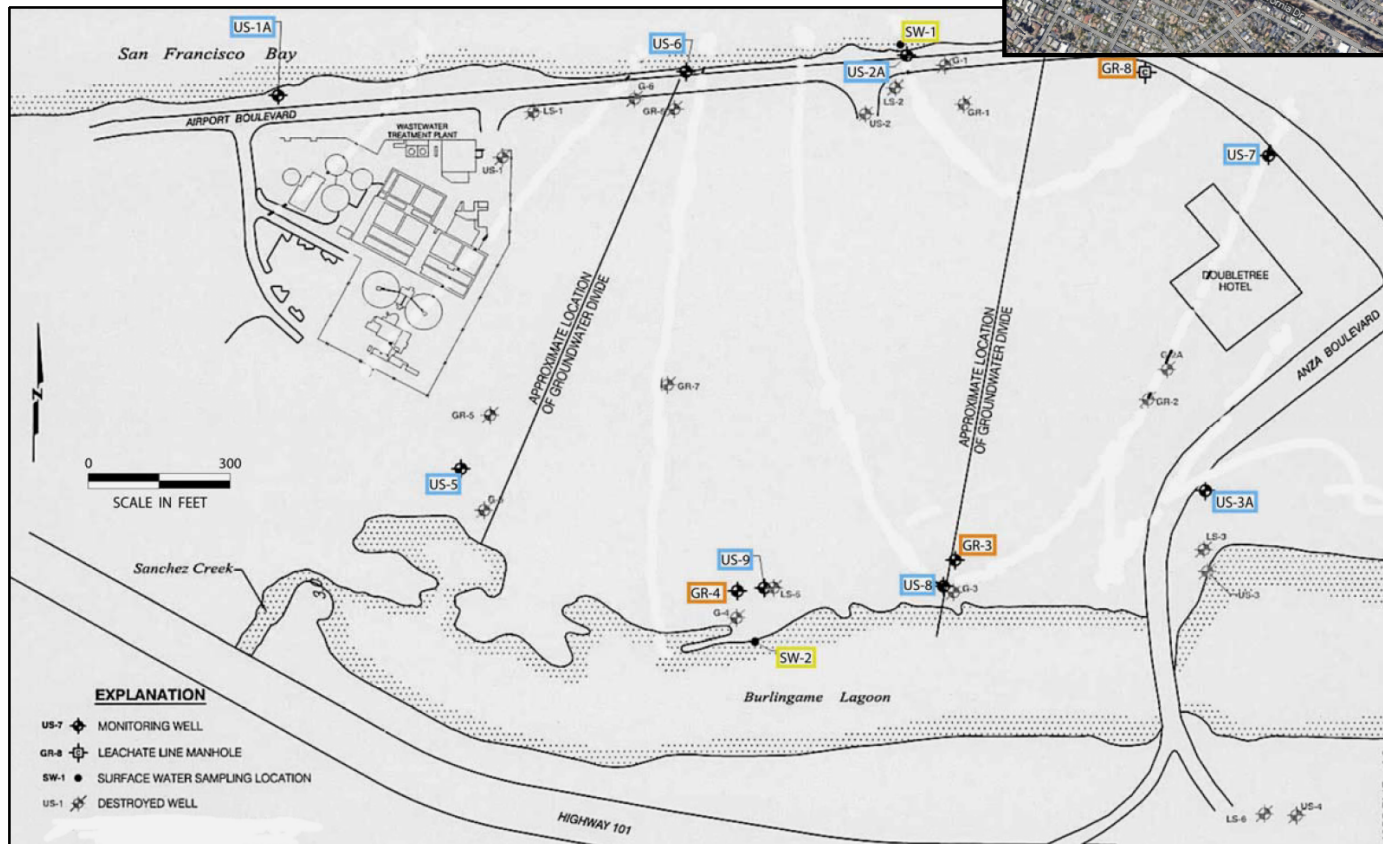
Figure 2 – Site Layout and Monitoring Locations

