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

STAFF SUMMARY REPORT (ALYX KARPOWICZ)
MEETING DATE: November 14, 2018

ITEM: **6B**

SUBJECT: **BROWNING FERRIS INDUSTRIES (BFI), OX MOUNTAIN SANITARY LANDFILL, HALF MOON BAY, SAN MATEO COUNTY** - Updated Waste Discharge Requirements and Rescission of Order No. R2-2006-0040

CHRONOLOGY: Waste Discharge Requirements (WDRs) were adopted in 1976 and 1987, amended in 1992 and 1999, and updated in 2006.

DISCUSSION: The Revised Tentative Order (Appendix A) would update WDRs for BFI's Ox Mountain Sanitary Landfill to 1) reflect the construction of additional waste management units; 2) require an update of the waste acceptance criteria used at the landfill; and 3) rescind the WDRs adopted by the Board in 2006.

The landfill is a municipal refuse disposal site that began operation in 1976 and is located east of Half Moon Bay, on the north side of Highway 92. To date, approximately 33 million tons of waste have been deposited at the landfill, and the currently permitted waste management units will provide sufficient disposal capacity until approximately 2034.

Minor comments were emailed from BFI during the public comment period. We have incorporated these comments and minor editorial and formatting changes into the Revised Tentative Order. We expect this item to remain uncontested.

RECOMMEN-DATION: Adoption of the Revised Tentative Order

FILE NO. 2179.7053(AJK)

APPENDIX A: Revised Tentative Order

Appendix A

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

REVISED TENTATIVE ORDER No. R2-2018-00XX

UPDATED WASTE DISCHARGE REQUIREMENTS and RESCISSION OF ORDER No. R2-2006-0040 for:

BROWNING-FERRIS INDUSTRIES
OX MOUNTAIN SANITARY LANDFILL
CLASS III SOLID WASTE DISPOSAL FACILITY
HALF MOON BAY, SAN MATEO COUNTY

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

1) The Ox Mountain Sanitary Landfill (hereinafter, the OMSL or the landfill) is owned and operated by Browning-Ferris Industries of California (hereinafter, BFI or the Discharger), a subsidiary of Republic Services, Inc. The landfill, located at 12310 San Mateo Road in Half Moon Bay (Figure 1), is a Class III municipal refuse disposal facility, meaning that it accepts non-hazardous municipal solid waste.

2) The OMSL, also historically referred to as the Corinda Los Trancos (Ox Mountain) Landfill, began operation in 1976 and has a footprint of 191 acres.

PURPOSE OF ORDER

3) The purpose of this Order is to:
   a) Update Waste Discharge Requirements (WDRs) to reflect the construction of additional landfill phases (i.e., disposal cells) since WDRs were last updated in 2006;
   b) Update the waste acceptance criteria used at the landfill; and
   c) Rescind previous WDR Order No. R2-2006-0040.

SITE DESCRIPTION AND LOCATION

4) The OMSL is located approximately three miles east of the city of Half Moon Bay and is bounded by agricultural land to the west, east, and north and by Highway 92 (San Mateo Road) to the south. (Figures 1 and 2). The entire landfill property occupies approximately 2,786 acres, but only 191 acres are utilized for refuse disposal operations, as authorized by the landfill's most recent Solid Waste Facility Permit (SWFP). The waste disposal areas of the landfill occupy two distinct locations within the Corinda Los Trancos Canyon: the upper canyon and the lower canyon, which is currently being filled (Figure 2).

REGULATORY HISTORY

5) In June 1976, the Water Board adopted Order No. 76-070, which established WDRs for the disposal of Class III waste in the upper canyon of the Corinda Los Trancos Canyon. The 1976 Order was updated in May 1987 with Order No. 87-047 in accordance with California Code of Regulations (CCR), Title 23, Division 3, Chapter 15.

6) In September 1991, BFI submitted a Report of Waste Discharge (ROWD) to expand the landfill footprint by 140 acres. Amendments to the ROWD were submitted in March, April, and May 1992. In response to the ROWD, the Water Board adopted Order No. 92-087 in July 1992, which rescinded Order Nos. 76-070 and 87-047 and approved WDRs for the expanded landfill footprint.

7) In November 1993, the Water Board adopted Order No. 93-146, a National Pollutant Discharge Elimination System (NPDES) permit for the discharge of stormwater and treated groundwater from the landfill to Corinda Los Trancos Creek.

8) In September 1999, the Water Board adopted Order No. 99-067, which updated the landfill's WDRs and rescinded Order No. 92-087. The WDRs were updated after BFI submitted an updated ROWD that included design specifications for an alternative liner system, a 9-acre expansion along the landfill's western perimeter, a 7-acre boundary line adjustment along the landfill's eastern perimeter, and revisions to the landfill's groundwater, surface water, leachate, and subdrain monitoring systems. A final Environmental Impact Report was adopted by San Mateo County in March 1999 (see CEQA findings below).

9) In June 2006, the Water Board adopted Order No. R2-2006-0040 (2006 Order), which updated WDRs to include general provisions and tasks regarding the design criteria for the landfill's containment systems and to update and revise monitoring programs to minimize impacts to water quality. The 2006 Order also rescinded Order No. 99-067. The 2006 Order required technical reports to evaluate landfill stability and the impacts of vectors on surface water quality. BFI did not complete the landfill stability evaluation, so that 2006 Order requirement is included in this Order (see Provision C.2).

10) In 2007, BFI submitted an infeasibility study to the Water Board stating that the OMSL would not be able to comply with several of the discharge limits outlined in Order No. 93-146. In response, the Water Board adopted Order Nos. R2-2007-0062, a NPDES permit, and R2-2007-0063, an enforcement order that authorized revised testing parameters to bring the OMSL into compliance. Order No. R2-2007-0062 rescinded Order No. 93-146.

11) BFI submitted a ROWD, dated December 18, 2017, and applied for reissuance of its NPDES permit to discharge treated wastewater from the landfill to waters of the State and the United States. NPDES Permit No. CA0029947, currently issued by Order No. R2-2018-XXXX, was adopted on November 14, 2018. The landfill's stormwater discharges are regulated under the statewide General Permit for Storm Water Discharges Associated with Industrial Activities (Stormwater General Permit) (Order No. 2014-0057-DWQ as of July 1, 2015).

SURFACE HYDROLOGY

12) The OMSL is situated in the Corinda Los Trancos Canyon, a drainage tributary to Corinda Los Trancos Creek, which drains to Pilarcitos Creek, which flows westward into the Pacific Ocean. The Corinda Los Trancos drainage also serves as a recharge zone for groundwater. The canyon is characterized by a narrow alluvial floor trending roughly north-south and is bounded to the east and west by rugged ridges. Topographic elevations in the area range from 350 feet above mean sea level (msl) at the canyon floor to 1,134 feet above msl on the adjacent east ridge. Topography to the north, west, and east of the landfill is characterized by steep-sided canyons, with slopes that approach 1:1 (horizontal to vertical). The SWFP allows the OMSL to fill to a maximum elevation of 1,205 feet above msl (see Figure 4 for the Final Grading Plan).

13) After the 1991 expansion was approved by Order No. 92-087, approximately 2,700 linear feet of stream habitat along Corinda Los Trancos Creek was eliminated. The extent of the creek's riparian corridor affected was 5.5 acres, including just under an acre of wetlands that were subject to U.S. Army Corps jurisdiction under federal Clean Water Act (CWA) section 404. A riparian mitigation plan was developed to create approximately 5.8 acres of new habitat on three sites along the lower reaches of the creek and one offsite location along Pilarcitos Creek.

    This Order does not authorize the filling of additional wetlands or waters of the State at the landfill that have not received prior water quality certification pursuant to CWA section 401. Such activities would require the Discharger to obtain another water quality certification by the Water Board or Executive Officer. Wetland fill activities may also require an amendment or update of this Order for any additional fill area.

14) Stormwater runoff from the landfill flows into a sedimentation basin where it is either reused at the landfill for dust control, evaporated, or released into Corinda Los Trancos Creek downstream of the landfill in accordance with the NPDES permit (Figure 6).

GEOLOGY AND SEISMICITY

15) The OMSL is located in the Coast Range geomorphic province on the peninsula west of San Francisco Bay. The area south of the site is underlain by bedrock material of the Monterey Formation and is locally mantled by fill and alluvial/colluvial deposits. The Monterey Formation in this area is typically grayish-brown and brown-black to very pale orange shale with chert, mudstone, claystone, and small amounts of siltstone and sandstone near the base. This formation is underlain at depth by granitic rocks of the Montara Mountains.

16) There are four major lithologic units underlying the OMSL: alluvium (consisting of loose to partially-cemented gravels, sands, silts, and clay-size materials), deeply weathered granitics (Kgr), moderately weathered granitics (Kgr2), and slightly weathered to unweathered granitics. This last unit is a medium to coarse-grained crystalline rock ranging from granite to granodiorite and is indicated as Kgr3 on the geologic map for the site. Beneath the western ridge, the Kgr3 has been subdivided into an upper, more-fractured zone and a lower, less-fractured zone.

17) The OMSL is located just south and west of the San Andreas Earthquake Fault Zone. In addition, a search of active faults within a 100-kilometer radius of the site indicates that there are numerous active faults or fault segments at distances of engineering significance to the site.

HYDROGEOLOGY

18) The four major lithologic units were grouped based on their hydraulic properties into two hydraulically-connected, hydrostratigraphic units. The alluvium and the uppermost granitics (Kgr and Kgr2) were grouped into an upper hydrostratigraphic unit, and the deeper, unweathered granitics (Kgr3) was designated the lower hydrostratigraphic unit. Locally, the upper hydrostratigraphic unit produces enough water to be considered an aquifer. Beneath the ridges and side slopes, the upper hydrostratigraphic unit includes just the weathered granitic rocks (i.e., Kgr and Kgr2) and is not considered to be an aquifer. The lower hydrostratigraphic unit is not considered to be an aquifer.

19) The potentiometric surface of the groundwater beneath the site generally mimics topography, and, therefore, groundwater flows downslope from the adjacent ridge lines toward the canyon floor.

Upon reaching the canyon, groundwater flows to the south/southwest towards Pilarcitos Creek. The hydraulic gradient varies from approximately 0.10 ft/ft along the canyon axis to 0.36 ft/ft on the east flank of the canyon.

WASTES AND THEIR CLASSIFICATION

20) As a Class III disposal facility, the OMSL may only accept non-hazardous solid and inert wastes, in accordance with waste classification regulations in CCR title 27, sections 20220(a) and 20230. Nonhazardous solid waste includes all putrescible and non-putrescible solid, semi-solid, and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid and semi-solid wastes, and other waste (whether of solid or semi-solid consistency), provided that such wastes do not contain hazardous wastes, soluble pollutants in concentrations that exceed applicable water quality objects, or could cause degradation to waters of the State. The landfill may also accept non-friable asbestos with proper documentation from the generator and non-hazardous, low-level contaminated soil for cover and beneficial reuse. The OMSL receives primarily residential, commercial, construction and demolition, and agricultural wastes, including nonhazardous solid wastes transported from transfer stations within San Mateo County and wastes hauled directly to the site by the general public.

21) Hazardous waste, designated wastes, or special wastes as defined in CCR title 22 may not be disposed of at the landfill. Liquid, semi-solid wastes, radioactive waste, materials of a toxic nature (i.e., insecticides, poisons), infectious materials or hospital or laboratory wastes, pesticide containers (unless rendered nonhazardous by triple rinsing), or septic tank or chemical toilet wastes are also prohibited by the SWFP.

22) This Order allows the landfill to receive waste requiring special handling, including:

a. Sludge
b. Animal bodies
c. Ashes
d. Contaminated soil
e. Non-friable asbestos
f. Pesticide containers triple-rinsed in accordance with CCR title 22, section 66261.7
g. Wastes and materials containing lead at concentrations less than the hazardous-waste threshold pursuant to CCR title 22, section 66261.3
h. Treated wood waste.

