

State of California  
California Regional Water Quality Control Board  
Santa Ana Region

September 16, 2016

**STAFF REPORT**

**Item: 9**

**SUBJECT:** Revision of Waste Discharge Requirements for El Sobrante Landfill, Order No. R8-2016-0034

**DISCUSSION:**

USA Waste of California (hereinafter Discharger), owns and operates El Sobrante Sanitary Landfill (ESL), a Class III municipal solid waste (MSW) landfill located at 10910 Dawson Canyon Road, Corona, California 91719-5020.

The applicable regulations governing the discharge of non-hazardous MSW to land are contained in Division 2, Title 27, California Code of Regulations (Title 27) and the Code of Federal Regulations Subpart D of Part 258 of Title 40 (Subtitle D). Landfill operations at ESL are currently regulated under waste discharge requirements (WDRs) Order No. R8-2011-0014.

Revisions are being proposed to existing WDRs for ESL that include provisions and requirements for acceptance, management, and disposal of cement-treated incinerator ash (ash), contaminated soils, cathode ray tube panel glass (CRT panel glass), and waste-derived materials. Further, the proposed revised WDRs enable the use of ash and contaminated soils as alternative daily cover provided that conditions are acceptable and that the materials are utilized appropriately in doing so. Also, the proposed revised WDRs provide a process for re-using waste-derived materials in other capacities at ESL.

**Incinerator Ash**

Cement-treated incinerator ash has been accepted at ESL since March 2010. Analytical data provided to Regional Board staff at that time indicated that the values for metals of concern were below levels for hazardous waste classification. However, recent review of the pH data for the ash indicated that it might still be a threat to water quality. Accordingly, Regional Board staff required that the Discharger provide documentation demonstrating that the ash is also not a designated waste and will not affect water quality.

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In September 2015, the Discharger submitted a Report for Geochemical Modeling of Treated Ash. Based upon results of the modeling and review of analytical results for testing of leachate generated at the Landfill, it is very unlikely that the interactions between the constituents in the incinerator ash, MSW, and landfill leachate will mobilize any constituents of concern. Consequently, proper acceptance, management, and disposal of incinerator ash at the Landfill do not pose a threat to water quality and the ash is not a designated waste.

The Discharger has submitted an ash management plan to the Regional Board describing procedures for accepting and handling ash at ESL. Elements of the plan, and additional discharge specifications and provisions are incorporated into these proposed waste discharge requirements. In addition, monitoring, documentation, and reporting requirements for ash management at ESL have been incorporated into the Regional Board's Monitoring and Reporting Program for the landfill.

**Waste Acceptance Program (WAP) for Contaminated Soils and CRT Panel Glass**

On April 25, 2014, the Regional Board adopted Order No. R8-2014-0006, which amended waste discharge requirements for specified active landfills, including El Sobrante Landfill, within the Santa Ana Region. This order applied to acceptance of non-hazardous/non-designated contaminated soils for disposal or reuse at the specified landfills.

Order No. R8-2014-0006 required that dischargers intending to accept contaminated soils at their facilities, must develop a Waste Acceptance Program (WAP) and submit it to the Regional Board's Executive Officer for approval.

In July 2015, the Discharger submitted a revised WAP to the Regional Board for review and approval. Regional Board staff reviewed the revised WAP and found that it met the requirements of Order No. R8-2014-0006. Consequently, the Executive Officer approved the WAP in a letter dated October 29, 2015.

In July 2016, the Discharger submitted an addendum letter to the Regional Board for acceptance and disposal of CRT panel glass at ESL in accordance with the protocols described in the approved WAP, as well as additional protocols specific to CRT panel glass delivery and disposal.

To ensure that acceptance and management of contaminated soils and CRT panel glass at ESL is performed in accordance with the WAP and CRT panel glass addendum, documentation and reporting requirements for this program have been incorporated into these proposed Waste Discharge Requirements and the Regional Board's Monitoring and Reporting Program for the landfill.

### **Waste-Derived Materials**

Regional Board staff has received requests from dischargers to consider approving the disposal or re-use of waste-derived materials at landfills. Waste-derived materials are waste materials that have been treated, processed, or otherwise re-conditioned so that the material may be beneficially re-used for structural, engineering, or other alternative purposes. Some of these waste-derived materials include, but are not limited to, tire-derived aggregate, compost and other green materials, and contaminated soils.

Some alternate purposes or re-uses include trench backfill for landfill gas pipelines, alternative daily cover, roadbase, and annulus backfill for gas extraction wells. Re-use of these waste-derived materials diverts wastes from landfills, conserves landfill capacity, and in many cases enables the use of a material that may provide superior performance as compared to other industry materials.

While there have been no specific proposals for re-use of waste-derived materials at ESL, the Discharger has indicated interest in implementing such re-use at ESL in the future. Consequently, these WDRs include provisions for enabling re-use of these waste-derived materials at ESL. Provided that re-use of these materials is conducted in accordance with the specifications and provisions described in these proposed WDRs, such re-use should not pose a threat to the quality of the waters of the State.

### **APPLICABLE LAWS AND REGULATIONS**

The State and Regional Water Boards are authorized to regulate discharges of waste to land under: California Code of Regulations, Title 27, Division 2, Subdivision 1, "Consolidated Regulations for Treatment, Storage, Processing or Disposal of Solid Waste (referred to as Title 27 regulations). Title 27 generally deals with non-hazardous wastes and it provides regulatory authority to the Water Boards and Cal Recycle (formerly called the California Integrated Waste Management Board) and clearly defines the responsibilities assigned to each agency. The regulations governing the disposal of waste to land includes authority for the Regional Water Boards to adopt waste discharge requirements and to establish site-specific requirements for regulatory compliance and closure design and post-closure monitoring requirements. The primary purpose of the regulations is to: 1) assure the protection of human health and the environment; 2) ensure that waste is properly contained or cleaned-up as appropriate; and 3) protect surface and groundwater from adverse impacts that could result from the discharge of waste to land. Title 27, Section 20430 requires the Discharger to implement a corrective action program to remediate releases from the Landfill, and thereby ensure that the Discharger achieves compliance with the Water Quality Protection Standards that were adopted for ESL in accordance with §20390.

The Water Quality Control Plan for the Santa Ana River Basin (Basin Plan) lists the beneficial uses and water quality objectives for surface and groundwater bodies in the Region. This Order contains waste discharge requirements that implement the Basin

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Plan. Dischargers at El Sobrante Landfill could affect Temescal Creek Reach 2 and the Bedford Groundwater Management Zone.

The proposed Order requires the Discharger to: maintain and operate the existing landfill gas collection system; monitor groundwater on a regular basis; continue to investigate and address any contamination determined to have originated from ESL; maintain the drainage and erosion control systems on all parts of the Landfill; and document and report on these activities. These requirements are consistent with state and federal laws and regulations, including the Basin Plan, and are protective of the water resources in the area.

**RECOMMENDATION:**

Adopt Order No. R8-2016-0034 as presented.

**Comments were solicited from the following agencies:**

U. S. Environmental Protection Agency, Region 9 – Steve Wall ([wall.steve@epa.gov](mailto:wall.steve@epa.gov))  
and Zoe Heller ([heller.zoe@epa.gov](mailto:heller.zoe@epa.gov))

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South Coast Air Quality Management District – Jay Chen ([jchen@aqmd.gov](mailto:jchen@aqmd.gov))

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**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SANTA ANA REGION**

**ORDER NO. R8-2016-0034**

**WASTE DISCHARGE REQUIREMENTS  
FOR**

**USA WASTE OF CALIFORNIA, INC.**

**EL SOBRANTE LANDFILL  
CLASS III SOLID WASTE DISPOSAL SITE  
RIVERSIDE COUNTY**

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter Regional Board), finds that:

1. USA Waste of California, Inc. (hereinafter Discharger) owns and is responsible for the operation and maintenance of El Sobrante Landfill (ESL). ESL is a Class III landfill that accepts non-hazardous municipal solid waste (MSW). The landfill is located at 10910 Dawson Canyon Road, Corona, California, within the County of Riverside. Landfilling operations at ESL began in 1986. Approximately 468 acres of the site have been surveyed and permitted for landfill activities to date. The existing, permitted portion of ESL is located in Section 26, T4S, R6W, SBB&M, at latitude 33°47'36" and longitude -117°28'24". The location of the site is shown on Figure 1, which is hereby made a part of this order.
2. The discharge of waste to land is regulated by California Code of Regulations, Title 27, Division 2, Subdivision 1 (Title 27). The terms used in this order are contained in Title 27, Chapter 2, §20150, §20163, §20164, and §20415.
3. ESL currently operates under Waste Discharge Requirements (WDR) Order No. R8-2011-0014. The current permitted capacity of ESL is approximately 210 million cubic yards (MCY) and the permitted footprint is 468 acres. This order updates and replaces WDR Order No. R8-2011-0014.
4. Storm water discharges from ESL are regulated by State Water Resources Control Board (SWRCB) Water Quality Order No. 2014-0057-DWQ, NPDES General Permit No. CAS000001, for discharges of storm water associated with industrial activities.
5. The WDRs for the site are being revised to incorporate requirements for acceptance, management, and disposal of cement-treated incinerator ash as alternative daily cover (ADC) and disposal at ESL, and to incorporate

- requirements for acceptance, management, and disposal of contaminated soils at ESL.
6. ESL is located in western Riverside County in the foothills east of the Temescal Valley, between Olsen Canyon and Dawson Canyon. Elevations across the site range from 1,450 feet above mean sea level (MSL) to 1,832 feet above MSL. Natural slopes range from 1.5 (horizontal) to 1 (vertical) to nearly flat. The steeper slopes are generally found in the eastern portions of the site.
  7. ESL is located within the Peninsular Ranges Physiographic Province and is part of the Perris Structural Block. The Glen Ivy North segment of the active Elsinore fault zone projects along the Temescal Valley approximately 2 miles west of the site. The site is primarily underlain by the meta-sedimentary rocks<sup>1</sup> of the Jurassic Bedford Canyon Formation. The Bedford Canyon Formation is composed mainly of thinly to thickly inter-bedded argillites, quartzites, meta-breccias, and meta-sandstones. Portions of the site are also underlain by Tertiary and Quaternary sedimentary formations including the Lake Mathews Formation, the Silverado Formation and older alluvium. Cretaceous granitic rocks associated with the Southern California Batholith are located in the extreme northeastern portion of the site, and intrusive dikes<sup>2</sup> of the Cretaceous Temescal Wash Quartz Latite Porphyry were encountered during excavation of some cells in the existing landfill area.
  8. The site is located in an arid to semi-arid environment. Average annual site precipitation is estimated to be approximately 12 inches based on precipitation data and maps from the National Weather Service (NOAA Atlas 2 dated 1973). The estimated precipitation for a 24-hour, 100-year storm event is 6 inches. The evaporation rate averages 73.39 inches per year.
  9. ESL is located between Lake Mathews to the northeast and Temescal Wash to the southeast within the Lake Mathews Hydrologic Area, in the Bedford Canyon Hydrologic Subarea of the Santa Ana River Watershed (Santa Ana Hydrologic Basin). No natural lakes or other bodies of standing water occur at the site. Ephemeral<sup>3</sup> seeps and springs occur in several canyons located within or

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<sup>1</sup> Sedimentary rocks that have been partially metamorphosed. Sedimentary rocks are rocks that have formed from the deposition of sediments from water or air such as silt, sand, and gravel, or through the precipitation of chemicals from water such as limestone and gypsum. Metamorphism is the process by which rocks are altered in the solid state by pressure, heat, and chemical substances.

<sup>2</sup> Intrusive dikes are tabular bodies of igneous rocks (such as granite) that are usually caused by the injection or emplacement of magma into fractures, joints, or bedding of adjacent rocks.

<sup>3</sup> Streams or springs that only flow during part of the year, usually in direct response to precipitation.

adjacent to the landfill property. Groundwater can be found in the bedrock fractures of the Bedford Canyon Formation and in the alluvium-filled bottoms of the canyons. Depth to groundwater beneath the site varies, with groundwater in the canyon bottoms occurring at depths less than 20 feet below ground surface (bgs), and groundwater beneath the ridges occurring at depths in excess of 150 feet bgs (approximately 1,070 to 1,300 feet above MSL, respectively). Groundwater flow varies across the site, but in the vicinity of the existing landfill it flows predominantly from the northeast to the south and southwest at an average hydraulic gradient of 0.08 foot per foot.

10. A Water Quality Control Plan for the Santa Ana River Basin (Basin Plan) became effective on January 24, 1995. The Basin Plan recognizes and lists beneficial uses and water quality objectives for surface waters and groundwater in the Santa Ana Region. The water quality objectives and the groundwater basin boundaries (now known as groundwater management zones) were updated in February 2008.
11. Surface drainage from the landfill property – and from ephemeral streams located adjacent to the landfill property – is tributary to Temescal Creek Reach 2, the intermittent beneficial uses of which include:
  - A. Agricultural supply,
  - B. Industrial service supply,
  - C. Groundwater recharge,
  - D. Contact water recreation,
  - E. Non-contact water recreation, and
  - F. Limited Warm freshwater habitat.
12. Groundwater from the fractured bedrock and alluvial deposits beneath the landfill property flows into the Bedford Groundwater Management Zone, the beneficial uses of which include:
  - A. Municipal and domestic supply,
  - B. Agricultural supply,
  - C. Industrial service supply, and
  - D. Industrial process supply.
13. On September 13, 1985, the Regional Board adopted Order No. 85-131 to regulate discharges of MSW to land at ESL. Provisions and requirements in the order reflected Federal Subtitle D and State Chapter 15 regulations existing at that time or solid waste disposal facilities.
14. In 1988, USEPA proposed draft revisions to Subtitle D Criteria in accordance with the 1984 Federal RCRA Hazardous and Solid Waste Amendments that required revision of Subtitle D Criteria for solid waste disposal facilities. In 1991, USEPA subsequently promulgated final solid waste disposal facility regulations,

which were codified as 40CFR §258. These regulations included a deadline of Oct 9, 1993 for implementation of new regulations.

