

**STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION**

**CORRECTIVE ACTION PROGRAM WASTE DISCHARGE REQUIREMENTS
ORDER NO. R4-2003-0155**

FOR

**BROWNING-FERRIS INDUSTRIES OF CALIFORNIA, INC.
(SUNSHINE CANYON CITY LANDFILL)
(File No. 58-076)**

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board), finds:

BACKGROUND

1. Browning-Ferris Industries of California, Inc. (BFI), an Allied Waste Industries company, owns and operates the Sunshine Canyon Landfill (Facility) at 14747 San Fernando Road, Sylmar, California. The Facility is located at the border between the City of Los Angeles and the unincorporated territory of Los Angeles County, to the west of the intersection of the Golden State (I-5) and the Antelope Valley (SR-14) Freeways (Figure 1). The site is contained within portions of Sections 23, 24, 25, and 26 of Township 3 North (T3N), Range 16 West (R16W) of the San Bernardino Base and Meridian and is centered at latitude 34° 19' 45"N and longitude 118° 30' 48"W.
2. The Facility includes two separate Class III municipal solid waste (MSW) management units, referred to as the Sunshine Canyon City Side Landfill (City Side Landfill) and the Sunshine Canyon County Extension Landfill (County Extension Landfill), respectively. The City Side Landfill is located entirely within the City of Los Angeles, while the County Extension Landfill is about 1,000 feet to the northwest of the City Side Landfill, within the unincorporated territory of Los Angeles County (Figure 2). (The relationship between "City Landfill" and "City Side Landfill" is explained in Finding No. 6).
3. The City Side Landfill is informally divided into two parts, designated as the "Main City Landfill Area" and the "North City Landfill Area". The Main City Landfill Area encompasses approximately 184 acres and is located to the south and west of the main access road, while the North City Landfill Area encompasses approximately 21 acres and is located to the north and east of the main access road (Figure 2).
4. The Main City Landfill Area began accepting MSW in 1958, while the North City Landfill Area began accepting MSW in the late 1980's. Both areas ceased accepting wastes in 1991. The final cover of the City Side Landfill consists of a monolithic soil cover with a minimum thickness of six feet. As with most MSW landfills operated during this time, the City Side Landfill was not equipped with a liner and leachate collection and removal system (LCRS).
5. The County Extension Landfill occupies approximately 215 acres and has been in operation since 1996. It currently receives an average of 6,000 tons of municipal solid wastes per day. Unlike the City Side Landfill, the County Extension Landfill has been constructed following Federal and State standards for Class III MSW management units and is equipped with a composite liner and a LCRS.

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6. As the County Extension Landfill will reach its design capacity by approximately 2007, BFI has proposed an expansion, referred as the "City/County Landfill", that will occupy the space between the inactive City Side Landfill and the active County Extension Landfill. The proposed expansion will create a single landfill footprint with a total area of 451 acres within the Sunshine Canyon. In this Order, the portions of the City/County Landfill within the territory of the Los Angeles City will be referred to as City Landfill Unit 2, while the existing City Side Landfill (including both the Main City Landfill Area and the North City Landfill Area) will be referred to as City Landfill Unit 1. These two units will be collectively referred to as "City Landfill" or simply "Landfill" hereinafter.
7. In accordance with the California Environmental Quality Act (CEQA), the Los Angeles City Council certified a Final Subsequent Environmental Impact Report (SERI) for the expansion of the City Landfill Unit 1 on October 27, 1999. The expansion of City Landfill Unit 1 means the development of City Landfill Unit 2. On December 3, 1999, the Los Angeles City Council passed Ordinance No. 172933 that changed the zoning where the City Landfill is located from "A1-1-O" (Agricultural) to "M3-1-O" (Heavy Industrial). The Ordinance defined three phases for the development of the City Landfill Unit 2, with a total area of approximately 194 acres.
8. The City Landfill Unit 1 is currently regulated by waste discharge requirements (WDRs) adopted by this Regional Board on November 23, 1987 (Order 87-158), while the County Extension Landfill is regulated by WDRs adopted by this Regional Board on July 22, 1991 (Order No. 91-091).
9. In accordance with California Code of Regulations (CCR), title 27 (27 CCR), BFI has submitted a Joint Technical Document (JTD) to this Regional Board to apply for WDRs for the construction of Phase I of City Landfill Unit 2. The JTD contains an overview of the project and includes descriptions on the environmental setting, existing facilities, design, environmental control systems, stability analyses, facility operations, permit requirements, construction quality assurance plan, and preliminary closure and post-closure maintenance plans for the proposed landfill expansion. Regional Board staff has reviewed the JTD, provided comments, and received responses from BFI. In a letter to BFI dated February 5, 2003, Board staff determined that the JTD was complete for the purpose of developing tentative WDRs.
10. On April 25, 2003, BFI submitted additional, minor modifications to the JTD. These modifications did not affect the completeness of the JTD, but did require additional consideration by the Regional Board staff. The JTD, as modified by the April 25, 2003, forms a basis for the Regional Board's consideration of these WDRs.
11. The proposed Phase I of City Landfill Unit 2 will be developed over an area of approximately 84 acres with a net capacity of about 7.5 million tons of municipal solid waste. Based on the 33,000 tons maximum weekly intake rate, the operational life of Phase 1 of City Landfill Unit 2 will be approximately 4.8 years. The footprints of Phase I of City Landfill Unit 2 are displayed in Figure 3.
12. The proposed Phase I of City Landfill Unit 2 will be constructed and operated in conformance with applicable Federal and State standards and will be equipped with composite liners and a LCRS. In some portions, liners will be constructed over the side slopes of the existing City Landfill Unit 1. However, no waste will be placed on the top decks of the closed Main City Landfill unit. The engineered containment features of Phase 1 of City Landfill Unit 2, as described in the JTD, will be constructed to the prescriptive standards of 27 CCR and/or 40 CFR or equivalent performance standards. This Order requires that final design and construction plans for proposed engineered systems be reviewed and approved by the Regional Board's Executive Officer (Executive Officer) prior to installation and use.

13. The proposed Phase I of City Landfill Unit 2 will be developed as a “canyon cut-and-cover” landfill. Incoming waste will be spread and compacted in approximately one to two-foot thick layers, generally placed in lifts up to 20-foot high, and covered with a minimum of 6 inches of compacted daily cover soil (including non-hazardous contaminated soils) or an alternative daily cover (ADC, e.g., tarps, green waste) that is approved under section 20690 of 27 CCR.
14. BFI is implementing a waste-load-checking program at the County Extension Landfill to prevent the disposal of hazardous wastes, designated wastes, or other unacceptable materials. Intercepted hazardous materials are temporarily stored in a dedicated hazardous waste storage area and disposed of at an appropriate hazardous waste facility according to hazardous waste laws. This waste-load-checking program will be continued for the operations at City Landfill Unit 2.
15. California Water Code (CWC) section 13263 provides that all WDRs shall be reviewed periodically and, upon such review, may be revised by the Regional Board to comply with changing state or federal laws, regulations, policies, or guidelines. 27 CCR, section 21710(e), provides that WDRs for multi-unit facilities may be consolidated to a single set of WDRs. Accordingly, this Order includes WDRs for both the inactive City Landfill Unit 1 and the proposed Phase I of City Landfill Unit 2. Unless otherwise stated, requirements in this Order are applicable to both units.
16. This Order includes the attached definition of terms and acronyms (Attachment A).

ENVIRONMENTAL SETTING

17. The Facility is situated at the eastern end of the Santa Susana Mountains and the northern edge of the San Fernando Valley. Climatic conditions at the Facility are semi-arid. Rainfall typically occurs between November and April with little rainfall during the summer months. Average annual precipitation in the area is approximately 22.0 inches, with annual precipitation ranging from a high of 55.8 inches to a low of 10.2 inches. Average annual evaporation in the area is approximately 80 inches.
18. The Facility is surrounded by unincorporated areas of Los Angeles County to the north and west, and the communities of Granada Hills and Sylmar to the south and east. Land uses within 1,000 feet of the site include the County Extension Landfill to the northwest, undeveloped mountainous terrain to the south and southwest, an active oil production area to the south, freeways to the north and northeast, and open space and residential areas to the south and east. The O'Melveny Park of the City of Los Angeles is located to the west and southwest of the landfill property.
19. Three oil fields have been developed adjacent to the Facility site. The Newhall, Aliso Canyon, and Cascade Fields are located within one mile of the landfill property boundary. The Cascade Oil Field is located within 1,000 feet of the southwestern portion of the City Landfill. Approximately 96 oil/gas wells have been identified within the one-mile radius of the project site. Abandoned oil wells are occasionally encountered during development of the Facility. As these wells are encountered, they will be decommissioned in a manner protective of water quality.
20. The Facility site is underlain predominantly by marine sedimentary rocks of the Upper Miocene to Lower Pliocene-age Towsley Formation. The Pliocene-age Pico Formation outcrops in limited areas near the southern most portion of the facility. The Towsley and Pico Formation bedrock consist primarily of siltstone and fine-grained sandstone inter-bedded with lenses of coarse-grained sandstone and conglomerate. The bedrock units range from relatively fresh to highly weathered, with the degree of weathering generally decreasing with increasing depth below ground surface.