Attachment: Self-Monitoring Program

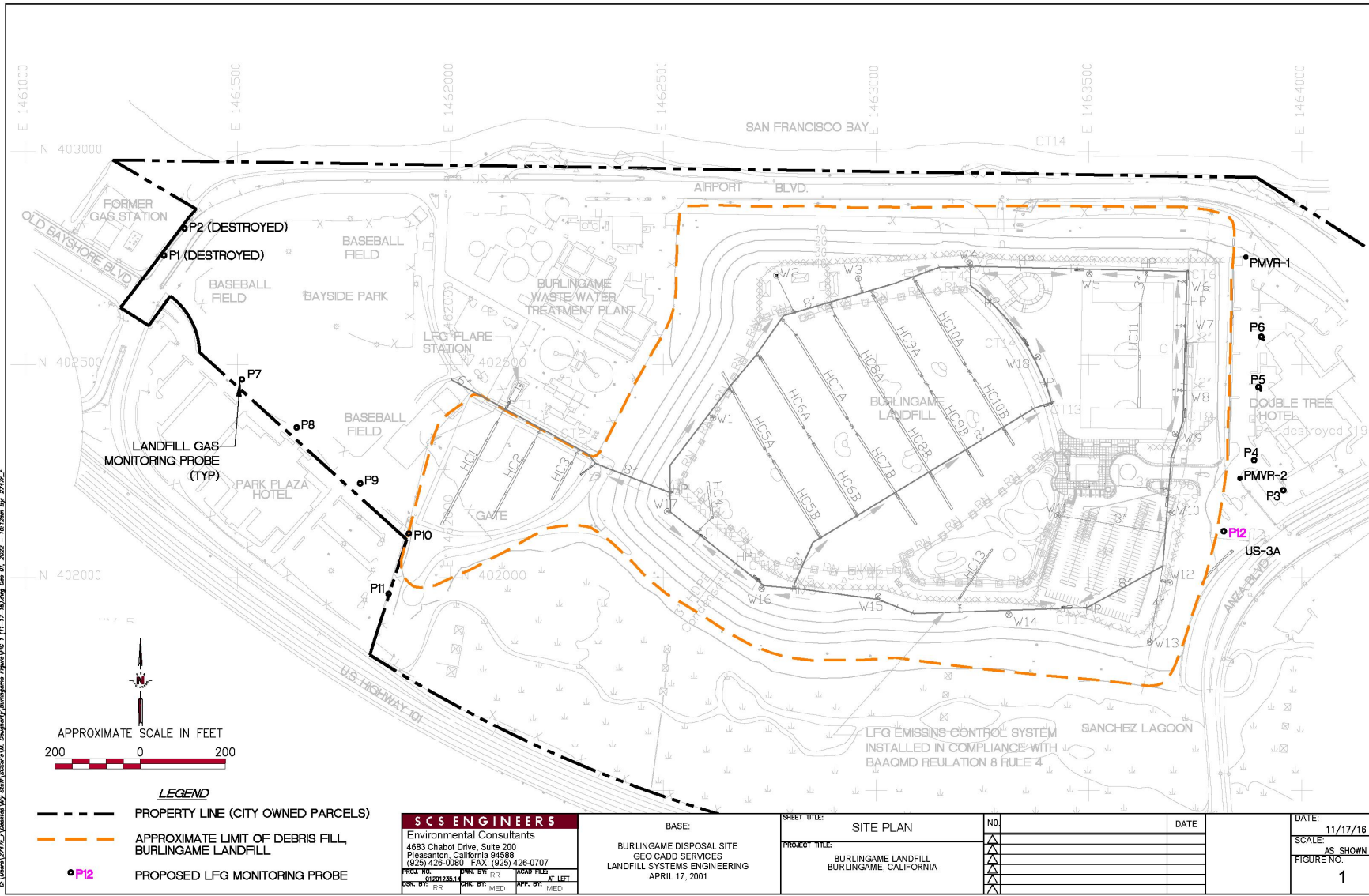
Burlingame Landfill R2-2023-XXXX

FIGURES

FIGURE 1. Site Plan Illustrating Monitoring Locations.
 (Figure based on Mactec Fourth Quarter 2004 Monitoring Report "Site Plan")