15. Accordingly, on June 17, 1993, State Water Board adopted State Board Resolution No. 93-62 directing all nine Regional Boards in California to comply with new federal MSW regulations promulgated in 40CFR §258. To implement State Board Resolution No. 93-62, the Santa Ana Regional Board adopted Order No. 93-57 on September 10, 1993. Order 93-57 amended the WDRs for all landfills within the Santa Ana Region, including Order No. 85-131 for ESL.
16. On March 11, 1994, in accordance with Subtitle D requirements, the Santa Ana Regional Board adopted Order No. 94-17, which amended the WDRs for all landfills, including Order No. 85-131 for ESL, within the Santa Ana Region to implement uniform drainage control system and drainage control system maintenance requirements at landfill sites so that every site could adequately manage the precipitation and peak flows from 100-year, 24-hour storms.
17. On July 18, 1997, the State Water Resources Control Board (State Water Board) and the former California Integrated Waste Management Board (now the Department of Resources Recycling and Recovery or Cal Recycle), enacted the CCR Title 27 Solid Waste Requirements to consolidate and replace the non-hazardous waste disposal requirements of 23 CCR, Chapter 15.
18. On November 20, 1998, the Regional Board adopted Order No. 98-99, which amended the WDRs for all landfills, including Order No. 85-131 for ESL, within the Santa Ana Region by combining the requirements of Order No. 93-57 and Order No. 94-17 into one general order. This action was taken to eliminate overlap between the two orders, to provide a simpler and clearer description of requirements, and to provide a user-friendly format.
19. On October 7, 1999, the Regional Board adopted Order No. 99-79 further amending Order No. 85-131, WDRs for ESL. This amendment involved approving an engineered alternative design for the bottom and sideslope liners in Phase 4 at ESL. In addition, a subdrain system was approved to address high groundwater beneath the Phase 4 area in accordance with Title 27 requirements for a separation of 5 feet between MSW and the highest anticipated groundwater elevation; however, natural groundwater seeps had been found in some areas underlying the proposed Phase 4 area. Approval and installation of the subdrain system in Phase 4 addressed the concerns regarding the requirement for the 5-foot separation.
20. On July 20, 2001, the Regional Board adopted Order No. 01-053 revising and replacing Order No. 85-131. The revision incorporated the requirements of previous amendments and involved several key aspects of the landfill, which are summarized as follows:

- A. The Order approved vertical and lateral expansion of the permitted landfill footprint at ESL, which increased the waste disposal area from 90 acres to 495 acres (see Figure 2 – Landfill Footprint) and increasing the final elevation of the landfill from 1,425 to 1,832 feet above MSL. This expansion increased the disposal capacity of the landfill to 210.3 million cubic yards and increased the disposal life of the landfill by approximately 30 years.
  - B. The Regional Board approved use of an Engineered Alternative Design (EAD) for the bottom and side-slope liners, and the use of a sub-drain system to address the requirement for a five foot separation between groundwater and MSW.
  - C. Order No. 01-053 implemented those portions of federal regulations that are not addressed by, or are more restrictive than CCR Title 27.
  - D. In addition, Order No. 01-053 established a timeframe for implementing a corrective action program (CAP). The CAP was required to address the results of water quality monitoring which indicated that groundwater beneath the Landfill had exceeded the Ground Water Protection Standard (water standard) established for the facility in accordance with state and federal regulations.
21. The Regional Board adopted Order No. R8-2011-0014 on April 22, 2011 to update and incorporate requirements for discharges of MSW to land at ESL. This included standard discharge requirements, provisions, and monitoring and reporting requirements in accordance with Title 27 and SWRCB Resolution 93-62 for landfill design, operations, and groundwater monitoring, as well as amendments to previous orders and proposed changes in landfill operations at ESL. Specifically, Order No. R8-2011-0014 included approval of further proposed changes in the liner design from that which had been previously approved in Order No. 01-053 for expansion of landfill operations into a new area of the ESL project site
  22. There has been a total of 11 areas or phases of solid waste disposal at ESL (Phases 1-11). These phases are shown on Figure 2 – Landfill Footprint, along with the currently permitted total fill area (footprint). Future Phases 12-17 are only in the draft or conceptual stage. Construction and disposal at ESL has proceeded as follows:
    - A. The Phase 1 and 2 areas, which were constructed in 1986 and 1987, are unlined and were constructed prior to the adoption of the federal landfill regulations, 40CFR §258. The cells were constructed on excavated bedrock with a permeability of  $1 \times 10^{-6}$  centimeter per second (cm/s) or less. A clay liner was constructed on the west slope of the Phase 1 area

to comply with the permeability requirements that were in effect at the time of its construction;

- B. The Phase 3 – Stage 1 areas were constructed in 1987 with a pre-40CFR §258 liner that is composed of 24 inches of low permeability soil (clay with permeability of  $1 \times 10^{-7}$  cm/s or less), without a flexible membrane liner (FML);
- C. The remaining portions (stages or cells) of the Phase 3 area and the Phase 4 - Stage 2B area, which were constructed from 1993 through 2000, included a 40CFR §258 prescriptive clay liner system which consists of 24 inches of clay with a permeability less than  $1 \times 10^{-7}$  cm/s overlain by an FML;
- D. The Phase 4 – Stage 2A area has an alternative engineered liner system for both the base and side slopes which incorporates a geosynthetic clay liner (GCL) in place of the prescriptive liner's 24 inches of clay;
- E. Phase 5 was a vertical expansion above the previously constructed phases that increased the top elevation of the permitted landfill to an elevation of 1,425 feet above MSL;
- F. Phases 6 – 9A, which were constructed from 2002 through 2006, incorporated a composite liner system. The bottom liner system includes a 12-inch thick low permeability layer overlain by an FML, a GCL, another FML, a 12-inch thick leachate collection and recovery system (LCRS) drainage layer, and a 24-inch thick operations layer. Suitable cushion and filter geotextiles were placed between appropriate layers. The sideslope liner system includes an FML, a GCL, another FML, and a geocomposite drainage layer overlain by a 24-inch thick operations layer;
- G. Phase 9B - 11A, which were constructed from 2011 through 2014, incorporate a composite liner system that includes a 12-inch thick low permeability layer, overlain by an FML, a GCL, another FML, a 9-inch thick LCRS drainage layer, and a 24-inch thick operations layer. Suitable cushion and filter geotextiles were placed between appropriate layers. The sideslope liner system includes an FML, a GCL, another FML, and a geocomposite drainage layer overlain by a 24-inch thick operations layer. This area has been the active disposal area since 2015.
- H. Phase 11B (north of and adjacent to Phase 11A) was included in the expansion proposal for Phase 11A. All components of the composite liner system proposed for Phase 11B are identical to those in Phase 11A. This design was reviewed and approved by Regional Board staff at the same time as the Phase 11A design (March 2014). The Discharger expects that

construction for Phase 11B will commence during the first or second quarter of 2017.

23. Water quality at the site is currently monitored under a Detection Monitoring Program (DMP) and a Corrective Action Program (CAP) in accordance with the parameters and schedules set forth in Monitoring and Reporting Program (MRP) No. R8-2011-0014. The water quality monitoring program for ESL currently includes groundwater, surface water (including natural seeps and springs), leachate, and landfill gas (LFG) condensate.
24. Low concentrations of inorganic compounds and volatile organic compounds (VOCs) were detected in wells located near the toe of the landfill in the fall of 1987, and the landfill was placed in an Evaluation Monitoring Program (EMP). Since LFG was considered the principal source of the suspected release, a LFG collection and extraction system was installed and began operation in June 1993. In July 1996, a CAP was initiated, consisting of a groundwater extraction and treatment system, to contain and remove low concentrations of VOCs that were found in groundwater. The CAP was successful, and in June 2003, Regional Board staff permitted the Discharger to shut off the groundwater extraction and treatment system and change the CAP remedy to monitored natural attenuation (MNA) and LFG control.
25. The existing LFG collection and extraction system consists of a series of horizontal collectors and vertical wells located in each operating or completed phase of ESL. A series of LFG monitoring probes are located around the perimeter of the existing landfill footprint. Oversight of this LFG monitoring system is performed by the Riverside County Department of Environmental Health, Local Enforcement Agency.
26. The Discharger has been monitoring landfill leachate and gas condensate annually for the constituents listed in Appendix I and Appendix II of 40 CFR §258, and re-testing for each constituent newly detected above reporting limits, to create a constituent of concern (COC) list of the constituents that have been detected above reporting limits and verified to be present.
27. **CEQA Compliance** – This project involves the adoption of waste discharge requirements for an existing facility for which waste discharge requirements need to be updated, and as such, is categorically exempt from the California Environmental Quality Act in accordance with Section 15301, Chapter 3, Title 14, California Code of Regulations. This Order requires that the Discharger submit a Joint Technical Document (JTD) addendum for any proposed changes to the facility not covered in the Order. The JTD addendum must include documentation showing that the project is in compliance with CEQA.

28. The Regional Board has notified the Discharger and interested agencies and persons of the Board's intent to update the existing waste discharge requirements for the discharger, and has provided them with an opportunity to submit their written views and recommendations.
29. The Regional Board, in a public meeting, heard and considered all comments pertaining to updating the existing waste discharge requirements for ESL.

### **Treated Wood Waste**

30. On January 1, 2005, Assembly Bill 1353 (AB 1353), a state law that governs the disposal of treated wood waste (TWW), became effective. "Treated wood," as defined in California Health and Safety Code (CHSC) §25150.7, 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), that is used for the purposes of protecting wood against insects, microorganisms, fungi, and other environmental conditions that can lead to decay of the wood. The chemicals used to treat wood may include, but are not limited to, chromated copper arsenate, pentachlorophenol, creosote, acid copper chromate, ammoniacal copper arsenate, ammoniacal copper zinc arsenate, or chromated zinc chloride.
31. AB 1353 negated all existing hazardous waste variances for TWW formerly granted by the California Department of Toxic Substances Control (DTSC), and requires TWW to be disposed of in either:
  - A. A Class I hazardous waste landfill, or
  - B. A Class III landfill that meets all three of the following conditions:
    - i. The landfill has at least one composite-lined unit that meets all requirements applicable to the disposal of MSW in California after October 9, 1993. All TWW shall be disposed of in a composite-lined unit of an MSW landfill.
    - ii. The landfill must be regulated by WDRs that specifically allow discharges of TWW, as defined in CHSC §25150.7(b), or designated waste, as defined in California Water Code (CWC) §13173. All TWW accepted at a MSW landfill must be managed to prevent scavenging and landfill operations must assure compliance with CHSC §25150.7(d)(2).
    - iii. Groundwater monitoring of the composite-lined unit(s) to be used for TWW disposal does not indicate a verified release of contaminants to groundwater.

32. AB 1353 does not affect existing law (CHSC, §25143.1.5), which allows MSW landfills to accept non-hazardous TWW generated by the utility industries for disposal in composite-lined units if so authorized by the facility's WDRs.
33. On September 16, 2010, the Regional Board adopted Order No. R8-2010-0032 that amended Order No. 01-53 to allow the acceptance of TWW and other designated wastes (as approved by the Regional Board staff) into the lined portions of ESL. The requirements for management and disposal of TWW at ESL, implemented in Order No. R8-2010-0032, were incorporated into Order No. R8-2011-0014, which was adopted by the Regional Board in April 2011 (see Finding #21 above).

### **Incinerator Ash**

34. In March 2010, the Discharger requested that the Regional Board consider its proposal for the acceptance and disposal of treated incinerator ash from the Southeast Resource Recovery Facility (SERRF) at the Landfill. SERRF is located in the City of Long Beach, California (Long Beach), and incinerates municipal solid waste generated by the Long Beach and delivered to the facility. Following incineration, the ash is treated at the facility by mixing the incinerator ash with a specialized cement mixture. This treatment process binds the ash particles and immobilizes metals and other constituents found in the ash. In March 2010, Regional Board staff indicated that it had no objection to the proposal for acceptance and disposal of the treated ash at the Landfill.
35. In May 2013, the Discharger requested that the Regional Board consider a second proposal for acceptance and disposal of treated incinerator ash at the Landfill. The ash in this proposal would be generated at the Commerce Refuse to Energy Facility (CREF) located in the City of Commerce, California (Commerce). The CREF facility also receives MSW from Long Beach, which it incinerates and treats in a process similar to the process at SERRF. In May 2013, the Regional Board staff again indicated that it had no objection to the proposal for acceptance and disposal of the treated ash at the Landfill.
36. For both of these proposals, analytical data for the ash was provided with the proposals. Statistical analysis of these results using USEPA's 90% upper confidence level method (detailed in SW-846) indicated that, in both cases, the values for metals of concern (lead and cadmium) were below levels for hazardous waste classification.
37. CCR Title 27 enables the Local Enforcement Agency (LEA) to consider and approve alternative materials for use as alternative daily cover (ADC). In particular, §20690 (b)(5) of Title 27 addresses the use of incinerator ash as ADC. To approve such use in this case, the incinerator ash must be non-hazardous. Based upon the statistical analysis for metals described above, the incinerator ash is considered non-hazardous. However, review of pH data for the incinerator

ash indicated that it might still be a threat to water quality. Accordingly, Regional Board staff required that the Discharger provide documentation demonstrating that the incinerator ash is also not a designated waste.

38. In September 2015, the Discharger submitted a Report for Geochemical Modeling of Treated Ash. Based upon results of the modeling and review of analytical results for testing of leachate generated at the Landfill, it is very unlikely that the interactions between the constituents in the incinerator ash, MSW, and landfill leachate will mobilize any constituents. Consequently, proper acceptance, management, and disposal of incinerator ash at the Landfill do not pose a threat to water quality and the ash is not a designated waste.
39. The Discharger has submitted an incinerator ash management plan to the Regional Board describing procedures for accepting and handling ash at the Landfill. Elements of this plan, and additional discharge specifications and provisions are incorporated into these waste discharge requirements. In addition, documentation and reporting requirements have been incorporated into the Regional Board's Monitoring and Reporting Program for ESL.
40. Approximately 400 tons of treated incinerator ash are delivered to the Landfill each day, which results in a total of approximately 10,000 tons per month and 120,000 tons per year. The ash is transported via Truck and Transfer rigs, which carry approximately 25 tons per load. Approximately 16 loads are delivered for disposal or re-use each day.

#### **Waste Acceptance Program (WAP) for Contaminated Soil**

41. On April 25, 2014, the Regional Board adopted Order No. R8-2014-0006, which amended waste discharge requirements for specified active landfills, including El Sobrante Landfill, within the Santa Ana Region. This order applied to acceptance of non-hazardous/non-designated contaminated soils for disposal or reuse at the specified landfills.
42. Prior to adoption of Order No. R8-2014-0006, acceptance and disposal of non-hazardous contaminated soils at the Region's landfills was overseen by Regional Board staff on a case-by-case basis. Due to the relatively large number of requests for disposal, addressing these waste discharges involved a significant time commitment for Regional Board staff for what had become routine actions. In consideration of these circumstances and to minimize time spent by Regional Board staff on this issue, the order was prepared and adopted.
43. Order No. R8-2014-0006 required that dischargers intending to accept contaminated soils at their facilities, must develop a Waste Acceptance Program (WAP) and submit it to the Regional Board's Executive Officer for approval.