23) “Treated wood” means wood that has been treated with a chemical preservative registered pursuant to the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. Sec. 136 and following) for the purpose of protecting the wood against decay. Such preservatives include: chromated copper arsenate, pentachlorophenol, creosote, acid copper chromate, ammoniacal copper arsenate, ammoniacal copper zinc arsenate, or chromated zinc chloride. Federal regulations exempt most treated wood waste from regulation as a hazardous waste (40 CFR 261.4.). State law permits treated wood waste meeting certain characteristics to be disposed of in municipal landfill phases that have a composite liner constructed to federal subtitle D and/or State Class II standards (Health and Safety Code Section 25150.8; Cal. Code Regs., tit. 22, § 67386.1 et seq.). The OMSL meets both the federal and State standards for disposal of treated wood waste.

LANDFILL DESIGN, CONSTRUCTION, AND OPERATION

24) The OMSL consists of two discrete disposal areas or waste management units (WMUs), one constructed in the upper canyon prior to implementation CCR title 27 ("original landfill") and the other constructed in the lower canyon after implementation of CCR title 27 ("Subtitle D landfill"). The two WMUs have discreet leachate control and recovery systems. The Subtitle D landfill has been, and continues to be, constructed in parts referred to as "Phases". In prior descriptions of the landfill, the term "Module" was used to describe a unit of waste fill that spanned across the limits of more than one Phase or WMU. The planned arrangement of waste fills in the future no longer corresponds to the originally-planned "Modules", so BFI has requested that the term "Module" be discontinued.

25) The OMSL originally started as a small, 33-acre landfill in the upper portion of the Corinda Los Trancos Canyon (Figure 3). This initial landfill received approximately 7.5 million cubic yards of waste from 1976 to 1993. Portions of the original landfill may be underlain by a 2-foot thick low-permeability base, but this has not been confirmed.

26) After 1992, Modules 1 through 3 were constructed farther down the canyon. Initial construction activities included excavation and ground surface preparation, including installation of a gravel-blanket subdrain layer to collect groundwater beneath the low-permeability base liner.

27) New Phases are currently being developed within the areas previously referred to as Modules 4 and 5. Since issuance of the 2006 Order, Phases XV and XVI were constructed in 2007, Phase XVII was constructed in 2011, Phase XVIII was constructed in 2015, and Phase XIX was constructed in 2016.

28) The current Phases are being constructed based on the initial lower canyon area base liner system for the OMSL, as summarized in Order No. 92-087. The base liner in this area consists of a high-density polyethylene (HDPE) geomembrane over a 2-foot-thick low-permeability compacted soil layer (see Finding 29 and Specification B.16 for the approved liner design). The permitted liner design was updated to exceed Subtitle D prescriptive requirements before construction in 1993 on base and initial side slope areas within Modules 1 and 2. Any future Phases built adjacent to or on top of the original landfill portion must be constructed in accordance with Subtitle D liner requirements, as specified in Provision C.3.

29) The Water Board approved BFI's alternative side-slope liner design, which satisfies the standards as an alternative to the prescriptive liner design. For disposal cell floors, BFI retained the existing composite liner system design, which exceeds Subtitle D requirements. This design is also used on side slope areas with depth of refuse greater than 150 feet. The alternative side slope liner design for areas with depth of refuse less than 150 feet includes:

    a) Upper bench liners comprised of an 80-mil HDPE geomembrane over a 2-foot thick soil layer with permeability less than 1×10^{-7} cm/sec; and,

    b) A fully encapsulated geocomposite liner (GCL) on the upper side slopes, comprised of a GCL encapsulated between an upper 80-mil HDPE primary geomembrane and a lower 60-mil HDPE moisture barrier.

30) The current remaining permitted landfill airspace for refuse and cover is calculated at about 20,396,000 cubic yards as of January 2018. Based upon current waste disposal rates, average

density of the waste, and daily cover usage at the facility, the estimated closure date for the landfill is 2039.

Leachate and Stormwater Management

31) The upper canyon and the lower canyon of the OMSL (see WMU finding above) have separate leachate collection and recovery systems (LCRS). The LCRS for the upper canyon includes a perforated pipe in a gravel-filled collection trench, which intercepts leachate at the base of the site and conveys it by gravity to a gravel-filled sump area behind a low-permeability cut-off berm at the toe of the northern portion of the OMSL. A nonperforated pipe was installed during development of the landfill in the lower canyon to convey this leachate from the upper canyon down slope to leachate storage tanks located outside the refuse area.

32) The LCRS for the lower canyon consists of a 1-foot-thick, low-permeability gravel blanket drainage layer placed over the HDPE liner. This gravel layer contains a network of perforated 6-inch diameter HDPE pipes that are encapsulated by gravel and wrapped with geotextile. Perforated HDPE pipes (also surrounded by gravel and wrapped with geotextile) are also installed on the excavated side-slope benches. The LCRS piping on both the base and benches drains into a main header, which transmits the collected leachate through a nonperforated double-walled transmission pipe to a leachate storage tank located outside the refuse area.

33) Leachate collected in the storage tanks is either used for dust suppression in the lined portions of the landfill or transferred to tanker trucks for transport and discharge to publicly-owned treatment works (POTWs) in either Half Moon Bay or Redwood City for treatment and disposal. BFI has proposed to treat the leachate to acceptable discharge limits and discharge under permit to Corinda Los Trancos Creek; this proposal is addressed in Provision C.4 and must be approved prior to implementation.

34) The existing surface water management facilities include unlined temporary ditches; gunite-lined ditches; a temporary large sediment trap basin at the southeast comer of the OMSL; inlets and overside corrugated pipe down-drains on the downslope side of the toe berm; riprap outlet erosion control; and a large permanent sedimentation basin that receives all stormwater runoff from the soil excavation and refuse areas. The sediment basin has a pipe outlet and emergency spillway for discharge of all stormwater to Corinda Los Trancos Creek.

35) Run-on from tributary canyon side-slopes and interim slopes is intercepted by lined ditches along the perimeter access road on the western side of the landfill and by the interim perimeter benches along the eastern side. The existing storm drain pipes on the southern, downslope side of the toe berm intercept and convey this stormwater to the downstream sedimentation basin for sediment control before discharge.

36) Stormwater discharges are managed in accordance with BFI’s 2016 stormwater pollution and prevention plan. To obtain authorization for the landfill’s industrial stormwater discharge, the landfill must comply with the Stormwater General Permit. The Discharger submitted a Notice of Intent (NOI) to comply with the Stormwater General Permit and is operating under its conditions.

MONITORING, COLLECTION, AND CONTROL PROGRAMS

Groundwater and Subdrain Water:

37) The water quality monitoring network at the OMSL currently includes 17 groundwater monitoring wells, one piezometer, four surface water monitoring stations, two sub-drains, and two leachate stations (see Figures 5 and 6). Wells G-4C, MW-6F, MW-7, MW-8, MW-9, MW-10, MW-11B, and MW-12 are screened in weathered granitic bedrock, while the remaining wells (MW-6A through 6E, MW-11A, and MW-13A through 13C) are screened in the canyon-fill alluvial sediments. Well G-4C was installed as a replacement well for well G-4B because well G-4B was located on the landfill side of a cutoff wall and might not be representative of background conditions. However, well G-4B is used as a piezometer. In 1998, groundwater from subdrains GD-1 and GD-2 were combined and rerouted directly into the groundwater treatment system through a single pipe (INFL-1).

38) To date, volatile organic compounds (VOCs) have been detected in groundwater at the site. These impacts appear to be the result of releases from the older unlined portions of the landfill and landfill gas migration. In response to these impacts to groundwater, BFI has implemented corrective action measures, which have successfully restricted significant impacts beyond the point of compliance (POC) wells (MW-6A through 6F, MW-11A, MW-11B, and MW-12) at the toe of the landfill. If concentration limit exceedances are measured in monitoring wells beyond the POC wells (MW-13A, MW-13B, and MW-13C), verification monitoring will be required.

39) Groundwater from subdrain monitoring points GD-1 and GD-2 is combined and discharged to the groundwater treatment system. The treatment system is operated as a two-stage system: carbon adsorption to remove low level VOCs, followed by ultrafiltration and breakpoint chlorination to reduce iron hydroxide solids and ammonia. Before discharging the effluent to the sedimentation basin, sodium bisulfite is added to dechlorinate, as the landfill's NPDES permit does not authorize discharges of chlorine residual. The effluent is discharged to the sedimentation basin and mixes with stormwater, which then overflows the riser pipe and discharges to the Creek. The discharge is intermittent and depends on the water level in the sedimentation basin. Also, during work days, the effluent is used onsite for dust control. During the first semiannual 2018 monitoring period, a total of 6,270,220 gallons of groundwater were treated and discharged to the sedimentation basin or used for onsite dust control over the lined areas of the landfill. Subdrain groundwater monitoring is performed quarterly for the parameters listed in the attached Self-Monitoring Plan (SMP). Samples collected from GD-1 and GD-2 (at NPDES permit Monitoring Location INF-001) typically have low VOCs detections.

Leachate

40) Leachate from the original 33-acre portion of the landfill and the lined expansion area is collected in separate holding tanks designated LHT-1 (old area) and LHT-2 (lined expansion area) where some is used for dust suppression, but the majority is temporarily stored before disposal to POTWs in either Half Moon Bay or Redwood City. During the first semiannual monitoring period of 2018, a total of 9,232,914 gallons of leachate were removed from the original landfill portion and the lined expansion area. Leachate monitoring is performed quarterly for the parameters listed in the SMP. VOCs and some semi-VOCs were detected in the leachate holding tanks during the first quarter of 2018.

41) In 2013, Water Board staff approved a three-year pilot study to evaluate the uptake of treated leachate by hybrid poplar trees. The purpose of this study was to utilize evapotranspiration mechanisms in vegetation to use treated leachate, thereby keeping leachate onsite and saving in transportation costs, and to use phyto/rhizodegradation to break down residual contaminants left in the treated leachate. In 2018, BFI concluded that the trees were not taking up as much leachate as predicted and the pilot study was terminated.

Stormwater and Surface Water

42) Chapter 40 of the Code of Federal Regulations, Parts 122, 123, and 124, require specific categories of industrial activities, including landfills, to obtain an NPDES permit for stormwater discharges. To comply with the Stormwater General Permit, stormwater is collected for analysis at two locations (MP-1 and MP-2) shown on Figure 6.

43) The landfill currently operates under Order No. R2-2018-XXXX, a NPDES Permit for discharge of treated groundwater to Corinda Los Trancos Creek. The NPDES permit requires monthly sampling for contaminants from Monitoring Location EFF-01 (see Figure 5), with sample results reported annually. Surface water is monitored up-slope from the landfill and downstream from the sedimentation basin prior to discharge in Corinda Los Trancos Creek, to evaluate the influence of the WMUs on stormwater runoff and surface water quality (monitoring locations RSW-001, RSW-002, and RSW-003).

Landfill Gas

44) The Bay Area Air Quality Management District regulates the OMSL's landfill gas collection systems. The OMSL has two landfill gas control systems, one for the upper canyon and the other for the lower canyon. The upper canyon system consists of vertical extraction gas wells and has a control system consisting of wells and collection pipes installed in the waste fill and connected to a blower that draws the gases from the site. The lower canyon system is similar in design and construction: the landfill gas is drawn from the site through horizontal gas collectors and vertical extraction gas wells and conveyed via pipelines by centrifugal blowers to two enclosed flares where it is incinerated. The lower canyon's gas control system consists of layers of horizontal collectors augmented with vertical extraction gas wells. The OMSL has two independently operating landfill gas flare stations. Landfill gas from both the upper canyon and a portion of the lower canyon is incinerated by one enclosed ground flare. Two enclosed ground flares abate landfill gas from the balance of the lower canyon.

REGULATORY FRAMEWORK

45) Antidegradation Policy: The State Water Resources Control Board (State Water Board) established California's antidegradation policy through State Water Board Resolution 68-16, which incorporates the federal antidegradation policy where federal policy applies. Resolution 68-16 requires existing water quality to be maintained unless degradation is justified based on specific findings. This Order complies with the anti-degradation policy by requiring treatment of degraded groundwater, prohibiting further degradation of existing water quality in the vicinity of the landfill, and requiring monitoring to confirm that no degradation occurs.

46) California Safe Drinking Water Act and Human Right to Water: It is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes (Water Code §106.3, subd. (a)).

The Safe Drinking Water Act provides that all Californians have a right to pure and safe drinking water (Health & Safety Code §116270, subd. (a)). This Order promotes that policy by requiring the Discharger to handle and dispose of waste, leachate, stormwater, and surface water in a manner that will protect water quality objectives, including those that protect drinking water supplies.

