

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION

3737 Main Street, Suite 500
Riverside, CA 92501-3348
(951) 782-4130

[Regional Board Website](https://www.waterboards.ca.gov/santaana) (https://www.waterboards.ca.gov/santaana)

WASTE DISCHARGE REQUIREMENTS ORDER R8-2024-0036

ORDER INFORMATION

Order Type(s): Waste Discharge Requirements (WDRs)
Status: ADOPTED
Program: Title 27 Discharges to Land
Facility: COLTON SANITARY LANDFILL
Discharger(s): San Bernardino County, Solid Waste
Management Division
Address: 850 Tropica Rancho Road,
Colton, California 92324
County: San Bernardino County
GeoTracker ID: L10003692464

CERTIFICATION

I, JAYNE JOY, Executive Officer, hereby certify that the following is a full, true, and correct copy of the order adopted by the California Regional Water Quality Control Board, Santa Ana Region, on 25 October 2024.

JAYNE JOY
Executive Officer

FINDINGS

The Santa Ana Regional Water Quality Control Board (Santa Ana Water Board) hereby finds as follows:

1. **Colton Sanitary Landfill** – The County of San Bernardino Solid Waste Management Division (Discharger) owns and maintains the closed Colton Sanitary Landfill (CSL or Facility). CSL is a closed Class III, non-hazardous municipal solid waste (MSW) landfill that began operations in 1964 and ceased operations in 2014. The CSL is located at 850 Tropica Rancho Road within the City of Colton. Latitude and longitude for the site are approximately 34.0455, -117.345. Legal description for the site is a portion of Section 25, T1S, R5W; Section 30, T1S, R4W; Section 31, T1S, R5W; and Section 36, T1S, R5W of the San Bernardino Baseline and Meridian (SBB&M). The location of CSL is shown on **MAP 1 – LOCATION MAP**.
2. **Facility Description** – The Facility consists of one contiguous waste management unit (WMU), Unit 1, at the north end of the La Loma Hills, which are a small extension of the Peninsular Ranges System in the northern portion of the Perris geotectonic Block. The subject property is directly adjacent to the Santa Ana River along the facility's northern and western sides. The land surrounding the facility on the south and east is undeveloped and is zoned by the City of Colton as permanent open space. The facility encompasses 113 acres, of which 82 acres were used for waste disposal. These 82 acres of disposal area are unlined and are designated as the Unit 1 WMU.
3. **Site Capacity and Closure** – Based upon a 2014 estimate, CSL received a total of approximately 15.5 million cubic yards of municipal solid waste during its operational years. Disposal of waste at CSL was discontinued in 2014 and, per Title 27, the Discharger was authorized by the Executive Officer to keep the landfill inactive for a period of 5 years before initiating final closure activities. This period of inactivity has allowed significant settlement of waste, which normally occurs following closure of landfills. The final closure planning process was initiated in 2019 and closure construction activities began at the site in October 2022 and were completed in July 2024. Approximate final configuration of the site is depicted on **MAP 2 – SITE MAP**.

WASTE DISCHARGE REQUIREMENTS HISTORY

4. **Previous and Current WDRs (1991)** – On July 19, 1991, the Santa Ana Water Board adopted WDRs Order 91-039 for the portion of the Facility that is now designated as "Unit 1." The 1991 WDRs Order and its associated Monitoring and Reporting Program (MRP) predate the prescriptive requirements for waste disposal that are now codified in California Code of Regulations Title 27 (Title 27)

and Code of Federal Regulations Title 40, part 258 (40 C.F.R. part 258). No other individual WDRs have been issued for the Facility. Accordingly, Unit 1 has not been formally classified as a WMU under Title 27 in a WDRs order. This Order formally classifies CSL Unit 1 as a Class III MSW Landfill (MSWLF).

5. **Adoption of State Board Resolution 93-62 and Santa Ana Water Board Order 93-57** – In 1991, USEPA promulgated a new final rule for solid waste disposal facilities, which was designated at 40 CFR part 258. It established revised minimum federal criteria for landfills. The regulations became effective in October 1993. This revision to landfill regulations required that California implement corresponding landfill regulations and requirements that complied with the new federal regulations to become a federally approved state. There was insufficient time to adequately revise existing regulations (Chapter 15) before the October 1993 federal deadline. Accordingly, the State Board adopted Resolution No. 93-62 which directed each Regional Board to revise the WDRs for each landfill in their respective regions to comply with the new federal landfill regulations. Accordingly, the Santa Ana Water Board adopted Order 93-57 in September 1993 amending WDRs for existing landfills in the Santa Ana Region, including CSL. The requirements of Order 93-57 amended Order 91-039 and were subsequently amended by Order 98-99.
6. **Adoption of Order 94-17** – Review of WDRs for existing landfills in the Santa Ana Region found that the WDRs did not contain adequate requirements for on-site drainage control or for regular maintenance of on-site drainage control systems. Accordingly, the Santa Ana Regional Board adopted Order 94-17 delineating specific requirements in existing WDRs that were inadequate and providing specific language that replaced these inadequate requirements. The requirements of Order 94-17 amended Order 93-039 and were subsequently amended by Order 98-99.
7. **Adoption of Order 98-99, and MRP 98-99-03** – Following adoption of Orders 93-57 and 94-17, Dischargers and Water Board staff found that there was some overlap between the two Orders that caused some confusion. Accordingly, on November 20, 1998, the Santa Ana Water Board adopted WDRs Revision General Order No. 98-99 (Order 98-99) for all MSW landfill facilities in the Santa Ana Region. Order 98-99 combined the requirements of Orders 93-57 and 94-17, and eliminated overlap, thus providing a unified and user-friendly format. Order 98-99 effectively revised the original 1991 WDRs Order and corresponding MRPs to incorporate the substantive requirements of Title 27 and State Water Board Resolution 93-62. In addition, MRPs were adopted for groups of similar landfills operated by the same Discharger providing appropriate monitoring and reporting guidance. Colton Landfill was included under MRP Order 98-99-03. The requirements of Order 98-99 and MRP Order 98-99-03 currently apply to Colton Landfill.

8. **Consolidation of Requirements** – This Order consolidates requirements contained in the existing WDRs and updates these requirements to be consistent with the current federal and State laws and regulations for MSW disposal.

SITE BACKGROUND

9. **Commencement of Site Operations and Expansions** – CSL consists of one WMU (MSWLF), Unit 1. In 1964, CSL began waste disposal operations in Unit 1. Unit 1 is an unlined waste disposal area and waste was placed within the footprint area of Unit 1 from 1964 to 2014.
10. **Regional and Local Geology and Faulting** – CSL is located within a seismically active and highly faulted geologic area. The active San Jacinto Fault Zone runs northwest to southeast and is approximately 3.4 miles northeast of the landfill property. The San Andreas Fault Zone (SAFZ) also runs northwest to southeast and is approximately 9.7 miles northeast of the landfill property. There are several minor active or potentially active faults associated with both fault zones (See **MAP 3 – ACTIVE FAULTS NEAR CSL**).

The landfill is situated on top of alluvial sediments deposited by the Santa Ana River. These sediments are thicker on the northern and western portions of the site and thinner on the eastern and southern portions of the site. The La Loma Hills adjacent to the site on the east and south are composed of bedrock formations (Cretaceous quartz diorite) that are similar to the bedrock that underlies the alluvial sediments at greater depth underneath the landfill site. This bedrock formation was encountered during installation of groundwater monitoring wells along the southern and eastern portions of the landfill.

11. **Site Terrain** – The CSL is located directly adjacent to the Santa Ana River on the north and west sides of the site. Further, it is located in the northern portion of the Central Perris Geotectonic Block where the very southern edge of the Fontana alluvial plain abuts the La Loma Hills. The La Loma Hills extend above CSL on the southern and eastern boundaries of the site. The La Loma Hills are located at the northernmost edge of the Peninsula Mountain Range and are undeveloped open space at this time.
12. **1989 Solid Waste Assessment Test** – In accordance with Water Code section 13273, a Solid Waste Assessment Test (SWAT) was conducted at CSL in 1987-89. As part of the SWAT, six groundwater monitoring wells, one piezometer, and one lysimeter were installed to evaluate vadose zone and groundwater conditions and groundwater quality beneath the site. A SWAT Report was submitted to the Santa Ana Water Board in June 1989. Minor elevated concentrations of inorganic compounds and tetrachloroethylene (PCE) were identified in groundwater samples at the site.

13. **Regional and Site Hydrogeology** – CSL is located in the Riverside-A Groundwater Management Zone. Groundwater beneath CSL ranges between 15 and 60 feet below ground surface (bgs), at elevations between 830 feet above mean sea level and 860 feet above mean sea level. Groundwater beneath CSL generally flows south to southwest, with estimated velocities of 0.4 to 1.3 ft/day.
14. **Embankment Protection System** – As stated in the CSL Final Closure/Post-Closure Maintenance Plan (2021), CSL is located adjacent and tributary to the Santa Ana River and a portion of the site is located within the 100- and 500-year floodplain as designated by the County of San Bernardino Hazard Overlay Zone, FP1 and FP2. Due to the proximity to the Santa Ana River, an embankment protection system was constructed and completed in January 1996 to prevent washout of the landfill perimeter from erosive forces of a 100-year flood. The toe of the northern portion of the landfill abuts the Santa Ana River, and therefore, a permanent levee along the toe of the landfill abutting the river was constructed. The design criteria for this project consisted of requirements set forth by the US Army Corps of Engineers (ACOE) and the San Bernardino County Flood Control District (SBCFCD). The levee is comprised of rip-rap Gabions, geotextile, wire revetment, and rock materials.
15. **South Channel** – Most of the rainfall run-on at CSL is routed either directly, or via perimeter v-ditches, to the South Channel (Channel), which is a natural channel that runs along the southern boundary of the landfill. Six-foot high gabion baskets have been constructed along the northeast side of the Channel to protect the toe of the landfill and prevent washout. Runoff in this channel flows west to the Santa Ana River.
16. **Precipitation** – The CSL is situated within an arid to semi-arid environment. Average annual precipitation in the area is estimated to be approximately 12.2 inches. For a 100-year, 24-hour storm event at the site, an estimated maximum of 5.0 inches has been calculated.
17. **Receiving Surface Water Body** – Surface water that drains from the CSL is tributary to the Santa Ana River, which has beneficial uses under the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan).
18. **Receiving Groundwater Body and Beneficial Uses** – CSL is located within the Riverside A Groundwater Management Zone, with the following beneficial uses:
 - a. Municipal and Domestic Supply,
 - b. Agricultural Supply,
 - c. Industrial Service Supply, and
 - d. Industrial Process Supply.