Burlingame Landfill R2-2023-XXXX



C:\Users\17217\... \Desktop\Burlingame Landfill\Fig 1 (11-17-16) Rev. 01, 2022 - 10:27am BK 2/2/17

SCS ENGINEERS
 Environmental Consultants
 4883 Chabot Drive, Suite 200
 Pleasanton, California 94596
 (925) 426-0080 FAX: (925) 426-0707
 PROJ. NO. 201235.L
 DESK. BY: RR CHK. BY: MED APP. BY: MED

BASE:
 BURLINGAME DISPOSAL SITE
 GEO CADD SERVICES
 LANDFILL SYSTEMS ENGINEERING
 APRIL 17, 2001

SHEET TITLE: SITE PLAN
 PROJECT TITLE: BURLINGAME LANDFILL
 BURLINGAME, CALIFORNIA

NO	DATE

DATE: 11/17/16
 SCALE: AS SHOWN
 FIGURE NO. 1

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

SELF-MONITORING PROGRAM FOR

**CITY OF BURLINGAME
CLOSED SANITARY SOLID WASTE DISPOSAL SITE**

ORDER NO. R2-2023-XXXX

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, LFG, 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.

Liquid measurements, 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.”

PFAS Sampling

To ensure the sampling is consistent with State Water Board standards, the analytical laboratory performing PFAS analyses must be accredited by the California Environmental Laboratory Accreditation Program (ELAP) to perform the method compliant with Department of Defense Table B-15 of [Quality Systems Manual](https://denix.osd.mil/edqw/documents/) (<https://denix.osd.mil/edqw/documents/>), Version 5.1 or later. The laboratory must be capable of quantifying the target PFAS analytes listed in Table B-2. A [list of laboratories that are accredited by ELAP](#) by analytical method can be found on the State Water Board PFAS webpage (<https://www.waterboards.ca.gov/pfas/>).

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; and,
- d. Vegetation coverage.

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. LFG 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 section 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 24 and 25 of the WDRs.

SMR due dates will be: April 30 and October 31 (semi-annual) or January 31 (annual) each year.

F. MAINTENANCE OF WRITTEN RECORDS

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

PART B

A. MONITORING LOCATIONS AND FREQUENCY

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

1. Environmental Media

- a. Groundwater: Groundwater shall be monitored at the locations specified in Table B-1 and shown on Figure 2. Monitoring frequencies, parameters, and analytes shall be in accordance with Table B-1.
- b. Leachate: Leachate elevations shall be monitored at the individual leachate wells, as specified in Table B-1. Monitoring frequencies, parameters, and analytes shall be in accordance with Table B-1.

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 during semi-annual monitoring activities.

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.

Attachments:

Table B-1 Self-Monitoring Program

Table B-2 PFAS Analyte List

Table B-1: Self-Monitoring Program

Well No. (Area Monitored)	GR-3 (Leachate)	GR-4 (Leachate)	GR-8 (Leachate Line Manhole)	US-1A (Aquifer)	US-2A (Aquifer)	US-3A (Aquifer)	US-5 (Aquifer)	US-6 (Aquifer)	US-7 (Aquifer)	US-8 (Aquifer)	US-9 (Aquifer)	SW-1 (Surface Water)	SW-2 (Surface Water)
Leachate Level (Field)	A	A	A	--	--	--	--	--	--	--	--	--	--
Water Level (Field)	A	A	--	SA	SA	SA	SA	SA	SA	SA	SA	--	--
Temperature (Field)	A	A	--	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
Specific Cond. (Field)	A	A	--	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
pH (Field)	A	A	--	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
Turbidity (Field)	A	A	--	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
Ammonia (350.1)	A	A	--	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
VOCs (8260B)	A	A	--	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
SVOCs (8270)	A	A	--	A	A	A	A	A	A	A	A	A	A
Total arsenic, Chromium, Zinc, Iron (6010)	A	A	--	A	A	A	A	A	A	A	A	A	A
Cyanide (9010)	A	A	--	A	A	A	A	A	A	A	A	A	A
Sulfide (9030)	A	A	--	A	A	A	A	A	A	A	A	A	A