44. In July 2015, the Discharger submitted a revised WAP to the Regional Board for review and approval. Regional Board staff reviewed the revised WAP and found that it met the requirements of Order No. R8-2014-0006. Consequently, the Executive Officer approved the WAP in a letter dated October 29, 2015.

### **Cathode Ray Tube Panel Glass**

45. In September 2014, the California Department of Toxic Substances Control re-adopted emergency regulations that expanded options for disposition of Cathode Ray Tubes (CRTs) and CRT panel glass, which are components of older televisions and monitors. The emergency regulations provide CRT waste handlers with the added option of disposing of CRT panel glass at a Class II or Class III landfill.
46. CRT glass includes two types of glass. CRT *panel* glass forms the viewing surface with the phosphor screen and more significantly *does not contain* lead. CRT *funnel* glass forms the glass structure that extends from the phosphor viewing surface to the cathode ray guns and most significantly it *does contain* lead. As stated in CCR Title 22, §66261.4(h), CRT panel glass is not a hazardous waste and disposal at a Class II or Class II landfill is allowed provided that it is managed in accordance with the management standards specified in §66273.73 and §66273.75, and article 8 of chapter 23.
47. The Discharger has indicated that, on average, approximately 330 tons of CRT panel glass will be accepted each month for disposal at ESL. Delivery and disposal will be performed in accordance with the protocol contained in the WAP described in Finding 44 above, as well as a supplemental protocol specifically addressing CRT panel glass that has been added to the WAP.
48. Documentation and reporting requirements have been incorporated into the Regional Board's Monitoring and Reporting Program for delivery and disposal of CRT panel glass at ESL.

### **Waste-Derived Materials**

49. **Waste-derived materials** are waste materials that have been treated, processed, or otherwise re-conditioned so that the material may be beneficially re-used for structural, engineering, or other alternative purposes. Some of these waste-derived materials include, but are not limited to, tire-derived aggregate, compost and other green materials, and contaminated soils.
50. Periodically, Regional Board staff receives requests from Dischargers to consider approving the disposal or re-use of waste-derived materials at landfills. Some alternate purposes or re-uses include trench backfill for landfill gas pipelines, alternative daily cover, roadbase, and annulus backfill for gas extraction wells. Re-use of these waste-derived materials diverts wastes from landfills, conserves

landfill capacity, and in many cases enables the use of a material that may provide superior performance as compared to other industry materials.

51. Section 20690 of CCR Title 27 specifies certain materials for use as alternative daily cover. However, the list of materials does not include many waste-derived materials and Title 27 does not address other potential uses of these types of materials. Consequently, these WDRs include provisions for enabling re-use of these waste-derived materials at ESL.

### **Delegation of Authority**

52. This Order delegates authority to the Executive Officer to require that the Discharger:
- a. Revise the WAP and/or the methods and procedures for monitoring, reporting, managing, accepting, reusing, and/or disposing of incinerator ash, contaminated soils, CRT panel glass, and/or waste-derived materials at ESL to address newly discovered or newly developed information and/or regulatory guidelines.
  - b. Revise the Monitoring and Reporting Program (MRP) No. R8-2016-0034.

To meet the applicable provisions contained in the California Water Code (CWC), Title 27, and Subtitle D of the Code of Federal Regulations (40 CFR §258), **IT IS HEREBY ORDERED** that the Discharger shall comply with the following:

#### **A. DISCHARGE SPECIFICATIONS**

1. **Groundwater** – The discharge shall neither cause nor contribute to the contamination or pollution of groundwater via the release of waste constituents in either the liquid or gaseous phase.
2. **Surface Water** – The discharge shall neither cause nor contribute to any surface water contamination, pollution, or nuisance, including, but not limited to:
  - a. Floating, suspended, or deposited macroscopic particulate matter or foam;
  - b. Increases in bottom deposits or aquatic growth;
  - c. An adverse change in temperature, turbidity, or apparent color change beyond natural background levels and occurrences;
  - d. The creation or contribution of visible, floating, suspended, or deposited oil or other products of petroleum origin; and

- e. The introduction or increase in concentration of toxic or other pollutants/contaminants resulting in unreasonable impairment of beneficial uses of the waters of the State.
3. **Unsaturated Zone** – The discharge shall not cause any increase in the concentration of waste constituents in soil-pore gas, soil-pore liquid, soil, subdrain water, or other geologic materials beneath or outside of ESL, if such waste constituents could migrate to the waters of the State and cause a condition of contamination, pollution, or nuisance.
  4. **Precipitation and Drainage Control** – Waste management units shall be designed, constructed, and maintained to limit, 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. In addition, the Discharger shall comply with the following:
    - a. Units shall be designed, constructed, and maintained to achieve compliance with Title 27, §20365.
    - b. Top deck surfaces shall be constructed to achieve a minimum one-percent slope and to direct flows to downdrains and other drainage control features.
    - c. Downdrains and other necessary drainage structures must be constructed for all sideslopes.
    - d. All containment structures shall be protected and maintained continuously to prevent commingling of leachate and gas condensate with surface run-on and runoff and to ensure their effectiveness.
  5. **Liquids Usage** – The discharge of liquids, including groundwater, leachate or landfill gas condensate, or their use for dust control or irrigation at ESL is prohibited, unless the following conditions are met:
    - a. The liquids are being returned to the landfill; **and**
    - b. The portion of the landfill to which these liquids are discharged is equipped with a prescriptive liner system or approved equivalent; **or**
    - c. The liquids generated from the site are disposed of offsite, in accordance with a disposal plan approved by the Regional Board staff.
    - d. Restrictions under this section shall not apply to groundwater, leachate, and landfill gas condensate that is treated in accordance with an approved plan prior to being used for dust control or irrigation over the lined portions of the site.

6. **Acceptable Waste** – Wastes disposed of at ESL shall be limited to non-hazardous municipal solid wastes, liquids or semi-solid waste, contaminated soils that are not hazardous, inert solid wastes, treated woodwaste, and designated wastes. Unless specified in another section of these WDRs, wastes meeting the following definitions may be accepted for disposal at ESL:
  - a. Non-hazardous solid waste, as defined under Title 27, §20220(a), 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 wastes (whether of solid or semi-solid consistency), provided that such wastes do not contain wastes which must be managed as hazardous wastes.
  - b. Liquids or semi-solid waste, including dewatered sewage sludge and water treatment sludge, that meets the following criteria [Title 27, §20200(d)(3) and §20220(c)]:
    - i. The waste is not at hazardous levels as defined in Title 22, California Code of Regulations, §66261.3 et seq.;
    - ii. The waste contains less than 50 percent (<50%) solids by weight; and
    - iii. The Discharger has demonstrated to Regional Board staff that such waste will not exceed the moisture holding capacity of the landfill, either initially or as a result of waste management operations, compaction, or settlement.
  - c. Inert waste, as defined in Title 27, §20230, 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.
  - d. Designated wastes, as defined in CWC, §13173, that are approved by Regional Board Executive Officer.
  - e. Off-specification liquids in consumer packaging may be accepted for disposal at ESL on a case-by-case basis with the approval of the Regional Board's Executive Officer.
7. **Sewage Treatment Plant Grit and Screenings** – All sewage treatment plant grit and screening residues disposed of at the site must be segregated from public access and shall meet the following criteria:

- a. A moisture content of less than 50 percent;
  - b. Disinfection in accordance with a method approved by the local Department of Environmental Health and the Regional Board; and
  - c. An analysis for heavy metals.
8. **Treated Wood Waste** – Treated wood waste<sup>4</sup> (TWW) and designated waste, as approved by the Executive Officer of the Regional Board, may only be disposed of in composite-lined WMUs meeting all the requirements for a composite liner and leachate collection and removal system.
9. If monitoring at the composite-lined portion of a landfill unit that has received TWW indicates a verified release, the disposal of TWW to that landfill unit shall immediately cease until corrective action, implementing the requirements of Title 27 §20385, results in cessation of the release.
10. The discharger shall manage and dispose of TWW in accordance with the site's TWW Management and Disposal Plan and all requirements of CHSC §§25143.1.5 and 25150.7.
11. **Incinerator Ash** – Acceptance, management, and disposal of treated incinerator ash at ESL must be implemented by the Discharger in accordance with the following specifications:
- a. Only treated incinerator ash from the SERRF and CREF facilities may be accepted at ESL. Incinerator ash from any other source shall not be accepted without Regional Board action to amend ESL's WDRs. Such an amendment will require the Discharger to file a ROWD and an appropriate filing fee at least 120 days prior to the proposed start of acceptance and disposal.
  - b. Treated ash shall only be placed over composite lined areas of ESL. A map depicting the areas where treated ash was deposited shall be included in annual reports.
  - c. Treated ash shall be managed at ESL in such a manner as to prevent the discharge of treated ash or any component or constituent of treated ash to surface waters or groundwater.

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<sup>4</sup> Treated wood waste as defined in CHSC §§25143.1.5 and 25150.7

- d. Treated ash may be beneficially reused at ESL as base for a wet-weather deck, as base for vehicle access and transport roads within disposal areas, and as an alternative daily cover. Other uses for the treated ash at ESL shall be approved by the Executive Officer prior to implementation by the Discharger.
- e. Treated ash that is reused as base for vehicle access and transport roads at ESL shall be utilized in accordance with the following:
  - i. Two feet of clean earthen material shall be placed over the treated ash used for road base.
  - ii. Roads utilizing treated ash as road base shall only be constructed during periods of dry weather
  - iii. Roads shall be designed and maintained to prevent erosion and potential exposure of treated ash used for road base.
- f. Dust suppression measures shall be employed to minimize potential dust generation and atmospheric discharge during the unloading and disposal of treated ash, and during any construction activities utilizing treated ash.
- g. The Regional Board's Executive Officer may require monitoring of treated ash from the SERRF and CREF facilities for non-organic and non-volatile constituents specified in California Code of Regulations (CCR), Title 22, Section 66261.24 (potential organic and volatile constituents are removed by the incineration process) based upon results of leachate and landfill gas condensate monitoring as required in the MRP for ESL. Monitoring of the treated ash shall be conducted in accordance with the procedures and methods described in the MRP for ESL. Further, based upon review of the monitoring results, the Executive Officer may require routine sampling and analysis for additional constituents at other monitoring points at ESL.
- h. Treated ash received at ESL shall be monitored in accordance with the requirements contained in the MRP for ESL.
- i. Any treated ash that does not conform with the requirements of 22CCR §66261.24 or 40CFR §261.24 shall not be accepted or discharged at ESL.
- j. Descriptions and summaries of the quality and quantity of incinerator ash accepted and discharged at ESL shall be monitored and reported in accordance with MRP No. R8-2016-0034.

12. **Waste Acceptance Program** – Acceptance, management, and discharge of contaminated soils and CRT panel glass at ESL must be implemented by the Discharger in accordance with the Waste Acceptance Program (WAP), dated July 2015, and approved by the Executive Officer on October 29, 2015, as well as the following specifications:
  - a. The Discharger must fully review and evaluate sampling and analytical data for each discrete quantity of contaminated soil proposed for acceptance at ESL to ensure that waste characterizations and certifications are accurate and correct in accordance with state and federal requirements and regulations, to ensure that no hazardous wastes are accepted at ESL, and to ensure that contaminated soils are accepted, managed, and discharged in accordance with the WAP.
  - b. Acceptance, management, and discharge of contaminated soils and CRT panel glass at ESL must be monitored and reported in accordance with MRP No. R8-2016-0034.
  - c. **CRT Panel Glass** – Cathode Ray Tube Panel Glass (CRT Panel Glass) accepted at ESL must be delivered and disposed at ESL in accordance with the supplemental CRT panel glass protocol described in the Discharger's letter to the Regional Board dated July 8, 2016, which is hereby appended to the previously approved WAP.
  
13. **Waste-Derived Materials** – All non-hazardous waste-derived materials accepted at ESL for disposal or onsite re-use shall meet the following requirements:
  - a. The beneficial re-use of waste materials or waste-derived materials, excluding contaminated soils, at ESL shall be evaluated and approved by the Executive Officer of the Regional Board on a case-by-case basis.
  - b. **Interim Cover** – For use as interim cover (alternative daily cover and intermediate cover), waste-derived materials shall be designed, managed, and constructed to minimize percolation of liquids through waste as required under Title 27, §20705(b).
  - c. **Limitations for Use as Cover Materials** – Waste-derived materials used for interim or alternative daily cover shall meet the requirements stated in Title 27, §20705(e) and shall only consist of those materials that comply with the following:
    - i. **Match Unit Classification** – Waste-derived materials shall meet the classification criteria for wastes that can be discharge to ESL. Therefore, a material that would be classified as a designated waste cannot be utilized for daily or intermediate cover, or other re-use at ESL unless that material is approved for discharge (as a

waste) to that landfill pursuant to Title 27, §20200(a)(1) or is authorized by these WDRs, and

- ii. **Composition** – Waste-derived materials shall only consist of materials whose constituents (other than water) and foreseeable breakdown byproducts, under the chemical, biochemical, and temperature conditions which they are likely to encounter within ESL, either:
  - (a) for non-composite lined portions of ESL, are mobilizable only at concentrations which would not adversely affect beneficial uses of waters of the State, in the event of a release, or
  - (b) for composite-lined portions of ESL, are included in the group of constituents that are regularly monitored and analyzed as part of the MRP for ESL.
  
- d. To satisfy the requirements of 13b and 13c above, the Discharger shall complete either of the following:
  - i. Perform a demonstration with the proposed materials for use as an alternative cover and submit a description and evaluation of performance for approval by the Executive Officer.
  - ii. Provide satisfactory documentation and justification supporting use of the proposed materials as an alternative cover for review and approval by the Executive Officer.

## **B. DISCHARGE PROHIBITIONS**

1. The discharge of MSW to any area of ESL beyond the existing footprint of the site is prohibited, unless approved by the Regional Board, and unless such discharge is to an area equipped with a containment system that is constructed in accordance with the standard of the industry, and that meets the additional requirements for both liners and leachate collection systems in accordance with an approved JTD or JTD addendum, and any additional requirements of Title 27, §§20330, 20080, 20340, and 20360; and State Board Resolution No. 93-62.
2. The discharge of hazardous wastes at the site is prohibited.
3. The disposal of liquid wastes into the landfill is prohibited, except as allowed by Discharge Specifications A.5 or A.6 of this order.
4. The discharge of TWW and designated wastes in unlined waste management units (WMUs) at the site is prohibited.