REGULATORY FRAMEWORK

19. **Regulation of Non-Hazardous Municipal Solid Waste (MSW)** – CSL’s WMU is subject to federal Municipal Solid Waste (MSW) regulations promulgated under the Resource Conservation and Recovery Act (RCRA) (42 U.S.C. §6901 et seq.). Typically referred to as “Subtitle D,” such regulations are now codified as 40 C.F.R. part 258 (Part 258) and implemented in part through the provisions of California Code of Regulations, Title 27 (Title 27) and in accordance with State Water Resources Control Board (State Water Board) Resolution No. 93-62.
20. **Permitting under Waste Discharge Requirements (WDRs)** – Adopted pursuant to Water Code §13263, subdivision (a), this Order prescribes Waste Discharge Requirements (WDRs) incorporating applicable provisions of Title 27, Part 258, and State Water Board Resolution No. 93-62—particularly with respect to siting, design, construction, operations, drainage and erosion control, water quality monitoring, and when necessary, groundwater remediation (i.e., corrective action).
21. **Waste Classification** – Pursuant to Title 27, section 20200, subdivision (a), wastes are classified based on their risk of impairment to groundwater. Nonhazardous MSW are classified as Class III wastes and are disposed of at Class III landfills. The CSL waste management unit (WMU) accepted nonhazardous MSW and is classified as a Class III MSWLF.
22. **Monitoring and Reporting Program** – A Monitoring and Reporting Program (MRP) is concurrently adopted with this Order pursuant to Water Code section 13267, subdivision (b)(1). The MRP imposes on the Discharger certain monitoring and reporting requirements that are necessary to ensure compliance with this Order, as well as to establish and implement monitoring programs required pursuant to Title 27 and Part 258. The burdens associated with such requirements are reasonable relative to their necessity.

In accordance with Water Code section 13223 and Resolution R8-2019-0056, the Executive Officer is authorized to issue a Revised MRP that, upon issuance, shall supersede the provisions of the MRP adopted concurrently herewith.

For purposes of this Order, the “**Operative MRP**” consists of the concurrently adopted MRP, or the Revised MRP in the event that one is issued by the Executive Officer.
23. **Terms and Acronyms** – Definitions of terms and acronyms used in this Order are included in attachments to this Order. The terms used in this Order are contained in Title 27, sections 20150, 20163, 20164, and 20415.

CLOSURE

24. **Cessation of Disposal Activities, 2014** – The Discharger ceased disposal of solid waste at CSL on December 31, 2014. At that time, the Discharger proposed a closure implementation schedule that included a five-year waiting period before implementation of closure activities per CCR Title 27, section 21090, subdivision (b)(1)(D). The Water Board approved the schedule including the five-year waiting period. Such five-year waiting periods are allowable to avoid potential damage to final covers as landfills very often experience a high rate of differential settlement during the first few years following final waste disposal.
25. **2014 Closure Plan** – In accordance with Title 27, section 21769, subdivision (b)(1), the Discharger prepared a preliminary Final Closure Post-Closure Maintenance Plan (FCPMP) for CSL and developed a reasonable estimate of the maximum costs expected for a third party to implement the first thirty years of post-closure maintenance. The Discharger prepared and submitted the FCPMP and a cost estimate for implementing the plan in December 2014. This plan involved constructing an alternative cover comprised of a 3-foot thick evapotranspirative soil cover (ET cover) over a 1-foot thick soil foundation layer.
26. **2019 Revised Closure Plan** – In November 2019, the Discharger initiated re-evaluation of the existing CSL FCPMP and determined that revision of the FCPMP was necessary. The Discharger found that due to availability of suitable soil materials, costs of soil processing, and costs of soil transport, implementing the existing FCPMP would impose burdensome costs, and began investigating other alternative cover technologies that were less costly than the existing plan.
27. **Development of Alternative Cover System** – Based on their investigation, the Discharger identified an alternative cover for CSL that would be considerably less expensive while exceeding the regulatory performance standards. This alternative cover focused on the use of a structured geomembrane – linear low-density polyethylene (LLDPE) – combined with an engineered geosynthetic turf as the main components in the alternative cover (LLDPE system). The LLDPE element would act as a moisture/liquid barrier and the geosynthetic turf would act as a ballast and protective element to help hold the LLDPE in place, while providing protection and stability. The Discharger further investigated the use and performance of the LLDPE/turf system as an alternative cover at other sites. Based on these investigations, the Discharger developed conceptual plans followed by final closure design plans for the LLDPE cover in coordination with Water Board staff. Based upon review, the Water Board Executive Officer approved the final closure design plan in a letter dated November 17, 2021.

28. **Composition of the Alternative Cover System** – The proposed alternative cover system is comprised of the following elements from bottom to top: one-foot foundation layer of compacted engineered select soil, structured geomembrane (50 mil LLDPE), engineered geosynthetic turf, and specified infill sand. The plan included complete replacement and upgrade of the landfill gas extraction and gas condensate management systems, re-design and construction of drainage and erosion/runoff control systems, site access, and gas monitoring systems.
29. **Performance of the Alternative Cover System** The LLDPE system has been used as a closure cover at other landfills in California and at several other locations in the United States. The physical properties and performance of the LLDPE system components have been tested in relation to physical stressors and potentially destructive natural events, including fire, high rainfall/runoff, high winds, earthquake, shear stresses, and long-term weathering, such as ultraviolet exposure. The Discharger's investigations indicated that the LLDPE system performed competently in these tests. In addition to the performance characteristics described above, the LLDPE system is expected to eliminate or minimize soil erosion, enhance geotechnical stability, and reduce closure maintenance costs. Moreover, the LLDPE system is expected to minimize rainwater infiltration through the cover as it has an estimated permeability of 1.0×10^{-14} centimeters per second (cm/sec), which exceeds the Title 27 standard of 1.0×10^{-6} cm/sec (Title 27, §21090, subd. (a)(2)), and thus is expected to significantly reduce the production of leachate and landfill gas.
30. **Closure Implementation and Completion** – The Discharger initiated closure cover construction activities in late October 2022. Severe weather events during the winters of 2023 and 2024 interrupted and delayed construction activities. However, the cover was completed in July 2024 and Water Board staff conducted a final inspection of the closure cover in July 2024 as well.
31. **Renewable Hydrogen Facility** – In October 2022, the Discharger submitted an amendment to their FCPMP that would enable the construction and operation, by a subcontractor, of a renewable hydrogen facility (RH2) at CSL following completion of closure construction activities. The RH2 facility will be constructed adjacent to the CSL flare station and will utilize LFG from CSL to provide power that enables conversion of natural gas to hydrogen fuel. Water Board staff reviewed the plan and approved the amended FCPMP in a letter dated November 28, 2022.
32. **Post-Closure Maintenance Activities** – As part of the approved FCPMP, the Discharger will implement maintenance activities following completion of closure activities at CSL. Maintenance activities include landfill gas monitoring and maintenance, overseeing operation of the RH2 facility, groundwater monitoring and well maintenance, final cover inspection and maintenance, landfill surface settlement monitoring and maintenance, access and bench road maintenance,

surface water drainage control system monitoring and maintenance, and site security inspection and maintenance.

33. **Financial Assurance** – Title 27, sections 22207 and 22212 require that the Discharger establish a fund (financial assurance) to ensure implementation of the post-closure maintenance plan. In its Joint Technical Document (JTD) for CSL, the Discharger provided documentation demonstrating the establishment and maintenance of an enterprise fund for implementing the subject plan.
34. **Deed Notification After Closure** – After completion of landfill closure activities, the Discharger shall file a deed notification with the San Bernardino County Recorder for future land use at CSL and submit a copy of the deed notification to the Executive Officer within 90 days of adoption of these WDRs. The deed notification shall be added to the property profile, in perpetuity, to inform and advise any potential purchaser of the property that:
 - a. The parcels have been used as an MSW landfill;
 - b. Unless other post-closure land use alternative(s) are approved via a JTD Addendum by CalRecycle and the Santa Ana Water Board, the land use options for the parcel are restricted in accordance with the post-closure land uses set forth in the FCPMP; and
 - c. If the Discharger defaults in carrying out either the FCPMP or any corrective action needed to address a release, the responsibility for carrying out such work falls to the property owner, if other than the Discharger.
35. **Post-Closure Land Use** – Non-irrigated open space is the proposed land use for CSL following completion of closure activities at the facility.

GROUNDWATER MONITORING

36. **Water Quality Protection Standard** – A Water Quality Protection Standard (WQPS) is the analytical framework through which WMUs are individually monitored for releases and impacts to water quality (Title 27, section 20390, subd. (a)). In accordance with Title 27, this Order, by virtue of its incorporation of a concurrently-adopted **Monitoring & Reporting Program (MRP)** and subsequent revisions thereto, establishes a WQPS for the facility.
37. **Solid Waste Assessment Test Program** – In accordance with California Statutes of 1984, Chapter 15, Solid Waste Assessment Tests (SWAT), groundwater (GW) monitoring wells (MWs) were installed in 1988-89 at CSL to evaluate CSL's threat to water quality. Five MWs and one piezometer were installed at that time – CL-1, CL-2, CL-3, CL-5, and CL-6 are monitoring wells

and CL-4 is a piezometer. Only minor concentrations of constituents of concern were identified during implementation of SWAT monitoring.

38. **Correction Action Program** – Following completion of the SWAT program at CSL, regular periodic groundwater monitoring was performed pursuant to Title 27, section 20385. In the early 1990s, results of monitoring identified volatile organic compounds (VOCs) in samples from downgradient wells and surface water stations at concentrations above water quality standards. Based on these findings, the Water Board required the Discharger to implement a Corrective Action Program (CAP). The Discharger proposed and implemented a correction action (see Finding 39 below) that was designed to limit hydraulic continuity between the CSL boundary and the upper alluvial deposits in the Santa Ana Riverbed. This configuration would force water and VOCs lower into the alluvial deposits and enhance monitored natural attenuation.