Closed Burlingame Landfill R2-2023-XXXX

Constituents of Concern (3)	5-year	5-year	--	5-year	5-year	5-year	5-year	5-year	5-year	5-year	5-year	5-year	5-year
---------------------------------------	--------	--------	----	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------

Notes:

1. A: Annual (Performed during first semi-annual period of each year)
2. SA: Semi-annual
3. Next 5-year Constituents of Concern (chlorinated herbicides – EPA Method 8151, organochlorine pesticides and PCBs – EPA Method 8080, total CAM 17 metals – EPA Methods 6010/7470, PFAS – see Table B-2) event shall occur during the first sampling event of 2024.
4. All analytes listed, except Constituents of Concern, comprise the Monitoring Parameters as outlined in Specification B.1(a) of this Order.
5. SMR due dates: April 30 and October 31 (semi-annual) or January 31 (annual) each year.

Table B-2: Target Reporting Limits¹ for LC/MS/MS analysis of Per- and Polyfluorinated Alkyl Acids by Department of Defense Quality Systems Manual (Version 5.3 or later)

Chemical Name/ Abbreviation(s)	GeoTracker PARLABEL	Chemical Abstracts Service (CAS) No.	Aqueous: Non-Drinking Water (ng/L)	Solid (ng/g)
Perfluoroalkyl carboxylic acids				
Perfluorobutanoic acid (PFBA)	PFBTA	375-22-4	6.4	0.8
Perfluoropentanoic acid (PFPeA)	PFPA	2706-90-3	3.2	0.4
Perfluorohexanoic acid (PFHxA)	PFHA	307-24-4	1.6	0.2
Perfluoroheptanoic acid (PFHpA)	PFHPA	375-85-9	1.6	0.2
Perfluorooctanoic acid (PFOA)	PFOA	335-67-1	1.6	0.2
Perfluorononanoic acid (PFNA)	PFNA	375-95-1	1.6	0.2
Perfluorodecanoic acid (PFDA)	PFNDCA	335-76-2	1.6	0.2
Perfluoroundecanoic acid (PFUnDA, PFUda, PFUnA)	PFUNDCA	2058-94-8	1.6	0.2
Perfluorododecanoic acid (PFDoDA, PFDoA)	PFDOA	307-55-1	1.6	0.2
Perfluorotridecanoic acid (PFTrDA)	PFTRIDA	72629-94-8	1.6	0.2
Perfluorotetradecanoic acid (PFTeDA, PFTA)	PFTEDA	376-06-7	1.6	0.2
Perfluorohexadecanoic acid (PFHxDA)	PFHXDA	67905-19-5	4	1
Perfluorooctadecanoic acid (PFODA)	PFODA	16517-11-6	1.6	0.2
Perfluoroalkyl sulfonic acids				
Perfluorobutane sulfonic acid (PFBS)	PFBSA	375-73-5	1.6	0.2
Perfluoropentane sulfonic acid (PFPeS)	PFPEs	2706-91-4	1.6	0.2
Perfluorohexane sulfonic acid (PFHxS)	PFHXSA	355-46-4	1.6	0.2
Perfluoroheptane sulfonic acid (PFHpS)	PFHPSA	375-92-8	1.6	0.2
Perfluorooctane sulfonic acid (PFOS)	PFOS	1763-23-1	1.6	0.2
Perfluorononane sulfonic acid (PFNS)	PFNS	68259-12-1	1.6	0.2
Perfluoroalkyl sulfonic acids				
Perfluorodecane sulfonic acid (PFDS)	PFDSA	335-77-3	1.6	0.2
Perfluorododecanesulfonic acid (PFDoS)	PFDOS	79780-39-5	4.3	1
Fluorotelomer sulfonic acids				
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	4:2FTS	757124-72-4	6.4	0.8
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	6:2FTS	27619-97-2	6.4	0.8

Table B-2: Target Reporting Limits¹ for LC/MS/MS analysis of Per- and Polyfluorinated Alkyl Acids by Department of Defense Quality Systems Manual (Version 5.3 or later)