21. The bedrock units at the site are locally overlain by younger alluvial deposits including alluvium, colluvium, and/or landslide debris. The alluvial deposits occur primarily along the axis of the various sub-canyons that comprise Sunshine Canyon and consist of varying mixtures of unconsolidated sand, gravel, silt, and clay. The alluvial deposits are locally up to 30 feet thick. Substantial thickness of artificial fills have been placed in some areas of the Facility.
22. The bedrock formations beneath Sunshine Canyon are folded into a series of anticlines and synclines that plunge to the southeast. Near the southern margin of the Canyon, the bedrock units are truncated by several east-west trending faults, which dip steeply to the north beneath the southern portion of the facility. A second fault zone (designated as 'Fault A') is located north of the City Landfill within the County Extension Landfill property. Several crude oil surface seeps associated with this fault zone were noted during previous construction of the County Extension Landfill. The faults that have been mapped at the site have been determined to be formed during the mid-Pleistocene period (i.e. 750,000 to 125,000 years ago).
23. There are no known active faults within the Facility area. Active faults are defined as Holocene epoch faults that have exhibited movement in the last 11,000 years. The closest major active faults to the site are the San Fernando-Sierra Madre Fault and the Santa Susana Fault. Both are about three miles to the south of the site. The most prominent active fault in the area, the San Andreas Fault, is about 24 miles to the northeast.
24. 27 CCR, 20370, requires that Class I and Class II solid waste management units be designed to withstand a maximum credible earthquake (MCE) and Class III units be designed to withstand a maximum probable earthquake (MPE) without damage to the foundation or to the structures which control leachate, surface drainage, or erosion, or gas. This Regional Board requires Class III landfills in this Region to be designed to accommodate an MCE event without failure of any containment system.
25. Seismic Hazard Zone Maps for the Oat Mountain 7.5 minute quadrangle, released February 1, 1998, by the California Division of Mines and Geology Seismic Hazards Mapping Program, indicate that the City Landfill is located outside identified liquefaction zones, but within areas where previous occurrence of landslide movement, or potential for permanent ground displacements, indicate that mitigation is required. Landslide deposits have been identified within the footprint of the proposed Phase I of City Landfill Unit 2. Such landslide deposits will be properly removed and mitigated prior the installation of the landfill liner system.
26. The Facility is not underlain by a major groundwater basin. However, the northern boundary of the San Fernando Groundwater Basin, an important groundwater resource in this Region, is located approximately one mile to the south of the project site. Pollutants released from the landfill can potentially be carried out the canyon and reach the groundwater basin and cause pollution.
27. Groundwater beneath the Facility occurs in two main zones: a shallow, unconfined water bearing zone consisting of alluvial deposits and the upper weathered portion of the bedrock, and a deeper, locally confined water-bearing zone consisting primarily of relatively fresh bedrock materials. Hydraulic conductivity of the bedrock beneath Sunshine Canyon ranges from 10^{-3} to 10^{-9} centimeters per second (cm/sec) with values increasing with increasing weathering and fracturing density. The hydraulic conductivity of the alluvial deposits is estimated to be from 10^{-2} to 10^{-4} cm/sec.

28. The majority of groundwater flow beneath the Facility occurs within the alluvium and weathered bedrock near the canyon bottoms, generally following the pre-landfill construction topography. Groundwater flow within the canyon is generally to the southeast towards the mouth of the canyon and the velocity of groundwater flow within the alluvium is estimated to be from 0.04 to 4.4 ft/day.
29. There is an overall transition with depth from mostly Ca-MgSO₄ groundwater to mostly Na-HCO₃ groundwater at the site. The majority of the groundwater within the shallow water-bearing zone is a Ca-MgSO₄ type water with total dissolved solids (TDS) ranging from 2,000 to 4,000 mg/L. Groundwater within the unweathered bedrock zone is primarily a Na-HCO₃-SO₄ type water with TDS ranging from 1,000 to 3,000 mg/L. Because of high concentrations of salts and low yield, groundwater at the site is currently not used as a drinking water source.
30. Geographic variation of groundwater quality is substantial within the Facility. In general, concentrations of dissolved solids, particularly chloride, tend to be higher towards the mouth of the canyon. A study conducted by BFI between October 1994 and August 1996 (“chloride investigation”) concluded that the observed differences in chloride concentrations between upgradient and downgradient groundwater monitoring wells at the facility were likely the result of upward migration of oilfield brine along fault fractures to the shallow groundwater.
31. The Facility is located within the Los Angeles River Watershed Basin. Surface water runoff originating in Sunshine Canyon exits through the mouth of the canyon where it proceeds to flow in a southerly direction into the San Fernando Valley, which is tributary to the Los Angeles River. The Los Angeles Reservoir, which stores water from the Los Angeles Aqueduct, is located approximately 1.5 miles to the southwest of the Facility.
32. The Facility site is identified as being in a Zone C area on the Flood Insurance Rate Map (FIRM) by the Federal Emergency Management Agency (FEMA) sponsored National Flood Insurance Program. Zone C includes areas of minimal flooding.
33. The proposed Phase I of City Landfill Unit 2 will result in the removal of approximately 3.46 acres of wetlands. In addition, the final closure of City Landfill Unit 1 will result in the removal of approximately 2.03 acres of wetlands. As required by 40 CFR 258.12, BFI has proposed compensatory mitigation measures to achieve no net loss of wetlands (defined by acreage and function) for the project by restoring existing degraded wetlands and creating additional manmade wetlands offsite. The compensatory mitigation measures will be conducted by BFI under the direction of this Regional Board and the U.S. Corps of Engineers, as provided by the Federal Clean Water Act, sections 401 and 404, respectively.
34. 40 CFR 258.12(a) requires, among other things, that the proponent of a new landfill or landfill expansion to demonstrate that “*Where applicable under section 404 of the Clean Water Act or applicable State wetlands laws, the presumption that practicable alternative to the proposed landfill is available which does not involve wetlands is clearly rebutted.*” Similarly, section 258.12(a)(4) requires that “*to the extent required under section 404 of the Clean Water Act or applicable state wetlands laws, steps have been taken to attempt to achieve no net loss of wetlands ...*” These requirements are addressed in the JTD submitted to this Regional Board and the application to the U.S. Corps of Engineers for a 404 permit by BFI for the proposed landfill development. To ensure that the regulations in 40 CFR 258.12 are not violated, this Order prohibits the removal of any wetlands at the site unless a 404 permit is issued by the U.S. Corps of Engineers that incorporates conditions contained in a Clean Water Act section 401 water quality certification issued by this Regional Board.

35. 40 CFR 258.12 further requires that the owner or operator make specified demonstrations concerning water quality, endangered species, marine sanctuaries, and wetlands degradation. BFI submitted this information as part of the JTD. Sufficient information is available to make a reasonable determination that the requirements, conditions, and prohibitions contained in this order will protect water quality and that the new landfill and its operations will not jeopardize endangered or threatened species, violate any requirements under the Marine Protection, Research and Sanctuaries Act of 1972, or contribute to significant degradation of wetlands.

ENVIRONMENTAL MONITORING SYSTEMS

36. Groundwater monitoring at the site was first performed at the City Landfill in 1986 as part of the Solid Waste Assessment Test (SWAT) investigation for the facility. In 1988, a formal detection monitoring program (DMP) was established with the adoption of Board Order 87-158 and associated Monitoring and Reporting Program (M&RP) No. CI-2043. The existing water quality monitoring networks at the City Landfill include 19 groundwater monitoring wells, a groundwater extraction trench, four surface water monitoring stations, five lysimeters, three leachate monitoring wells, and 14 landfill gas probes (Figure 4).

37. The groundwater monitoring points at the site are divided into four general groups based on their locations and depths:

Property Boundary Wells: MW-1, MW-5, MW-6, and MW-7, MW-13. These are monitoring wells located at the down-gradient property boundary of the facility and are screened at the shallow groundwater zone;

Early-Warning Monitoring Points: MW-2A, MW-8, MW-9, MW-10, and the extraction trench. These monitoring wells are located in the area between the City Landfill Unit 1 footprint and the down-gradient property boundary and are screened at the shallow groundwater zone;

Deep Monitoring Wells: DW-1, DW-2, DW-3, DW-4, and MW-2B. These are monitoring wells that are located in the area between the City Landfill Unit 1 footprint and the property boundary and screened within the deep groundwater zone; and

Upgradient Monitoring Wells: MW-4, MW-11, MW-12, CM-5, and CM-9R3. These wells are located upgradient of the City Landfill within the shallow groundwater zone. With the exception of MW-4, all these upgradient wells are monitored under the WDRs for the County Extension Landfill (Order No. 91-091, M&RP No. CI-7059).

38. As required by the Regional Board under the SWAT program, BFI installed four leachate monitoring wells in 1988, identified as LR-1 through LR-4 on Figure 4, to collect leachate samples from the City Landfill Unit 1. After the SWAT investigation, BFI has voluntarily continued the monitoring of these leachate wells. However, most of these leachate monitoring wells are dry or damaged, except for LR-2, from which leachate samples have been obtained during the majority of the sampling events. This Order requires BFI to regularly sample and analyze leachate from both LR-2 and the leachate sumps that will be constructed within City Landfill Unit 2.

39. In 1990, BFI installed a permeable extraction trench across the main alluvial channel downgradient of the City Landfill Unit 1. The structure was keyed into unweathered bedrock and was installed to minimize the potential of offsite migration of groundwater through the alluvial groundwater zone. Groundwater collected at the trench has been regularly monitored for possible contamination and used onsite for irrigation and dust control since 1997.

40. Besides the groundwater monitoring wells and the trench, BFI also installed five lysimeters (LY-1, LY-2, LY-3, LY-4, and LY-5) within the unsaturated zone at the City Side Landfill in an effort to collect soil pore liquid samples. However, these lysimeters are almost always dry and no liquid samples have been obtained from them.
41. As required by the South Coast Air Quality Management District (SCAQMD), BFI has installed 14 gas probes (GP-1 through GP-14) within the unsaturated zone around City Landfill Unit 1 for field methane gas monitoring. These gas probes are utilized to monitor volatile organic compounds in landfill gas that may cause contamination to groundwater.
42. Surface water from the upper reaches of Sunshine Canyon is collected in a sedimentation basin next to the County Extension Landfill. Drainage from the basin travels southerly in an unlined stream channel between the two parts of the City Landfill Unit 1 to the entrance of the Canyon, where the water flows offsite into the Los Angeles City flood control system. Surface water quality at the site is monitored at four sampling stations identified as S-A, S-B, S-C, and S-D. Additionally, stormwater runoff at the site is sampled during at least two storm events per year under the NPDES General Stormwater Permit.
43. Landfill gas (LFG) at the City Landfill Unit 1 is collected by a network of approximately 110 LFG collection wells and collection pipelines, and is combusted at a LFG flare station onsite in accordance with the regulations of the SCAQMD. Landfill gas condensate collected at the City Landfill Unit 1 is discharged to the City of Los Angeles sanitary sewer system in accordance with sewer discharge requirements established by the City of Los Angeles Industrial Waste Division for the Facility. (The leachate and gas condensate collected at the County Extension Landfill, and any non-storm water that is not used onsite, are also discharged to the sanitary sewer system under the same discharge requirements.)