As of 2024, the Discharger is implementing a groundwater Corrective Action Program (CAP) at CSL in accordance with Title 27, §20385, subdivision (a)(4) and §20430, and the attached Monitoring and Reporting Program (MRP). As part of the CAP, groundwater at CSL is monitored at monitoring wells CL-1, CL-3, CL-5, CL-6, CL-8, CL-9, CL-10S, CL-10D, and piezometer CL-4. The monitoring wells and the piezometers are depicted on **Map 4 – MRP Site Map**.

39. **Slurry Wall and Protective Embankment** – From October to November 1995, the Discharger constructed a subsurface barrier (slurry wall) and a protective embankment along the toe of the landfill between a portion of the western boundary of CSL and the Santa Ana River. The slurry wall was the corrective action proposed and implemented by the Discharger and was constructed to limit the hydraulic continuity between the CSL boundary and the upper alluvial deposits in the riverbed. The slurry wall material is composed of bentonite, cement, fly ash, and soil, which results in a permeability of less than 1×10^{-7} cm/sec. The foundation of the slurry wall is keyed into competent bedrock of the La Loma Hills along the southern boundary of CSL and extends approximately 2,550 feet along the western and northern perimeter of the landfill to the point of groundwater inflow/outflow. The slurry wall is two feet wide and approximately 35 feet deep, which corresponds to approximately 12-15 feet below the water table.

A protective embankment was constructed between the slurry wall and the river to protect the slurry wall as well as the perimeter of the landfill. The embankment is comprised of specifically engineered elements and includes wire and rock gabions of different sizes and configurations, rock rip-rap structures, a geotextile blanket for scour protection, and engineered, compacted, and graded soil.

40. **Additional Groundwater Monitoring Wells** – Additional groundwater monitoring wells were installed at CSL as part of changing conditions and continued monitoring at the site. Nested monitoring wells CL-7S and CL-7D were constructed in August 2009, to evaluate the effectiveness of the slurry wall.

Following several quarters of dry readings in background monitoring well CL-1, upgradient monitoring well CL-8 was constructed approximately 30 feet north of CL-1 in November 2009.

Monitoring well CL-9 was constructed in August 2011 to further define the groundwater contours beneath the site near the southern end of CSL between CL-3 and CL-4.

In December 2010, flooding along the Santa Ana River caused the destruction of nested monitoring wells CL-7S and CL-7D. Accordingly, the Discharger constructed nested, dual-depth monitoring wells CL-10S and CL-10D to replace CL-7S and CL-7D.

41. **Corrective Action Program and Subsequent Groundwater Monitoring** – Groundwater monitoring activities have continued following construction of the Slurry Wall corrective action. In addition, a landfill gas (LFG) extraction system (see below) had been installed and operated since at least 1991. Monitoring results since construction of the Slurry Wall indicate that VOCs have not been detected or have been found only at levels below water quality standards, in downgradient monitoring wells. These results indicate that the Slurry Wall in combination with LFG extraction continue to address water quality concerns associated with CSL.

ENVIRONMENTAL MANAGEMENT SYSTEMS

42. **Environmental Management Systems** – Environmental management systems at CSL include the landfill gas extraction and treatment system, landfill gas condensate collection and conveyance system, condensate containment systems, and a groundwater monitoring well network.
43. **Landfill Gas Extraction System** – Landfill gas (LFG) generated by decomposition of solid waste at the landfill is extracted and collected through the landfill gas extraction system (LFGES) – a complex system of wells and pipes. An LFGES had been installed and continually operated at CSL since at least 1991. A completely new LFGES was installed as part of the final closure project. The new LFGES consists of 56 active gas extraction wells, approximately 22,500 linear feet of LFG conveyance headers and lateral pipelines, 46 active perimeter monitoring probes, and 7 LFG condensate sumps. The LFGES is modified as needed to accommodate and control surface emissions and subsurface LFG migration, and otherwise maintain compliance with applicable regulations.

Extracted LFG is piped through the lateral and header pipelines to the on-site flare station located near the landfill entrance. The LFG is burned off via an enclosed LFG flaring system. In 2023, approximately 525,220,500 scf (standard cubic feet) of gas were extracted and flared through the LFGES on a monthly basis.

44. **Landfill Gas Monitoring System** – In accordance with the permit granted by the Southern California Air Quality Management District, LFG extraction wells and perimeter probes are monitored on a regular basis. Samples from these locations are analyzed for total organic compounds, toxic air contaminants, total gaseous non-methane organic compounds, methane, carbon dioxide, oxygen, and nitrogen. The Operative MRP adopted concurrently with this Order includes requirements for monitoring the perimeter LFG probes and submitting analytical results in the Semi-Annual Monitoring Reports.
45. **Landfill Gas Condensate Collection** – As LFG travels through the LFGES, it cools, and a portion of the LFG condenses and likewise travels through the pipelines where it is collected in one of seven new LFG condensate sumps. The condensate is pumped from the sumps and piped to a tank located adjacent to the flare station near the landfill entrance. The condensate is injected into the LFG flare system and burned off at a rate of two gallons per minute with the LFG.
46. **Landfill Gas Condensate Monitoring** – It is generally understood that there is a connection between groundwater contamination and the contaminants in landfill gas condensate. Consequently, constituents detected in gas condensate are considered potential threats to water quality upon release from CSL. Based upon this connection, the Discharger has been monitoring and will continue to monitor landfill gas condensate generated at the landfill as required. The requirements for monitoring frequency and the analytical constituents are specified in the concurrently-adopted MRP and subsequent amendments thereto. Results from these monitoring activities are evaluated and utilized as specified in the MRP to direct groundwater monitoring activities.

OTHER

47. **Drainage and Erosion Control** – Surface drainage control facilities at CSL are designed, constructed, and maintained to collect and divert rainfall runoff resulting from storm events up to a 100-year, 24-hour frequency event. CSL's drainage control system diverts run-on flows away from the WMU and routes onsite surface runoff away from the WMU. Onsite drainage is controlled by lateral sheet flow, berms, benches, and downdrains. Sheet flow erosion is minimized by reducing velocity and discharge using a shallow gradient on top deck areas and by limiting the size of runoff areas as much as possible. Benches intercept sheet flow runoff from side slopes. Runoff on benches is directed to downdrains, drainage channels, and culverts that lead to the river and storm water basins.

48. **Requirement for Water Quality Control Plan** – Water Code §13263, subdivision (a) requires that waste discharge requirements implement relevant water quality control plans. The requirements contained herein are intended to assure compliance with the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan), including water quality objectives (WQOs) and beneficial uses.
49. **Santa Ana Region Basin Plan** – The Santa Ana Water Board adopted a revised Basin Plan that became effective on January 24, 1995. The Basin Plan specifies beneficial uses and water quality objectives for waters in the Santa Ana Region. The water quality objectives and the groundwater basin boundaries, now known as groundwater management zones, were updated in February 2016.
50. **Assembly Bill 2108** – Water Code section 13149.2, subd. (d) requires that the Santa Ana Water Board, “[w]hen issuing ... individual [WDRs] ... that regulate activity or a facility that may impact a disadvantaged¹ or tribal community,² and that includes a time schedule in accordance with subd. (c) of Section 13263 for achieving an applicable [WQO], an alternative compliance path that allows time to come into compliance with [WQOs], or a water quality variance...,” must include finding(s) regarding “potential environmental justice, tribal impact, and racial equity considerations” that are relevant to the permitting action. This Order does not incorporate a time schedule for compliance with applicable WQOs, or any of the other provisions described in Water Code section 13149.2, subd. (d). Accordingly, no additional findings are necessary under section 13149.2.
51. **Public Notification** – The Santa Ana Water Board has notified the Discharger and interested agencies and persons of the Board's intent to update the existing waste discharge requirements and has provided them with an opportunity to submit their written views and recommendations.
52. **Public Hearing** – The Santa Ana Water Board, in a public meeting, heard and considered all comments pertaining to updating the existing WDRs for CSL.

¹ For the purposes of this requirement, a “disadvantaged community” is defined as a “community in which the median household income is less than 80 percent of the statewide annual median household income level.” (Wat. Code section 13149.2, subd, (f)(1).

² For the purposes of this requirement, a “tribal community” is defined as a “community within a federally recognized California Native American tribe or non-federally recognized Native American tribe on the contact list maintained by the Native American Heritage Commission for the purposes of Chapter 905 of the Statutes of 2004.” (Wat. Code section 13149.2, subd, (f)(2).)

53. **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 California Code of Regulations, title 14, section 15301.
54. **Antidegradation Policy**—The State Water Board’s *Statement of Policy with Respect to Maintaining High Quality Waters in California*, Resolution 68-16 (*Antidegradation Policy*) prohibits the Santa Ana Water Board from authorizing degradation of “high quality waters” unless it is shown that such degradation: (1) will be consistent with the maximum benefit to the people of California; (2) will not unreasonably affect beneficial uses, or otherwise result in water quality less than as prescribed in applicable policies; and (3) is minimized through the discharger’s best practicable treatment or control.

Consistent with Title 27, this Order requires the Discharger to maintain the facility to contain waste within the WMU, thereby preventing degradation of water quality. To the extent that there are releases from the WMU, the Discharger will be required to address such releases through a Corrective Action Program. (See Title 27, sections 20385, 20415, and 20430.) Because this Order does not authorize any degradation in water quality from WMU discharges, it complies with the *Antidegradation Policy*.

REQUIREMENTS

IT IS HEREBY ORDERED, pursuant to Water Code sections 13263 and 13267: that WDRs Order 91-039 is rescinded (except for enforcement purposes); the Facility’s coverage under Order 98-99 is terminated (except for enforcement purposes); and that the Discharger shall comply with the following requirements.

A. DISCHARGE SPECIFICATIONS

1. **Control of Wastes** – All wastes shall be maintained on property owned or controlled by the Discharger.
2. **Water Quality Protection Standards** – The Discharger shall maintain the Landfill so that there shall not be any releases from the WMU.
3. **Minimize Infiltration** – The Discharger shall maintain the Landfill closure cover to minimize the infiltration of water into the waste, thereby, minimizing the production of leachate and gas (Title 27, section 20950, subd. (a)(2)(A)(1)).