47) Basin Plan: The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) is the 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 Water Board and approved by the State Water Board, U.S. EPA, and the Office of Administrative Law where required.

48) The Basin Plan considers all groundwater to be suitable, or potentially suitable, for municipal or domestic water supply (MUN) and that, in making any exceptions, the Water Board will consider the criteria referenced in Water Board Resolution No. 88-63, "Sources of Drinking Water," where:

(a) The total dissolved solids exceed 3,000 mg/l (5,000 μS/cm, electrical conductivity), and it is not reasonably expected by the Water Board that the groundwater could supply a public water system, or

(b) There is contamination, either by natural processes or human activity (unrelated to the specific pollution incident), that cannot reasonably be treated for domestic use using best management practices or best economically achievable treatment practices, or

(c) The water source does not provide sufficient water to supply a single well capable of producing an average, sustained yield of 200 gallons per day.

49) At the OMSL, groundwater beneath the site does not meet any of the above exceptions. Thus, based on the hydrogeologic characterization and water quality data for the site, groundwater underlying the OMSL qualifies as a potential source of drinking water in accordance with Water Board Resolution No. 88-63. Accordingly, all of the current and potential beneficial uses, described below, apply to groundwater beneath the OMSL.

BENEFICIAL USES OF SURFACE WATER AND GROUNDWATER

Groundwater

50) The primary beneficial use of the groundwater in the vicinity of the landfill is for agricultural supply. There are 15 known water supply wells within a mile of the site. Two are in Corinda Los Trancos Canyon, 12 in Apanolio Canyon to the west, and another is near Highway 92 in Albert Canyon. The wells are privately owned and are primarily used for agriculture. There are no wells supplying municipal water within one mile of the site. There are two wells installed on the site; one supplies the gate house with non-potable water for its restrooms, and one is located near the sedimentation basin as an emergency fire suppression source. The existing and potential beneficial uses identified for groundwater in this basin, according to the Basin Plan, include:

a. Municipal and Domestic Supply (MUN)
b. Industrial Process Supply (PROC)
c. Industrial Service Supply (IND)
d. Agricultural Supply (AGR).

51) Groundwater at the landfill is neither currently used as a drinking water supply, nor is it likely to be used for future drinking water supply wells. However, the site is located just outside the Half Moon Bay Terrace groundwater basin, which is used as a drinking water supply. Groundwater occurs within both alluvial sediments and weathered granitic bedrock; therefore, the groundwater may factor in to recharge the basin below.

Surface Water

52) Existing beneficial uses identified in the Basin Plan for the Corinda Los Trancos Creek include:

a. Water Contact Recreation (REC1)
b. Non-Water Contact Recreation (REC2)
c. Warm Fresh Water Habitat (WRM)
d. Cold Fresh Water Habitat (COLD)
e. Wildlife Habitat (WILD)
f. Preservation or Rare or Endangered Species (RARE)

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

53) The County of San Mateo (County) certified a Final Environmental Impact Report (FEIR) on November 13, 1991, in accordance with CEQA (Public Resource Code Section 21000 et.seq.), which permitted a horizontal expansion of the landfill into the lower canyon of the site.

In 1999, the County approved an increase in the permitted fill height of the landfill to 1,205 feet above msl and an increase in the landfill footprint to 191 acres based on a Negative Declaration (ND) adopted by the County Board of Supervisors (SCH#98082020). The current final grading plan for the landfill was also included in that document.

In March 2017, a Technical Addendum to the 1999 ND was prepared to clarify and correct the design capacity for the landfill, which was erroneously stated as 49 million cubic yards in the 2001 SWFP. The current estimated design capacity of 60.5 million cubic yards is appropriate because, although the design capacity for the respective expansions included in the 1991 FEIR and 1999 ND are clearly stated, the overall site capacity estimates in those documents were not reflective of the waste mass already in place in the upper canyon when the 1991 FEIR was adopted.

54) The continued construction of Phases within the permitted waste disposal area is categorically exempt from CEQA pursuant to CCR title 14, section 15301, as existing facilities. If additional phase buildout is desired beyond the certified study area, an additional CEQA analysis will be required.

NOTIFICATION AND PUBLIC MEETING

55) The Water Board has notified the Discharger and interested agencies and persons of its intent to update WDRs and has provided them with an opportunity to submit their written views and recommendations.

56) The Water Board in a public meeting heard and considered all comments pertaining to the proposed WDRs for the site.

IT IS HEREBY ORDERED pursuant to the authority in Division 7, section 13263 of the California Water Code (CWC), title 27, Division 2, Subdivision 1 of the California Code of Regulations (CCR title 27), and State Water Board Resolution No. 93-62 that the Discharger, its agents, successors, and assigns shall meet the applicable provisions contained in Division 7 CWC, CCR title 27, and State Water Board Resolution No. 93-62, and shall comply with the following:

A. PROHIBITIONS

1. Waste shall not be exposed at the surface of any Phase unless active filling is occurring.

2. Designated wastes and wastes requiring special handling shall not be accepted and disposed in the original landfill portion.

3. Wastes shall not be disposed of in any position where they can be carried from the disposal site and discharged into waters of the State or of the United States.

4. The discharge of wastes, which have the potential to reduce or impair the integrity of the containment structures or which, if commingled with other wastes in the WMU could produce chemical reactions that create heat, pressure, fire, explosion, toxic by-products, or reaction products, is prohibited.

5. The relocation of wastes is prohibited without prior Water Board staff concurrence.

6. The relocation of wastes to or from any WMU shall not create a condition of pollution or nuisance as defined in CWC section 13050 (l) and (m). Any relocated waste shall not be placed in or allowed to contact ponded water from any source whatsoever.

7. Excavation within or reconfiguration of any existing Phase is prohibited without prior concurrence of Water Board staff. Minor excavation or reconfiguration activities, such as for installation of signs or landscaping or for routine maintenance and repair, do not require prior staff concurrence.

8. Wastes shall not be placed in any new Phase without Executive Officer approval based on receipt of an adequate construction quality assurance report(s) certified by a California-registered Civil Engineer or California-certified Engineering Geologist.

9. Construction of the containment features of all future Phases must comply with this Order, CCR title 27, and State Water Board Resolution No. 93-62.

10. The discharge or storage of hazardous waste, as defined in CCR title 23, sections 2521 and 2522, and as defined in CCR title 22, at the landfill is prohibited.

11. Groundwater shall not be degraded as a result of the waste disposal operation.

12. Filling of wetlands or waters of the State is prohibited unless water quality certification associated with the proposed filling is obtained from the Water Board or Executive Officer pursuant to CWA section 401.

13. Surface drainage from tributary areas and internal site drainage from surface or subsurface sources shall not contact or percolate through wastes during the life of the site.

14. Buildup of leachate levels within the landfill is prohibited and shall be prevented by operation of the leachate extraction systems. The depth of leachate shall not be greater than 12 inches above the bottom liner.

15. 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 a NPDES permit.

16. The treatment, storage, or discharge of groundwater or leachate shall not create a condition of pollution or nuisance as defined in CWC section 13050(m) nor degrade the quality of waters of the State or of the United States.

17. The Discharger shall not cause the following conditions to exist in waters of the State or of the United States at any place outside the landfill boundary:

    a. Surface Waters:

        (1) Floating, suspended, or deposited macroscopic particulate matter or foam
        (2) Bottom deposits or aquatic growth
        (3) Adverse changes in temperature, turbidity, or apparent color beyond natural background levels
        (4) Visible, floating, suspended, or deposited oil or other products of petroleum origin
        (5) Toxic or other deleterious substances to be present in concentrations or quantities which may cause deleterious effects on aquatic biota, wildlife or waterfowl, or which 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:

        (1) Degradation of groundwater quality; or
        (2) Substantial worsening of existing groundwater impacts

18. Migration of pollutants through subsurface transport to waters of the State is prohibited.

B. SPECIFICATIONS

1. 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 landfill systems including groundwater, surface water, leachate, and landfill gas containment, collection, treatment, and removal.

2. At any time, the Discharger may file a written request (including supporting documentation) with the Executive Officer, proposing modifications to the attached SMP. If the proposed modifications are acceptable, the Executive Officer may issue a letter of approval that incorporates the proposed revisions into the SMP.

3. The Discharger shall install any reasonable additional monitoring devices for groundwater, surface water, leachate, and landfill gas required to fulfill the terms of any future SMP issued by the Executive Officer for the landfill.

4. The Discharger shall maintain, inspect, repair, and replace all devices installed in accordance with this Order such that they continue to operate as intended without interruption.

5. The Discharger shall design and construct precipitation and drainage control facilities with a minimum capacity to accommodate a 100-year, 24-hour storm event.

6. The Discharger shall protect the site from any washout or erosion of wastes from inundation that could occur as a result of a l00-year, 24-hour storm event, or as the result of flooding with a return frequency of 100 years.

7. The Discharger shall construct and maintain all landfill foundation and structures or devices for erosion control and water, leachate, and gas containment and monitoring to withstand conditions generated during the maximum probable earthquake.

8. The Discharger shall operate and maintain containment, collection, drainage, and monitoring systems for groundwater, surface water, and leachate for as long as waste or leachate is present and poses a threat to water quality.

9. The Discharger shall operate and maintain the leachate discharge system to minimize undue buildup of hydraulic head on the bottom of the landfill and ensure that accumulated fluid is being adequately removed from the landfill and appropriately contained and discharged.

10. 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.

11. Final and interim covers for the landfill shall be graded and maintained to promote lateral runoff of precipitation and prevent ponding or infiltration of water on or within the landfill.

12. The Discharger must construct final landfill covers upon reaching the final fill height for each disposal Phase.

13. The Discharger shall implement a Detection Monitoring Program (DMP), pursuant to CCR 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) required pursuant to CCR title 27, section 20390. The SMP attached to this Order is intended to constitute the DMP for the landfill.

14. The WQPS for the OMSL shall include the following:

    a. Constituents of Concern: CCR 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." COCs for the OMSL include monitoring parameters identified in the SMP attached to this Order, or any future amendment thereof, and all Appendix II parameters in the federal Subtitle D regulations.

    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 entire list of COCs. The MPs for the OMSL shall include, at a

minimum, all constituents identified as such in the SMP attached to this Order, or any future amendments thereof. The Discharger may propose modification to the MPs as additional data become available concerning site-specific source characteristics and natural background water quality. However, modifications shall only be made upon written concurrence from the Executive Officer.

c. Concentration Limits: Concentration limits (CLs) for all COCs detected at the specified points of compliance shall be established using the background data set pursuant to CCR title 27, section 20400. A control chart limit shall be calculated from the background data set using statistical methods as appropriate.

d. Point of Compliance: CCR title 27 defines the Point of Compliance (POC) as the "vertical surface located at the hydraulically downgradient limit of the Unit that extends through the uppermost aquifer underlying the Unit." The POC for the OMSL shall be the hydraulically downgradient perimeter of the waste fill area.

e. Monitoring Points: CCR title 27 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 OMSL, which are located along the POC and at additional locations, are specified in the SMP attached to this Order or any future amendments thereof.

15. Whenever there is "measurably 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.

16. Composite base liners for all future Phases shall be designed and constructed consistent with the design and components specified below (from bottom to top). Alternative liner designs and/or components must provide equivalent or better protection and be approved by the Executive Officer. Liner designs consistent with the following specifications will likely streamline the Water Board staff liner design review process.

Phase Base	**Phase Side Slopes***
• Prepared subgrade	• Prepared subgrade
• 6-inch sand subdrain layer with perforated piping	• 6-inch thick subdrain layer
• Woven separator geotextile	• 60-mil HDPE geomembrane
• 2-foot compacted clay liner (CCL)	• Geosynthetic clay liner (GCL)
• 80-mil HDPE geomembrane	• 80-mil HDPE geomembrane
• Non-woven geotextile	• 2-foot soil operations layer
• 1-foot drainage layer with perforated piping wrapped in geotextile	
• 2-foot soil operations layer	

*In areas where final waste thickness exceeds 150 feet, the GCL and underlying 60-mil geomembrane are replaced by a 2-foot thick low permeability soil layer underlain by a woven separator geotextile.