5. The discharge of any TWW that has been removed from electric, gas, or telephone service and is subject to regulation as a hazardous waste under the federal act is prohibited at ESL.
6. No radioactive waste, including low level radioactive waste, as defined by the agency with jurisdictional authority, shall be disposed of at ESL.
7. No medical wastes, including infectious materials, hospital or laboratory wastes, except those authorized for disposal to land by official agencies charged with control of plant, animal and human diseases shall be disposed of at ESL.

**C. PROVISIONS**

1. The Discharger shall comply with all discharge prohibitions, discharge specifications, provisions, and monitoring and reporting requirements of this order upon its adoption.
2. The discharge of wastes shall not cause the release of pollutants or waste constituents in a manner that could cause a condition of contamination, pollution, or nuisance to occur, as indicated by the most appropriate statistical or non-statistical data analysis method and retest method.
3. The treatment or disposal of wastes shall not cause a nuisance or pollution, as defined in CWC §13050.
4. All wastes shall be maintained on property owned or controlled by the Discharger.
5. There shall be no disposal of wastes that contain any substances in concentrations toxic to human, animal, or plant life, such that these wastes could commingle with waters of the State.
6. **Engineered Alternative Liner Design** – The Discharger has demonstrated that the Engineered Alternative Design liner system (EAD) for ESL (including the expansion areas) satisfies the criteria for an engineered alternative to the prescriptive standard design (PSD) (as provided in Title 27, §20080 (b)). The performance of the EAD equals or exceeds the waste containment capability of the PSD. For each phase of liner construction, the following shall apply:
  - a. Each phase of construction at ESL shall be completed in accordance with, and shall include all components of, the approved EAD liner system;
  - b. An approved construction quality assurance/ construction quality control (CQA/CQC) program for the EAD shall be implemented during each phase of construction;

- c. All mitigation measures proposed by the Discharger or the Regional Board shall be implemented to protect water quality;
  - d. The Discharger and its contractors shall submit progress reports on a daily basis to the Regional Board during the construction of the landfill's EAD so that compliance with Item 6.a., above, can be determined. Daily summary reports, including all construction activities and tests, shall be submitted by 12:00 PM the following business day;
  - e. Within 90 days of completing installation and construction of the EAD, the Discharger shall submit a final as-built report including drawings, maps, and CQA/CQC certification; and
  - f. If the EAD fails to perform as expected, the Regional Board has the authority to require additional protective measures at the landfill.
7. The operation of ESL shall not cause a discharge of pollutants into waters of the United States, including wetlands, that violates any requirements of the Clean Water Act (CWA), including, but not limited to, the National Pollutant Discharge Elimination System (NPDES) requirements, pursuant to CWA §402.
  8. During the months when precipitation can be expected, disposal activities shall be confined to the smallest area possible based on operational procedures and the anticipated quantity of wastes that will be received.
  9. The Discharger shall remove and properly dispose of any wastes that are placed at the site in violation of these requirements.
  10. The Discharger shall require all operators that submit a request to dispose of sewage treatment plant grit and screening residues at the ESL to provide a minimum 24-hour notice to landfill personnel, or a written schedule of expected delivery dates and approximate arrival times, before these materials can be transported to the ESL.
  11. The Discharger shall establish and maintain permanent monuments in California coordinates (or equivalent) to define the boundary of the footprint of the landfill. The benchmarks shall be certified by a licensed surveyor or a professional civil engineer authorized to practice in California.
  12. Prior to the initiation of waste discharge in the approved expansion area phases, the Discharger shall install an approved expanded groundwater monitoring network as necessary.
  13. The water used during landfill operations shall be limited to the minimum amount reasonably necessary for dust control purposes, fire suppression, and minor maintenance.

14. Adequate cover shall be placed over all lifts at all times, with the exception of the active face of the landfill, which receives daily cover or an approved alternative daily cover (ADC) for protection.
15. At the end of each operating day, as defined in the ESL's solid waste facility permit, or if landfilling operations cease for more than a 12-hour period, daily cover or an approved ADC must be placed over the active face in a quantity and depth sufficient to prevent any waste from daylighting or as directed by Regional Board staff.
16. The Discharger shall notify the Regional Board within 48 hours (or two business days) of any slope failure occurring in a waste management unit. Any failure that threatens the integrity of containment features or the landfill shall be promptly corrected after a remediation workplan and schedule have been approved by the Executive Officer of the Regional Board, unless it poses an immediate threat to the environment or landfill containment structures. Then it will be corrected as soon as possible.
17. The Discharger shall implement the attached MRP No. R8-2016-0034 to ensure compliance with these waste discharge requirements, and to detect, at the earliest opportunity, any unauthorized discharge of waste constituents from the Unit, or any unreasonable impairment of beneficial uses caused by or associated with discharges of waste to the Unit.
18. At any time, the Discharger may file a written request, including appropriate supporting documents, with the Executive Officer of the Regional Board, proposing modifications to MRP No. R8-2016-0034. The Discharger shall implement any changes in the revised MRP upon receipt of a signed copy.
19. The Discharger shall install any additional ground water, soil pore liquid, soil pore gas, or leachate monitoring devices determined by the Executive Officer of the Regional Board to be necessary to comply with MRP No. R8-2016-0034.
20. The Discharger shall expand the existing landfill gas collection and recovery system as the landfill operation progresses to prevent the migration of landfill gas to groundwater and to the environment.
21. **Concentration Limits** – The concentration limit for any given Constituent of Concern (COC) or Monitoring Constituent in a given monitored medium at ESL shall be in accordance with Title 27, §20400. These limits are specified in the attached MRP.
22. Alternative daily cover at ESL may be used consistent with §20690 of 27CCR and the provisions and specifications of these WDRs and the MRP.

23. The Discharger shall notify the Regional Board staff site representative by telephone and/or email within two business days of determination of a failure of facilities necessary to maintain compliance with the requirements in this order. Within seven days, the notification shall be submitted in writing to the Regional Board.
24. The Discharger shall permit the Regional Board:
  - a. Entry upon premises where a discharge source is located;
  - b. To copy any records required to be kept under terms and conditions of this order;
  - c. To photograph or videotape any structures, facilities, activities, or other phenomena that could result in adverse impacts to water quality and that are pertinent to compliance of the landfill with its WDRs; and
  - d. To sample any discharges.
25. The Discharger shall notify the Regional Board in writing of any proposed change in ownership or responsibility for construction, operation, closure or post-closure maintenance of the landfill. This notification shall be given prior to the effective date of the change and shall include a statement by the new Discharger that construction, operation, closure, and post-closure maintenance will be in compliance with any existing WDRs and any revisions thereof.
26. The Executive Officer is hereby authorized:
  - a. To require, based upon newly discovered or newly developed information and/or regulatory guidelines, that the Discharger revise the WAP and/or the methods and procedures for monitoring, reporting, accepting, managing, reusing, and/or disposing of the materials listed below at ESL:
    - i. Incinerator Ash;
    - ii. Contaminated Soils;
    - iii. CRT Panel Glass;
    - iv. Waste-Derived Materials.
  - b. To require and approve changes to MRP No. R8-2016-0034.
27. The Discharger shall maintain a copy of this order at the site so as to be available at all times to site operating personnel.
28. This Order supersedes and replaces WDR Order No. R8-2011-0014, which is hereby rescinded.

#### D. CONTINGENCY RESPONSES

1. **Measurably Significant Evidence of a Release** – If previously undetected measurably significant evidence of a release, as described in the MRP, has tentatively been identified in groundwater at the site, the Discharger shall immediately notify the site's designated Regional Board staff person by phone and/or email. The Discharger shall also provide written notification within seven days of such determination (Title 27, §20420(j)(1)) and shall carry out a discrete retest in accordance with Title 27, §20415(e)(8)(E). The Discharger shall inform the Regional Board of the outcome of the retest as soon as the results are available, and submit written results within seven days of receipt of the final retest laboratory report.
2. **Optional Demonstration** – If measurably significant evidence of a release is verified per Section D.1. above, but is believed to be derived from off-site sources or due to natural changes in water chemistry, the discharger may propose to demonstrate that the landfill is not the cause of the release in accordance with Title 27, §20420(k)(7).
3. **Response to Verified Evidence of a Release** – If measurably significant evidence of a release is verified per Section D.1. above, and it is determined that the landfill is the cause of the release, then the discharger shall:
  - a. Implement those response actions described in Title 27, §20420 (k), and
  - b. Implement an Evaluation Monitoring Program (EMP) pursuant to Title 27, §20425.
4. **Implementation of Corrective Action Program** – If the Regional Board determines that the Discharger has satisfactorily implemented and completed the EMP release response actions described above, the Discharger shall implement a Corrective Action Program (CAP) pursuant to Title 27, §20430, based upon results of the EMP and other monitoring activities.
5. **Physical Evidence of a Release** – If either the Discharger or the Regional Board determines that there is significant physical evidence of a release (Title 27, §20385(a)(3)), the Discharger shall conclude that a release has been discovered and shall:
  - a. Immediately notify the Regional Board of this fact by email (or acknowledge the Regional Board's determination);
  - b. Comply with the requirements of Title 27, §20420(k) for all potentially affected monitored media; and

- c. Conduct any additional investigations stipulated in writing by Regional Board staff for the purpose of identifying the cause of the release.
6. **Release Beyond Facility Boundary** – Any time the Discharger or Regional Board staff concludes that a release from the Unit has proceeded beyond the facility boundary, the Discharger shall so notify all persons who either own or reside upon the land that directly overlies any part of the plume (Affected Persons).
  - a. **Initial Notice** – Initial notification to Affected Persons shall be accomplished within 14 days of making this conclusion and shall include a description of the Discharger's current knowledge of the nature and extent of the release.
  - b. **Updated Notice** – Subsequent to initial notification, the Discharger shall provide updates to all Affected Persons, including any persons newly affected by a change in the boundary of the release, within 14 days of concluding there has been any material change in the nature or extent of the release.
  - c. **Submittal** – Each time the Discharger sends a notification to Affected Persons, the Discharger shall, within seven days of sending such notification, provide Regional Board staff with both a copy of the notification and a current mailing list of all Affected Persons.
7. **Liquid Waste Spill** – The Discharger shall notify Regional Board staff by telephone or electronic mail within 24 hours (or one business day) of the discovery of any liquid waste spill in the WMU area. A written report shall be filed with Regional Board staff within seven (7) days, containing at least the following information:
  - a. **Map** – A map showing the location(s) of the discharge.
  - b. **Flow Rate** – An estimate of the flow rate of the discharge.
  - c. **Description** – A description of the nature and extent of the discharge (e.g., all pertinent observations and analysis).
  - d. **Sampling** – A description of any sample(s) collected for laboratory analysis and a copy of the analytical results of the sample.
  - e. **Corrective Measures** – A description of the corrective measure(s) implemented, and any proposed mitigation measures for approval by Regional Board staff.
8. **Facility Failure** – The Discharger shall notify Regional Board staff by telephone and/or email within 48 hours (or two business days) of any slope failure or failure of facilities necessary to maintain compliance with the requirements in this Order. Within seven (7) days, the notification shall be submitted in writing to Regional Board staff. Any failure that threatens the integrity of the waste containment

features or the landfill shall be promptly corrected after a remediation workplan and schedule have been approved by Regional Board staff, unless it poses an immediate threat to the environment or landfill containment structures. Then it will be corrected as soon as possible.

9. **Leachate Seep** – The Discharger shall report within 24 hours by telephone and/or email the discovery of any seepage from, or soil staining at, the site. If feasible, a sample of the leachate shall be collected and analytical data submitted to the Regional Board. A written report shall be filed with the Regional Board within seven days, containing at least the following information:
  - a. **Map** – A map showing the location(s) of seepage;
  - b. **Flow rate** – An estimate of the flow rate or volume;
  - c. **Description** – A description of the nature of the discharge (e.g., all pertinent observations and analyses); and
  - d. **Corrective measures** - Measures proposed to address any seep(s) for approval by Regional Board staff.

#### **E. MONITORING, SAMPLING, AND ANALYSIS SPECIFICATIONS**

1. **Monitoring and Sampling** – All water quality monitoring and sampling analyses for the monitored media, and the monitoring points and background monitoring points for each such medium, shall be performed in accordance with Title 27, §20415.
2. **Monitoring Constituents** – Monitoring constituents for the required monitoring program(s) at the landfill shall be approved by Regional Board staff. Regional Board staff may approve alternative monitoring constituents that meet the requirements of both Title 27, §§20380 et seq. and 40 CFR §258.54. Regional Board staff may also approve alternative statistical methods that meet the requirements of Title 27, §20415(e) and 40 CFR §258.53.
3. **Latter Third/Thirty Days** – For any given monitored medium, samples shall be taken from all monitoring points and background monitoring points to satisfy the data analysis requirements. All samples shall be taken during the latter third of the Reporting Period within a maximum of 30 days, and shall be taken in a manner that ensures sample independence to the greatest extent feasible, in accordance with Title 27, §20415(e)(12)(B).
4. **Groundwater Surface Elevation** – In accordance with Title 27, §20415(e)(13), the groundwater monitoring program shall include an accurate determination of the groundwater surface elevation at each well each time groundwater is sampled. Groundwater elevations taken prior to purging the well and sampling

for monitoring constituents shall be used to fulfill the Spring and Fall groundwater flow rate/direction analyses required under this section.

5. **Data Analysis** – Data analysis shall be carried out as soon as the monitoring data are available, in accordance with Title 27, §20415(e) and the MRP.
6. **Groundwater Flow Rate and Direction** – Groundwater flow rate and direction shall be monitored in accordance with Title 27, §20415(e)(15). This information shall be included in the regular monitoring reports for ESL.

#### F. DRAINAGE AND EROSION CONTROL SPECIFICATIONS

1. Waste management units shall be designed, constructed, and maintained to limit, 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 and maintained to achieve a minimum of one percent (1%) 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, constructed, and maintained to withstand site-specific maximum intensity precipitation (peak flow<sup>5</sup>) from a 100-year, 24-hour storm (6 inches).
2. The Discharger shall design, construct, and maintain 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;
3. The Discharger shall design, construct, and maintain 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
4. The Discharger shall design, construct, and maintain drainage control structures to divert **natural seepage** from native ground and to prevent such seepage from entering the waste management units.