4. **Post-Closure Maintenance** – The Discharger shall perform post-closure maintenance at the Landfill in accordance with the approved FCPMP. Landfill post-closure maintenance shall continue until such time as the Landfill waste no longer constitutes a potential threat to water quality (Title 27, section 20950, subd. (a)(2)(A)(2)).
5. **Corrective Action Program** – The Discharger shall continue to implement and evaluate the effectiveness of the existing Corrective Action Program (CAP) in remediating releases. If necessary, the Executive Officer of the Water Board (the Executive Officer), may request that the Discharger implement additional corrective action measures such as, but not limited to:
 - a. Expansion of the LFG extraction system;
 - b. Expansion of the groundwater monitoring system;
 - c. Improvements to the landfill cover; and
 - d. Performance of additional site characterization and/or environmental control system evaluation to identify and implement additional corrective measures.
6. **Discontinuing Corrective Action Measures** – Corrective action measures implemented to remediate a water quality release may be discontinued when the concentrations of Constituents of Concern (COCs) have been reduced to acceptable levels consistent with the concentration limits, defined in Section B of this Order’s Monitoring and Reporting Program R8-2024-0036 (MRP) and specified in this Order’s MRP, throughout the entire zone affected by the release. However, such discontinuance of corrective action measures shall not include any environmental control systems, such as a landfill gas extraction system, that are also required by other regulatory agencies to maintain site compliance during post-closure. To demonstrate completion of the CAP, the concentrations of each COC must remain at or below its respective concentration limits at the Point of Compliance (POC) for a minimum of six sampling events within three consecutive years after suspending the corrective action measures [Title 27, §20430(g)(2)].
7. **Pollution or Nuisance** – The Discharger shall maintain the Landfill so that it will neither cause nor contribute to a pollution or nuisance, as defined in Water Code section 13050.

B. PROHIBITIONS

1. **Discharge of Wastes** – The discharge or disposal of waste of any kind at CSL is prohibited. Should illegal dumping occur at the site, the Discharger shall remove and properly dispose of any wastes or relocate those wastes to a permitted waste disposal facility.
2. **Discharge of Liquids** – The discharge of unauthorized liquids, such as groundwater, leachate or landfill gas condensate, or their use for dust control or irrigation, at the Landfill is prohibited. This prohibition does not apply to the discharge of liquids in accordance with a disposal plan approved by the Executive Officer, or that are regulated under a separate permit issued by the Water Board or a conditional waiver of waste discharge requirements.
3. **Odors, Vectors, and Other Nuisances** – Odors, vectors, and other nuisances associated with waste at CSL beyond the limits of CSL are prohibited.
4. **Discharge Off-Site** – The discharge of waste to property not owned or controlled by the Discharger is prohibited.

C. PROVISIONS

1. **General** – The Discharger shall comply with all discharge specifications, prohibitions, provisions, and shall implement this Order's Monitoring and Reporting Program R8-2024-0036 (MRP) upon its adoption.
2. **Santa Ana Water Board Access** – The Discharger shall permit Water Board staff:
 - a. Entry upon premises at reasonable times for inspection and evaluation of any waste discharge locations, facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order;
 - b. To copy any records required to be kept under terms and conditions of this Order;
 - c. To photograph or create video recordings of 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 this Order; and
 - d. To sample any discharge from the landfill.

3. **Operating Record** – The Discharger shall maintain an operating record for CSL in accordance with 40 CFR Part 258.29(a). All records of landfill operations, landfill construction, inspection, monitoring, remediation, and copies of design plans, CQA/QC documents, monitoring reports, and technical reports that are submitted to regulatory agencies, shall be included in the operating record.
4. **Copy of This Order** – The Discharger shall maintain a copy of this Order at the Discharger’s headquarters, to be made available for review at all times.
5. **Water Use for Operations** – Water used at the landfill shall be limited to the minimum amount reasonably necessary for dust control, fire suppression, construction, and maintenance.
6. **Additional Monitoring Devices** – The Discharger shall install any additional groundwater, soil pore liquid, soil pore gas, or gas condensate monitoring devices determined by the Executive Officer of the Santa Ana Water Board to be necessary to comply with this Order.
7. **Expanding Landfill Gas System** – The Discharger shall expand the existing landfill gas collection and recovery system as needed to prevent the migration of landfill gas to groundwater and to the environment.
8. **Liquid Waste Containment System** – All liquid waste secondary containment structures shall be designed and constructed to provide a minimum containment capacity of 110 percent (110%) of the largest storage tank.
9. **Maintaining Liquid Waste Containment** – All liquid waste containment structures shall be inspected and maintained periodically to assess their conditions and to initiate corrective actions necessary to ensure their effectiveness in preventing commingling of gas condensate with surface run-on and runoff.
10. **Post-Closure Monument Survey** – The Discharger shall establish and maintain monuments in California coordinates (or equivalent) to define the boundary of the Landfill footprint and to monitor differential settlement at the Landfill. The control benchmarks shall be certified by a licensed surveyor or a professional civil engineer authorized to practice in California.
11. **Facility Survey** – Beginning in 2025, the facility shall be surveyed every five years by aerial surveillance or by conventional ground survey by a licensed surveyor, a registered civil engineer, or under the directions of a

registered civil engineer to assure compliance with the requirements in Section D.1, below.

12. **Executive Officer Authorization** – The Executive Officer is hereby authorized to issue a Revised Monitoring and Reporting Program that supersedes the provisions of the Monitoring and Reporting Program adopted concurrently with this Order.

D. DRAINAGE AND EROSION CONTROL

1. **Site Management for 100-Year, 24-Hour Storm** – CSL closure cover 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 site-specific maximum intensity precipitation (peak flow from a 100-year, 24-hour frequency storm). This shall be accomplished by, at a minimum, the following:
 - a. CSL shall be designed, constructed, and maintained to achieve compliance with Title 27, section 20365;
 - b. Top deck surfaces shall be constructed and maintained to achieve a minimum of one percent (1%) slope and to direct flows to downdrains or other drainage control structures;
 - c. Downdrains or any other necessary drainage diversion structures must be constructed and maintained for all sideslopes as necessary; and
 - d. All components of the facility drainage system must be designed, constructed, and maintained to withstand site-specific maximum intensity precipitation (peak flow) from a 100-year, 24-hour storm.
2. **Drainage and Erosion Control Measures** – The Discharger shall design, construct, and maintain:
 - a. A run-on drainage control system to prevent flow from off-site sources onto the disposal areas of CSL, and to collect and divert the peak flow calculated volume resulting from a 100-year, 24-hour frequency storm from off-site sources;
 - b. A runoff drainage control system to collect and divert the peak flow calculated volume resulting from a 100-year, 24-hour frequency storm away from CSL;

- c. Drainage control structures to divert natural seepage and to prevent such seepage from entering the CSL; and
 - d. Erosion control best management practices to reduce the discharge of pollutants to waters of the state.
3. **Site Inspections, Protection and Maintenance** – All site drainage and erosion control structures, and waste containment structures shall be protected and maintained to assure their effectiveness and shall be periodically inspected and maintained to assess their conditions, to initiate corrective actions necessary to maintain compliance with the requirements of this Order, and to prepare CSL in advance of each rainy season.
4. **Waste Containment, Inspection, and Maintenance** – The Discharger shall inspect the Landfill on a regular basis to assess the conditions of waste containment structures to ensure their effectiveness and prevent commingling of leachate and gas condensate with surface run-on and runoff. Maintenance and corrective actions for these systems and structures shall be performed as necessary to maintain compliance with the requirements of this Order.
5. **Landfill Maintenance and Winterization** – Annually, by October 1, all final cover and drainage control system maintenance to prepare the site for the winter rainy season shall be completed.
6. **New Drainage Structures** – At least 30 days prior to the construction of any significant new structures or elements of the drainage control system, the Discharger shall submit a workplan outlining all design parameters and calculations, construction details, project schedule, and a construction quality assurance plan for approval by Regional Water Board staff.

Drawings of New Drainage Control Elements – The Discharger shall submit as-built drawings within 90 days of completing construction of any new elements of the drainage control system at CSL.
7. **Registered or Certified Supervision** – 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.

E. CONTINGENCY RESPONSES

1. **Liquid Waste Spill and Seep** – The Discharger shall notify Santa Ana Water Board staff by telephone or email within 24 hours (or one business day) upon discovery of any liquid waste spill or seep at the landfill. A

written report shall be filed with Santa Ana Water Board staff within 7 days, containing at least the following information:

- a. **Map** – A map showing the location(s) of the discharge(s).
 - b. **Flow Rate** – An estimate of the flow rate of the discharge(s).
 - c. **Description** – A description of the nature and extent of the discharge(s) (e.g., all pertinent observations and analysis).
 - d. **Waste Characterization** – A sample of the spilled liquid waste or seep shall be collected, if possible, and analyzed for Appendix II constituents (**MRP TABLE 4**).
 - e. **Corrective Measures** – A description of the corrective measure(s) implemented, and any proposed mitigation measures for approval by Santa Ana Water Board staff.
2. **Facility Failure** – The Discharger shall notify Santa Ana Water Board staff by telephone and/or email within 48 hours (or 2 business days) of any slope failure or failure of facilities necessary to maintain compliance with the requirements in this Order. Within 7 days, the notification shall be submitted in writing to Santa Ana Water Board staff. Any failure that threatens the integrity of the waste containment features of the landfill shall be promptly corrected after a remediation workplan and schedule have been approved by Santa Ana Water Board staff. However, if a slope failure poses an immediate threat to the environment or to any containment structures at CSL, it shall be corrected without delay.
 3. **Measurably Significant Evidence of a Release** – If previously undetected measurably significant evidence of a release, as described in the attached MRP, has tentatively been identified in groundwater at CSL, the Discharger shall immediately notify the designated Santa Ana Water Board staff by phone and/or email. The Discharger shall also provide written notification within seven days of such determination (Title 27, section 20420, subd. (j)(1)) and shall carry out a single discrete retest in accordance with Title 27, section 20415, subd. (e)(8)(E). The Discharger shall inform Santa Ana Water Board staff 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.
 4. **Optional Demonstration** – If measurably significant evidence of a release is verified per Section E.3, 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 CSL is not the cause of the release in accordance with Title 27, section 20420, subd. (k)(7).