17. Nonhazardous solid wastes and wastes requiring special handling shall be discharged only into composite-lined cells equipped with leachate collection and removal systems meeting Federal Municipal Solid Waste construction and design requirements specified in the Subtitle D regulations and meeting State Class III siting, construction, and design requirements specified in CCR title 27, section 20260, and the Specifications in this Order.

18. Treated wood waste shall be discharged only into composite-lined Phases equipped with an LCRS meeting the Subtitle D regulations and meeting State Class III siting, construction, and design requirements specified in CCR title 27, section 20260, and the Specifications in this Order. The Discharger shall manage and dispose of treated wood waste in accordance with California Health and Safety Code sections 25143.1.5 and 25150.7. If a release from the Phase where treated wood waste is disposed is detected and verified, the disposal of treated wood waste shall be terminated until corrective actions terminate the release. This discharge specification applies only to treated wood waste that does not meet the definition of hazardous waste or is not subject to hazardous waste management regulation under the federal act.

19. The Discharger shall provide and maintain a minimum of two surveyed permanent monuments near the landfill from which the location and elevation of wastes, containment structures, and monitoring facilities can be determined throughout the operation and post-closure maintenance periods. These monuments shall be installed by a licensed land surveyor or registered civil engineer.

20. The Discharger shall notify the 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.

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-registered Civil Engineer, Professional Geologist, and/or Certified Engineering Geologist.

C. PROVISIONS

1. Self-Monitoring Program: The Discharger shall comply with the Self-Monitoring Program (SMP) attached to this Order (Part A and Part B). Since landfills are the final repository for a heterogeneous mixture of liquid and solid waste from residential, industrial, and commercial sources, the leachate generated can consist of a diverse mixture of chemicals. Therefore, this Order requires that the Discharger prepare a workplan, acceptable to the Executive Officer, to analyze for contaminants of emerging concern (CECs). The workplan shall include consideration of CEC lists developed by the USGS study of municipal landfill leachate across the United States and may also consider State Water Board and U.S. EPA studies. The workplan may propose testing for pharmaceuticals, steroid hormones, and household and industrial chemicals. The workplan shall also discuss how the data will be utilized.

   The SMP is intended to constitute a DMP, pursuant to CCR title 27, section 20420, and is designed to identify significant water quality impacts from the landfill and demonstrate compliance with the

WQPS established pursuant to CCR title 27, section 20390. The attached SMP may be amended as necessary at the discretion of the Executive Officer.

COMPLIANCE DATE: SMP Compliance - Immediately
Workplan – April 1, 2019

2. Geotechnical Review of Landfill Stability and Evaluation: The Discharger shall submit a technical report, acceptable to the Executive Officer, which updates previous evaluations of the landfill's stability. The Evaluation shall include factors including, but not limited to: variances in groundwater and leachate levels within and adjacent to the landfill; interim and final fill grading plans; recent slope and interface strengths; static and dynamic slope stability; strengths of waste, subgrade, and cover material; and modeling results. The report shall include an evaluation of current and historic ground survey data, slope inclinometer data, creep measurements, and any other site monitoring data. If stability issues are identified, the report shall propose any changes necessary to current construction and closure plans.

   In addition, within 90 days following submission of the technical report, the Discharger shall provide the results of an independent geotechnical peer review of the landfill stability described above. The review shall evaluate the adequacy of the slope stability evaluation pursuant to title 27, subchapters 3 and 6. The independent reviewer shall be a California-licensed geotechnical engineer.

   The Discharger shall submit a technical report, acceptable to the Executive Officer, which provides a response to all comments and recommendations in the peer reviewed report and provide a workplan should additional work or engineering evaluations be warranted.

   COMPLIANCE DATE: June 15, 2019

3. Design Proposal of the Over-liner System for Future Phase Construction: The Discharger shall submit a technical report, acceptable to the Executive Officer, which describes the over-liner system planned for tie-in with the pre-Subtitle D WMU for future Phase build out.

   COMPLIANCE DATE: June 30, 2019

4. Workplan Evaluating Potential Discharge of Treated Leachate to Corinda Los Trancos Creek: The Discharger shall submit a technical workplan, acceptable to the Executive Officer, which evaluates the possibility of discharging treated leachate to the Creek. Stormwater and treated groundwater are discharged to the Creek, and BFI is interested in the technical feasibility of discharging treated leachate to the Creek as well. Approximately 20 million gallons of leachate are generated annually at the site, with approximately 5 million gallons of that total being reused for dust suppression in the lined areas of the landfill and the remainder trucked offsite for disposal at a POTW in either Half Moon Bay or Redwood City. The workplan shall evaluate both potential beneficial uses to the Creek and any detrimental impacts that may arise from the addition of treated leachate. The Discharger must also obtain approval from the Water Board or the Executive Officer for any NPDES permit modifications or CWA section 401 certifications that may be required to implement the workplan.

   COMPLIANCE DATE: 180 days prior to any proposed implementation of the workplan

5. Update Waste Acceptance Criteria: The Discharger shall submit a technical report, acceptable to the Executive Officer, with updated waste acceptance criteria for contaminated soils accepted at the

OMSL. The Designated Level Methodology (Marshack, 1989) may be used, or site-specific numbers can be calculated based on water quality objectives.

COMPLIANCE DATE: August 15, 2019

6. Report of Waste Discharge: The Discharger shall submit a technical report, acceptable to the Executive Officer, describing any proposed material change in the character, location, or volume of a discharge, or in the event of a proposed change in use or development of the landfill [CWC section 13260(c)]. 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 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 material change

7. Financial Assurance for Post-Closure Monitoring and Maintenance: The Discharger shall submit evidence of an Irrevocable Fund or other financial mechanism, acceptable to the Executive Officer, to ensure monitoring and maintenance of the landfill during the post-closure period. Every five years, for the duration of the post-closure monitoring period, the Discharger shall submit a report that includes an outline of the financial assurance mechanism and verification that the fund has been created. Financial assurance documentation was submitted in 2018 for post-closure monitoring and maintenance. Fund value shall be supported by calculations, to be included with this submittal, providing cost estimates for all post-closure monitoring, maintenance, repair and replacement of landfill containment, cover, and monitoring systems. Fund value shall be based on the sum of these estimates. The cost estimates and funding shall be updated to reflect changes to monitoring systems as they occur. The post-closure maintenance period shall extend as long as the landfill's wastes pose a threat to water quality; however, for purposes of calculating cost estimates, a period of no less than 30 years may be used.

   COMPLIANCE DATE: May 1, 2023, then every five years thereafter

8. Financial Assurance for Corrective Action: The Discharger shall submit evidence of an Irrevocable Fund or other financial mechanism, acceptable to the Executive Officer, to ensure any corrective action and remediation actions that may be necessary as a result of current or future unforeseen releases from the landfill. Every five years, for the duration of the post-closure monitoring period, the Discharger shall submit a report that includes an outline of the financial assurance mechanism and verification that the fund has been created. Fund value shall be supported by calculations, to be included with this submittal, providing cost estimates for all corrective action measures and remediation that may be required at the landfill. Fund value shall be based on the sum of these estimates. The cost estimates and funding shall be updated as necessary. The post-closure maintenance period shall extend as long as the landfill's wastes pose a threat to water quality; however, for purposes of calculating cost estimates, a period of no less than 30 years may be used.

   COMPLIANCE DATE: May 1, 2023, then every five years thereafter

9. Construction-Related Stormwater Control Plans: For each proposed grading or development project outside of the permitted landfill footprint greater than one acre, the Discharger shall a) submit a Notice of Intent to the State Water Board; b) submit an annual update to the Stormwater Pollution Prevention Plan, acceptable to the Executive Officer; and c) implement best management practices for the control of stormwater, in accordance with requirements specified in the

Stormwater General Permit (Order No. 2014-0057-DWQ or its reissuance). The Discharger will be deemed in compliance with this provision if another party constructing improvements on property owned by the Discharger, pursuant to an easement granted by the Discharger, has obtained coverage under the Stormwater General Permit.

COMPLIANCE DATE: 30 days prior to construction

10. Well Installation Report: The Discharger shall submit a technical report, acceptable to the Executive Officer, that provides well construction details, geologic boring logs, and well development logs for all new wells installed as part of the DMP (Attachment A).

    COMPLIANCE DATE: 60 days following completion of well installation

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

    COMPLIANCE DATE: Within 2 weeks of earthquake

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 of Ownership: The Discharger 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 existing Discharger and the new Discharger containing a specific date for the transfer of this Order's responsibility and coverage between the existing Discharger and the new Discharger. This agreement shall include an acknowledgment of which Discharger is liable for violations up to the transfer date and which Discharger is liable from the transfer date forward. [CWC sections 13267 and 13263]

14. Revision: These WDRs are subject to review and revision by the Water Board. [CWC section 13263]

15. Termination: Where a Discharger becomes aware that it failed to submit any relevant facts in a ROWD or submitted incorrect information in a ROWD or in any report to the Water Board, it shall promptly submit such facts or information. [CWC sections 13260 and 13267]

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. [CWC section 13263(g)]

17. Severability: Provisions of these WDRs are severable. If any provisions of these WDRs are found to be invalid, the remainder of these WDRs 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 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. [CWC section 13263(f)]

19. Reporting of Hazardous Substance Release: If any hazardous substance is discharged into any waters of the State, or discharged or deposited where it is, or probably will be, discharged into any waters of the State, the Discharger shall report such discharge to the Water Board by calling (510) 622-2300 during regular office hours (Monday through Friday, 8:00 to 5:00). The Discharger shall file a written report with the Water Board within five working 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.

20. Entry and Inspection: The Discharger shall allow Water Board staff or representatives, upon the presentation of credentials and other documents as may be required by law, to:
    a. Enter upon the 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 Water Code, any substances or parameters at any location. [CWC section 13267]

21. Discharges to Navigable Waters: Any person discharging or proposing to discharge to navigable waters from a point source (except for discharge of dredged or fill material subject to CWA section 404 and discharge subject to a general NPDES permit) must file a NPDES permit application with the Water Board. [CCR title 2, section 223571]

22. Endangerment of Health or the Environment: The Discharger shall report any noncompliance that may endanger health or the environment. Any such information shall be provided orally to the Water Board within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission to the 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 may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

23. Document Distribution: Copies of all correspondence, technical reports, and other documents pertaining to compliance with this Order shall be provided to the following agencies:

a. San Francisco Bay Regional Water Quality Control Board
b. San Mateo County, Local Enforcement Agency representative

The Executive Officer may modify this distribution list as needed.

24. Duty to Comply: The Discharger shall comply immediately, or as prescribed by the time schedule within, 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 WDRs. Violations may result in enforcement actions, including Water Board orders or court orders requiring corrective action or imposing civil monetary liability, or in modification or revocation of these WDRs by the Water Board. (CWC sections 13261, 13263, 13265, 13268, 13300, 13301, 13304, 13340, 13350).

25. Requests for Technical Reports: All technical and monitoring reports required by this Order are requested pursuant to CWC section 13267. Failure to submit reports in accordance with the schedules established by this Order or failure to submit a report of sufficient technical quality acceptable to the Executive Officer may subject the Discharger to enforcement action pursuant to CWC section 13268.

26. Electronic Reporting Format: All reports submitted pursuant to this Order must be submitted as electronic files in PDF format, unless otherwise requested as a paper copy. The Water Board has implemented a document imaging system, which is ultimately intended to reduce the need for printed report storage space and streamline the public file review process. Documents in the imaging system may be viewed, and print copies made, by the public, during file reviews conducted at the Water Board's office. Email notification should be provided to Water Board staff whenever a file is uploaded to the Water Board's GeoTracker database.