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<sup>5</sup> Peak flow is the maximum expected flow of run-on and runoff resulting from precipitation both on and off-site for a given recurrence interval.

5. All drainage structures shall be protected and maintained continuously to ensure their effectiveness.
6. 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.
7. Annually, **by October 1**, all drainage control system construction and maintenance activities shall be completed. By December 31 of each year, the Discharger shall submit a drainage control system maintenance report to the Executive Officer of the Regional Board. The drainage control system maintenance report shall include, 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 indicating the locations of the elements listed in Item 5.b., above, and the flow direction of all site drainage.
8. At least 30 days prior to the construction of any new elements of the drainage control system, the Discharger shall submit a workplan outlining all design parameters and calculations, construction details, and a construction quality assurance plan for approval by the Executive Officer of the Regional Board.
9. The Discharger shall submit as-built drawings within 90 days of completing construction of any new elements of the drainage control system at the site.
10. All design plans, construction plans, and operation and maintenance plans shall be prepared by, or prepared under the direct supervision of, a registered civil engineer or a certified engineering geologist.
11. 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.

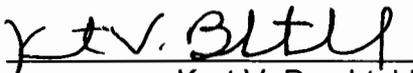
12. The facility shall be surveyed annually by **October 1** of each year, either by aerial surveillance or a licensed surveyor to assure compliance with the one percent slope requirement in specification F.1.a. above. By December 31 of each year, a map compiled from this survey data shall be submitted to the Regional Board, showing landfill elevations, the flow direction of all site drainage, the drainage control system, and containment structures. This map may be submitted as part of the drainage and erosion control system maintenance report required above in specification F.7.

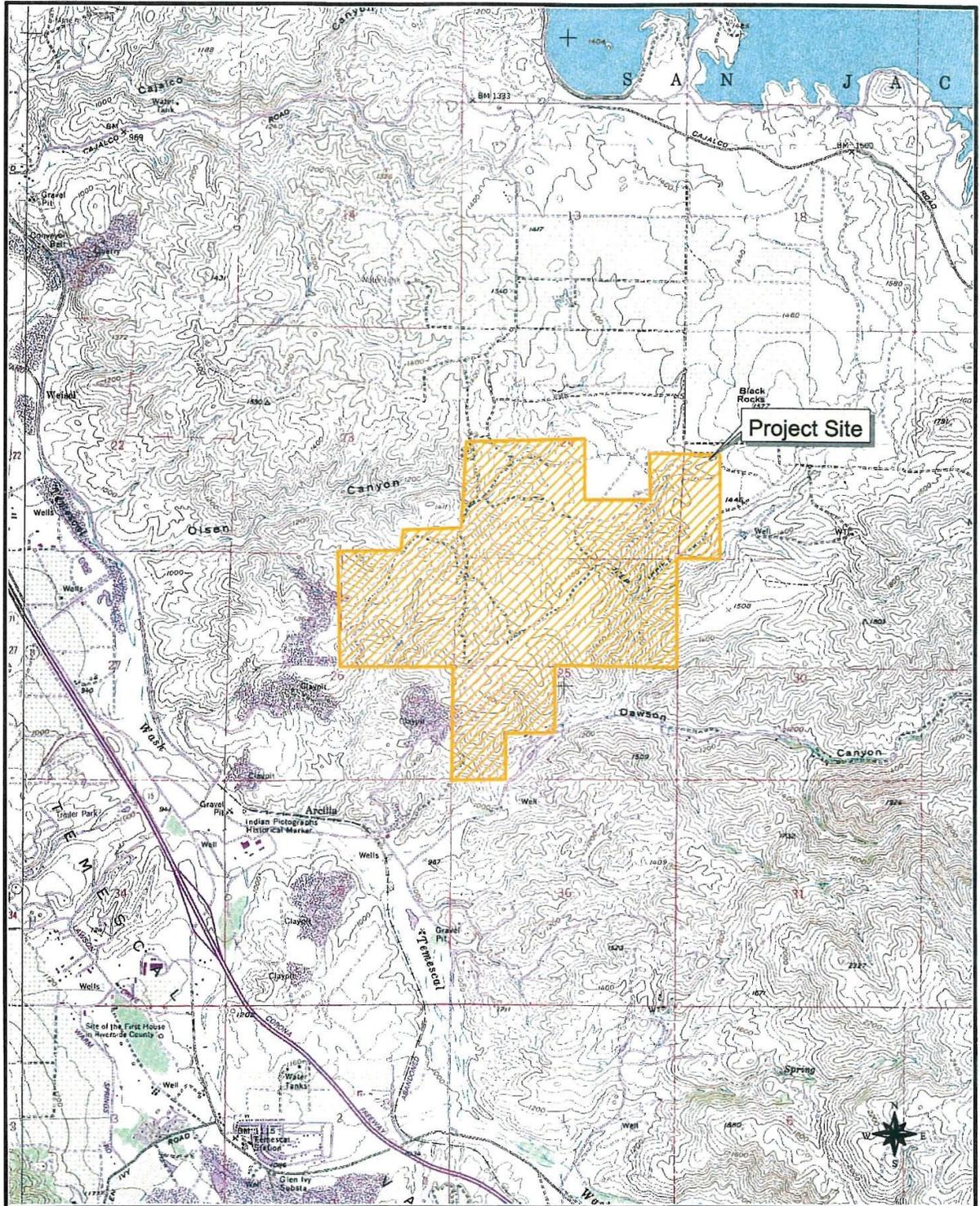
#### **G. REQUIRED REPORTS AND NOTICES**

1. The Discharger shall provide all reports and notices in accordance with the requirements of the MRP.
2. All applications, reports or information submitted to the Regional Board shall be signed and certified in accordance with 40 CFR §122.22.
3. The Discharger shall furnish, within a reasonable time, any information the Regional Board may request to determine whether cause exists for modifying, reissuing, or terminating this order. The Discharger shall also furnish to the Regional Board, upon request, copies of records that this order requires the Discharger to maintain.
4. The Discharger shall file a JTD or JTD amendment with the Regional Board at least 120 days before making any material change or proposed change in the character, location, volume, treatment, or disposal methods of any discharge of waste.
5. The Discharger shall give advance notice to the Regional Board of any planned changes in the permitted facility or site activities that may result in noncompliance with these WDRs.
6. In the event of any change in control or ownership of land or waste discharge facilities currently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this order by letter. A copy of this letter shall be signed by the new owner accepting responsibility for complying with this order, and shall be forwarded to the Executive Officer of the Regional Board.
7. **Closure and Post-Closure Plans** – In accordance with Title 27, §21710(a)(2) and §21780 (b)(3), final closure and PCMPs for solid waste landfills shall be submitted two years prior to the anticipated date of closure. Within five years of the anticipated date of closure, the operator may submit the final closure and PCMPs in lieu of submitting new or updated preliminary closure and PCMPs.

8. **Final Cover** – An alternative monolithic final cover using on-site soil was modeled to determine whether the alternative cover would be consistent with the performance goals addressed by the prescriptive standard. Based on previous experience of cover construction at the site, the soils used for final cover shall have an average hydraulic conductivity of less than or equal to  $1 \times 10^{-5}$  cm/sec. At no time shall the hydraulic conductivity of any soil samples collected to determine hydraulic conductivity exceed  $5 \times 10^{-5}$  cm/sec.
9. **Financial Assurance Plans** – The Discharger shall obtain, maintain, and submit assurances of financial responsibility for:
  - a. Closure activities pursuant to Title 27 §22205;
  - b. Post-closure maintenance activities pursuant to Title 27 §22210;
  - c. Operating liability pursuant to Title 27 §22215; and
  - d. Corrective action activities pursuant to Title 27 §22220.

I, Kurt V. Berchtold, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Santa Ana Region, on September 16, 2016.

  
Kurt V. Berchtold  
Executive Officer



**FIGURE 1 - Map Showing Location of El Sobrante Landfill**

1:36000

1000 0 1000 2000 3000 Feet

Source: USGS Lake Mathews,  
Santiago Peak, Alberhill and Corona South, California  
1988-Lake Mathews, Alberhill and Santiago Peak 1982- Corona South



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SANTA ANA REGION

ORDER NO. R8-2016-0034

MONITORING AND REPORTING PROGRAM

FOR

USA WASTE OF CALIFORNIA, INC.

EL SOBRANTE LANDFILL  
CLASS III SOLID WASTE DISPOSAL SITE  
RIVERSIDE COUNTY

**A. GENERAL**

1. The Discharger shall comply with all the monitoring programs required under this Monitoring and Reporting Program (MRP).
2. At any time, the Discharger may file a written request, including appropriate supporting documents, with the Executive Officer (EO) of the Regional Board, proposing modifications to the MRP. The Discharger shall implement any changes in the revised MRP approved by the Regional Board's EO upon receipt of a signed copy of the revised MRP.
3. This MRP may be revised and approved by the EO of the Regional Board as necessary to reflect changes in the required water quality programs.

**B. WATER QUALITY PROTECTION STANDARD**

1. In accordance with Title 27, §20390 - §20405, the Water Quality Protection Standard (WQPS) for ESL shall consist of a list of Constituents of Concern (COCs), Concentration Limits for each COC, and a Point of Compliance and all designated Monitoring Points. These components of the WQPS shall be established in accordance with the procedures described in this section.
2. **Constituents of Concern (COCs):** As of the date of this MRP, the COCs for ESL shall consist of those constituents listed in Appendix II of 40 CFR 258
3. **Concentration Limits:** The concentration limits for the COCs and any given constituent in a given monitored medium (e.g., the uppermost aquifer) is either the natural background level, the laboratory RL, or the PQL for the constituent as follows:

- a. If the constituent (e.g., TDS) naturally exists in the monitored medium, or has been demonstrated to have originated off-site, the limit shall be the statistically calculated value, based on a minimum of eight background data points.
  - b. If the constituent (e.g., a VOC) does not naturally exist in the monitored medium, the laboratory RL/PQL shall be the limit.
4. **Points of Compliance Wells:** In accordance with Title 27, §20405, the Points of Compliance (POC) where the WQPS applies shall be a vertical surface, located at the hydraulically downgradient limit of each WMU, that extends through the uppermost aquifer underlying the WMU at the landfill site or an alternate location approved by the EO of the Regional Board. Due to the nature of the hydrogeology at the site, for ESL, the POC shall include all of the monitoring wells listed in Table 1 and indicated on Figure 1 of this MRP.
  5. The WQPS shall apply during the active life of the landfill, the closure period, the post-closure maintenance period, and during any compliance period. [Title 27, §20410]
  6. Unless the Discharger proposes, and the EO of the Regional Board approves, an alternative WQPS, the Discharger shall perform the monitoring activities in compliance with the WQPS specified in this MRP.

**C. WATER QUALITY MONITORING PROGRAM**

1. **Groundwater Quality Monitoring** – The Discharger shall conduct the following groundwater monitoring activities at the Landfill:
  - a. **Semi-Annual Monitoring** shall be conducted at all groundwater monitoring wells (see Table 2 and Figure 2), and seeps and subdrains. On a semi-annual basis, water samples shall be collected from these monitoring points and analyzed for the constituents listed in Table A of this MRP. Analytical monitoring data generated from these monitoring activities shall be evaluated in accordance with Section D Data Analysis Methodology of this MRP.
  - b. **Five-Year Evaluation:** Every five years, continuing in 2021, alternately in the Summer (by September 30) and Winter (by March 31), the Discharger shall collect water samples from all ground water monitoring wells, seeps, and subdrains and analyze these samples for those constituents listed in Table A and Table B of this MRP. Analytical monitoring data generated from these monitoring activities shall be evaluated in accordance with Section D Data Analysis Methodology of this MRP.

2. **Leachate and Gas Condensate Monitoring** shall be conducted at all landfill leachate and gas condensate monitoring points. On an annual basis, samples shall be collected from these monitoring points and analyzed for all constituents listed in Table A and Table B of this MRP. Analytical monitoring data generated from these monitoring activities shall be evaluated in accordance with Section D Data Analysis Methodology of this MRP. If there are any newly detected constituents at levels above the reporting limit in samples collected from one or more of these monitoring points, the subject monitoring points must be re-sampled and retested. Results from this retest must be evaluated in relation to the initial results for the purpose of verification.
3. The Regional Board's Executive Officer may require that additional **monitoring constituents be added to the list of constituents** described above based upon analysis of monitoring data results, and that monitoring samples must be analyzed for these constituents on a regular basis.
4. **Sample collection, storage, and analysis** shall be performed in accordance with the most recent version of standard U.S. EPA Methods (U.S. EPA Publication "SW-846"), and in accordance with a sampling and analysis plan acceptable to the EO of the Regional Board.
5. **Laboratory water quality analyses** must be performed by a State of California-approved laboratory and specific analytical methods must be identified. In addition, the Discharger is responsible for ensuring that laboratory analyses of samples from all monitoring points are performed in accordance with the following requirements:
  - a. The methods of analysis and the detection limits used must be appropriate for the expected concentrations. For detection monitoring of any constituent or parameter that is found in concentrations which produce more than 90% non-numerical determinations (i.e., Trace or ND determinations) in historical data for that medium, the SW-846 analytical method having the lowest Method Detection Limit (MDL) shall be selected.
  - b. Trace results (results falling between the MDL and the Practical Quantitation Limit (PQL)) for organic compounds shall be reported as such.
  - c. MDL and PQL shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation procedures. Both limits shall reflect the detection and quantitation capabilities of the specific analytical procedure and equipment used by the laboratory. If the laboratory suspects that, due to a change in matrix or other effects, the true detection limit or quantitation limit for a particular analytical run differs significantly from the laboratory-derived values, the

results shall be flagged accordingly, and an estimate of the limit actually achieved shall be included.

- d. For each constituent monitored during a given reporting period, the Discharger shall include in the monitoring report a listing of the prevailing MDL and PQL for that constituent, together with an indication as to whether the MDL, PQL, or both have changed since the prior reporting period. The Discharger shall require the analytical laboratory to report censored data (trace level and non-detect determinations). In the event that a constituent's MDL and/or PQL change, the Discharger shall highlight that change in the report's summary and the report shall include an explanation for the change.
  - e. Quality assurance and quality control (QA/QC) data shall be reported along with the sample results to which it applies. Sample results shall be reported unadjusted for blank results or spike recovery. The QA/QC data submittal shall include:
    - i. The method, equipment, and analytical detection limits.
    - ii. The recovery rates, including an explanation for any recovery rate that is outside the USEPA-specified recovery rate.
    - iii. The results of equipment and method blanks.
    - iv. The results of spiked and surrogate samples.
    - v. The frequency of quality control analysis.
    - vi. The name and qualifications of the person(s) performing the analyses.
  - f. QA/QC analytical results involving detection of common laboratory contaminants in any sample shall be reported and flagged for easy reference.
6. **Groundwater Flow Direction:** The Discharger shall measure the water level in each groundwater monitoring well at least quarterly and determine the presence and character of horizontal and vertical gradients (if applicable), and groundwater flow rate and direction for the respective groundwater body.