5. **Response to Verified Evidence of a Release** – If measurably significant evidence of a release is verified per Section E.3, above, and it is determined that CSL is the cause of the release, then the Discharger shall:
 - a. Implement those response actions described in Title 27, section 20420, subd. (k);
 - b. Implement an Evaluation Monitoring Program (EMP) pursuant to Title 27, section 20425;
 - c. **Implement a Corrective Action Program (CAP)** – If Water Board staff determines that the Discharger has satisfactorily implemented and completed the EMP release response actions described above, the Discharger shall implement a CAP pursuant to Title 27, section 20430, based upon results of the EMP and other monitoring activities; and
 - d. Conduct any additional investigations stipulated in writing by Water Board staff for the purpose of identifying the cause of the release.
6. **Release Beyond Facility Boundary** – Any time the Discharger or Water Board staff concludes that a release from CSL has proceeded beyond the CSL facility boundary, the Discharger shall notify all persons who either own or reside upon land that directly overlies any part of the plume (Affected Persons).
 - a. **Initial Notice** – Initial notifications 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 Water Board staff with both a copy of the notification and a current mailing list of all Affected Persons.

7. **CAP Completion Demonstration** – Within 60 days, or other time schedule approved by the Executive Officer, following the completion of the CAP in Section A.5, above, the Discharger shall submit a report demonstrating the completion of the CAP.

F. MONITORING AND REPORTING SPECIFICATIONS

1. **Monitoring, Sampling, Analysis, and Reporting** – All monitoring, sampling, analysis, and reporting shall be performed in accordance with Title 27 and the Operative MRP adopted concurrently with this Order.
2. **Sampling Period** – For any given monitored medium, samples shall be taken from all monitoring points to satisfy the data analysis requirements. All samples shall be taken during each monitoring period such that semi-annual sampling events are approximately six months apart and shall be taken in a manner that ensures sample independence to the greatest extent feasible, in accordance with Title 27, section 20415, subd. (e)(12)(B).
3. **Concentration Limits** – The concentration limit for any given Monitoring Constituent, Constituent of Concern, or monitoring parameter in a given monitored medium at CSL shall be established and maintained in accordance with Title 27, section 20400 and the Operative MRP.
4. **Groundwater Surface Elevation** – In accordance with Title 27, section 20415, subd. (e)(13), the groundwater monitoring program shall include an accurate determination of the groundwater surface elevation at each well every time groundwater is sampled. Groundwater elevations taken prior to purging the well and sampling for monitoring constituents shall be used to fulfill groundwater monitoring requirements specified in the Operative MRP.
5. **Groundwater Flow Rate and Direction** – Groundwater flow rate and direction shall be monitored and reported in accordance with the Operative MRP.
6. **Data Analysis** – Data analysis for all monitoring activities shall be carried out as soon as the monitoring data are available, in accordance with Title 27, section 20415, subd. (e) and the Operative MRP.

G. REPORTING REQUIREMENTS

1. **Reporting and Required Reports/Notices** – All technical or monitoring program reports shall be certified by either a principal executive officer or ranking elected/appointed official of the Discharger under penalty of

perjury, and prepared and signed by a registered civil engineer or registered geologist.

2. **Information Requests** – The Discharger shall furnish, within a reasonable time, any information the Santa Ana Water Board may request to determine whether cause exists for modifying, reissuing, or terminating this Order. The Discharger shall also furnish to the Santa Ana Water Board, upon request, copies of records that this Order requires the Discharger to maintain.
3. **MRP Modification** – At any time, the Discharger may file a written request, including appropriate supporting documents, with the Executive Officer, proposing modifications to the Operative MRP. The Discharger shall implement any monitoring changes in the revised MRP approved by the Executive Officer upon receipt of a signed copy of the revised MRP.
4. **JTD Addenda** – The Discharger shall file an amended ROWD, in the form of a numerically-sequential addendum to the JTD, in accordance with Title 27, section §21585, subd. (a)(4), with the Water Board at least 120 days prior to its implementation for:
 - a. responding to a release from the landfill;
 - b. any change in control or ownership of land or waste discharge facilities;
 - c. any proposed change in post-closure land use; or,
 - d. any planned change in the regulated facility or activity, which may result in noncompliance with the Order.
5. **Plan/Report Certification** – All design plans, construction plans, operation and maintenance plans, and technical reports, shall be prepared by, or prepared under the direct supervision of, a registered civil engineer or a certified engineering geologist.
6. **Planned Facility Changes** – The Discharger shall give advance notice to Santa Ana Water Board staff of any planned changes in permitted activities at CSL that may result in noncompliance with this Order.
7. **Proposed Change in Ownership or Responsibility** – The Discharger shall notify the Water Board in writing of any proposed change in ownership or responsibility for construction, operation, closure, or post-closure maintenance of CSL.

8. **Change in Facility Ownership** – 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 Santa Ana Water Board. The notification letter shall be given to the succeeding owner/operator 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 follow this Order and any revisions thereof.
9. **Financial Assurance Plans** – The Discharger shall maintain and update assurances of financial responsibility for:
 - a. Post-closure maintenance activities pursuant to Title 27, section 22210;
 - b. Corrective action activities pursuant to Title 27, section 22220.
10. **Filing a Deed After Closure** – Upon completing closure at CSL, the Discharger or the property owner shall file a deed, and amend it thereof as needed, with the County Recorder. The deed must restrict any development of the landfill and must include a notation advising any potential purchaser of the property that:
 - a. The parcel had been used as an MSW landfill;
 - b. The land use options for the parcel are restricted in accordance with the post- closure land uses set forth in the FCPMP and in WDRs for the landfill, and;
 - c. If the Discharger defaults on carrying out either the post-closure maintenance plan or any corrective action needed to address a release, then the responsibility for carrying out such work falls to the property owner.

LIST OF ATTACHMENTS

Attachment A Definition of Terms
Attachment B Acronyms
Attachment C Maps

Monitoring and Reporting Program R8-2024-0036

ENFORCEMENT

If, in the opinion of the Executive Officer, the Dischargers fail to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order may result in the assessment of Administrative Civil Liability of up to \$10,000 per violation, per day, depending on the violation, pursuant to the Water Code, including section 13268, 13350, and 13385. The Santa Ana Water Board reserves its right to take any enforcement actions authorized by law.

ADMINISTRATIVE REVIEW

Any person aggrieved by this Santa Ana Water Board action may petition the State Water Board for review in accordance with Water Code section 13320 and California Code of Regulations, title 23, section 2050 et seq. To be timely, the petition must be received by the State Water Board by 5:00 pm on the 30th day after the date of this Order; if the 30th day falls on a Saturday, Sunday or state holiday, the petition must be received by the State Water Board by 5:00 pm on the next business day. The law and regulations applicable to filing petitions are available on the [State Water Board website \(http://www.waterboards.ca.gov/public_notices/petitions/water_quality\)](http://www.waterboards.ca.gov/public_notices/petitions/water_quality). Copies will also be provided upon request.

ATTACHMENT A DEFINITION OF TERMS

"Affected Medium" means any natural medium that consists of or contains waters of the state (e.g., ground water, surface water, or the unsaturated zone) that has been affected by a release from a waste management unit.

"Affected Persons" means all people who own, or reside upon, land outside the facility boundary that is underlain by any portion of the release from the Landfill. Under 40 C.F.R. section 258.55(g)(l)(iii), the discharger must keep an up-to-date list of all such people and must assure that they are invited to the discussion of proposed corrective action measures, pursuant to 40 C.F.R. part 258.

"Appendix I Constituents" means the suite of 47 volatile organic constituents and 17 metals used as the default monitoring parameter list in 40 C.F.R. part 258.

"Appendix II Constituents" means the suite of 213 hazardous constituents used as the default constituent of concern list in 40 C.F.R. part 258.

"Background" means the concentrations or measures of constituents or indicator parameters in water or soil that has not been affected by waste constituents or leachate from the waste management unit being monitored.

"Background Monitoring Point" means a well, device, or location specified in the waste discharge requirements at which monitoring for background water quality or background soil quality is conducted.

"Composite Retest" means a particular means of validating a preliminary indication of a release, for a given compliance Well/MPar pair, whereby the discharger applies an approved data analysis method to two new samples for that Well/MPar pair. The retest validates the preliminary indication if either or both of the retest samples triggers a measurably significant increase indication. The scope of the retest, at any given compliance well, is limited to only those Monitoring Parameters that gave a preliminary indication at that monitoring point. However, all the data obtained from the initial sampling event is considered as part of the comprehensive statistical analysis for subject monitoring period.

"Title 27" means the State Water Resources Control Board's prescriptive standards for waste discharge requirements for the discharge of nonhazardous solid waste, as codified in California Code of Regulations, title 27, section 20005 et seq.

"Concentration Limit" is a part of the Landfill's Water Standard and means the reference background data set, or reference concentration value, for a given constituent against which one compares current compliance well data to identify, in detection mode, the arrival of the release at a given well and to identify, in tracking mode, if the

corrective action measures are bringing the Landfill back into compliance with the Water Standard.

"Constituents of Concern (COCs)" is a part of the Landfill's Water Quality Protection Standard and means the list of constituents that could be released from the Landfill, including the foreseeable breakdown products of all such constituents. For the ground water medium at a municipal solid waste landfill, this list must include all Appendix II constituents (or Uninvolved Parameters) and general minerals. A constituent on this list becomes a Monitoring Parameter only after being detected (at trace level or above) and then verified by a well specific retest in a periodic scan of compliance wells affected by the release.

"CAP" means a Corrective Action Program that implements the requirements under Title 27, section 20430.

"Detect" when applied to a scan of leachate or ground water, means that the constituent for which the scan is conducted shows up at trace level or higher. For Constituents of Concern and Monitoring Parameters that are rarely detected in background, the term means analyses done using a laboratory analytical method that complies with Title 27, section 20415, subd. (e)(7).