REGULATORY REQUIREMENTS

44. On June 17, 1993, the California State Water Resources Control Board (State Board) adopted Resolution No. 93-62, directing each Regional Board to revise the WDRs of each MSW landfill in its respective region to comply with the federal MSW regulations in part 258, title 40, of the Federal Code of Regulations (40 CFR part 258) that are more stringent than California State regulations. To comply with the Resolution, this Regional Board adopted Order No. 93-062 (also known as the Super Order) on September 27, 1993. Both the City Landfill Unit 1 and the County Extension Landfill were named in the Super Order. However, because the City Landfill Unit 1 stopped receiving wastes before October 9, 1991, the Federal regulations were not applicable to this unit (40 CFR 258.1 (c)).
45. Pursuant to section 402 (p) of the Clean Water Act and 40 CFR parts 122, 123, and 124, the State Board adopted a National Pollutant Discharge Elimination System (NPDES) General Permit to regulate storm water discharges associated with industrial activities in California (State Board Order 97-03-DWQ). Storm water runoff from the Facility is currently regulated under the general NPDES permit (WDID No. 4 19S001306, enrolled on March 27, 1992). BFI is implementing a Storm Water Pollution Prevention Plan (SWPPP) at the Facility as required by the general NPDES permit.
46. Updated state regulations governing landfills are contained in title 27 of the California Code of Regulations, which became effective on July 18, 1997. These revised regulations clarified the roles and responsibilities of the California Integrated Waste Management Board (CIWMB) and the State

Board, as well as the Regional Board, in regulating municipal solid waste disposal facilities. The 27 CCR regulations combine prior disposal site/landfill regulations of the CIWMB and State Board that were maintained in titles 14 and 23 of the California Code of Regulations. The requirements in this Order, as they are met, are in conformance with the relevant regulations of 27 CCR, 40 CFR part 258, and the Porter-Cologne Water Quality Control Act (commencing with Water Code section 13000).

47. The Regional Water Quality Control Board received significant testimony that a single composite liner may not be sufficient to protect water quality, prevent public nuisance, and prevent conditions of pollution. Based on the record and considering the totality of the circumstances, the Regional Board finds that prevention of public nuisance and protection of water quality requires more than the minimum single composite liner specified in 27 CCR. Given the proximity to important water resources for the City of Los Angeles, the proximity to surrounding communities, and other factors as presented by the record, these requirements specify a double composite liner to ensure maximum reasonable protection of the Region' s water resources.

CORRECTIVE ACTION PROGRAM (CAP)

48. Volatile organic compounds (VOCs) have been detected at monitoring well MW-10, which is a shallow groundwater monitoring well located approximately 180 feet east of the Northern Landfill Area footprint (see Figure 4). The monitoring well was installed in 1993 to assist in the evaluation of groundwater conditions downgradient of City Landfill Unit 1. Shortly after installation, low levels of VOCs were detected in water samples from the well. Since 1994, groundwater samples from the well have consistently contained one or more of the following VOCs: 1,1-dichloroethane (1,1-DCA), dichlorodifluoromethane (CFC12), trichloroethylene (TCE), chloroethane, and trichlorofluoromethane (CFC 11).
49. Subsequent investigation by BFI concluded that the VOCs detected at MW-10 were the result of LFG impacts to groundwater. In December 1996, BFI submitted a workplan that included activities to adjust the LFG collection system at the landfill. The result of ongoing groundwater monitoring activities conducted since 1997 indicate that the repairs and upgrades to the LFG collection system have significantly reduced both the number and magnitude of the VOC detections at MW-10. However, detections of 1,1-DCA have continued to occur sporadically in the well, although the concentrations have been much lower than the 5 micrograms per liter ($\mu\text{g}/\text{l}$) maximum contamination level (MCL) for drinking water. The consistent detection of 1,1-DCA at MW-10 constitutes a "measurably significant evidence" of a release from the landfill as defined in section 20164 of 27 CCR.
50. Since no evidence of VOC impacts to groundwater have been confirmed in the other groundwater monitoring wells on site, the plume of VOC contamination appears to have not migrated beyond the boundary of the landfill.
51. In accordance with section 20420(k)(5) of 27 CCR, BFI submitted an Amended Report of Waste Discharge (AROWD) to this Regional Board on June 30, 2002, to address the detection of VOCs at monitoring well MW-10. The AROWD proposed an Evaluation Monitoring Program (EMP) at the City Landfill Unit 1.
52. In accordance with 27 CCR section 20420(k)(6), BFI submitted an initial Engineering Feasibility Study (EFS) to this Regional Board on September 30, 2002, for the detection of VOCs at MW-10. The initial EFS contains a detailed description of potential corrective action measures that could be taken at the site to achieve background concentrations of VOCs at MW-10.

53. Besides the detection of VOCs at monitoring MW-10, groundwater water monitoring data also indicates that concentrations of TDS, chloride, sulfate, and some other inorganic constituents are generally higher in downgradient monitoring wells than in upgradient wells for the City Landfill. Statistical exceedances of inorganic constituents have often been observed at the down-gradient monitoring wells. While most of such statistical exceedances may be attributed to geographic variation, the possibility of such pollutants being released from City Landfill Unit 1 cannot be ruled out.
54. On October 23, 2002, BFI submitted a second AROWD to this Regional Board to address the tentative statistical exceedances of several inorganic constituents, including alkalinity, chloride, potassium, chemical oxygen demand (COD), total organic carbon (TOC), and ammonia at the "Extraction Trench Area", which includes the groundwater extraction trench and groundwater monitoring wells MW-8 and MW-9. The AROWD proposed an EMP to assess the potential release of those inorganic pollutants to groundwater from the City Landfill Unit 1.
55. Pursuant to section 13304 of the California Water Code (CWC), the Executive Officer issued Cleanup and Abatement Order (CAO) No. R4-2002-0161 on November 4, 2002, requiring BFI to cleanup and abate the pollution of VOCs at MW-10. The CAO prescribed a revised M&RP (No. CI-2043) that contains an EMP that is designed to assess the nature and extent of the release of VOCs to groundwater from the landfill.
56. Because the Extraction Trench Area where tentative statistical exceedances of inorganic constituents have been observed is in the same general area of MW-10 (both are located in the "Site Entrance Area") and because the monitoring of inorganic constituents of concern (COCs) are included in the revised M&RP, the CAO, as well as the EMP, are also applicable to the evaluation of the statistical exceedances addressed by BFI's second AROWD.
57. In accordance with the requirements of the CAO, BFI submitted a technical report to this Regional Board on February 14, 2003. The report includes a delineation assessment that addresses the detection of VOCs in monitoring well MW-10 and the statistical exceedances of inorganic constituents in the Extraction Trench Area, an updated EFS, and an AROWD. The EFS and AROWD proposed corrective action measures that could be taken to achieve background water quality standards at the site.
58. In accordance with the requirements of the CAO, BFI also submitted a document entitled "Proposed Data Evaluation Methods for Groundwater and Surface Water Monitoring" to this Regional Board on February 14, 2003. This report includes "initial concentration limits" of COCs calculated from available water quality data. These initial concentration limits are used in this Order to establish site specific water quality protection standards (WQPS) at the City Landfill.
59. 27 CCR, section 20385, requires that a discharger institute a Corrective Action Program (CAP) when the Regional Board determines that the assessment of the nature and extent of a release and the design of a CAP have been satisfactorily completed.
60. This Order is in conformance with State Board Resolution No. 93-62 because it requires a CAP, for known and any future releases, that implements all applicable 27 CCR requirements and all additional federal requirements under 40 CFR 258.58, including paragraphs 258.58(a)(1)(i-iii), which requires BFI to implement an Assessment Monitoring Program (AMP) pursuant to 40 CFR 258.55 in conjunction with the CAP.

61. Leachate samples from the City Side Landfill have been monitored since 1988 for Appendix II constituents (constituents listed in Appendix II to 40 CFR part 258). A constituent of concern (COC) list, containing those Appendix II constituents that could be released from the landfill, has been created. This Order requires BFI to continue to monitor leachate from the City Landfill and narrow the scope of the COC list to include, from Appendix II, only those constituents that have been detected and verified in leachate. By monitoring for detectable COCs, and any foreseeable breakdown products, BFI will be monitoring for all Appendix II constituents that could be released from the landfill. This is the manner in which this order meets the requirements of 40 CFR 258.55(b).
62. Given that the VOCs in the Appendix I (to 40 CFR part 258) federal Monitoring Parameter list are all Appendix II constituents, the leachate sampling at the site also serves as a basis for narrowing the scope of VOCs which the discharger must monitor to include only those federal Appendix I constituents that have ever been detected in leachate, at trace levels or above, and verified by retest. This is the manner in which this order implements 40 CFR 258.54(a)(1).
63. The detection of VOCs at monitoring well MW-10 indicates that groundwater beneath the City Landfill has measurably exceeded the water quality protection standard, but has not yet done so for any federal (Appendix II) constituents. However, leachate monitoring indicates that a release from the landfill should include Appendix II constituents. Therefore, in order to avoid having to revise these WDRs extensively in the event Appendix II constituents are indicated in the future, it is prudent to require BFI to comply with the federal Assessment of Corrective Measures (ACM) and Selection of Remedy (SOR) requirements, under 40 CFR sections 258.56 and 258.57, respectively, in implementing a title 27 CAP.
64. Under an program initiated by this Regional Board, BFI conducted a one-time sampling event for emergent chemicals including perchlorate, m-nitrosodimethylamine (NDMA), 1,4-dioxane (dioxane), 1,2,3,-trichloropropane (TCPA), chromium, and hexavalent chromium (chromium-6) at both the City Side Landfill and the County Extension Landfill and submitted it's reports of these investigations to the Regional Board on June 23, 2003. The reports indicate dioxane was detected in leachate samples from both the County Extension Landfill and the City Side Landfill and three groundwater monitoring wells at the City Side landfill, as well as in the groundwater extraction trench. The detection of dioxane in the groundwater at the City Side Landfill represents "measurably significant" evidence of a release from the landfill as defined in section 20164 of 27 CCR.
65. On August 11, 2003, BFI submitted another AROWD (dated August 7, 2003) to the Regional Board and proposed a CAP that includes corrective measures for the remediation of groundwater that has been impacted by pollutants released from the landfill. These corrective measures include the construction of an impermeable subsurface barrier (cutoff wall) across the mouth of the Sunshine Canyon, installation and operation of extraction wells to remove groundwater from behind the cutoff wall, upgrading and continuing operation of the existing groundwater extraction trench, ongoing upgrades and operation of the landfill gas collection system, and modification to the groundwater monitoring system.
66. On October 17, 2003, the Executive Office issued CAO No. R4-2003-0132, which replaced CAO No. R4-2002-0161 and required BFI to implement a CAP at the City Side Landfill. In accordance with section 20430 of 27 CCR, the CAP is incorporated in this Order as Corrective Action Program Waste Discharge Requirements. The requirements in this Order supercede those included in CAO No. R4-2003-0132.