#### D. DATA ANALYSIS METHODOLOGY

1. **Detection Wells, Evaluation Wells, and Background Wells** – Analytical monitoring data generated from analysis of groundwater samples from Detection Monitoring Wells, Evaluation Monitoring Wells, and Background Monitoring Wells shall be evaluated as follows:
  - a. Monitoring data for Table A organic constituents shall be evaluated using non-statistical data analysis methods to determine whether there is measurably significant evidence of a release from ESL.

- b. Monitoring data for Table A inorganic constituents shall be evaluated using statistical data analysis methods specified in Title 27, §20415(e)(8)(C, D, and E) to determine whether there is measurably significant evidence of a release from ESL.
  - c. Monitoring data for Table A supplemental constituents shall be evaluated as needed to provide water quality characterization regarding hydrogeochemical conditions and to assist in making determinations regarding measurably significant evidence of a release from ESL or other changes in site conditions.
  - d. On an annual basis, all Table A constituents that have been detected in a groundwater sample three or more times during the previous five years shall be evaluated using time-series concentration plots, which shall include all historical data for the detected constituents.
  - e. Monitoring data for Table B organic constituents generated as part of a Five-Year Evaluation Event pursuant to Section C.1.b. above shall be evaluated using non-statistical data analysis methods to determine whether there is measurably significant evidence of a release from ESL.
  - f. Monitoring data for Table B inorganic constituents, including but not limited to metals, cyanide, and sulfide, which are generated as part of a Five-Year Evaluation Event pursuant to Section C.1.b. above shall be evaluated using statistical data analysis methods specified in Title 27, §20415(e)(8)(C, D, and E) to determine whether there is measurably significant evidence of a release from ESL.
  - g. In evaluating the results of a Five-Year Evaluation Event (Event), all Table B constituents that have been detected during an Event shall be evaluated using time-series concentration plots, which shall include all historical data for the detected constituents.
2. **Corrective Action Wells** – Analytical monitoring data generated from analysis of groundwater samples from Corrective Action Monitoring Wells shall be evaluated as follows:
- a. Monitoring data for Table A organic constituents shall be evaluated based on statistical determination of increasing or decreasing trends
  - b. Monitoring data for Table A inorganic constituents shall be evaluated based on statistical determination of trends and site hydrogeochemical relationships and responses.

- c. Monitoring data for Table A supplemental constituents shall be evaluated as needed to provide water quality characterization in relation to hydrogeochemical conditions, to indications of a release, or to changes in other site conditions.
  - d. On an annual basis, all Table A constituents that have been detected in a groundwater sample three or more times during the previous five years shall be evaluated using time-series concentration plots, which shall include all historical data for the detected constituents.
  - e. Monitoring data for Table B organic constituents generated as part of a Five-Year Evaluation Event pursuant to Section C.1.b. above shall be evaluated using non-statistical data analysis methods to determine whether there is measurably significant evidence of a release from ESL.
  - f. Monitoring data for Table B inorganic constituents, including but not limited to metals, cyanide, and sulfide, which are generated as part of a Five-Year Evaluation Event pursuant to Section C.1.b. above shall be evaluated using statistical data trend analysis methods specified in Title 27, §20415(e)(8)(C, D, and E) to characterize water quality conditions.
  - g. In evaluating the results of a Five-Year Evaluation Event (Event), all Table B constituents that have been detected during an Event shall be evaluated using time-series concentration plots, which shall include all historical data for the detected constituents.
3. **Expansion Area Wells** – Analytical monitoring data generated from analysis of groundwater samples from Expansion Area Monitoring Wells is evaluated as needed for assessment of background analytical laboratory data collection and for regional reference.
  4. **Seeps and Subdrains** – Analytical monitoring data generated from analysis of samples from seeps and subdrains shall be evaluated as follows:
    - a. Monitoring data for Table A organic constituents shall be evaluated based on statistical determination of increasing or decreasing trends.
    - b. Monitoring data for Table A inorganic constituents shall be evaluated based on statistical determination of trends and hydrogeochemical relationships and responses.
    - c. Monitoring data for Table A supplemental constituents shall be evaluated as needed to provide water quality characterization in relation to hydrogeochemical conditions, to indications of a release, or to changes in other site conditions.

- d. On an annual basis, all Table A constituents that have been detected in a seep or subdrain sample three or more times during the previous five years shall be evaluated using time-series concentration plots, which shall include all historical data for the detected constituents.
  - e. Monitoring data for Table B organic constituents generated as part of a Five-Year Evaluation Event pursuant to Section C.1.b. above shall be evaluated using non-statistical data analysis methods to determine whether there is measurably significant evidence of a release from ESL.
  - f. Monitoring data for Table B inorganic constituents, including but not limited to metals, cyanide, and sulfide, which are generated as part of a Five-Year Evaluation Event pursuant to Section C.1.b. above shall be evaluated using statistical data trend analysis methods specified in Title 27, §20415(e)(8)(C, D, and E) to characterize water quality conditions.
  - g. In evaluating the results of a Five-Year Evaluation Event (Event), all Table B constituents that have been detected during an Event shall be evaluated using time-series concentration plots, which shall include all historical data for the detected constituents.
5. **Leachate and Landfill Gas Condensate** – Analytical monitoring data generated from analysis of leachate and landfill gas condensate samples shall be evaluated as follows:
- a. Monitoring data for all organic constituents shall be evaluated for presence or absence in samples and for comparison with constituents listed on the Table of Detected Constituents.
  - b. Monitoring data for all inorganic constituents shall be evaluated for comparison with groundwater monitoring data and shall also be evaluated using statistical data analysis methods approved by the Executive Officer to evaluate trends and to determine whether there is increasing concentrations of inorganic constituents.
  - c. Monitoring data for Table A supplemental constituents shall be evaluated to provide water quality characterization in relation to hydrogeological conditions, to indications of a release, or to changes in other site conditions.
6. **Measurably Significant Evidence of Release of Table A or Table B Organic Constituents at Detection Monitoring Wells and Evaluation Monitoring Wells:** Measurably significant evidence of release of an organic constituent to groundwater at Detection Monitoring Wells and Evaluation Monitoring Wells will be tentatively determined to have occurred if either of the two following conditions is met:

- a. Analysis of groundwater samples from any well indicates that concentrations of three or more organic constituents have exceeded their laboratory method detection limits (MDLs) in the sample; or
  - b. Analysis of groundwater samples from any well indicates that concentrations of one or more organic constituents have exceeded their laboratory practical quantitation or reporting limit (PQL or RL) in the sample.
7. **Measurably Significant Evidence of Release of Table A or Table B Inorganic Constituents at Detection Monitoring Wells and Evaluation Monitoring Wells:** Measurably significant evidence of release of inorganic constituents to groundwater at a Detection Monitoring Well or Evaluation Monitoring Well will be tentatively determined to have occurred when the concentration of any inorganic constituent in a groundwater sample collected from a Detection Monitoring Well or Evaluation Monitoring Well is determined to be above a statistically calculated limit such as, but not limited to, an intra-well Shewart-CUSUM control chart limit or, as appropriate, an intra-well prediction limit.
8. **Measurably Significant Evidence of Release of Table A or Table B Organic Constituents at Corrective Action Monitoring Wells:** Measurably significant evidence of release of Table A or Table B organic constituents to groundwater at Corrective Action Monitoring Wells will be tentatively determined to have occurred if either of the two following conditions is met:
  - a. Analysis of groundwater samples from any well indicates that concentrations of three or more previously undetected organic constituents have exceeded their laboratory method detection limits (MDLs) in the sample; or
  - b. Analysis of groundwater samples from any well indicates that concentrations of one or more previously undetected organic constituents have exceeded their laboratory practical quantitation or reporting limit (PQL or RL) in the sample.
9. **Measurably Significant Evidence of Release of Table A or Table B Inorganic Constituents at Corrective Action Monitoring Wells:** Measurably significant evidence of a previously undetected release of Table A or Table B inorganic constituents to groundwater at Corrective Action Monitoring Wells will be tentatively determined to have occurred based upon evaluation of analytical results by the Discharger in coordination with concurrent evaluation by the Executive Officer.

## E. CONTINGENCY RESPONSES

1. **Measurably Significant Evidence of a Release** – If previously undetected measurably significant evidence of release is indicated in a groundwater monitoring well per Section D above, the Discharger shall immediately notify the Regional Board and shall collect additional groundwater samples from the subject well within 30 days of the notification (unless laboratory contamination is suspected). The additional groundwater samples shall be tested in a laboratory only for the constituent(s) detected in the previous sample that indicated measurably significant evidence of a release. If analysis of the monitoring data for the additional sample also indicates measurably significant evidence of a release, these results shall serve as verification that such a release has occurred.
2. **Optional Demonstration** – If measurably significant evidence of a release is verified per Section E.1. above, but is believed to be derived from off-site sources or due to natural changes in water chemistry, the discharger may propose to demonstrate that the landfill is not the cause of the release in accordance with Title 27, §20420(k)(7).
3. **Response to Verified Evidence of a Release** – If measurably significant evidence of a release is verified per Section E.1. above, and it is determined that the landfill is the cause of the release, then the discharger shall:
  - a. Implement those response actions described in Title 27, §20420 (k)(1) – (6), and
  - b. Implement an Evaluation Monitoring Program (EMP) pursuant to Title 27, §20425.
4. **Implementation of Corrective Action Program** – If the Regional Board determines that the Discharger has satisfactorily implemented and completed the EMP release response actions described above, the Discharger shall implement a Corrective Action Program (CAP) pursuant to Title 27, §20430, based upon results of the EMP and other monitoring activities.
5. **Table of Detected Constituents** – Any previously undetected constituent(s) that is/are detected in samples collected from a groundwater monitoring well, and confirmed per the requirements of Section E.1 above, shall be automatically and immediately added to the Table of Detected Constituents (Section G.2.e. below) for ESL. The newly updated Table of Detected Constituents (indicating the newly added constituent(s)) shall be submitted by the Discharger to the Regional Board within 14 days following the addition of any new constituent(s) to the Table. This constitutes the means by which the Discharger shall meet the requirements of 40CFR Part 258.55(d)(1).

6. **Physical Evidence of a Release** – If either the Discharger or the Regional Board determines that there is significant physical evidence of a release pursuant to Title 27, §20385(a)(3) and Section F.1. of the MRP, the Discharger shall conclude that a release has been discovered and shall:
  - a. Within seven (7) days notify Regional Board staff of this fact by email (or acknowledge the Regional Board's determination);
  - b. Carry out the requirements of release discovery response in Section E.3., above, for all potentially affected monitored media.
  - c. Carry out any additional investigations stipulated in writing by Regional Board staff for the purpose of identifying the cause of the indication.
  
7. **Release Beyond Facility Boundary** – Any time the Discharger concludes that a release from the landfill has proceeded beyond the facility boundary, the Discharger shall so notify all persons who either own or reside upon the land that directly overlies any part of the plume (Affected Persons) as follows:
  - a. Initial notification to Affected Persons shall be accomplished within 14 days of making this conclusion and shall include a description of the Discharger's current knowledge of the nature and extent of the release.
  - b. Subsequent to initial notification, the Discharger shall provide updates to all Affected Persons, including any persons newly affected by a change in the boundary of the release, within 14 days of concluding there has been any material change in the nature or extent of the release.
  - c. Each time the Discharger sends a notification to Affected Persons (under Section E.7.a. or E.7.b., above), it shall, within seven days of sending such notification, provide Regional Board staff with, and add into the Facility's operating record, both a copy of the notification and a current mailing list of Affected Persons.
  
8. **Liquid Waste Spill** – The Discharger shall notify Regional Board staff by telephone or electronic mail within 24 hours (or one business day) of the discovery of any liquid waste spill in the WMU area. A written report shall be filed with Regional Board staff within seven (7) days, containing at least the following information:
  - a. Map – A map showing the location(s) of the discharge.
  - b. Flow Rate – An estimate of the flow rate of the discharge.
  - c. Description – A description of the nature and extent of the discharge (e.g., all pertinent observations and analysis).

- d. Sampling – A description of any sample(s) collected for laboratory analysis and a copy of the analytical results of the sample.
  - e. Corrective Measures – A description of the corrective measure(s) implemented, and any proposed mitigation measures for approval by Regional Board staff.
9. **Facility Failure** – The Discharger shall notify Regional Board staff by telephone and/or email within 48 hours (or two business days) of any slope failure or failure of facilities necessary to maintain compliance with the requirements in this Order. Within seven (7) days, the notification shall be submitted in writing to Regional Board staff. Any failure that threatens the integrity of the waste containment features or the landfill shall be promptly corrected after a remediation workplan and schedule have been approved by Regional Board staff, unless it poses an immediate threat to the environment or landfill containment structures. Then it will be corrected as soon as possible.
10. **Leachate Seep** – The Discharger shall immediately notify Regional Board staff by telephone and/or email within 48 hours (or two business days) following the discovery of any seepage from, or soil staining, at the site. If feasible, a sample of the leachate shall be collected for analysis. A written report shall be filed with Regional Board staff within seven (7) days, containing at least the following information:
- a. Map – A map showing the location(s) of seepage;
  - b. Flow rate – An estimate of the flow rate or volume;
  - c. Description – A description of the nature of the discharge (e.g., all pertinent observations and analyses);
  - d. Corrective measures - Measures proposed to address any seep(s) for approval by Regional Board staff;
  - e. A copy of the laboratory analytical results of the seep sample shall be submitted to Regional Board staff within 60 days after filing the written report.
11. **Incinerator Ash Monitoring** – Based upon evaluation of analytical results for monitoring of leachate and landfill gas condensate as described in the WDRs (Discharge Specification A.11) and in Section D.5. above, incinerator ash shall be monitored as described below.
- a. For the constituents listed below, treated incinerator ash samples shall be sampled and analyzed in accordance with the frequency indicated below, and in accordance with the Waste Extraction Test (WET) procedures contained in 22CCR, Division 4.5, Chapter 11, Appendix II, by citrate buffer extraction, for

Constituent Units		Sampling & Testing Frequency
Cadmium	mg/L	once per quarter*
Copper	mg/L	once per quarter*
Lead	mg/L	once per quarter*
Zinc	mg/L	once per quarter*
pH	pH units	once per quarter*

\*The Executive Officer may require more frequent sampling based upon number and frequency of exceedances for the same constituent until the exceedances are corrected.