27. This Order supersedes and rescinds Order No. R2-2006-0040.

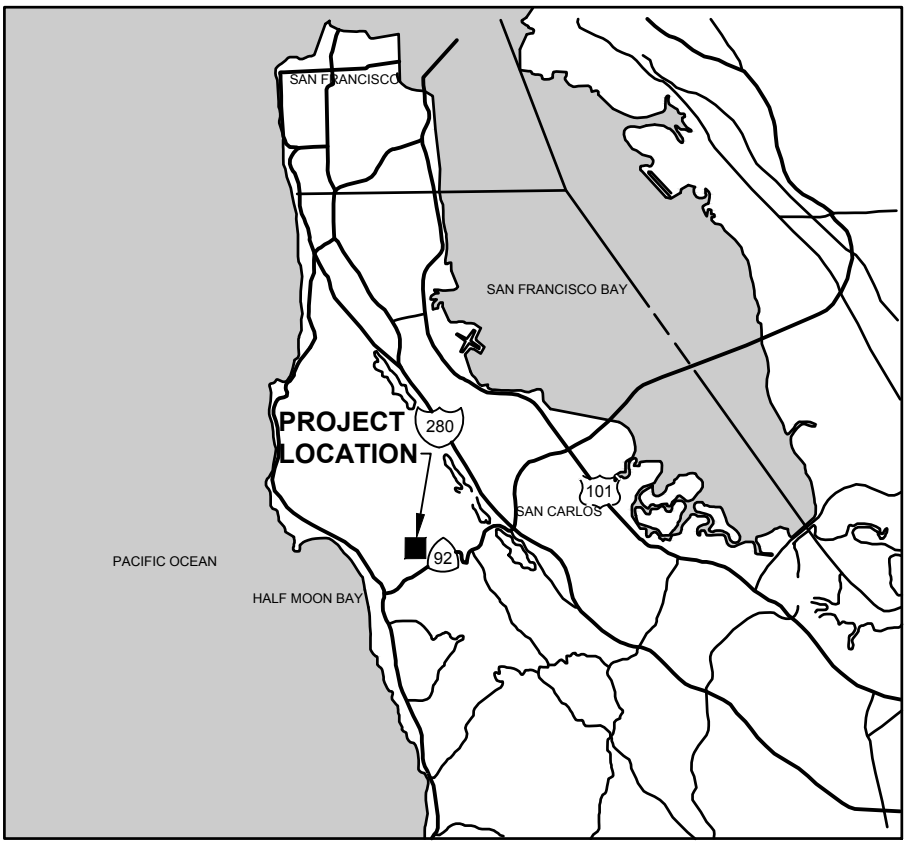
I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is a full, complete, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on November 14, 2018.

_____
Bruce H. Wolfe
Executive Officer

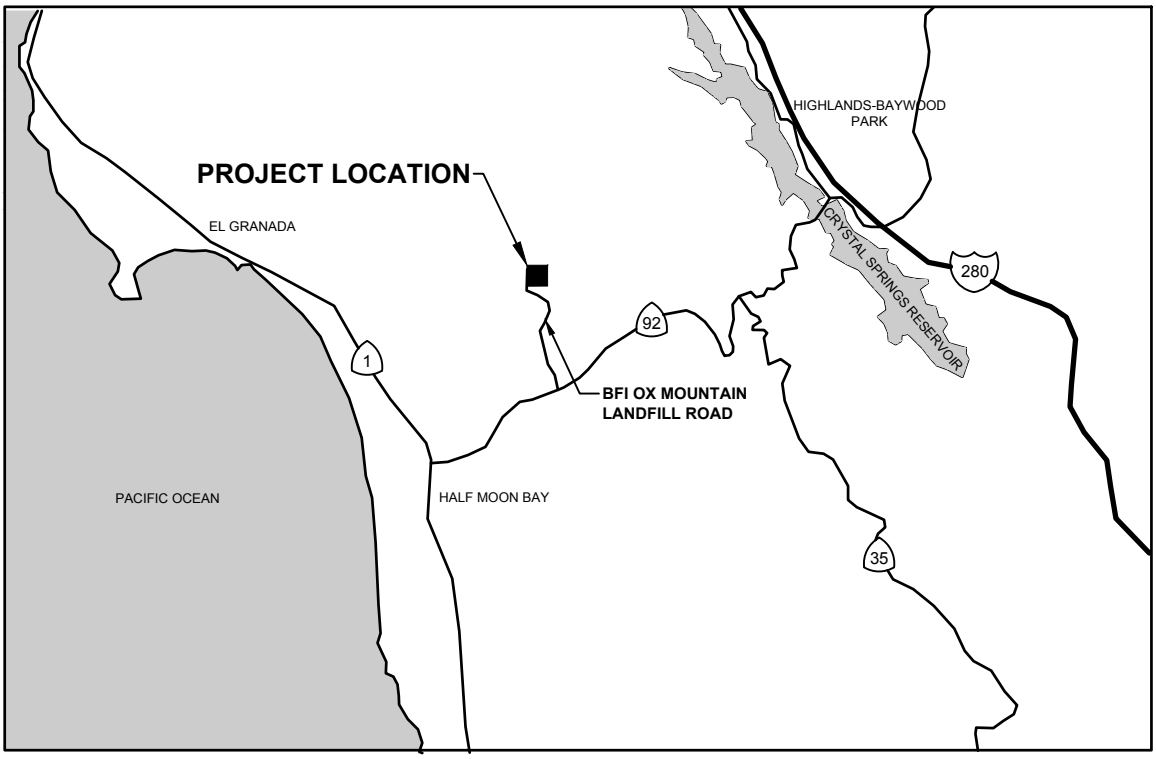
Attachments:

Figure 1 - Vicinity Map
Figure 2 – Site Plan
Figure 3 – Fill Areas and Disposal Phases
Figure 4 – Final Grading Plan
Figure 5 – Groundwater and Leachate Monitoring Locations
Figure 6 – Stormwater and Surface Water Monitoring Locations

Self- Monitoring Program (Part A and Part B)



VICINITY MAP
NTS



LOCATION MAP
NTS

TETRA TECH BAS
1360 Valley Vista Drive, Diamond Bar, CA 91765
TEL 909.860.7777 FAX 909.860.8017

OX MOUNTAIN SANITARY LANDFILL
WASTE DISCHARGE REQUIREMENTS

VICINITY MAP AND LOCATION MAP

FIGURE 1

G:\DWG\OX_MTN\WDR\CAD\SHEETFILES\1 VICINITY MAP AND LOCATION MAP.DWG 8/24/2018 3:14 PM

N

0 400 800

SCALE:1"= 800'

APPROXIMATE LOCATION OF EXISTING 2-10,000 GALLON WATER STORAGE TANKS

APPROXIMATE PROPERTY LINE

LFG FLARE

LFG TO ENERGY PLANT

FUTURE SUBTITLE D AREA

ACCESS ROAD

STATE HWY 92 (SAN MATEO ROAD)

PAVED ACCESS ROAD

SITE ENTRANCE

EXISTING RECYCLABLES COLLECTION AREA

FUEL AND WASTE OIL FACILITY

PRE-SUBTITLE D LANDFILL

LFG CONDENSATE STORAGE TANKS

LFG FLARE

EXISTING GROUNDWATER TREATMENT FACILITY

LIMIT OF EXISTING COMPOSITE LINER SYSTEM

GATE HOUSE AND SCALES

EQUIPMENT MAINTENANCE SHOP

OFFICE

SUBTITLE D AREA

FUTURE SUBTITLE D AREA

EXISTING LEACHATE STORAGE TANK FACILITY AREA

WATER SUPPLY WELL

WATER SUPPLY WELL

PRE SUBTITLE D REFUSE LIMIT

2 UTILITY VAULTS FOR LEACHATE

UTILITY VAULT FOR GROUNDWATER

EXISTING SEDIMENTATION BASINS

APPROXIMATE PROPERTY LINE

DATE OF TOPOGRAPHY: JANUARY 20, 2018 IN ACTIVE AREAS

G:\dwg\OX_MTNWDR\CAD\SheetFiles\2 SITE PLAN

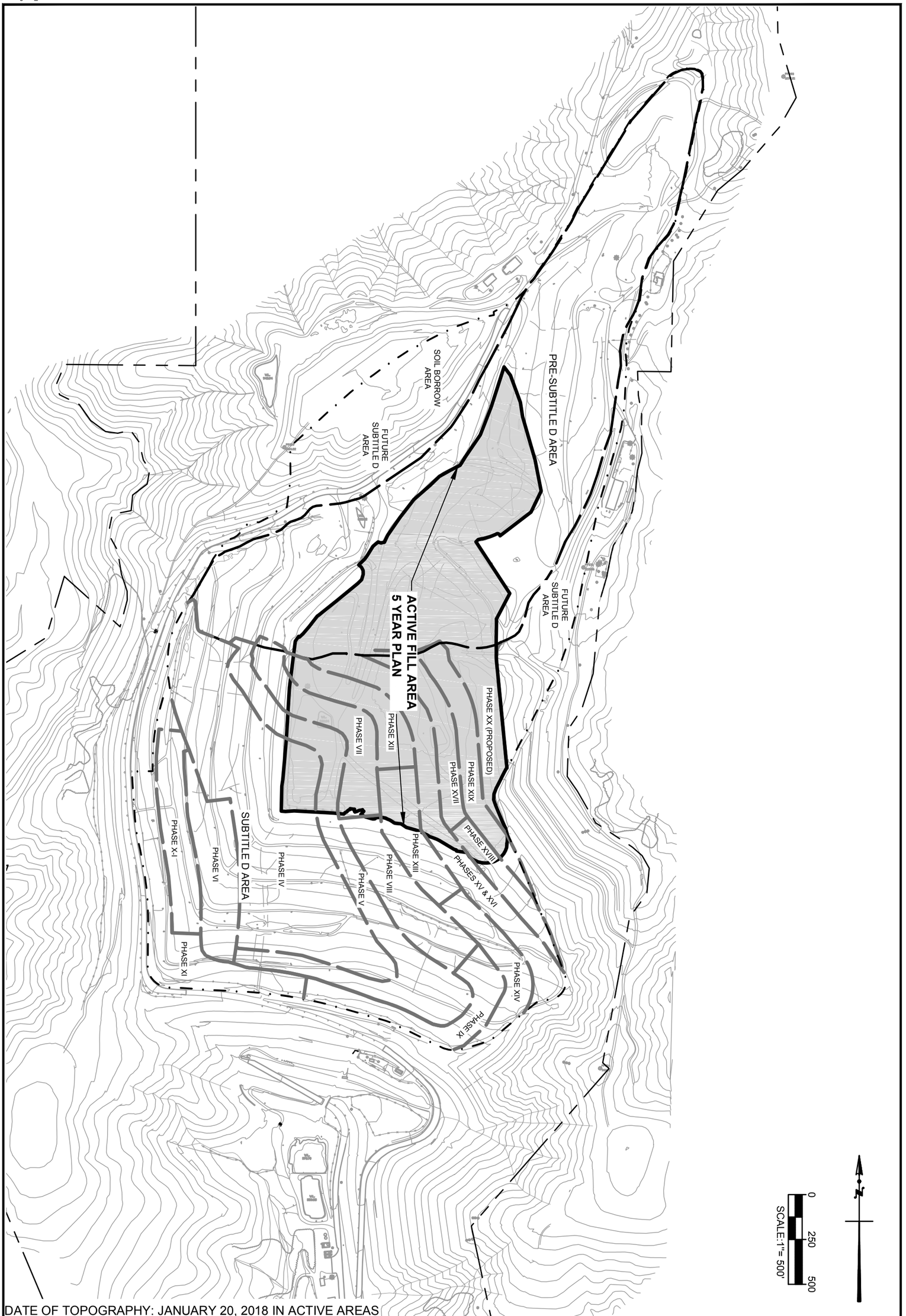
TETRA TECH BAS
1360 Valley Vista Drive, Diamond Bar, CA 91765
TEL 909.860.7777 FAX 909.860.8017