67. This Order places the entire City Landfill into an CAP to plan and propose corrective measures meeting applicable State and Federal requirements. This approach eliminates needless complexity associated with applying concurrent programs (i.e., running unaffected portions under a DMP and the portions affected by the release under either an EMP or a CAP, or both). The Regional Board chooses to implement this approach by documenting and responding to the compliance status of each monitoring parameter (Mpar) individually at each compliance well separately (i.e., BFI will track the compliance status of each such “well/MPar pair” separately).
68. Under this Order, at any given time, each well/MPar pair will be in one of two compliance status conditions. Prior to the MPar’s exhibiting a measurably significant exceedance at a given well, that well/MPar pair will be in “detection mode” and monitoring will involve statistical or non-statistical data analysis designed to detect an unnatural increase at that well for that MPar. Once a well/MPar pair exhibits a “measurably significant increase”, it will change to “tracking mode” and monitoring will involve concentration-versus-time plotting to document changes in the release. Once in tracking mode, a well/MPar pair can return to detection mode only upon inception of the proof period to demonstrate the successful completion of corrective action.
69. To eliminate the adverse effects of geographic variation of water quality at the site, this Order requires an intra-well-comparison style of monitoring for all well/MPar pairs for which this approach is feasible. Under this approach, each well’s historic data is used as the reference against which new data is tested.
70. This Order minimizes the occurrence of false-positive indications in three ways: a) it includes a non-statistical data analysis method, meeting 27 CCR section 20415(e)(8 & 9), that collectively analyzes all MPar’s, at a given well, whose background data exceeds its respective Method Detection Limit (MDL) no more than 10% of the time; b) all statistical and non-statistical data analysis methods used on well/MPar’s in Detection Mode data analyses include a discrete retest as described under 27 CCR section 20415(e)(8)(E); and c) it applies a sampling and analysis methodology that minimizes the number of constituents that are subject to statistical or non-statistical data analysis.
71. To assure compliance with the requirements and considerations under 40 CFR sections 258.55 through 258.57 and 27 CCR section 20425 in the simplest way possible, this order: a) requires statistical or non-statistical data analysis, at any given compliance well, only for those MPar’s that are in Detection Mode at that well; b) requires concentration-versus-time plotting, at any given compliance well, for all MPar’s that are in Tracking Mode at that well; c) utilizes an initial scan for all Appendix II constituents at all point of compliance wells involved in the release to be sure that the MPar and COC lists include all Appendix II constituents detectable in groundwater; d) thereafter, uses a periodic (five yearly) presence/absence screening of all COCs, rather than statistical/non-statistical data analysis, at all appropriate wells to keep the MPar list updated to include all COCs that are detectable in groundwater; e) uses annual leachate sampling, for all non-COC Appendix II constituents, to keep the COC list updated to include all Appendix II constituents that the landfill could release; and f) implements an automatic update procedure to assure that the MPar and COC lists remain current.
72. Given that Detection Mode testing can be compromised by a COC’s arriving at any background well either as a result of the release (e.g., through advective flow, in the unsaturated zone, of gas-phase VOCs in LFG) or through the arrival of such a constituent from an upgradient source, this order implements a simple means for identifying such anomalies, requires BFI to investigate their cause, and initiates appropriate adjustments to the monitoring program.

CEQA AND ADMINISTRATIVE MATTERS

73. Public Resources Code section 21000 et seq. (CEQA) requires the lead agency to conduct an assessment of the potential environmental impacts associated with a project, and where appropriate, prepare an environmental impact report identifying the potentially significant environmental impacts, along with any necessary mitigation and statement of overriding considerations, before proceeding with a project. The City of Los Angeles is the lead agency for purposes of CEQA and the Los Angeles City Council certified a Final Subsequent Environmental Impact Report (SEIR) for the expansion of the City Landfill Unit 1 on October 27, 1999. A Notice of Determination was filed December 13, 1999. Consistent with title 14, California Code of Regulations, section 15096(f), the SERI was a part of the administrative record and was considered prior to adoption of these WDRs.
74. On June 13, 1994, this Regional Board adopted a revised *Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (Basin Plan) which was amended on January 27, 1997 by Regional Board Resolution No. 97-02. The Basin Plan designates the following beneficial uses for groundwater within the San Fernando Groundwater Basin: municipal and domestic supply, agricultural supply, industrial process supply, and industrial service supply. The requirements in this Order, as they are met, are in conformance with the goals of the Basin Plan.
75. Water Code section 13263, subdivision (e), requires the Regional Board, upon the request of any affected person or upon its own motion, to review and revise waste discharge requirements. That subdivision further requires the Regional Board to review waste discharge requirements periodically. At the time of adopting this Order, the Regional Board has determined that at least two circumstances would require the Regional Board to review and to potentially revise these requirements in the future. As a result, this Order contains two reopeners. The first requires the Regional Board to review these requirements if the Clean Water Act section 401 (water quality certification) and section 404 (dredge and fill permit) processes alter the determinations made pursuant to 40 CFR 258.12(a)(1),(4). The second requires the Regional Board to review these requirements if subsequent health studies of persons residing in the vicinity of the Landfill determine that there is an elevated risk of illnesses associated with the Landfill.
76. In accordance with the Governor's Executive Order No. D-22-01, dated February 8, 2001, requiring any proposed activity to be reviewed to determine whether such activity will cause additional energy usage, Regional Board staff have determined that implementation of these WDRs will not result in a significant change in energy usage.

The Regional Board has notified the Discharger and interested agencies and persons of its intent to adopt waste discharge requirements for this disposal of waste to land and discharge, and has provided interested persons with an opportunity to submit their written views and recommendations.

The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge and to the tentative requirements.

IT IS HEREBY ORDERED, that Browning-Ferris Industries of California, Inc. (BFI), also referred to as the discharger, shall comply with the following at the City Landfill Unit 1 and Phase I of City Landfill Unit 2:

A. Acceptable Materials

1. Except for those portions that overlap with Phase I of City Landfill Unit 2, as proposed in the JTD, City Landfill Unit 1 shall not accept any additional waste for disposal; however,

suitable cover materials as specified in this Order or Title 27 may be used for closure and maintenance as necessary.

2. Phase I of City Landfill Unit 2 is a Class III solid waste management facility. The landfill will accept waste for recycling, composting, and disposal as deemed acceptable at this class of facility by the Regional Board through orders or regulations.
3. Wastes discharged at Phase I of City Landfill Unit 2 shall be limited to nonhazardous solid wastes and inert solid wastes, as described in sections 20220 and 20230 of 27 CCR.
 - a. Nonhazardous solid waste means 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 discarded waste (whether of solid or semi-solid consistency); provided that such wastes do not contain wastes which must be managed as hazardous wastes, or wastes which contain soluble pollutants in concentrations which exceed applicable water quality objectives, or could cause degradation to waters of the State (i.e., designated waste).
 - b. Inert waste means that subset of solid waste that does not contain hazardous waste or soluble pollutants at concentrations in excess of applicable water quality objectives, and does not contain significant quantities of decomposable waste.

B. Unacceptable Materials

1. No hazardous wastes (as defined in 22 CCR section 66261.3 et seq.), designated wastes (as defined in CWC section 13173), or special wastes (27 CCR § 20164, as categorized in 22 CCR §§ 66261.120, 66261.122, 66261.124), such as liquids, oils, waxes, tars, soaps, solvents, or readily water-soluble solids, such as salts, borax, lye, caustic or acids shall be disposed of at Phase I of City Landfill Unit 2.
2. No semi-solid wastes shall be disposed of at Phase I of City Landfill Unit 2. Semi-solid waste means waste containing less than 50 percent solids, as described in section 20200 of 27 CCR. In cases of spoiled semi-solid food wastes the Executive Officer authorizes Regional Board staff to approve solidification or waste disposal operations at Phase I of City Landfill Unit 2 on a case-by-case basis.
3. No materials that are of a toxic nature, such as insecticides, poisons, shall be disposed of at Phase I of City Landfill Unit 2.
4. No radioactive waste, including low level radioactive waste, as defined by the agency with jurisdictional authority, shall be disposed at Phase I of City Landfill Unit 2.
5. No infectious materials or hospital or laboratory wastes, except those authorized for disposal to land by official agencies charged with control of plant, animal and human disease, shall be disposed at Phase I of City Landfill Unit 2.
6. No pesticide containers shall be disposed of at Phase I of City Landfill Unit 2, unless they are rendered nonhazardous by triple rinsing. Otherwise, they must be hauled off-site to a legal point of disposal.