- b. Analyses of treated incinerator ash shall be made on samples collected during a five day period of each quarter (at least one each day). These daily samples shall be composited into one quarterly sample to ensure samples are representative of the waste stream. Sample collection and compositing shall be performed in accordance with the sampling and compositing procedure submitted to the Regional Board as an attachment to the Discharger's letter, dated May 4, 2015. Other sampling and compositing procedures shall only be used following approval by the Executive Officer.
- c. A description of, and the results of, incinerator ash monitoring activities shall be included in the Annual Summary Reports. The Discharger shall summarize, tabulate, and report upon incinerator ash sampling activities and the results of analytical testing.

## F. GENERAL SITE MONITORING

1. **Facility and Systems Monitoring** – The Discharger shall regularly inspect and evaluate ESL facility and associated systems to determine their condition and effectiveness, and to ascertain whether significant physical evidence of a release has occurred. Significant physical evidence of a release includes unexplained stress in biological communities, unexplained changes in soil characteristics, visible signs of leachate migration, and unexplained water table mounding beneath or adjacent to the site and any other change to the environment that could reasonably be expected to be the result of a release from the facility and associated systems. These regular inspections and evaluations shall include the following:
  - a. Monthly, the Discharger shall inspect all **waste management units** and shall evaluate their condition and effectiveness in achieving compliance with Discharge Specifications in the WDRs. All areas of slope failure, differential settlement, fissuring, erosion, ponding, leachate staining, and seepage into or from the landfill shall be identified, field-marked, and documented. In the event seepage is discovered, the location of each seep shall be mapped and a mitigation plan submitted for the approval of

Regional Board staff. All such field conditions and events shall be photographed for the record.

- b. At a minimum, all systems such as **landfill gas condensate collection, leachate containment, groundwater extraction, and seep water collection systems** shall be inspected and evaluated on a monthly basis for their condition and effectiveness. All deficiencies identified and the dates and types of corrective action taken shall be recorded in a permanent log. All deficiencies shall be documented for the record. The volume of liquids collected in the containment structures shall be recorded monthly. Liquid samples, such as landfill gas condensate and leachate, shall be collected in accordance with the monitoring frequency in Table 3, and analyzed in accordance with Section C of this MRP.
  - c. At a minimum, all **run-on and runoff drainage control structures** shall be inspected and evaluated quarterly for their condition and effectiveness in achieving compliance with Discharge Specification F.3. of the WDRs. During dry weather conditions, the condition and effectiveness of the drainage control system shall be evaluated on the basis of its conformance to the as-built drawings, or revised drawings, for the system. All deficiencies shall be identified, repaired, and recorded.
2. **Annual Aerial or Ground Survey** – To ensure adequate drainage and erosion control at ESL in accordance with Discharge Specifications A.4., F.1., and F.10. of the WDRs, an **aerial or ground survey** of the landfill facility shall be performed annually by October 1 in accordance with the schedule in Table 3 of this MRP. The Discharger shall notify the Regional Board if performance of the aerial photogrammetric survey cannot be achieved by the October 1 deadline due to bad weather conditions or bad visibility.
  3. **Surface Water Monitoring:** Surface water monitoring at the site shall be conducted as required under the State NPDES General Industrial Stormwater Permit.
  4. **Treated Incinerator Ash Monitoring** – Incinerator ash discharge information shall be submitted in the Annual Summary Reports. For each annual reporting period, the Discharger shall tabulate and report upon the quantity of treated incinerator ash accepted and discharged each calendar month at ESL, the manner and quantities of incinerator ash disposal or reuse (e.g., ADC, road base, wet-weather deck, etc.), and shall include a map depicting the location(s) where treated incinerator ash was placed.
  5. **Contaminated Soil Monitoring for the Waste Acceptance Program**  
Contaminated soil discharge information shall be compiled and submitted in the Annual Summary Reports. For each annual reporting period, the Discharger shall tabulate and report upon each case and discrete quantity of contaminated

soil accepted, managed, and discharged at ESL. Details that must be tabulated and reported upon include the following:

- a. Name of the agency, organization, or corporation (generator) that generated the contaminated soils
  - b. Owner of the contaminated site property
  - c. Names and locations of the sites of origination from which the contaminated soils were generated
  - d. Type or types of operation(s) conducted at the site(s) of origination
  - e. Type or types of activity(ies) or operation(s) which produced the contaminated soils
  - f. Discrete and total quantities of contaminated soils
  - g. Number of soil samples collected for analysis of each discrete quantity of contaminated soil
  - h. The laboratory analyses performed to characterize the contaminated soils
  - i. The COCs and corresponding concentrations identified in each discrete quantity of contaminated soils
  - i. Dates that contaminated soils were delivered to and accepted at ESL
  - j. Number of truckloads used to transport discrete quantities of contaminated soils
  - k. Type of end use or location of disposal for each discrete quantity of contaminated soil
6. **CRT Panel Glass Monitoring** – Information regarding acceptance and disposal of CRT panel glass at ESL shall be compiled and submitted in the Annual Summary Reports. For each annual reporting period, the Discharger shall tabulate and report upon the total quantities of CRT panel glass accepted at ESL each month as well as for the annual reporting period. In addition, the identification of CRT panel glass generators and their respective quantities delivered to ESL (monthly and annually) shall be included in the Annual Summary Reports.
7. **Waste-Derived Materials Monitoring** – Information regarding acceptance and re-use of waste-derived materials (as defined in the WDRs) at ESL shall be compiled and submitted in the Annual Summary Reports. For each annual reporting period, the Discharger shall tabulate and report upon instances where waste-derived materials are re-used for purposes other than disposal at ESL during the annual reporting period. For each instance, the Discharger shall indicate the type and amount of waste-derived materials re-used, as well as the specific method and location of re-use.

## G. REPORTING

1. **Semi-Annual Groundwater Monitoring Reports** – The Discharger shall submit semi-annual monitoring reports to the Regional Board summarizing groundwater monitoring activities for the previous monitoring period. The semi-annual

summary reports are due to the Regional Board within thirty (30) days following the end of the monitoring period. The semi-annual report for the Fall/Winter monitoring period may be combined with the annual water quality monitoring report (as indicated in Section G.2 below). Semi-annual monitoring reports shall include the following:

- a. **Results and Findings of Facility and Systems Monitoring** – At a minimum, the following information shall be included in the report:
  - i. **Waste Management Units** – Monthly field inspection records for these units and statements describing the condition and performance of these units
  - ii. **Management of Liquids** – A summary of the total volumes, on a monthly basis, of landfill leachate and gas condensate collected at the site, and how these liquids are managed.
  - iii. **Waste type and placement** – The quantity and types of wastes discharged and a map indicating the locations in the landfill where waste has been placed since submittal of the last such report; and
  - iv. **Daily cover** – If alternative daily cover (ADC) is used at the site that meets the requirements of Title 27, §20705(e), and has been approved by Regional Board staff, the type, amount (including, if applicable, average thickness), method of placement, and any problems or deficiencies encountered must be noted in the report.
- b. **Well Information** – For each monitoring well addressed by the report, a description of the method and time of water level measurement, and a description of the method of purging used to remove stagnant water in the well before sampling, pursuant to Title 27, §20415(e)(12)(B);
- c. **Other Monitored Media** – The report shall include a description of other monitoring activities that occurred during the monitoring period including monitoring of subdrains, and seeps. A tabulated summary of analytical results from these activities shall also be included in the report.
- d. **Groundwater Elevations and Contours** – For each monitoring point addressed by the report, a tabular summary and graphical presentation of all measured groundwater elevation data, and a groundwater elevation contour map, showing the direction of groundwater flow under/around ESL based upon water level elevations taken for the monitoring period;
- e. **Sampling Information** – For each monitoring point addressed by the report, field sampling records showing the type of pump or other device used and its vertical placement for sampling, and a detailed description of

the sampling procedures (number and description of the samples, field blanks, travel blanks, and duplicate samples taken, the type of containers and preservatives used, the date and time of sampling, the name(s) and qualifications of the person(s) taking the samples, and any other observations); and

- f. **Analytical Data and Results** – The report shall include a summary of all analytical monitoring results. Data shall be summarized and presented in a tabular format. Statistical and non-statistical analyses of the analytical data shall be presented. An evaluation and interpretation of the data analyses shall be also be included. A copy of the laboratory analytical results shall be included.
  - g. **QA/QC Summary and Evaluation** – The report shall include a summary describing laboratory and field QA/QC activities performed as part of monitoring activities. The summary shall include a discussion of any water sampling and monitoring activities that deviated from the sampling and quality assurance plans.
  - h. **Compliance Record Discussion** – A comprehensive discussion of the compliance record, and of any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the landfill's waste discharge requirements relating to water quality issues;
  - i. **Tabulation of Monitoring Data** – All analytical monitoring data obtained during the two previous semi-annual reporting periods shall be presented in tabular form in the annual summary report and shall be uploaded electronically onto the State's database (GeoTracker) within one month following the submittal of the semi-annual monitoring reports to the Regional Board.
  - j. **Graphical Presentation** – Graphical presentation of Groundwater Analytical Data shall be completed in accordance with Title 27, §20415(e)(14) and shall include as necessary time-series concentration plots as described in Section D above;
  - k. **Conclusions** – Each report shall include a summary of any relevant conclusions regarding the findings and results of monitoring activities that were conducted during the monitoring period.
2. **Annual Summary Monitoring Report** – The discharger shall submit an annual report to the Regional Board covering the previous monitoring year (April 1 of the previous year through March 31 of the following year). The annual summary reports are due on April 30. This report may be combined with the water quality monitoring report for the period ending March 31, and shall include, but not be limited to, the following:

- a. **Results and Findings of Facility and Systems Monitoring** – At a minimum, the following information shall be included in the report:
  - i. **Waste Management Units** – Monthly field inspection records for these units and statements describing the condition and performance of these units
  - ii. **Landfill Gas Condensate and Leachate Containment Systems, Subdrain, and Vadose Zone Monitoring System** – A summary of the results of inspecting and evaluating the landfill leachate and gas condensate monitoring, collection, and control facilities as required in Section F.1.b. of this MRP. In addition, the reports shall include monthly field inspection records and monitoring data for the systems listed above and statements describing the condition and performance of these systems.
  - iii. **Drainage and Erosion Control Systems** – Quarterly field inspection records and monitoring data for these systems and statements describing the condition and performance of these systems
  - iv. **Management of Liquids** – A summary of the total volumes, on a monthly basis, of landfill leachate and gas condensate collected at the site, and how these liquids are managed.
  - v. **Waste Type and Placement** – The quantity and types of wastes discharged and a map indicating the locations in the landfill where waste has been placed since submittal of the last such report; and
  - vi. **Daily Cover** – If alternative daily cover (ADC) is used at the site that meets the requirements of Title 27, §20705(e), and has been approved by Regional Board staff, the type, amount (including, if applicable, average thickness), method of placement, and any problems or deficiencies encountered must be noted in the report.
- b. **Compliance Record Discussion** – A comprehensive discussion of the compliance record, and of any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the landfill's waste discharge requirements relating to water quality issues;
- c. **Summary of Changes** – A written summary of monitoring results and monitoring and control systems, indicating any changes made or observed since the previous annual report;

- d. **Waste Allocation Map** – A map showing the area, if any, in which filling has been completed during the previous calendar year;
- e. **Table of Detected Constituents** – In the first Annual Summary Report submitted to the Regional Board following adoption of the WDRs and this MRP by the Regional Board, the Discharger shall include a table containing any constituent that is or has been detected in samples collected from a groundwater monitoring well at the site, and confirmed per the requirements of Section E.1 above. Annually, the Discharger shall update the constituents contained on the Table of Detected Constituents in accordance with Section E.5. of this MRP;
- f. **Table of Concentration Limits** – In the first Annual Summary Report submitted to the Regional Board following adoption of the WDRs and this MRP by the Regional Board, the Discharger shall include a table containing the concentration limits for each constituent on the COC list (Section B.2. above) in accordance with Section B.3. of this MRP. Bi-annually, the Discharger shall update this Table of Concentration Limits in accordance with Section B.3. of this MRP;
- g. **Incinerator Ash** – In accordance with Section F.4. above, Annual Reports shall include a section that contains a summary description of incinerator ash acceptance, discharge, and monitoring activities. In addition, Annual Reports shall include the following at a minimum:
  - i. Tabulation of monthly quantities of treated incinerator ash accepted and discharged at ESL
  - ii. A map depicting the locations at ESL where incinerator ash was discharged and the manner of discharge
  - iii. Identity of personnel who collected, transported, and analyzed incinerator ash samples as applicable
  - iv. Detailed tabulation of incinerator ash sampling and testing activities and results as applicable
- h. **Contaminated Soil** – In accordance with Section F.5. above, Annual Reports shall include a section that contains a summary description of contaminated soil acceptance, discharge, and monitoring activities. In addition, Annual Reports shall include a tabular summary that includes the following at a minimum:
  - i. Name of the agency, organization, or corporation (generator) that generated the contaminated soils
  - ii. Owner of the contaminated site property

- iii. Names and locations of the sites of origination from which the contaminated soils were generated
  - iv. Type or types of operation(s) conducted at the site(s) of origination
  - v. Type or types of activity(ies) or operation(s) which produced the contaminated soils
  - vi. Discrete and total quantities of contaminated soils
  - vii. Number of soil samples collected for analysis of each discrete quantity of contaminated soil
  - viii. The laboratory analyses performed to characterize the contaminated soils
  - ix. The COCs and corresponding concentrations identified in each discrete quantity of contaminated soils
  - x. Dates that contaminated soils were delivered to and accepted at ESL
  - xi. Number of truckloads used to transport discrete quantities of contaminated soils
  - xii. Type of end use or location of disposal for each discrete quantity of contaminated soil
- i. **CRT Panel Glass** – Information pertaining to acceptance and disposal of CRT panel glass at ESL in accordance with Section F.6. above.
  - j. **Waste-Derived Materials** – Information pertaining to acceptance and re-use of waste-derived materials at ESL in accordance with Section F.7. above.
  - k. **Conclusions** – Each report shall include a summary of any relevant conclusions regarding the findings and results of monitoring activities that were conducted during the monitoring period.
3. **Storm Event Report** – In the event of a major storm event at the facility (defined as any storm that results in the site receiving more than 0.5 inches of precipitation within a 24-hour period), the Discharger shall submit a brief storm event report to the Regional Board within 48 hours of the cessation of precipitation. This report shall include a brief description of facility systems performance during the storm event, a tabulation of the amount of precipitation at the site, pertinent photographs, the identification of any deficiencies, and the date and type of corrective action that has, or will be, taken to correct these deficiencies if necessary.
4. **Annual Drainage Control System Maintenance Report** – Annually, by December 31, an annual Site Drainage Control and Maintenance Report shall be submitted. The drainage control system maintenance report shall include, but not be limited to, the following information:

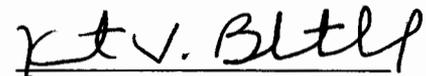
- a. For the previous 12 months, a summary of the adequacy and effectiveness of the drainage control system to collect and divert the calculated volume of precipitation and peak flows resulting from a 100-year, 24-hour storm.
  - b. Field records and results of drainage and erosion control system inspections performed in accordance with Sections F.1.c. above
  - c. A tabular summary of the new and existing drainage control structures including the types and completion dates of maintenance activities performed for each of these structures; and
  - d. An 11"x17" site map indicating the locations of the elements listed in Section G.3.c., above, and the flow direction of all site drainage.
  - e. A map depicting the results of the annual aerial or ground survey performed in accordance with Discharge Specification F.10. of the WDRs and Section F.2. of this MRP.
5. **Five-Year Evaluation Monitoring Report** – As described in Section C.1.b. above, every five years, the Discharger shall collect and analyze groundwater samples for all constituents listed on Table A and Table B and submit a report to the Regional Board containing the results of these activities. The results of the Five-Year Evaluation monitoring activities must be reported to the Regional Board within one month following the end of the Reporting Period. The last Five-Year evaluation was performed in 2016. Future Five-Year Monitoring Reports are due every five years subsequent to submittal of the previous Five-Year Monitoring Report submittal (in 2021, 2026, 2031, etc.). This report may be combined with a Semi-Annual or Annual water quality monitoring report as appropriate, and shall include, but not be limited to, the following:
- a. **Well Information** – For each monitoring well addressed by the report, a description of the method and time of water level measurement, and a description of the method of purging used to remove stagnant water in the well before sampling, pursuant to Title 27, §20415(e)(12)(B);
  - b. **Other Monitored Media** – The report shall include a description of other monitoring activities that occurred during the monitoring period including monitoring of surface waters, subdrains, and seeps. A tabulated summary of analytical results from these monitoring activities shall also be included in the report.
  - c. **Groundwater Elevations and Contours** – For each monitoring point addressed by the report, a tabular summary and graphical presentation of all measured groundwater elevation data, and a groundwater elevation

contour map, showing the direction of groundwater flow under/around ESL based upon water level elevations taken for the monitoring period;

- d. **Sampling Information** – For each monitoring point addressed by the report, field sampling records showing the type of pump or other device used and its vertical placement for sampling, and a detailed description of the sampling procedures (number and description of the samples, field blanks, travel blanks, and duplicate samples taken, the type of containers and preservatives used, the date and time of sampling, the name(s) and qualifications of the person(s) taking the samples, and any other observations); and
- e. **Analytical Data and Results** – The report shall include a summary of all analytical monitoring results. Data shall be summarized and presented in a tabular format. Statistical and non-statistical analyses of the analytical data shall be presented. An evaluation and interpretation of the data analyses shall be also be included. A copy of the laboratory analytical results shall be included.
- f. **QA/QC Summary and Evaluation** – The report shall include a summary describing laboratory and field QA/QC activities performed as part of monitoring activities. The summary shall include a discussion of any water sampling and monitoring activities that deviated from the sampling and quality assurance plans.
- g. **Compliance Record Discussion** – A comprehensive discussion of the compliance record, and of any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the landfill's waste discharge requirements relating to water quality issues;
- h. **Summary of Changes** – A written summary of monitoring results and monitoring and control systems, indicating any changes made or observed since the previous annual report; and
- i. **Graphical Presentation** – Graphical presentation of Groundwater Analytical Data shall be completed in accordance with Title 27, §20415(e)(14) and shall include as necessary time-series concentration plots as described in Section D above;
- j. **Conclusions** – Each report shall include a summary of any relevant conclusions regarding the findings and results of monitoring activities that were conducted during the monitoring period.

6. **Monitoring and Reporting Period for Five-Year Evaluation Report** – Every fifth year, continuing next with the Summer of 2021, the discharger shall sample all monitoring points for each monitored medium for all constituents listed on Table A and Table B. The discharger shall submit the reports and documents for this five-year monitoring event in accordance with the due dates specified in Table 3: Monitoring and Reporting Schedule of this MRP.
7. **Reporting Schedule** – The discharger shall submit the reports and documents in accordance with the deadlines specified in Table 3: Monitoring and Reporting Schedule of this MRP.
8. **Signature** – All reports shall be signed by a responsible officer or a duly authorized representative of the discharger and shall be submitted under penalty of perjury.

I, Kurt V. Berchtold, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Santa Ana Region, on September 16, 2016.



Kurt V. Berchtold  
Executive Officer

<b>TABLE 1: POINT OF COMPLIANCE WELLS</b>	
	MW3-5
	MW-23
	MW-22
	MW2-R
	MW-06A
	MW-09
	MW3-2

<b>TABLE 2: GROUNDWATER MONITORING WELLS</b>	
<b>Well ID Number</b>	<b>Well Classification</b>
MW2-R	Point of Compliance Well; Detection Monitoring Well
MW-05	Corrective Action Well
MW-06A	Point of Compliance Well; Detection Monitoring Well
MW-08R	Detection Monitoring Well
MW-09	Point of Compliance Well; Corrective Action Well
MW-14	Corrective Action Well
MW-16	Corrective Action Well
MW-18	Corrective Action Well
MW-19	Corrective Action Well
MW-21	Corrective Action Well; Detection Monitoring Well
MW-22	Point of Compliance Well; Detection Monitoring Well
MW-23	Point of Compliance Well; Detection Monitoring Well
MW3-1	Detection Monitoring Well
MW3-2	Point of Compliance Well; Detection Monitoring Well
MW3-4	Expansion Area Well
MW3-5	Point of Compliance Well; Expansion Area Well
P-8	Evaluation Well for Corrective Action Well MW-05
P-12	Evaluation Well For Corrective Action Well MW-09

**TABLE 3: MONITORING AND REPORTING SCHEDULE**

TASK DESCRIPTION	MONITORING PERIOD	REPORT DUE DATE
Quarterly Groundwater Level Measurement	October 1 – December 31	April 30 of each year
	January 1 – March 31	
	April 1 – June 30	October 31 of each year
	July 1 – September 30	
Semi-Annual Water Quality	October 1 – March 31	April 30 of each year
	April – September 30	October 31 of each year
Landfill Leachate and Gas Condensate Monitoring	October 1 – October 31	April 30 of following year
April Retesting for Leachate and Gas Condensate	If required, April 1 – April 30	October 31 of each year
Drainage Control System Maintenance	By October 1 of each year	December 31 of each year
Aerial or Ground Survey and Topographic Map	By October 1 of each year	December 31 of each year
Annual Summary and General Site Monitoring	April 1 of previous year to March 31 of current year	April 30 of each year
Five-Year Monitoring Event (Table A and Table B Constituents)	July 1 – September 30, 2021	October 31, 2021
	January 1 – March 31, 2026	April 30, 2026

<b>DRAFT TABLE A MONITORING CONSTITUENTS</b>		
<b>Inorganic Constituents</b>	<b>Supplemental Constituents</b>	
Bicarbonate Alkalinity	Carbonate Alkalinity	Nitrate (as N)
Chloride	Total Alkalinity	Sulfate
Calcium	TDS	Iron
Magnesium	TOC	Manganese
Sodium	pH	
Potassium		
<b>Volatile Organic Compounds</b>		
Acetone	trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene	Trichloroethylene; Trichloroethene
Acrylonitrile	1,2-Dichloropropane;	Trichlorofluoromethane; CFC-11
Benzene	cis-1,3-Dichloropropene	1,2,3-Trichloropropane
Bromochloromethane	trans-1,3-Dichloropropene	Vinyl acetate
Bromodichloromethane	Ethylbenzene	Vinyl chloride
Bromoform; Tribromomethane	2-Hexanone; Methyl butyl ketone	Xylenes
Carbon disulfide	Methyl bromide; Bromomethane	Acetonitrile; Methyl cyanide
Carbon tetrachloride	Methyl chloride; Chloromethane	Acrolein
Chlorobenzene	Methylene bromide; Dibromomethane	Allyl chloride
Chloroethane; Ethyl chloride	Methylene chloride; Dichloromethane	Chloroprene
Chloroform; Trichloromethane	Methyl ethyl ketone; 2-Butanone	m-Dichlorobenzene; 1,3-Dichlorobenzene
Dibromochloromethane	Methyl iodide; Iodomethane	Dichlorodifluoromethane; CFC 12
1,2-Dibromo-3-chloropropane	4-Methyl-2-pentanone; Methyl isobutyl ketone	1,3-Dichloropropane
1,2-Dibromoethane	Styrene	2,2-Dichloropropane
o-Dichlorobenzene; 1,2-Dichlorobenzene	1,1,1,2-Tetrachloroethane	1,1-Dichloropropene
p-Dichlorobenzene; 1,4-Dichlorobenzene	1,1,2,2-Tetrachloroethane	Ethyl methacrylate
trans-1,4-Dichloro-2-butene	Tetrachloroethylene;	Isobutyl alcohol
1,1-Dichloroethane	Toluene	Methacrylonitrile
1,2-Dichloroethane	1,1,1-Trichloroethane	Methyl methacrylate
1,1-Dichloroethylene; 1,1-Dichloroethene	1,1,2-Trichloroethane	Propionitrile; Ethyl cyanide
cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene		

**DRAFT TABLE B MONITORING CONSTITUENTS**

**Inorganic Constituents**

Arsenic	Nickel	Selenium
Barium	Lead	Thallium
Beryllium	Antimony	Tin
Cadmium	Vanadium	Mercury
Cobalt	Zinc	Cyanide
Chromium	Silver	Sulfide
Copper		

**Organic Constituents**

PCBs (40 CFR 258; Appendix II Aroclors)	TCDD (Dioxin) (For Five-Year Evaluation Events, groundwater samples do not need to be analyzed for TCDD unless it has been detected and confirmed in landfill -leachate or gas condensate samples)	
<b>Chlorinated Herbicides</b>		
2,4-Dichlorophenoxyacetic acid	Silvex; 2,4,5-TP	2,4,5-Trichlorophenoxyacetic acid
<b>Organochlorine Pesticides</b>		
Aldrin	4,4-DDT	Endrin aldehyde
alpha-BHC	Dieldrin	Heptachlor
beta-BHC	Endosulfan I	Heptachlor epoxide
delta-BHC	Endosulfan II	Kepone
gamma-BHC; Lindane	Endosulfan sulfate	Methoxychlor
4,4-DDD	Endrin	Toxaphene
4,4-DDE	Chlordane	

**DRAFT TABLE B MONITORING CONSTITUENTS (cont.)**

**Organic Constituents (cont.)**

**Semi-Volatile Organic Compounds**

Acenaphthene	Dimethoate	2-Nitroaniline
Acenaphthylene	4-Dimethylaminoazobenzene	3-Nitroaniline
Acetophenone	7,12-Dimethylbenz[a]anthracene	4-Nitroaniline
2-Acetylaminofluorene	3,3-Dimethylbenzidine; tolidine	Nitrobenzene
4-Aminobiphenyl	2,4-Dimethylphenol	2-Nitrophenol
Anthracene	Dimethyl phthalate	4-Nitrophenol
Benzo[a]anthracene	1,3-Dinitrobenzene	N-Nitrosodi-n-butylamine
Benzo[b] fluoranthene	4,6-Dinitro-2-methylphenol	N-Nitrosodiethylamine
Benzo[k] fluoranthene	2,4-Dinitrophenol	N-Nitrosodimethylamine
Benzo[ghi] perylene	2,4-Dinitrotoluene	N-Nitrosodiphenylamine
Benzo[a] pyrene	2,6-Dinitrotoluene	N-Nitroso-N-dipropylamine
Benzyl alcohol	Dinoseb	N-Nitrosomethylethylamine
Bis(2-chloroethoxy) methane	Di-n-octyl phthalate	N-Nitrosopiperidine
Bis(2-chloroethyl) ether	Diphenylamine	N-Nitrosopyrrolidine
2,2-oxybis(1-chloropropane)	Disulfoton	5-Nitro-o-toluidine
Bis(2-ethylhexyl) phthalate	Ethyl methanesulfonate	Parathion
4-Bromophenyl phenyl ether	Famphur	Pentachlorobenzene
Butyl benzyl phthalate	Fluoranthene	Pentachloronitrobenzene
4-Chloroaniline	Fluorene	Pentachlorophenol
Chlorobenzilate	Hexachlorobenzene	Phenacetin
4-Chloro-3-methylphenol	Hexachlorobutadiene	Phenanthrene
2-Chloronaphthalene	Hexachlorocyclopentadiene	Phenol
2-Chlorophenol	Hexachloropropene	4-Phenylenediamine
4-Chlorophenyl phenyl ether	Hexachloroethane	Phorate
Chrysene	Indeno (1,2,3-cd) pyrene	Pronamide
2-methylphenol	Isodrin	Pyrene
3-methylphenol	Isophorone	Safrole
4-methylphenol	Isosafrole	1,2,4,5-Tetrachlorobenzene
Diallate	Methapyrilene	2,3,4,6-Tetrachlorophenol
Dibenz [a,h] anthracene	3-Methylcholanthrene	o-Toluidine
Dibenzofuran	Methyl methanesulfonate	1,2,4-Trichlorobenzene
Di-n-butyl phthalate	2-Methylnaphthalene	2,4,5-Trichlorophenol
3,3-Dichlorobenzidine	Methyl parathion	2,4,6-Trichlorophenol
2,4-Dichlorophenol	Naphthalene	0,0,0-Triethyl phosphorothioate
2,6-Dichlorophenol	1,4-Naphthoquinone	1,3,5-Trinitrobenzene
Diethyl phthalate	1-Naphthylamine	
Thionazin	2-Naphthylamine	