OX MOUNTAIN SANITARY LANDFILL - WASTE DISCHARGE REQUIREMENTS

SITE PLAN

FIGURE 2

G:\dwg\OX_MTN\WDR\CAD\SheetFiles\3 FILL AREAS AND DISPOSAL PHASES



DATE OF TOPOGRAPHY: JANUARY 20, 2018 IN ACTIVE AREAS

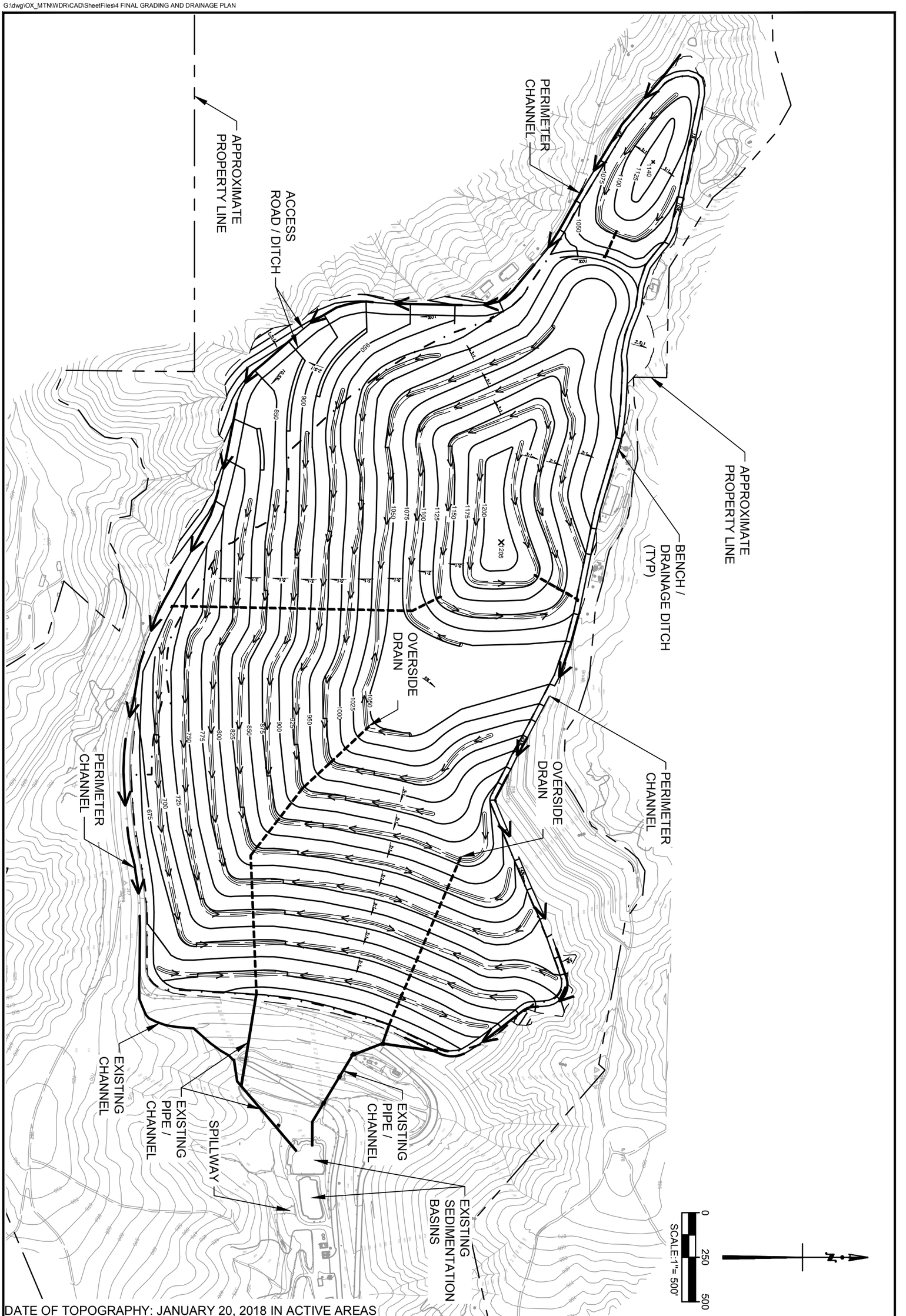
FIGURE 3

OX MOUNTAIN SANITARY LANDFILL - WASTE DISCHARGE REQUIREMENTS

FILL AREAS AND DISPOSAL PHASES

TETRA TECH BAS
1360 Valley Vista Drive, Diamond Bar, CA 91765
TEL 909.860.7777 FAX 909.860.8017

G:\dwg\OX_MTN\WDR\CAD\SheetFiles\4 FINAL GRADING AND DRAINAGE PLAN



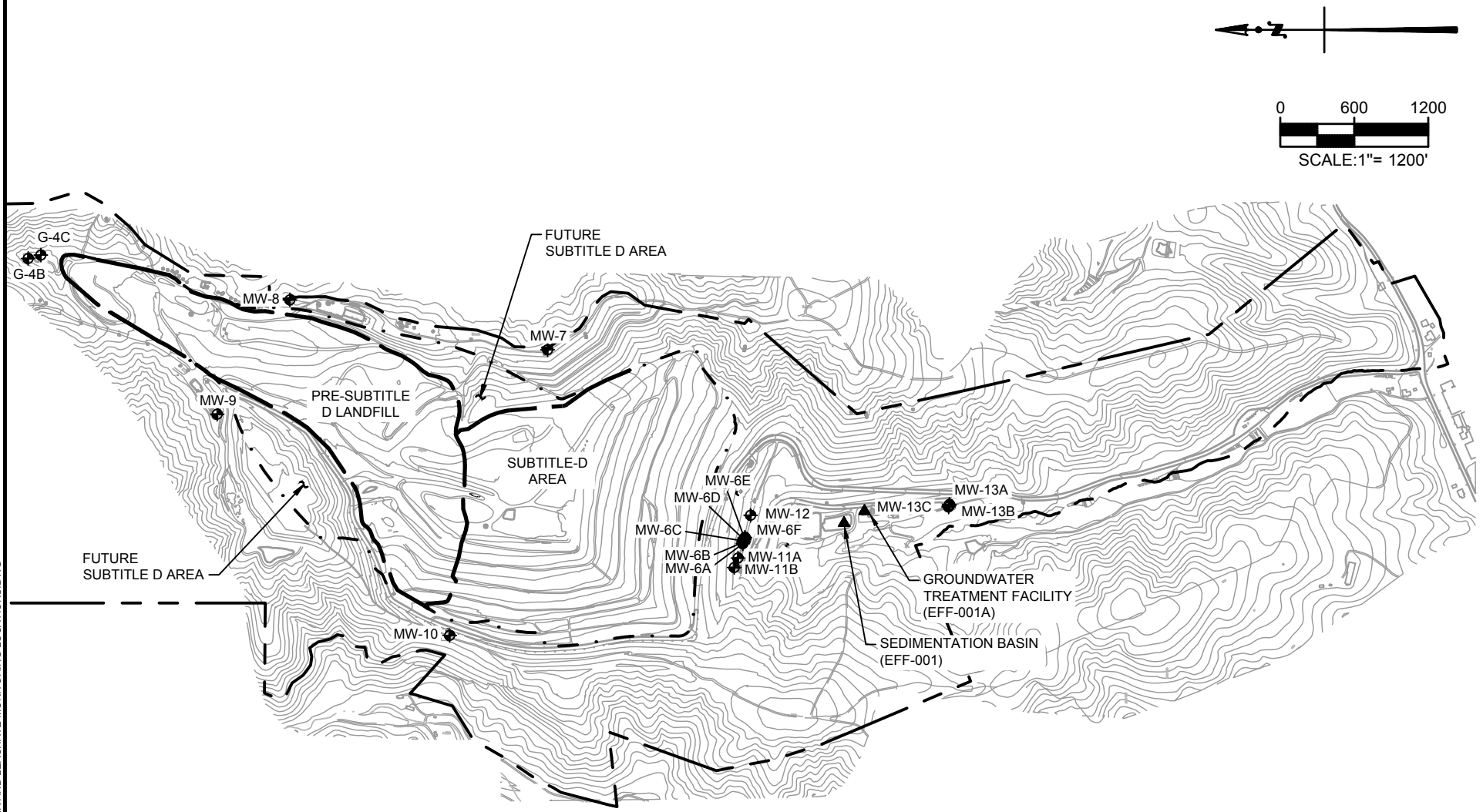
DATE OF TOPOGRAPHY: JANUARY 20, 2018 IN ACTIVE AREAS

FIGURE 4

OX MOUNTAIN SANITARY LANDFILL - WASTE DISCHARGE REQUIREMENTS

FINAL GRADING AND DRAINAGE PLAN

TETRA TECH BAS
1360 Valley Vista Drive, Diamond Bar, CA 91765
TEL 909.860.7777 FAX 909.860.8017



DATE OF TOPOGRAPHY:
JANUARY 20, 2018 IN ACTIVE AREAS

GROUNDWATER MONITORING WELL

TREATMENT FACILITY MONITORING LOCATION

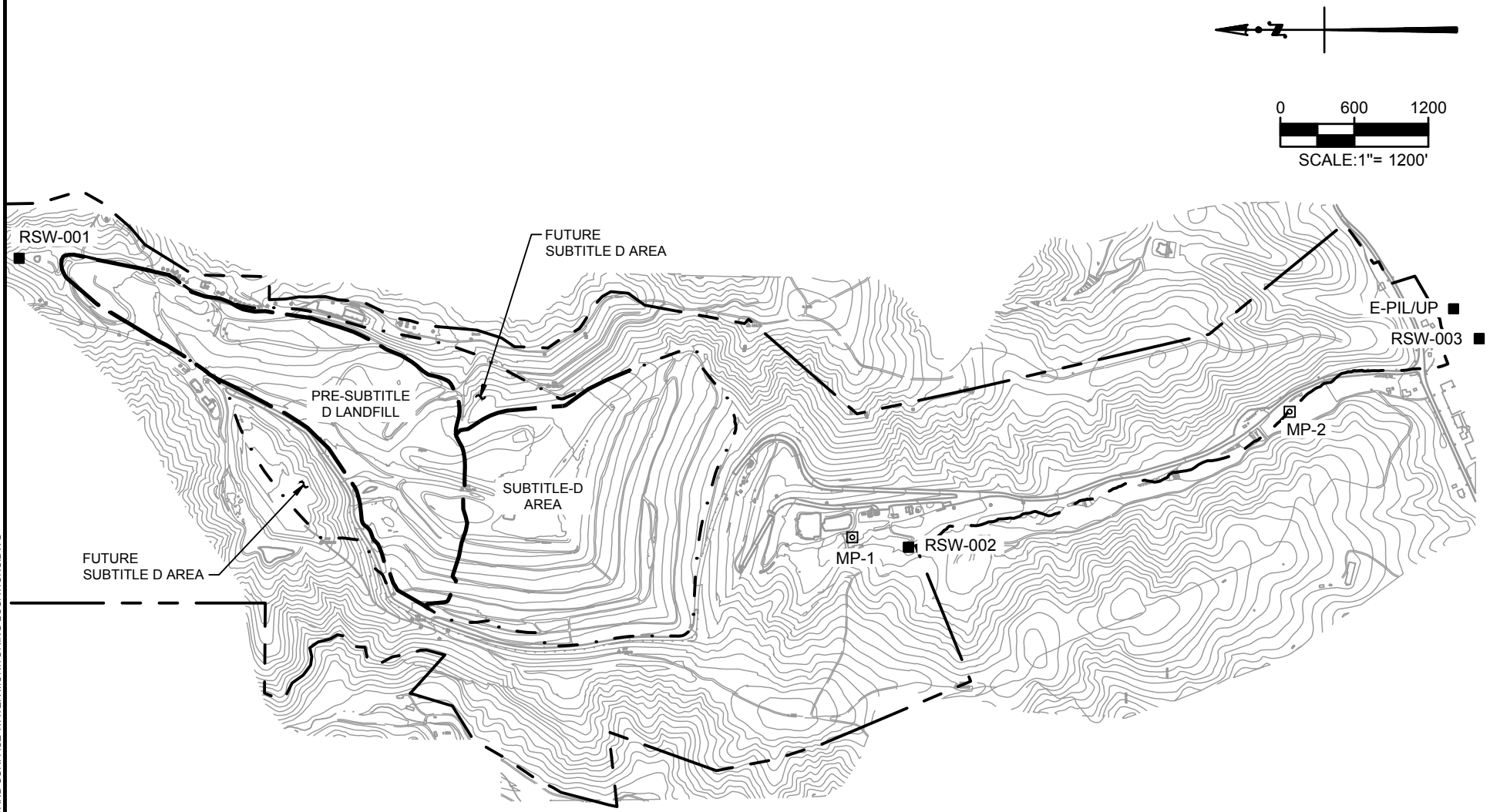
TETRA TECH BAS
1360 Valley Vista Drive, Diamond Bar, CA 91765
TEL 909.860.7777 FAX 909.860.8017