"Detection Mode" for a given compliance well/Monitoring (well/MPar) pair, means a state in which one tests for a measurably significant increase, for that Monitoring Parameter at that well, using an appropriate statistical or non-statistical data analysis method. Once that well/MPar pair exhibits a measurably significant increase (including an initial indication verified by a discrete retest), it is monitored, thereafter, in "tracking mode" until the completion of the proof period, following successful completion of corrective action.

"Double Quantification (DQ)" rule is a quasi-statistical rule, defined in the 2009 USEPA Unified Guidance for Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, to address infrequently detected constituents (i.e. constituents detected above the reporting limit in 10 percent or less of the background data), whereby a confirmed exceedance is registered if a Well/MPar pair in the infrequently detected constituent group exhibits quantified measurements (i.e. at or above the reporting limit) in two consecutive sample events (i.e. the initial sample event and the subsequent resample event).

"DMP" means a Detection Monitoring Program that implements the State Water Resources Control Board's requirements, under Title 27, section 20420.

"EMP" means an Evaluation Monitoring Program that implements the requirements under Title 27, section 20425. This state program constitutes a stepping stone to a

Corrective Action Program, in response to the Landfill's having exhibited a measurably significant increase of a release or to its having exhibited physical evidence of a release. (See Title 27, section 20385, subd. (a)(2)-(3).)

"Indicator Parameters" in this Order means a suite of parameters that are considered capable of providing reliable indication of a release from a landfill.

"Inter-Well Comparison" means a type of statistical or non-statistical data analysis, applied to a given detection mode compliance Well/MPar pair, in which one compares current concentration data, for that Monitoring Parameter and well, with a suite of background data from the appropriate upgradient well(s) to determine if that Monitoring Parameter has produced a measurably significant increase at that well. Generally speaking, the use of upgradient background data tends to produce higher false-positive and false-negative rates than the intra-well comparison approach, but is appropriate in those cases where it is not feasible to validate that a compliance well's own historical data reflects water quality in the absence of a release.

"Intra-Well Comparison" means a type of statistical or non-statistical data analysis, applied to a given detection mode compliance Well/MPar pair, in which one compares current concentration data, for that Monitoring Parameter, with a suite of background data consisting of selected historical data from that same well to determine if that Monitoring Parameter has produced a measurably significant increase at that well.

Typically, the use of a compliance well's own historical data, for a Monitoring Parameter, provides better statistical power (to identify a real release and to avoid producing false-positive indications) than does the inter-well comparison approach, but only in a case where it is reasonable to assume that the compliance well's own historical data does not reflect the presence of a release for that Monitoring Parameter.

"LFG" means landfill gas, including any Volatile Organic Compounds (VOCs).

"MRP" means the Monitoring and Reporting Program that is an attachment to the Waste Discharge Requirements (or other order) and that is incorporated by reference by the Waste Discharge Requirements.

"Matrix Effect" means any increase in the Method Detection Limit or Practical Quantitation Limit for a given constituent as a result of the presence of other constituents, either of natural origin or introduced through a release, that are present in the sample of water or soil-pore gas being analyzed.

"Measurably Significant Increase" means a condition in which an appropriate data analysis method shows an initial indication of a release, for a given detection mode compliance well/MPar pair, that is verified by a discrete retest (for that well and Monitoring Parameter).

"Method Detection Limit (MDL)" means the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte's concentration is greater than zero, as defined in Title 40 of the Code of Federal Regulations Part 136, Appendix B.

"Monitored Media" means those water and/or gas-bearing media (if applicable) that are monitored pursuant to a monitoring and reporting program. The monitored media may include: groundwater in the uppermost aquifer or in any other portion of the zone of saturation (see Title 27, section 20164), in which it would be reasonable to anticipate that waste constituents migrating from the Landfill could be detected, and in any perched zones underlying the Landfill, any bodies of surface water that could be measurably affected by a release, soil-pore liquid beneath and/or adjacent to the Landfill, and oil-pore gas beneath and/or adjacent to the Landfill.

"Monitored Natural Attenuation" means a remedial measure that relies on natural processes to decrease or "attenuate" concentrations of contaminants in soil and groundwater. Monitoring typically involves collecting soil and groundwater samples to analyze them for the presence of contaminants and other landfill-related characteristics. The entire process is called "monitored natural attenuation" or "MNA." Regular monitoring is necessary to ensure that MNA continues to work.

"Monitoring Parameter (MPar)" is a part of the Landfill's Water Quality Protection Standard (WQPS) and means a list consisting of those constituents that are likely to be present or present at a detectable level in ground or surface water. This is the subset of the Constituents of Concern (COCs) that is subject to testing for a measurably significant increase, in detection mode, at all compliance wells. For ground water, at a landfill with a functioning Leachate Collection and Removal System (LCRS), this suite includes all Appendix II constituents that have been detected (at trace level or above) and verified in leachate and, subsequently, have been detected (at trace level or above) and verified in a Constituents of Concern scan of ground water at compliance wells affected by the release. For ground water, at a landfill without a functioning Leachate Collection and Removal System, this suite includes all Appendix II constituents and general minerals that have been detected and verified in a Constituents of Concern scan of ground water at any compliance well affected by the release.

"Monitoring Point or Well" for any given monitored medium (surface water, ground water, or the unsaturated zone), means a location, including any installed access device (e.g., well or lysimeter), that is named in the Monitoring and Reporting Program as a

place where the discharger monitors that medium: 1) to detect the arrival of the release front for each Monitoring Parameter that is in detection mode at that location; 2) to detect changes in the concentration of each Monitoring Parameter that is in tracking mode at that location; and 3) in case where the location that is in tracking mode for most Monitoring Parameters that are involved in the release, to detect the presence, at trace level or above, of any Constituents of Concern that have not previously been detected in that medium (Constituents of Concern newly detected and verified in that medium become Monitoring Parameters for that medium).

"MSW Landfill" means any landfill that is subject to any portion of the federal regulations under 40 C.F.R. part 258 by virtue of having received municipal solid waste (household waste) at any time and having received any waste after October 9, 1991.

"Point of Compliance (POC)" is, for the ground water medium, a part of the Landfill's Water Quality Protection Standard and means a conceptual vertical surface that is located, in map view, along the hydraulically downgradient limit of waste placement at the Landfill and that extends downward through the uppermost aquifer underlying the Unit. (Title 27, section 20405, subd. (b).)

"Practical Quantitation Limit (PQL)" means the value established as a target value by the United States Environmental Protection Agency that is the lowest concentration of a substance that can be consistently determined within +/- 20 percent of the true concentration by 75 percent of the laboratories tested in a performance evaluation study. Alternatively, if performance data are not available, the Practical Quantitation Limit for carcinogens is the Method Detection Limit multiplied by 5, and for non-carcinogens is the Method Detection Limit multiplied by 10. These estimated PQLs are listed in Appendix II to 40 C.F.R. part 258. Generally, these are target values that may not reflect the constraints of matrix effects; therefore, the Regional Water Quality Control Board requires the discharger to keep an up-to-date listing of the applicable laboratory-specific PQL and MDL estimates for each analyte on the Constituent of Concern list.

"Release" means the three-dimensional portion of the monitored medium (groundwater, surface water, or the unsaturated zone) comprised of all locations therein that are affected by one or more Monitoring Parameters that have migrated from the Landfill to such an extent that a properly constructed monitoring point, at that location, would trigger a measurably significant increase over the applicable concentration limit, using an appropriate data analysis method meeting the requirements of Title 27, section 20415, subd. (e)(9) and a background data set sample size of 16 or more data points.

"Reporting Period" means the duration separating the submittal of a given type of monitoring report from the time the next iteration of that report is scheduled for submittal.

"Retest" when applied to a scan to detect the presence of an appropriate list of analytes in leachate, landfill gas, or ground water (at an affected monitoring point), means taking a single additional sample from the indicating medium (or, for ground water, the indicating monitoring point) to determine whether the initial detection, for that analyte, is valid. When applied to the six-monthly monitoring effort for a given compliance Well/MPar pair in detection mode, see "*composite retest*."

"Sample Size" for a given compliance Well/MPar pair in detection mode, means the number of data points used to represent the variability of the background population or to represent the present compliance status of the Monitoring Parameter at that well, when applying an appropriate data analysis method.

"Scan" means a determination as to whether any of a given list of constituents are detectable (at the trace level or above) in the monitored medium (typically leachate, ground water, and landfill gas condensate). The term includes both the initial measurement and, for a newly detected constituent, the results of the single retest sample. To identify a newly detected constituent, the constituent must be detected (at trace level or above) and then verified by being detected in the single sample retest.