7. No septic tank or chemical toilet wastes, sewage sludge, incinerator ash, asbestos or asbestos products, or dead animals, shall be disposed of at Phase I of City Landfill Unit 2.

C. Prohibitions

1. Discharge of waste to land as a result of inadequate waste disposal and postclosure maintenance practices, and that have not been specifically described to the Regional Board and for which valid WDRs are not in force, are prohibited.
2. The discharge of waste shall not:
 - a. cause the occurrence of coliform or pathogenic organisms in waters pumped from a groundwater basin;
 - b. cause the occurrence of objectionable tastes or odors in waters pumped from a groundwater basin;
 - c. cause waters pumped from a groundwater basin to foam;
 - d. cause the presence of toxic materials in waters pumped from a groundwater basin;
 - e. cause the pH of waters pumped from a groundwater basin to fall below 6.0, or rise above 9.0;
 - f. cause the Regional Board' s objectives for the groundwaters or surface waters as established in the Basin Plan to be exceeded; nor
 - g. cause pollution, contamination, or nuisance, as defined in CWC section 13050, or adversely affect beneficial uses of groundwaters or surface waters as established in the Basin Plan.
3. Odors, vectors, and other nuisances of waste origin beyond the limits of the Landfill are prohibited.
4. The discharge of waste to surface drainage courses or to usable groundwater is prohibited.
5. Basin Plan prohibitions shall not be violated.
6. All federal, state, and county sanitary health codes, rules, regulations, and ordinances pertinent to the disposal of wastes on land shall be complied with in the operation and maintenance of the Landfill.
7. No wetlands shall be removed, filled, or otherwise impacted unless a 404 permit and 401 certification are issued under the Federal Clean Water Act.

D. Requirements for Containment Structures

1. All containment structures and erosion and drainage control systems at the Landfill shall be designed and constructed under direct supervision of a California-registered civil engineer or

certified engineering geologist, and shall be certified by the individual as meeting the prescriptive standards and/or performance goals of 27 CCR.

2. The landfill shall have containment structures that are capable of preventing degradation of the waters of the state and shall be designed to withstand a MCE without failure. Construction standards for containment structures shall comply with 27 CCR requirements. Design specifications, including any alternative design proposal meeting the prescriptive standards and/or performance goals of 27 CCR and State Board Order No. 93-62, are subject to the Executive Officer's review and approval prior to construction of any containment structure.
3. Phase I of City Landfill Unit 2 shall be constructed with a double composite liner system. The base liner system shall contain, from top to bottom, the following components:
 - A minimum two feet thick protective soil layer;
 - A geotextile filter fabric layer;
 - A minimum one foot thick granular drainage layer, with a hydraulic conductivity of no less than 1 cm/second, with perforated pipes along low points to collect and convey liquids to leachate sumps;
 - A geotextile cushion layer;
 - A high density polyethylene (HDPE) geomembrane of at least 60 mils thick;
 - A compacted clay layer of at least two feet thick with a hydraulic conductivity of no more than 1×10^{-7} cm/second, or a geosynthetic clay liner (GCL) with a saturated hydraulic conductivity of no more than 5×10^{-9} cm/second;
 - A drainage and leak detection layer;
 - A HDPE geomembrane of at least 60 mils thick;
 - A compacted clay layer of at least two feet thick with a hydraulic conductivity of no more than 1×10^{-7} cm/second; and
 - Prepared base geological material.

The sideslope liner system shall contain, from top to bottom, the following components:

- A minimum two feet thick protective soil layer;
- A geotextile filter fabric layer;
- A HDPE geomembrane of at least 60 mils thick;
- A GCL with a saturated hydraulic conductivity of no more than 5×10^{-9} cm/second;
- A drainage and leak detection layer;
- A HDPE geomembrane of at least 60 mils thick;
- A GCL with a saturated hydraulic conductivity of no more than 5×10^{-9} cm/second; and
- Prepared base geological material or final cover of the existing City Landfill Unit 1.

Leachate collection sumps at the landfill shall be equipped with lysimeters, as proposed in the JTD. References in these WDRs to the "liners" shall be deemed to refer to a double composite liner system as set forth above. All liner and leachate collection system designs for the landfill must be submitted to the Regional Board for the Executive Officer's approval. No liners shall be installed unless the design is approved by the Executive Officer.

4. The static Factor of Safety (FS) of final configurations of the landfill, including liner systems, final covers, and cut and fill slopes, shall not be less than 1.5, while the static FS for interim slopes (slopes exist for a period less than 6 months) shall not be less than 1.3.
5. Landfill refuse slopes shall be designed per requirements in 27 CCR and constructed in a manner that will resist settlement and prevent failure during a MPE for interim slopes, or a MCE for final refuse slopes. Critical slopes shall be designed to have FS's no less than 1.5. If a Newmark-type seismic deformation analysis is used in lieu of achieving a FS of no less than 1.5, the calculated permanent seismic deformation must not exceed 6 inches for liner systems and must not exceed 36 inches for the final cover.
6. Cut and subgrade slopes, fill slopes, refuse cells and visual berms shall be designed and excavated/constructed in a manner that will resist settlement and remain stable during the design earthquake event in accordance with section 20370 of 27 CCR.
7. BFI shall submit detailed preliminary plans, specifications, and descriptions for all proposed containment structures and construction features for the Executive Officer's approval at least 90 days prior to construction.
8. The preliminary plans shall contain detailed quality assurance/quality control for the proposed construction as required by 27 CCR.
9. Prior to start of construction of any containment structure, a geologic map of the final excavation grade shall be prepared for review, approval, and confirmation in the field by Regional Board staff.
10. No disposal shall occur in a new area until the corresponding construction is completed, certified, and approved by Regional Board staff.
11. The construction report, including drawings documenting "as-built" conditions, shall be submitted within 60 days after the completion of construction. If the "as-built" conditions are virtually identical to the approved preliminary plans and specifications, only change sheets need be submitted in lieu of a complete set of drawings.
12. BFI shall perform an annual testing per 27 CCR section 20340(d) of any LCRS to demonstrate their operating efficiency during the operational, closure and postclosure maintenance periods of the Landfill.

E. Requirements for Disposal Site Operations

1. BFI shall maintain an operating record for the Landfill in accordance with 40 CFR 258.29(a). All records of site operations, landfill construction, inspection, monitoring, remediation, and copies of design plans, construction quality assurance documents, monitoring reports, and technical reports that are submitted to regulatory agencies, shall be included in the operating record.
2. Drainage controls, structures, and facilities shall be designed to divert any precipitation or tributary runoff and prevent ponding and percolation of water at the Landfill in compliance with sections 20365 and 21090(b)(1) of 27 CCR. When necessary, temporary structures shall be installed as needed to comply with this requirement.

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3. The Landfill shall be graded and maintained to promote runoff of precipitation and to prevent ponding of liquids and surface water. Erosion or washout of refuse or cover materials by surface flow shall be controlled to prevent off-site migration.
4. Wastes deposited at the Landfill shall be confined thereto, and shall not be permitted to blow, fall, or otherwise migrate off-site, or to enter off-site water drainage facilities or watercourses.
5. BFI shall implement a load-checking program at Phase I of City Landfill Unit 2, subject to approval of the Executive Officer, to prevent the disposal of hazardous wastes, designated wastes, or other unacceptable wastes.
6. Waste material shall not be discharged on any ground surface that is less than five feet above the highest anticipated groundwater level.
7. BFI shall comply with notification procedures contained in section 13271 of the CWC in regards to the discharge of hazardous wastes. BFI shall remove and relocate to a legal point of disposal, any wastes that are discharged at the Landfill in violation of these requirements. For the purpose of these requirements a legal point of disposal is defined as one for which WDRs have been established by a California regional water quality control board and is in full compliance therewith. The source and final disposition (and location) of such wastes, as well as methods undertaken to prevent future recurrence of such disposal shall be reported in the semi-annual monitoring reports submitted under M&RP No. CI-2043.
8. All wastes shall be covered at least once during each 24-hour period in accordance with sections 20680 and 20705 of 27 CCR. Intermediate cover over wastes discharged to the Landfill shall be designed and constructed to minimize percolation of precipitation through wastes and contact with material deposited. Other measures will be taken as needed to prevent a condition of nuisance from fly breeding, rodent harborage, and other vector-related activities.
9. Alternative daily cover (ADC) may be used consistent with section 20690 of 27 CCR.
10. The migration of gases from the Landfill shall be controlled to prevent water pollution, nuisance, or health hazards.
11. The discharge of wastes or waste by-products (i.e., leachate or gas condensate) to off-site surface drainage courses or to groundwater is prohibited.
12. Gas condensate gathered from the gas monitoring and collection system at the Landfill shall not be returned to the Landfill unless approved by the Executive Officer. Any proposed modifications or expansions to this system shall be designed to allow the collection, testing and treatment, or disposal by approved methods, of all gas condensate produced at the Landfill.
13. BFI shall intercept and remove any liquid detected in all LCRSs at the Landfill to a legal point of disposal and leachate shall not be returned back to the Landfill unless approved by the Executive Officer. Any leachate determined to be hazardous shall be transported by a licensed hazardous waste hauler to an approved treatment or disposal facility.