OX MOUNTAIN SANITARY LANDFILL - WASTE DISCHARGE REQUIREMENTS

GROUNDWATER AND LEACHATE MONITORING LOCATIONS

FIGURE 5

G:\DWG\OX_MTN\WDR\CAD\SHEETFILES\5 GROUNDWATER AND LEACHATE MONITORING LOCATIONS.DWG



DATE OF TOPOGRAPHY:
JANUARY 20, 2018 IN ACTIVE AREAS

MONITORING POINT

SURFACE WATER MONITORING LOCATION

TETRA TECH BAS
1360 Valley Vista Drive, Diamond Bar, CA 91765
TEL 909.860.7777 FAX 909.860.8017

OX MOUNTAIN SANITARY LANDFILL - WASTE DISCHARGE REQUIREMENTS

STORMWATER AND SURFACE WATER MONITORING LOCATIONS

FIGURE 6

G:\DWG\OX_MTN\WDR\CAD\SHEETFILES\6 STORMWATER AND SURFACE WATER MONITORING LOCATIONS.DWG

ATTACHMENT A

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

BROWNING-FERRIS INDUSTRIES

OX MOUNTAIN SANITARY LANDFILL
HALF MOON BAY, SAN MATEO COUNTY

ORDER No. R2-2018-XXXX

CONSISTS OF

PART A

AND

PART B

PART A

This self-monitoring program (SMP) specifies monitoring and reporting requirements, including:

- General monitoring requirements for landfills and waste management units (Part A)
- Self monitoring report content and format (Part A)
- Self monitoring report submittal frequency and schedule (Part B)
- Monitoring locations and frequency (Part B) = See Table B-1, and Figure B-1
- Monitoring parameters and analytes (Part B) = See Table B-1

A. AUTHORITY AND PURPOSE

For discharges of waste to land, water quality monitoring is required pursuant to the California Code of Regulations, Division 2, Title 27 (CCR title 27), Subdivision 1, Chapter 3, Subchapter 3, sections 20380 through 20435. The principal purposes of an SMP are: (1) to document compliance with waste discharge requirements and prohibitions established by the Water Board; (2) to facilitate self-policing by the Discharger 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 the Discharger in complying with the requirements of CCR title 27.

B. MONITORING REQUIREMENTS

Monitoring refers to the observation, inspection, measurement, and/or sampling of environmental media, waste management units (WMUs), containment and control facilities, and waste disposed in each WMU. The following defines the types of monitoring that may be required:

Monitoring of Environmental Media

The Water Board may require monitoring of groundwater, surface water, stormwater, 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 site.

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 Water Board staff. Analytical testing of environmental media required by this SMP shall be performed by a State-accredited laboratory for the required analyses. The director of the laboratory whose name appears on the certification shall be responsible for supervision of 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 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.

Standard Observations

Standard observations refer to observations within the limits of each WMU, at their perimeter, and of the receiving waters beyond their limits. Standard observations include:

1. WMUs:

    a. Evidence of ponded water at any point on the WMU
    b. Evidence of odors, including their presence or absence, characterization, source, and distance of travel from source
    c. Evidence of erosion, slope or ground movement, and/or daylighted waste
    d. Adequacy of access/haul roads

2. Perimeter of WMUs:

    a. Evidence of liquid leaving or entering the WMU, estimated size of affected area, and estimated flow rate (show affected area on map)
    b. Evidence of odors, including their presence or absence, characterization, source, and distance of travel from source
    c. Evidence of erosion and/or daylighted waste

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, presence or absence, characterization, source, and distance of travel form source
    d. Evidence of beneficial use: presence of water associated with wildlife
    e. Estimated flow rate
    f. Weather conditions: wind direction and estimated velocity, total precipitation within 5 days of inspection

Facilities Inspections

Facilities inspections refer to the inspection of all containment and control structures and devices associated with WMUs. Containment and control facilities may include the following:

1. Asphalt or earthen covers
2. Perimeter drainage or diversion channels
3. Detention ponds or collection tanks

C. REPORTING REQUIREMENTS

Reporting responsibilities of waste dischargers are specified in Water Code sections 13225(a), 13267(b), 13383, and 13387(b) and this Water Board's Resolution No.73-16 and Order No. R2-2018-00XX. At a minimum, each Self Monitoring Report (SMR) shall include the following information:

1. **Transmittal Letter**: A cover letter transmitting the essential points 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 (unless otherwise noted) to visually present data collected pursuant to this SMP:

    a. Plan-view maps showing all monitoring, sampling, and observation point locations, WMUs, containment and control structures, treatment facilities, surface water bodies, and site/property boundaries
    b. Groundwater level/piezometric surface contour maps showing inferred groundwater gradients and flow directions under/around each WMU, based upon the past and present water level elevations and pertinent visual observations
    c. Concentration vs. time graphs for key sampling parameters for each sampling location (annual report)
    d. 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 (unless otherwise noted) to show a chronological history and allow quick and easy reference:

    a. Well designations
    b. Well location coordinates (latitude and longitude)
    c. Well construction (including top of well casing elevation, total well depth, and screen interval depth below ground surface)
    d. Groundwater depths
    e. Groundwater elevations
    f. Horizontal groundwater gradients
    g. Current analytical results (including analytical method and detection limits for each constituent)
    h. Historical analytical results (including at least the past five years unless otherwise requested (annual report)
    i. 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 quantity and types of wastes disposed of during the past quarter, and the locations of the disposal operations, if applicable
    c. A description of the waste stream including the percentage of each waste type (e.g., residential, commercial, industrial, construction/demolition), if applicable
    d. The signature of the laboratory director or his/her designee indicating that he/she has supervised all analytical work in his/her laboratory
    e. Provide a discussion of the field and laboratory results that includes the following information:

        (1) Data Interpretations
        (2) Conclusions
        (3) Recommendations, as appropriate

(4) Newly implemented or planned investigations and remedial measures
(5) Data anomalies
(6) Variations from protocols
(7) Condition of wells
(8) 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 Water Board staff and unless the information is already contained in a Sampling and Analysis Plan approved by Water Board staff.

   a. New boring and well logs (upload to GeoTracker)
   b. Method and time of water level measurements
   c. Purging methods, and method of disposing of the purge water, and results including the type of pump used, pump placement in the well, pumping rate, equipment and methods used to monitor field pH, temperature, conductivity, and turbidity measurements
   d. Sampling procedures, field 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 physically taking the samples, and any other relevant observations
   e. Documentation of laboratory results, analytical methods, detection limits, and Quality Assurance/Quality Control (QA/QC) procedures for the required sampling.

D. CONTINGENCY REPORTING

1. The Discharger shall report by telephone to the Water Board any discharge from the disposal area immediately after it is discovered. The Discharger shall submit a written report with the 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)
   d. Corrective measures underway or proposed

2. The Discharger shall submit a written report to the Water Board within seven days of determining that a statistically significant difference occurred between a self- monitoring sample set and an approved concentration limit (CL). The written report shall indicate what CL(s) have been exceeded. The Discharger shall resample at the compliance point(s) where this difference has been found within 30 days.

3. If re-sampling and analysis confirms the earlier finding of a statistically significant difference between self-monitoring results and CL(s), the Discharger shall, upon determination by the Executive Officer, submit to the Water Board an amended Report of Waste Discharge as specified in CCR title 27, section 20420, for establishment of an Evaluation Monitoring Program meeting the requirements of CCR title 27, section 20425.

E. ELECTRONIC REPORTING FORMAT

All SMRs submitted pursuant to this SMP must be submitted as electronic files in **PDF format** to GeoTracker. The Water Board has implemented a document imaging system, which is ultimately intended to reduce the need for printed report storage space and streamline the public file review process. Documents in the imaging system may be viewed, and print copies made, by the public during file reviews conducted at the Water Board's office. Email notification should be provided to Water Board staff whenever a file is uploaded to the Water Board's GeoTracker website.

F. MAINTENANCE OF WRITTEN RECORDS

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 this discharge or when requested by the Water Board.

G. WATER QUALITY PROTECTION STANDARDS

Concentration Limits: Concentration limits (CLs) for all 5-year COCs listed in Table B-1 were set at the PQLs, unless they are 1) known and/or proven common laboratory contaminants, 2) derived from field sampling equipment and materials, or 3) detected in wells monitoring the unlined portion of the landfill.

PART B

A. MONITORING LOCATIONS AND FREQUENCY

Monitoring locations, frequencies, parameters, and analytes are specified in Tables B-1, B-2, and B-3 of this SMP and as indicated below. Monitoring locations are shown in Figures B-1 and B-2.

1. Environmental Media

   a. Groundwater:

      Groundwater shall be monitored at the locations specified in Table B-1 and shown on Figure B-1. Monitoring frequencies, parameters, and analytes shall be in accordance with Table B-1.

   b. Leachate:

      Leachate and any observed seeps shall be monitored at the locations specified in Table B-1 and shown on Figure B-1. Monitoring frequencies, parameters, and analytes shall be in accordance with Table B-1.

   c. Stormwater and Surface Water:

      Stormwater and surface water are monitored and reported under a site specific NPDES permit for discharge of treated groundwater (Order No. R2-2018-00XX), and the statewide General Permit for Storm Water Discharges associated with Industrial Activities (Order No. 2014-0057-DWQ).

2. Standard Observations

   Standard observations shall be made within the limits of each landfill cell, at their perimeter, and of the water courses and receiving waters beyond their limits. Standard observations shall be conducted at the locations and frequencies specified in Table B-2.

3. Facilities Inspections

   The Discharger shall inspect all containment and control structures and devices associated with each landfill phase and the landfill as a whole to ensure proper and safe operation. Facilities inspections shall be conducted at the locations and frequencies specified in Table B-3.

B. REPORTING SCHEDULE

The Discharger shall submit SMRs to Water Board staff in accordance with the schedule indicated in Table B-4. 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: SMP Tables B-1, B-2, B-3, & B-4
SMP Figures B-1 & B-2

Table 1

Ox Mountain Sanitary Landfill

Monitoring Parameters and Frequencies - Order No. R2-2018-00XX

	Groundwater											Leachate Sampling Locations	
	Compliance Points								Subdrain Points		Water Level Only		
Parameter (U.S. EPA Method)	MW-6A through MW-6F *	MW-8	MW-9	MW-10	MW-11A	MW-11B	MW-12	MW-13A through MW-13C*	GD-1	GD-2	G-4B	LHT-1	LHT-2
Field Measurements													
Water Elevation	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	NA	NA
Electrical Conductivity	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4		NA	NA
pH	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4		SA-2,4	SA-2,4
Temperature	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4		SA-2,4	SA-2,4
Turbidity	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4		SA-2,4	SA-2,4
Laboratory Analyses													
Site-Specific Monitoring Parameters													
Ammonia (350.1)	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4		SA-2,4	SA-2,4
VOCs (8260B)	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4		SA-2,4	SA-2,4
Arsenic, Chromium, Zinc, Iron (6010)	A-2	A-2	A-2	A-2	A-2	A-2	A-2	A-2	A-2	A-2		A-2	A-2
Cyanide (9010)	A-2	A-2	A-2	A-2	A-2	A-2	A-2	A-2	A-2	A-2		SA-2,4	SA-2,4
Sulfide (9030)	A-2	A-2	A-2	A-2	A-2	A-2	A-2	A-2	A-2	A-2		SA-2,4	SA-2,4
SVOCs (8270)	A-2	A-2	A-2	A-2	A-2	A-2	A-2	A-2	A-2	A-2		SA-2,4	SA-2,4
Constituents of Concerns (COCs) [(1)]	5-year	5-year	5-year	5-year	5-year	5-year	5-year	5-year	5-year	5-year		SA-2,4	SA-2,4

Notes and Explanations:

^ Stormwater parameters are listed in the General Insdustrial Stormwater Permit (Order No. 2014-0057-DWQ)

(1) Next 5-year Constituents of Concern (herbicides - EPA Method 8151, pesticides and PCBs - EPA Method 8080, CAM 17 metals - EPA Methods 6010/7470) sampling event will occur during the third quarter of 2021.

* Point of Compliance (POC) wells - MW-6A, 6B, 6C,6D, 6E, 6F, and MW- 13A, 13B, 13C

KEY

Q = quarterly monitoring according to the following schedule:

1st quarter = Jan thru Mar

2nd quarter = Apr thru Jun

3rd quarter = Jul thru Sep

4th quarter = Oct thru Dec

SA-2,4 = semi-annual monitoring during second and fourth quarters

A = Annual monitoring

NA = Not Applicable

blank = no sampling required

VOCs = volatile organic compounds by EPA Method 8260B, Appendix I list of compounds.