ATTACHMENT B ACRONYMS

ADC – Alternative Daily Cover

AMP – Assessment Monitoring Program

CalRecycle – California Department of Resources Recycling and Recovery

CAP – Corrective Action Program

CCL – Compacted Clay Liner

CCR – California Code of Regulations

CEQA – California Environmental Quality Act

CFR – Code of Federal Regulations

CNSDAM – California Non-statistical Data Analysis Method

COC – Constituent of Concern

CQA/QC – Construction Quality Assurance and Quality Control

CRT – Cathode Ray Tube

CWC – California Water Code

DMP – Detection Monitoring Program

DTSC – California Department of Toxic Substances Control

EAD – Engineered Alternative Design

EDF – Electronic Deliverable Format

EFS – Engineering Feasibility Study

EMP – Evaluation Monitoring Program

EO – Executive Officer

ESI – Electronic Submittal of Information

FML – Flexible Membrane Liner

JTD – Joint Technical Document

LCRS – Leachate Collection and Removal System

LFG – Landfill Gas

MCL – Maximum Contaminant Level

MDL – Method Detection Limit

MPars – Monitoring Parameters

MRP – Monitoring and Reporting Program

MSW – Municipal Solid Wastes

ND – Non-detect

NPDES – National Pollutant Discharge Elimination System

PCMP – Post-Closure Maintenance Plan

PDF – Portable Document Format

POC – Point of Compliance

PQL – Practical Quantitation Limit

PSD – Prescriptive Standard Design

QA/QC – Quality Assurance/Quality Control

RL – Reporting Limit

ROWD – Report of Waste Discharge

TWW – Treated Wood Waste

USEPA – United States Environmental Protection Agency

VOCs – Volatile Organic Compounds

WCS – Waste Containment System

WDRs – Waste Discharge Requirements

WMUs – Waste Management Units

WQPS – Water Quality Protection Standard

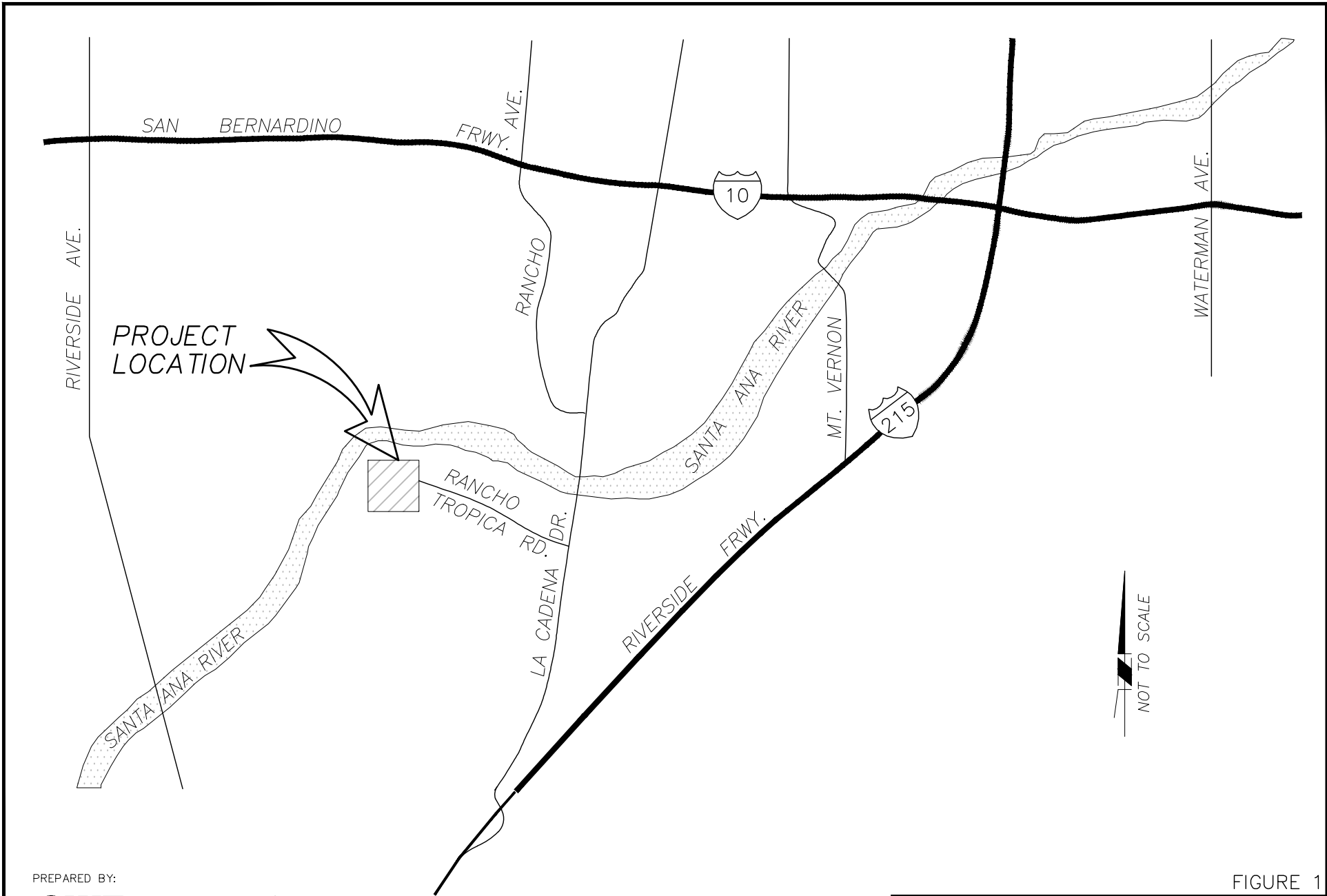
ATTACHMENT C MAPS

MAP 1 LOCATION MAP

MAP 2 SITE MAP

MAP 3 ACTIVE FAULTS NEAR CSL

MAP 4 MRP SITE MAP



PREPARED BY:

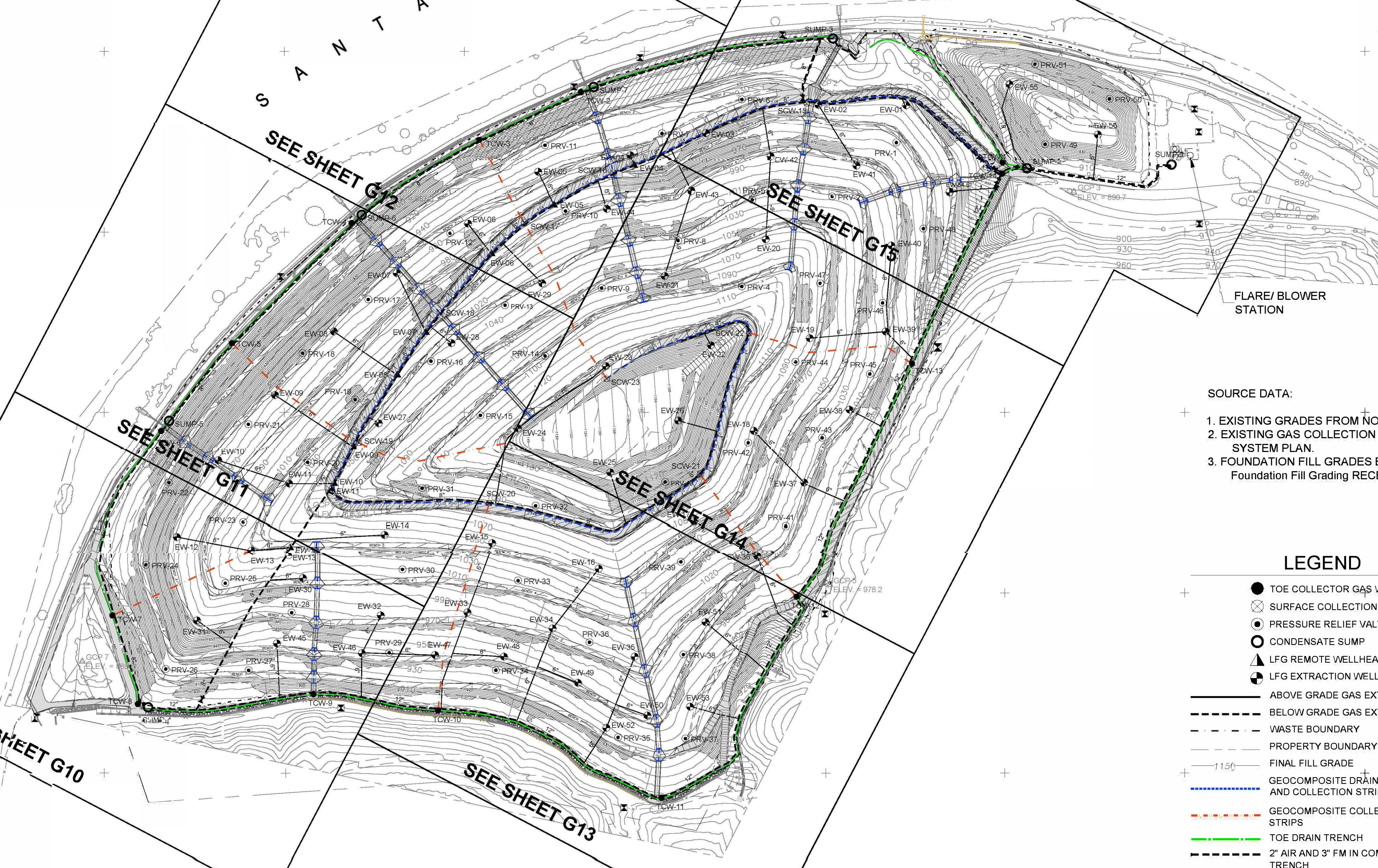
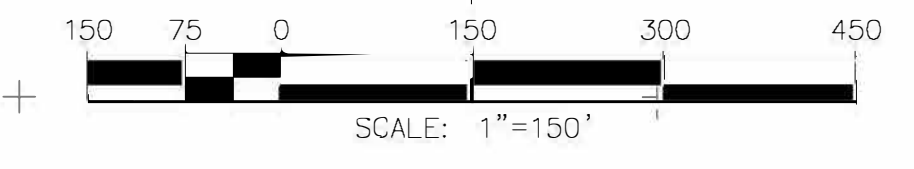
SWT Civil & Environmental
Engineering
 800-C SOUTH ROCHESTER AVENUE
 ONTARIO, CALIFORNIA 91761

FIGURE 1

COUNTY OF SAN BERNARDINO DEPARTMENT OF PUBLIC WORKS

COLTON SANITARY LANDFILL
 MAP 1 - SITE LOCATION MAP

S A N T A N A R I V E R



- SOURCE DATA:
1. EXISTING GRADES FROM NOVEMBER 2019 AERIAL TOPOGRAPHY.
 2. EXISTING GAS COLLECTION SYSTEM BASED ON 2019 COLTON GAS SYSTEM PLAN.
 3. FOUNDATION FILL GRADES BASED ON CAD FILE FROM SWT TITLE COL- Foundation Fill Grading RECEIVED 03-17-2021.