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14. In any area within the Landfill where a natural spring or seep is observed, provisions shall be made and/or facilities shall be provided to ensure that this water will not come in contact with decomposable refuse. The locations of all springs and seeps found prior to, during, or after placement of waste material that could affect the Landfill shall be reported to the Regional Board.
15. BFI shall develop/maintain permanent survey monuments at the Landfill throughout the development, closure and postclosure maintenance periods. Benchmarks shall be established and maintained in sufficient numbers to enable reference to key elevations and to permit control of critical grading and compaction operations.
16. BFI shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used to achieve compliance with conditions of this Order. Proper operation and maintenance includes effective performance, and adequate laboratory and process controls including appropriate quality assurance procedures.
17. No wastewater or storm water shall leave the Landfill except as permitted by a NPDES permit issued in accordance with the federal Clean Water Act (CWA) and the Porter-Cologne Water Quality Control Act (commencing with Water Code section 13000). BFI shall maintain and modify, as necessary, the storm water pollution prevention plan developed for the Landfill.
18. Any abandoned wells or bore holes under the control of BFI, and situated within the Landfill boundaries, must be located and properly modified or sealed to prevent mixing of any waters between adjacent water-bearing zones. A notice of intent to decommission a well must be filed with the appropriate regulatory agencies prior to decommissioning. Procedures used to decommission these wells, or to modify wells still in use, must conform to the specifications of the local health department or other appropriate agencies. If such abandoned wells or bore holes are encountered during construction activities, BFI must notify the designated Board staff contact verbally with 24 hours and in writing within seven days. Such abandoned wells or bore holes must be properly decommissioned before all affected construction activities can proceed.
19. BFI shall report any noncompliance or any incident resulting from Landfill operations that are in violation of this Order. Any such information shall be provided verbally to the Regional Board within 24 hours from the time BFI becomes aware of the circumstances. A written submission shall also be provided within seven days of the time that the BFI 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, or prevent recurrence of the noncompliance. The Executive Officer, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.
20. Where BFI becomes aware that it failed to submit any relevant facts in any report to the Regional Board, it shall submit such facts or information within seven days of its discovery of the omission.

F. Provision of Closure and Postclosure Maintenance

1. Within 160 days of the adoption of this Order, BFI shall complete all final closure construction activities at the City Landfill Unit 1 in accordance with the Final Closure Plan that was approved by the Executive Officer on July 15, 1997, including the construction of the sediment basin at the entrance area of the site. A construction quality assurance (CQA) report for the final closure shall be submitted to the Regional Board within 60 days of the completion of final closure construction activities. Construction of the liner system that will be located on the slopes of the existing landfill shall not be started until the final closure construction activities of the existing landfill are completed.
2. BFI has a continuing responsibility for correcting any problems which may arise in the future as a result of waste discharged at City Landfill Unit 1, and from gases and leachate that may be caused by infiltration or precipitation of drainage waters into the waste disposal units, or by infiltration of water applied to this property during subsequent use of the land or other purposes.
3. 27 CCR, section 21890(b), provides that postclosure maintenance plans may be revised during the postclosure maintenance period upon concurrence with the local enforcement agency (LEA) and approval by the CIWMB and the Regional Board. Within 180 days of the adoption of this Order, BFI shall, with the concurrence of the LEA and CIWMB, submit a revised postclosure maintenance plan for City Landfill Unit 1 to reflect the current site conditions. The plan shall include post-closure maintenance procedures for both the areas that will be affected by the development of City Landfill Unit 2 and those areas that have been permanently closed.
4. BFI shall implement the specific monitoring and reporting requirements for City Landfill Unit 1 that are included in M&RP No. CI-2043.

G. Water Quality Protection Standards

1. In accordance with 27 CCR section 20390, the water quality protection standards (WQPS) for the City Landfill are established as the natural background groundwater quality at the site, which is set to either the statistically predicted value (if the constituent naturally exists) or the laboratory detection limit (if the constituent does not naturally exist in the water). WQPS that have been calculated based on available water quality data are included in M&RP No. CI-2043. BFI shall update the water quality standards at least every two years based on concurrent monitoring data, as required by the M&RP.
2. The compliance point(s) where WQPSs apply shall be located along downgradient edges of waste management facilities at the Landfill or an alternate location approved by the Executive Officer.
3. The compliance period for which WQPSs are applicable shall be the entire active life of a waste management facility, and during the closure and postclosure maintenance periods.

H. Provisions for Groundwater Monitoring

1. BFI shall implement the attached M&RP No. CI-2043, which is incorporated herein by reference and revisions thereto, in order to detect, at the earliest opportunity, any unauthorized discharge of waste constituents from the Landfill or any unreasonable

impairment of beneficial uses associated with (or caused by) discharges of waste to the Landfill.

2. At any time, BFI may file a written request, including appropriate supporting documents, with the Executive Officer, proposing modifications to M&RP No. CI-2043. BFI shall implement any changes in the revised M&RP approved by the Executive Officer upon receipt of a signed copy of the revised M&RP.
3. Unless otherwise approved by the Executive Officer, all analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. All analyses shall be conducted in accordance with the latest edition of "*Test Methods for Evaluating Physical/Chemical Methods*" (SW-846) promulgated by the United States Environmental Protection Agency.
4. BFI shall furnish, under penalty of perjury, technical or monitoring program reports in accordance with CWC section 13267. Failure or refusal to furnish these reports or falsifying any information provided therein renders BFI guilty of a misdemeanor and subject to the penalties stated in CWC section 13268. Monitoring reports shall be submitted in accordance with the specifications contained in M&RP No. CI-2043, as directed by the Executive Officer. Additionally, monitoring reports shall be prepared and signed by a registered civil engineer or registered geologist. M&RP No. CI-2043 is subject to periodic revisions as warranted and approved by the Executive Officer.
5. The effectiveness of all monitoring wells, monitoring devices, and leachate and gas collection systems at the Landfill shall be maintained at all times, including the postclosure maintenance period in accordance with acceptable industry standards. BFI shall maintain a Monitoring Well Preventative Maintenance Program approved by the Executive Officer for the Landfill. Elements of the program shall include, as a minimum, periodic visual inspections of well integrity, pump removal and inspection, and appropriate inspection frequencies. Within 60 days of the adoption of this Order, BFI shall submit an updated Monitoring Well Preventative Maintenance Program to the Regional Board to be approved by the Executive Officer.
6. If a well or piezometer is found to be inoperative, the Regional Board and other interested agencies shall be so informed in writing within seven days of such discovery and this notification shall contain a time schedule for returning the well to operating order. Changes to the existing monitoring program shall be submitted for Executive Officer approval at least 30 days prior to implementing the change(s).
7. If a well or piezometer is proposed to replace an inoperative well or piezometer identified in the "Monitoring Well Preventative Maintenance Program", BFI shall not delay replacement while waiting for Executive Officer approval. However, a technical report describing the location and construction details shall be submitted to the Executive Officer within 30 days.
8. BFI shall provide for proper handling and disposal of water purged from monitoring wells at the Landfill during sampling. Water purged from a monitoring well shall not be returned to that well (or any other monitoring well).
9. For any monitoring wells installed at the Landfill in the future, BFI shall submit technical reports for approval by the Executive Officer prior to installation. These technical reports shall be submitted at least 60 days prior to the anticipated date of installation of the wells.

These reports shall be accompanied by:

- a. Maps and cross sections showing the locations of the monitoring points; and
 - b. Drawings and data showing construction details of the monitoring points. These data shall include:
 - i. casing and test hole diameter;
 - ii. casing materials;
 - iii. depth of each hole;
 - iv. the means by which the size and position of perforations shall be determined, or verified, if in the field;
 - v. method of joining sections of casing;
 - vi. nature of filter materials;
 - vii. depth and composition of soils; and
 - viii. method and length of time of well development.
10. Compliance monitoring wells at the Landfill are specified in M&RP No. CI-2043. Monitoring wells that are not included in the current monitoring program shall be placed on standby status. All monitoring wells shall be monitored pursuant to this Order and as directed by the Executive Officer through future revisions of the M&RP.
11. BFI shall install any additional groundwater, soil pore liquid, soil pore gas, or leachate monitoring devices necessary to comply with M&RP No. CI-2043 as adopted or as revised by the Executive Officer.

I. Corrective Action Program (CAP)

1. BFI shall implement a CAP at the Sunshine Canyon City Landfill as proposed in the AROWD that was submitted to the Regional Board on August 11, 2003, and subsequently required by CAO No. R4-2004-0132 on October 17, 2003. Pursuant to section 20430(h) of 27 CCR, the Regional Board may require BFI to submit amended reports of waste discharge to make appropriate changes to the CAP.
2. At minimum, the CAP shall include the construction of an impermeable subsurface barrier (cutoff wall) across the mouth of the Sunshine Canyon, installation and operation of extraction wells to remove groundwater from behind the cutoff wall, upgrading and continuing operation of the existing groundwater extraction trench, ongoing upgrades and operation of the landfill gas collection system, and modification of the groundwater monitoring system.
3. By November 16, 2003, BFI shall submit a detailed construction plan, for the Executive Officer's approval, that outlines all construction activities that are proposed in the August 11, 2003 AROWD. The plan shall ensure that the construction of the sediment basin that is required under the Final Closure Plan of City Side Landfill, which will be located in the same area as the groundwater extraction trench and the proposed cutoff wall, will not impact the integrity of the CAP measures.

J. Provisions for Onsite Use of Water

1. Any water used for landscape irrigation, dust control or other non-emergency uses, shall be subject to WDRs, except for potable water uses and any other water allowed by this Order.
2. Other than potable water, irrigation and dust control water used at the site shall be limited to the groundwater extracted from wells and trenches, groundwater seepage collected at the surface, and stormwater collected at sedimentation basins.
3. No landfill leachate or landfill gas condensate shall be applied at the site unless it is adequately treated and the use is authorized by WDRs adopted by this Regional Board.
4. The existing gas monitoring system and gas collection system and/or expansion of these systems for the Landfill shall be designed so that gas condensate is not returned to the waste management unit.
5. No water shall be routinely applied to the Landfill except for landscape irrigation and dust control water. Water used for these purposes shall only be applied by spraying, and in quantities not to exceed what is necessary to support plant life, or to control wind borne dust particulate. Significant overflow or runoff caused by irrigation or dust control water are prohibited.
6. During periods of precipitation, when the use of irrigation or dust control is not necessary for the purpose specified in this Order, all non-storm water collected at the site shall be stored or disposed at a legal point of disposal.
7. Wastewater used at the Landfill shall not percolate into the disposal areas or native soil, or enter the storm water collection system, unless specifically permitted by WDRs.
8. All uses of water shall be within the boundaries of the Landfill property. During an emergency, this water may be used for fire fighting on the Landfill or on undeveloped areas off and adjacent to the Landfill.
9. The water quality of each water source that is used at the site, except from potable water sources, shall be monitored in accordance with M&RP No. CI-2043. Water samples shall be taken prior the mixture of the water with any other sources.
10. Water used on-site for dust control or irrigation, except for potable water uses, shall at all times be within the range of 6.0 to 9.0 pH units.
11. Any water used on-site for irrigation or dust control shall not exceed the maximum contaminant levels contained in Section 64435 of Title 22, California Code of Regulations for heavy metals, nitrates and organic chemicals, and in Section 64473 for copper and zinc. Radioactivity shall not exceed the limits specified in Sections 64441 and 64443 of Title 22 (or subsequent revisions).