Chemical Name/ Abbreviation(s)	GeoTracker PARLABEL	Chemical Abstracts Service (CAS) No.	Aqueous: Non-Drinking Water (ng/L)	Solid (ng/g)
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	8:2FTS	39108-34-4	6.4	0.8
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	10:2FTS	120226-60-0	7	1
Perfluorooctane sulfonamides				
Perfluorooctanesulfonamide (PFOSA, PFOSAm, FOSA)	PFOSA	754-91-6	1.6	0.2
N-Methyl perfluorooctane sulfonamide (MeFOSA, MeFOSAm)	MEFOSA	31506-32-8	1.6	0.2
N-Ethyl perfluorooctane sulfonamide ² (EtFOSA, EtFOSAm)	ETFOSA	4151-50-2	1.6	0.2
Perfluorooctane sulfonamidoacetic acids				
N-Methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	NMEFOSAA	2355-31-9	1.6	0.2
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	NETFOSAA	2991-50-6	1.6	0.2
Perfluorooctane sulfonamide ethanols				
N-Methyl perfluorooctane sulfonamide ethanol ² (MeFOSE)	MEFOSE	24448-09-7	16	2.0
N-Ethyl perfluorooctane sulfonamide ethanol (EtFOSE)	ETFOSE	1691-99-2	16	2.0
Per- and Polyfluoroether carboxylic acids				
Hexafluoropropylene Oxide Dimer Acid ² (HFPO-DA)	HFPA-DA	13252-13-6	6.4	0.8
4,8-Dioxa-3H-perfluorononanoic acid ² (ADONA)	ADONA	919005-14-4	6.4	0.8
Per- and Polyfluoroether carboxylic acids				
Perfluoro-3-methoxypropanoic acid ² (PFMPA)	PFMPA	377-73-1	3.2	0.4
Perfluoro-4-methoxybutanoic acid ² (PFMBA)	PFMBA	863090-89-5	3.2	0.4
Nonafluoro-3,6-dioxaheptanoic acid ² (NFDHA)	NFDHA	151772-58-6	3.2	0.4
Ether sulfonic acids				
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid ² (9-CI-PF3ONS)	9CIPF3ONS	756426-58-1	6.4	0.8
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid ² (11-CI-PF3OUdS)	11CIPF3OUdS	763051-92-9	6.4	0.8
Perfluoro(2-ethoxyethane) sulfonic acid ² (PFEESA)	PFEESA	113507-82-7	3.2	0.4
Fluorotelomer carboxylic acids				
2H,2H,3H,3H-Perfluorohexanoic acid (3:3 FTCA)	3:3FTCA	356-02-5	8.0	1.0
2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA)	5:3FTCA	914637-49-3	40	5.0
2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA)	7:3FTCA	812-70-4	40	5.0

Abbreviations:

ng/L = nanogram per liter

ng/g = nanogram per gram

Notes:

- The laboratory must use the minimum standard data qualifiers provided in the DoD QSM. These data qualifiers must be included in the analytical electronic data format (EDF) submittal into GeoTracker. Refer to GeoTracker's [data dictionary](#) for the valid values for data qualifiers. A quick search option for data qualifiers (EDF/LNOTE), and other fields within the EDF submittal is available [here](#).
- 1. These are the target reporting limits for the California Water Board Investigatory Orders and represent the highest reporting limits acceptable for reporting purposes. If a laboratory's reporting limit is lower than the target reporting limits listed, then the laboratory should report data using the laboratory's reporting limit.
- 2. The acceptable quality control limits for these analytes are not listed in Table C-44 Method PFAS by LCMSMS Compliant with QSM Table B-15 Aqueous Matrix or Table C-45 Method PFAS by LCMSMS Compliant with QSM Table B-15 Solid Matrix of the [DoD Quality Systems Manual \(QSM\), Version 5.3](#). If a Water Board regulatory directive requires the analysis of these analytes, the laboratory must use in-house acceptance criteria for control samples for these analytes per the DoD QSM.