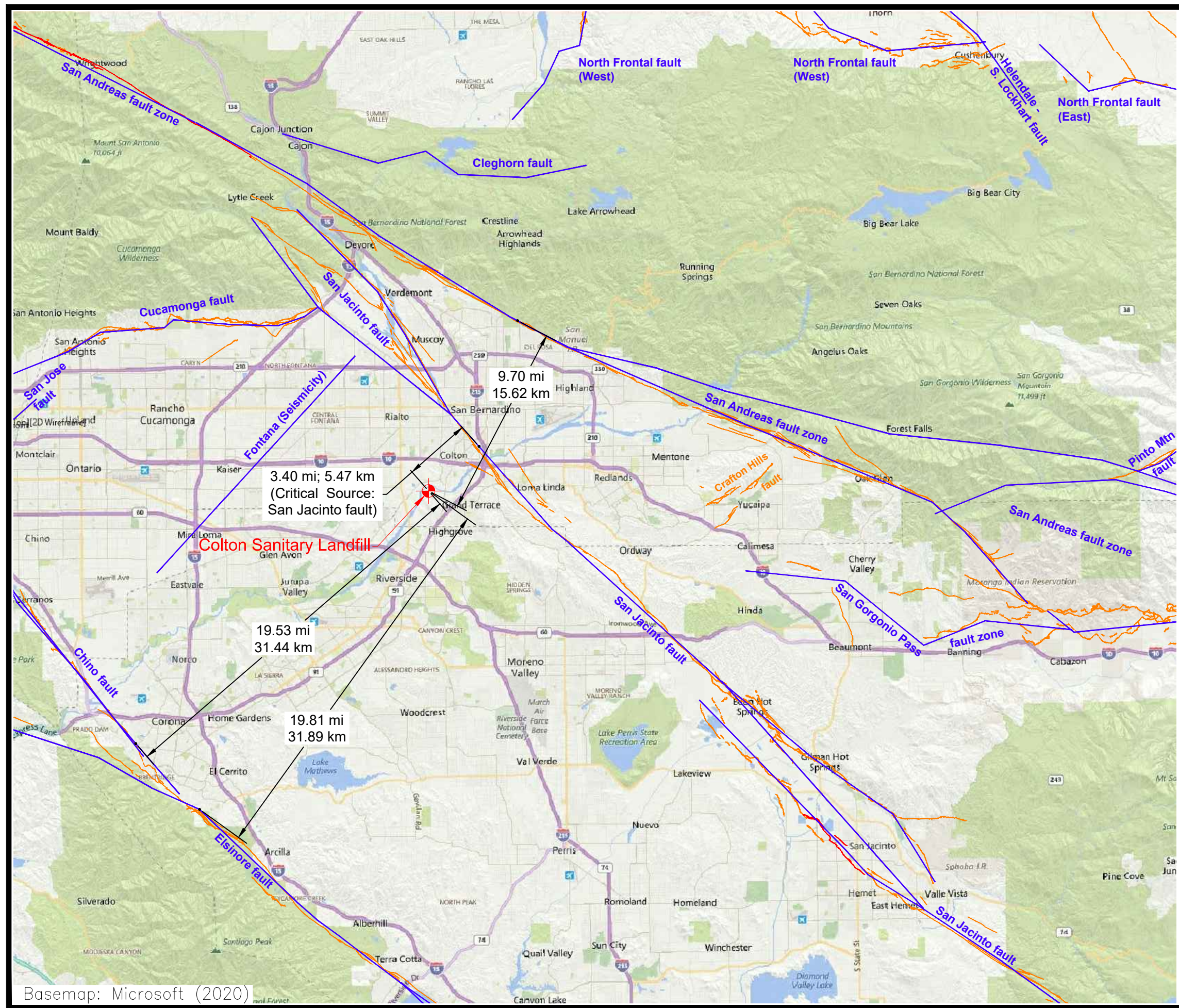
LEGEND

- TOE COLLECTOR GAS WELL
- ⊗ SURFACE COLLECTION WELL
- ⊙ PRESSURE RELIEF VALVE
- ⊙ CONDENSATE SUMP
- ▲ LFG REMOTE WELLHEAD
- LFG EXTRACTION WELL
- ABOVE GRADE GAS EXTRACTION LATERAL
- - - BELOW GRADE GAS EXTRACTION HEADER
- - - WASTE BOUNDARY
- - - PROPERTY BOUNDARY
- - - FINAL FILL GRADE
- GEOCOMPOSITE DRAINAGE AND COLLECTION STRIPS
- - - GEOCOMPOSITE COLLECTION STRIPS
- TOE DRAIN TRENCH
- - - 2" AIR AND 3" FM IN COMMON TRENCH

PREPARED BY:
SWT Civil & Environmental Engineering
 800-C ROCHESTER AVE.
 ONTARIO, CALIFORNIA. 91761

SOURCE: SCS ENGINEERS ENVIRONMENTAL CONSULTANTS, FINAL CLOSURE CONSTRUCTION DRAWINGS, PROPOSED LFG CONDITIONS, DATED MARCH 10, 2022

COLTON SANITARY LANDFILL
MAP 2 - SITE MAP

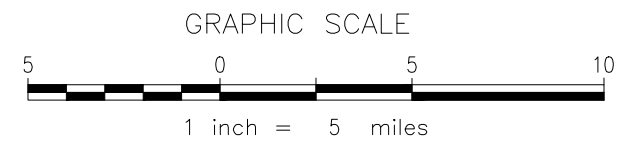


LEGEND

Fault Trace
 USGS Fault & Fold Database
 Historic (< 150 years)
 well-constrained (continuous)
 moderately-constrained (dashed)
 inferred (dot)

Fault Trace
 USGS Fault & Fold Database
 Latest Quaternary (<15,000 years)
 well-constrained (continuous)
 moderately-constrained (dashed)
 inferred (dot)

Fault Trace
 (USGS 2014 National Seismic
 Hazard Map Fault Model)



MAP 3

ACTIVE FAULTS IN PROJECT VICINITY

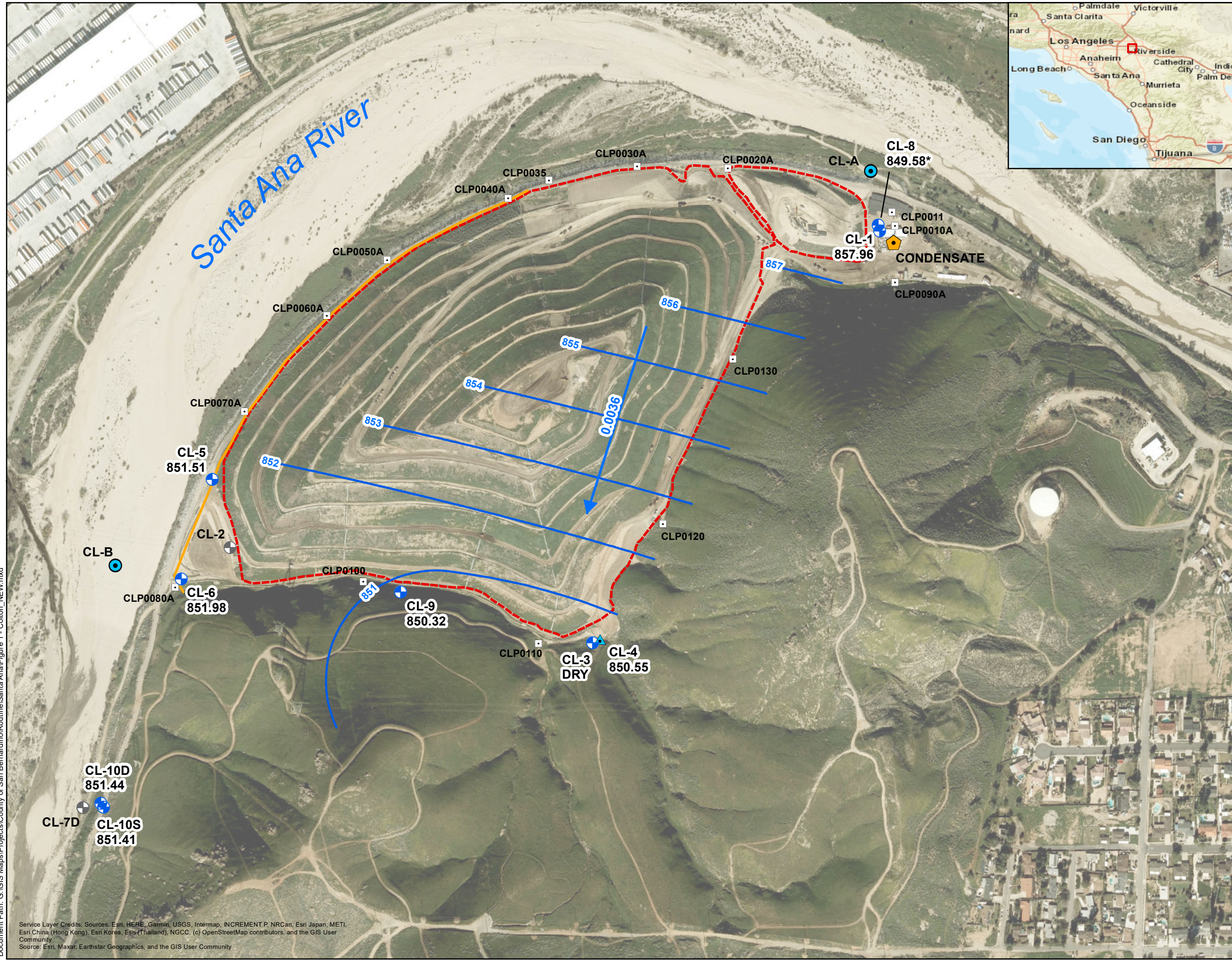
SEISMIC/STABILITY ANALYSES & CQA PLAN
 CLOSURE TURF FINAL COVER
 COLTON SANITARY LANDFILL
 COLTON, CALIFORNIA



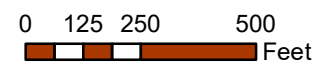
DRAWN BY: RMW | DATE: FEBRUARY 2021 | JOB NO.: S021.1048

Basemap: Microsoft (2020)

P:\Sites\Colton LF\CAD\Colton LF Fault Map_2021.02.dwg, 2/23/2021 1:44:21 PM, 1:1



- EXPLANATION:**
- Groundwater Monitoring Well
 - Abandoned Groundwater Monitoring Well
 - Piezometer
 - Surface Water Monitoring Point
 - Condensate Monitoring Point
 - Perimeter Gas Probe
 - Groundwater Flow Direction and Gradient (ft/ft)
 - Groundwater Contour
 - Slurry Wall
 - Approximate Landfill Boundary



Geo-Logic
ASSOCIATES

Drawn / Reviewed by: JO / MDR
Date: 7/30/2024

MAP 4 - MRP SITE MAP

Colton Sanitary Landfill
January 2024
Groundwater Elevations
and Flow Directions

Document Path: G:\GIS Maps\Projects\County of San Bernardino\Routine\Santa Ana\Figure 1 - Colton_NEW.mxd

Service Layer Credits. Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community