K. Drainage and Erosion Control

1. Waste management units shall be designed, constructed, and maintained to prevent, to the greatest extent possible, ponding, infiltration, inundation, erosion, slope failure, and washout which could occur as a result of precipitation from a 100-year, 24-hour frequency storm. This shall be accomplished by, at a minimum, the following:

- a. Top deck surfaces shall be constructed to achieve a minimum of three percent (3%) slope, including structures which direct water to downdrains;
 - b. Downdrains and other necessary drainage structures must be constructed for all sideslopes as necessary; and
 - c. All components of the facility drainage system must be designed and constructed to withstand site-specific maximum intensity precipitation (peak flow) from a 100-year, 24-hour storm.
2. Leachate and landfill gas condensate containment system structures shall be protected and maintained continuously to ensure their effectiveness and to prevent commingling of leachate and gas condensate with surface run-on and runoff.
3. BFI shall design, construct, and maintain:
- a. A run-on drainage control system to prevent flow from off-site sources onto the disposal areas of the Landfill (active or inactive portions), and to collect and divert both the calculated volume of precipitation and the peak flow from off-site sources that result from a 100-year, 24-hour storm;
 - b. A runoff drainage control system to minimize sheet flow from the disposal areas, and to collect and divert both the calculated volume of precipitation and the peak flow from on-site surface runoff that results from a 100-year, 24-hour storm; and
 - c. Drainage control structures to divert natural seepage from native ground and to prevent such seepage from entering the waste management units.
4. All drainage structures shall be protected and maintained continuously to ensure their effectiveness.
5. Annually, by October 1, all drainage control system construction and maintenance activities shall be completed. The Annual Summary Report required under M&RP No. CI-2043 shall include a drainage control system maintenance report that includes, but not be limited to, the following information:
- a. For the previous 12 months, a summary of the adequacy and effectiveness of the drainage control system to collect and divert the calculated volume of precipitation and peak flows resulting from a 100-year, 24-hour storm;
 - b. A tabular summary of both new and existing drainage control structures, including the types and completion dates of maintenance activities performed for each of these structures; and
 - c. An 11"x17" or larger site map, prepared by either aerial surveillance or a licensed surveyor, indicating the locations of the elements listed in Item b. above, and the flow direction of all site drainage. The map shall be updated at least annually.

7. Periodic inspection of the waste management units, the drainage control system, and all containment structures shall be performed to assess the conditions of these facilities and to initiate corrective actions necessary to maintain compliance with this Order.

L. General Provisions

1. BFI shall comply with all applicable provisions, requirements, and procedures contained in the most recent version of 27 CCR and any future amendments.
2. These requirements do not exempt BFI from compliance with any other current or future law that may be applicable. They do not legalize this waste management facility, and they leave unaffected any further restraints on the disposal of wastes at this waste management facility that may be contained in other statutes.
3. This Order includes the attached “*Standard Provisions Applicable to Waste Discharge Requirements*”, adopted November 7, 1990 (**Attachment W**) which is incorporated herein by reference. If there is any conflict between provisions stated herein and the federal regulations or standard provisions, the provisions stated herein will prevail.
4. The requirements adopted herein do not authorize the commission of any act causing injury to the property of another, nor protect BFI from liabilities under federal, state, or local laws.
5. The filing of a request by BFI for a modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any condition, provision, or requirements of this Order.
6. This Order does not convey any property rights of any sort, or any exclusive privilege.
7. BFI is the responsible party for these WDRs and the M&RP No. CI-2043 for the Landfill. BFI shall comply with all conditions of these WDRs. Violations may result in enforcement actions, including regional board orders, or court orders, requiring corrective action or imposing civil monetary liability, or in modification or revocation of these WDRs by the Regional Board.
8. BFI shall within 48 hours of a significant earthquake event, submit to the Regional Board a detailed post-earthquake report describing any physical damages to the containment features, groundwater monitoring and/or leachate control facilities and a corrective action plan to be implemented at the Landfill.
9. BFI shall immediately notify the Regional Board of any flooding, slope failure or other change in site conditions that could impair the integrity of waste containment facilities or of precipitation and drainage control structures.
10. BFI shall submit to the Regional Board and to the CIWMB evidence of financial assurance for postclosure maintenance, pursuant to 27 CCR, division 2, chapter 6. The postclosure period shall be at least 30 years. However, the postclosure maintenance period shall extend as long as wastes pose a threat to water quality.
11. BFI shall comply with all conditions of this Order and any additional conditions prescribed by the Regional Board in addenda thereto. Noncompliance with this Order constitutes a violation of the CWC and is grounds for:

- a. enforcement action;
 - b. termination, revocation and reissuance, or modification of this Order; or
 - c. denial of a ROWD in application for new or revised WDRs.
12. BFI shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncompliance.
 13. This Order is not transferable to any person except after notice to the Executive Officer. The Regional Board may require modification or revocation and reissuance of this Order to change the name of BFI and incorporate such other requirements as may be necessary under the CWC.
 14. In accordance with CWC section 13263(g), these requirements shall not create a vested right to continue to discharge and are subject to rescission or modification. All discharges of waste into the waters of the state are privileges, not rights.
 15. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.
 16. This Order becomes effective on the date of adoption by the Regional Board.
 17. This Order may be terminated or modified for cause, including, but not limited to:
 - a. Violation of any term or condition contained in this Order;
 - b. Obtaining this Order by misrepresentation, or failure to disclose all relevant facts;
 - c. A change in any condition that required either a temporary or permanent reduction or elimination of the authorized waste discharge.
 18. This Order in no way limits the authority of the Regional Board, as contained in the CWC, to require additional investigations and cleanups pertinent to this project. This Order may be revised by the Executive Officer as additional information from the project becomes available.
 19. Failure to comply with the terms and conditions of this Order may result in imposition of civil liability against BFI by the Regional Board, either by the Regional Board or judicially by the Superior Court, in accordance with CWC section 13350 et. seq. and/or referral to the Attorney General of the State of California for such legal action as may be deemed appropriate.

M. Reopeners

The Regional Board will revise these requirements if:

1. The Clean Water Act section 401 (water quality certification) and section 404 (dredge and fill permit) processes alter the determinations made in this Order pursuant to 40 CFR 258.12(a)(1),(4);

2. Subsequent health studies of persons residing in the vicinity of the Landfill determine that there is an elevated risk of illnesses associated with the Landfill; or
3. The Regional Board determines it is appropriate pursuant to Water Code section 13263, subdivision (e).

N. Reconsideration

In addition to and without limiting the reopeners referred to in Paragraph M above, the Regional Board reserves the right to receive additional information concerning the following items as they become available:

1. The completion of studies or compilation of information by the City of Los Angeles pertaining to the operations of Sunshine Canyon Landfill as it relates to jurisdiction of this Regional Board; and,
2. The conclusion of health studies by the County of Los Angeles and the University of Southern California Cancer Registry.

Based on the reports provided to the Regional Board, the Board may direct staff to revise the Waste Discharge Requirements, or take such other actions the Board deems appropriate.

O. Water Quality Certification

Regional Board staff shall bring the discharger' s application for water quality certification to the Regional Board for consideration at a Regional Board meeting.

P. Rescissions

1. Except for enforcement purposes, Regional Board Order No. 87-158, adopted on November 23, 1987, is hereby rescinded.
2. Except for enforcement purposes, Regional Board CAO No. R4-2003-0132, adopted on October 17, 2003, is hereby rescinded.

I, Dennis A. Dickerson, Executive Officer, do certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on December 4, 2003.