SVOCs = semi-volatile organic compounds

PCBs = polychlorinated biphenyls

Continued on page 2.

Water Quality Protection Standard (WQPS) for the OMSL

Constituents of Concern: Section 20395 of Title 27 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”. COCs for the OMSL include the "site-specific detection monitoring parameters" identified in Table B-1 of this SMP, and all Appendix II parameters in the federal Subtitle D regulations. The Discharger may propose modifications to the parameter list as additional data becomes available concerning site-specific source characteristics and natural background water quality. However, modifications shall only be made upon written concurrence from the Executive Officer.

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 entire list of COCs. The MPs for the OMSL shall include, at a minimum, all constituents identified as "site-specific detection monitoring parameters" in Table B-1 of this 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.

Concentration Limits: Pursuant to Title 27, section 20400, the Discharger utilizes both statistically and non-statistically-derived concentration limits (CLs). Statistically-derived CLs that are based upon evaluation of natural background groundwater conditions. Intra-well prediction limits are used to statistically evaluate the inorganic site-specific detection monitoring parameters. In cases where the detection frequency for a given parameter in a given well is less than 25%, a non-parametric prediction limit will be used provided sufficient data are available. If the statistical tests indicate no change in groundwater quality, then the background dataset is updated every two-years to provide more robust statistical comparisons for future analysis.

The CL for organic compounds, which are not naturally occurring and not detected in background groundwater samples, shall be taken as the contract laboratory’s practical quantification limit (PQL) of the analytical method used (e.g., U.S. EPA methods 8260 and 8270), provided that the PQL is less than or equal to the applicable and enforceable water quality standard, such as the California maximum contaminant level (MCL) for each constituent. The repeated detection of one or more non-naturally occurring organic compound above the PQL in samples from groundwater monitoring points is evidence of a potential release from the Unit. If the laboratory cannot achieve a PQL that is less than or equal to the water quality standard, re-sampling must occur within 30 days with analysis at a State-approved laboratory that can achieve the CL requirements.

Point of Compliance: Title 27 defines the Point of Compliance (POC) as the "vertical surface located at the hydraulically downgradient limit of the Unit that extends through the uppermost aquifer underlying the Unit." The POC for the OMSL shall be the hydraulically downgradient perimeter of the waste fill area.

Monitoring Points: Title 27 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 OMSL, which are located along the POC and at additional locations, are specified in Table B-1 of this SMP.

Table B-2 Standard Observations

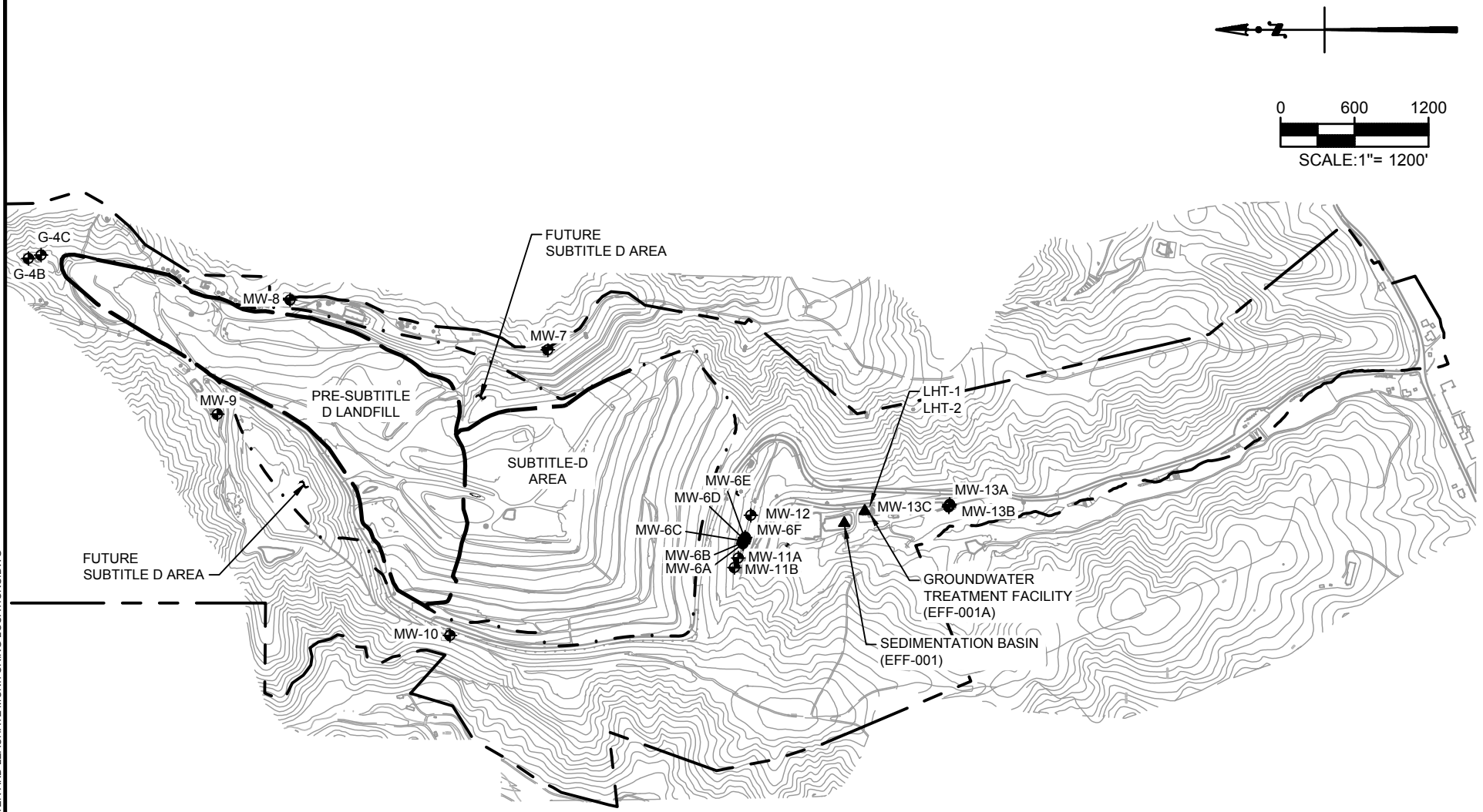
STATION	FREQUENCY
WMUs	Weekly
WMU Perimeter	Weekly
Receiving Waters	Weekly

Table B-3 Facilities Inspections

CONTAINMENT AND CONTROL FACILITY	FREQUENCY
Leachate collection and removal systems (LCRS)	Quarterly
Stormwater impoundment (Sedimentation Pond)	Quarterly
Vadose zone and subdrain collection systems	Quarterly
Perimeter diversion channels	Quarterly
Leachate management facilities and secondary containment (Leachate storage impoundments, piping, etc.)	Quarterly

Table B-4 Reports and Due Dates

Report Type	**Reporting Frequency**	**Report Due Dates**
Environmental Media Monitoring (Groundwater and Leachate)	Semi-Annual	**July 31, Jan. 31**
Standard Observations and Facilities Inspections	Semi-Annual	**July 31, Jan. 31**



DATE OF TOPOGRAPHY:
JANUARY 20, 2018 IN ACTIVE AREAS

GROUNDWATER MONITORING WELL

TREATMENT FACILITY MONITORING LOCATION

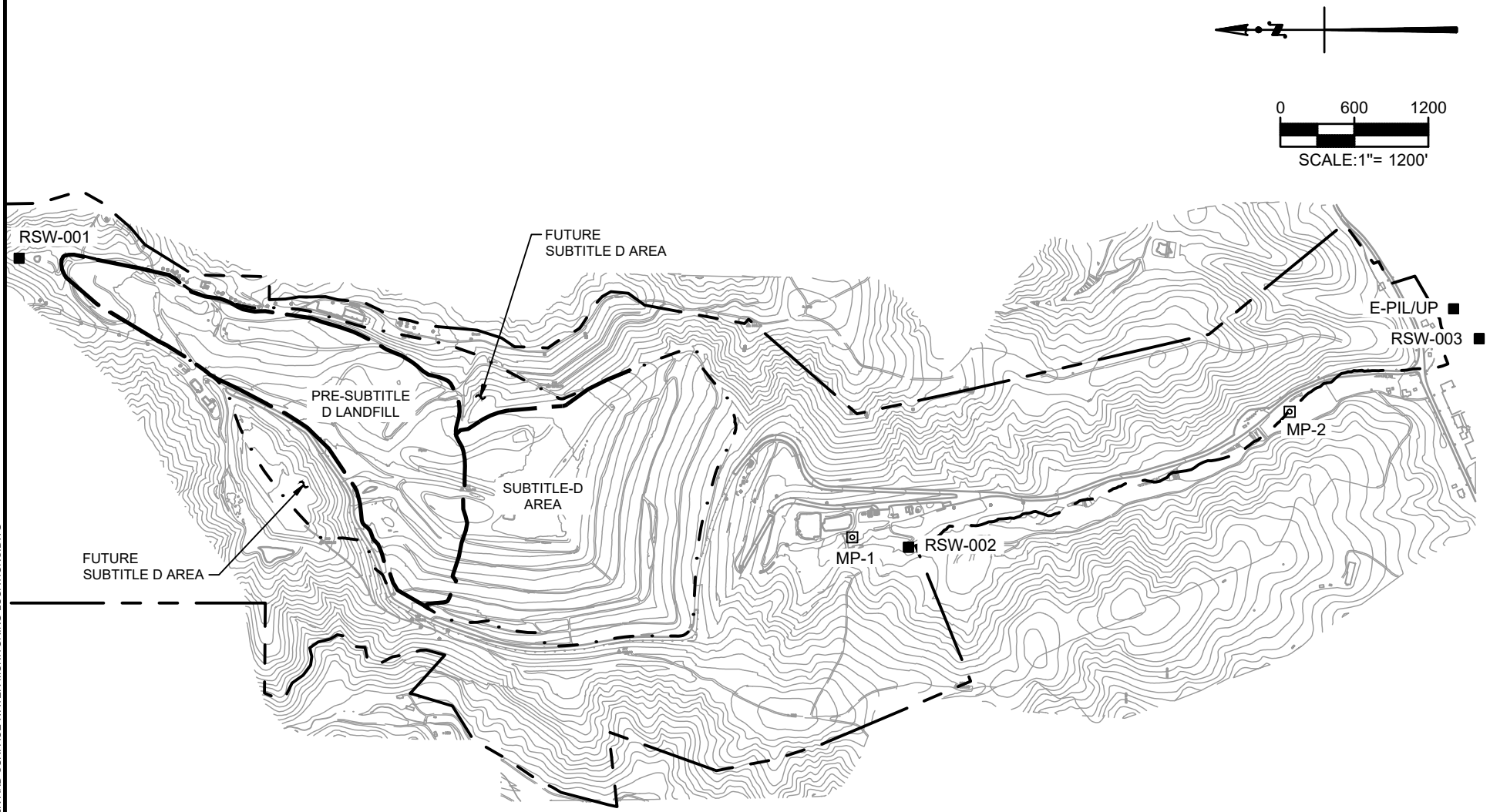
TETRA TECH BAS
1360 Valley Vista Drive, Diamond Bar, CA 91765
TEL 909.860.7777 FAX 909.860.8017

OX MOUNTAIN SANITARY LANDFILL - WASTE DISCHARGE REQUIREMENTS

GROUNDWATER AND LEACHATE MONITORING LOCATIONS

FIGURE B-1

G:\DWG\OX_MTN\WDR\CAD\SHEETFILES\B-1 GROUNDWATER AND LEACHATE MONITORING LOCATIONS.DWG



DATE OF TOPOGRAPHY:
JANUARY 20, 2018 IN ACTIVE AREAS

MONITORING POINT

SURFACE WATER MONITORING LOCATION

TETRA TECH BAS
1360 Valley Vista Drive, Diamond Bar, CA 91765
TEL 909.860.7777 FAX 909.860.8017

OX MOUNTAIN SANITARY LANDFILL - WASTE DISCHARGE REQUIREMENTS

STORMWATER AND SURFACE WATER MONITORING LOCATIONS

FIGURE B-2

G:\DWG\OX_MTN\WDR\CAD\SHEETFILES\B-2 STORMWATER AND SURFACE WATER MONITORING LOCATIONS.DWG