Original signed by

Dennis A. Dickerson
Executive Officer

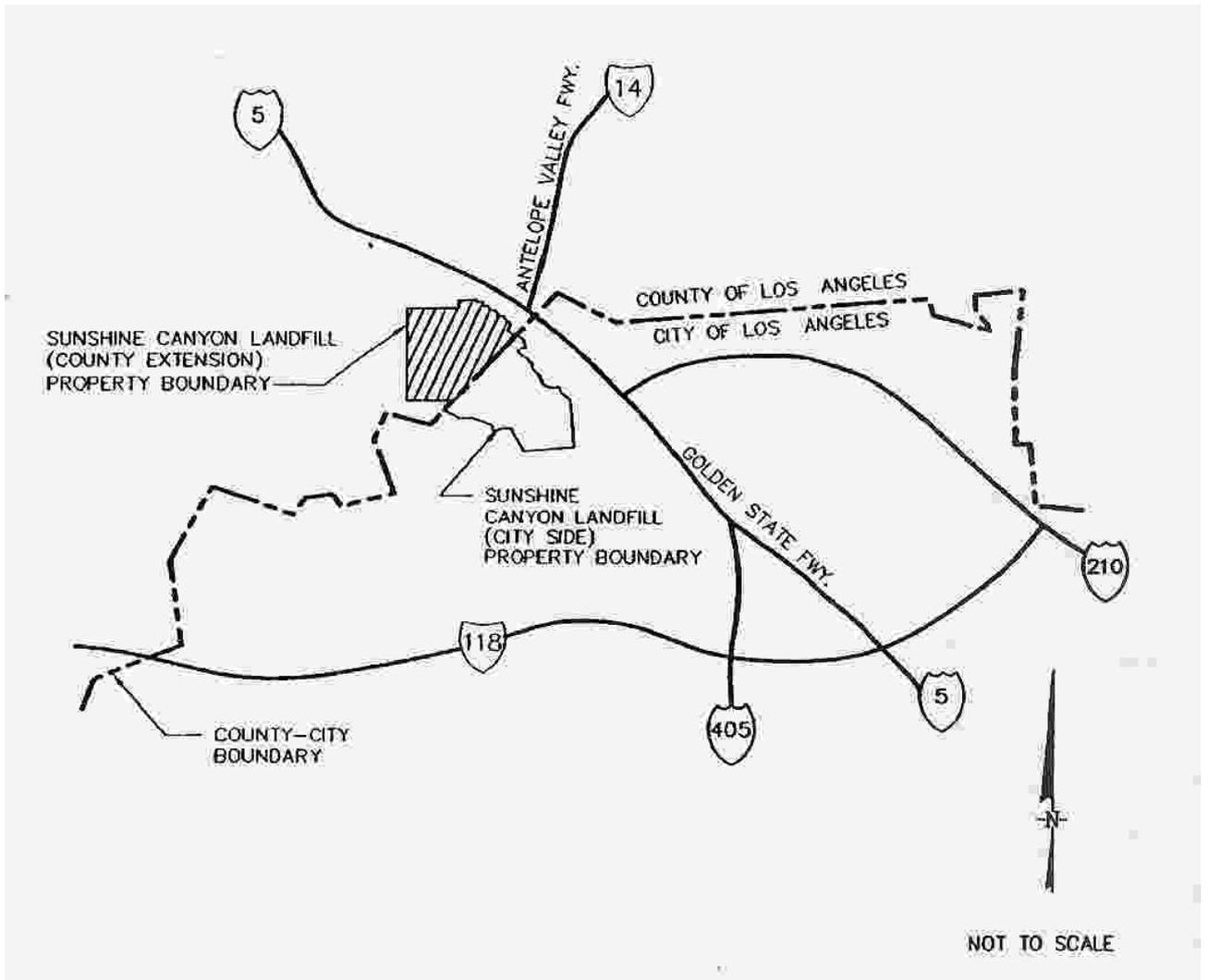


Figure 1. Location Map

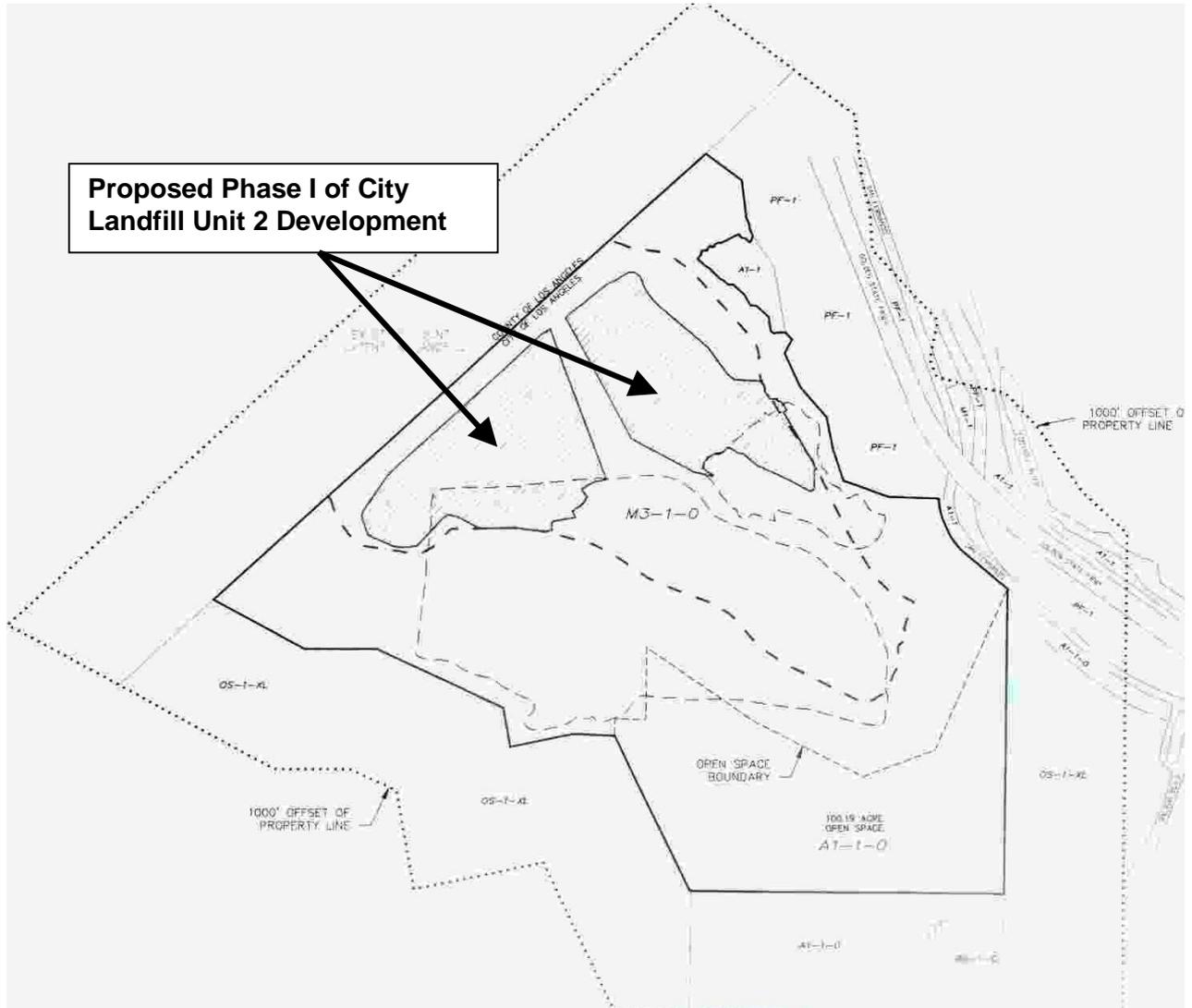


Figure 3. Proposed Phase I of City Landfill Unit 2

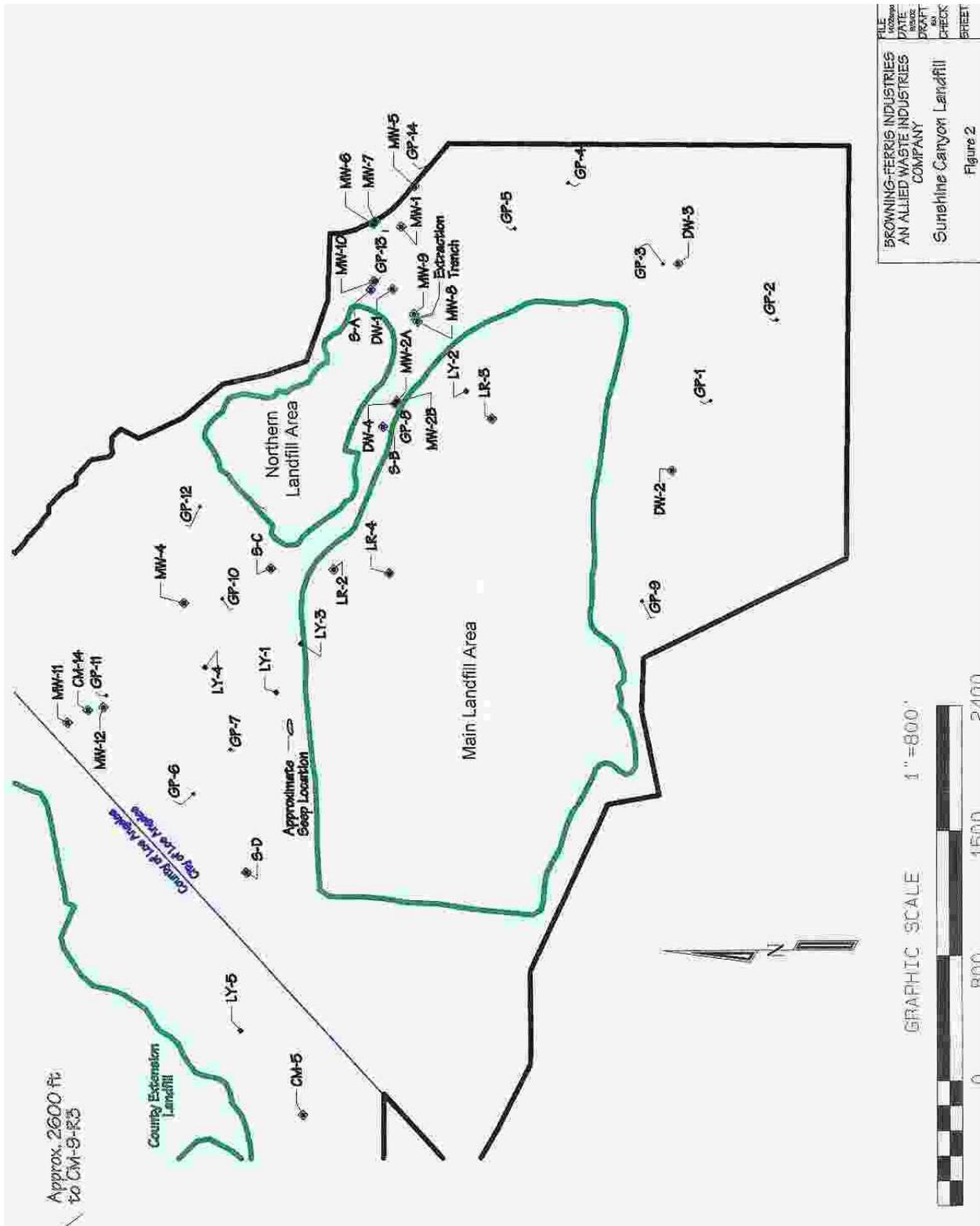


Figure 4. Existing Environmental Monitoring System