CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2021-0020
CEASE AND DESIST ORDER
REQUIRING
WASTE MANAGEMENT OF ALAMEDA COUNTY, INC.
ALTAMONT LANDFILL AND RESOURCE RECOVERY FACILITY
ALAMEDA COUNTY

TO CEASE AND DESIST FROM
DISCHARGING WASTE CONTRARY TO REQUIREMENTS
SPECIFIED IN WASTE DISCHARGE REQUIREMENTS ORDER R5-2016-0042-01,
AMENDING WASTE DISCHARGE REQUIREMENTS ORDER R5-2017-0026, AND NOTICE
OF APPLICABILITY 2015-0121-DWQ-R5S008 ISSUED FOR DISCHARGE UNDER THE
STATE WATER BOARD'S GENERAL WASTE DISCHARGE REQUIREMENTS FOR
COMPOSTING OPERATIONS

The California Regional Water Quality Control Board, Central Valley Region (hereafter Central Valley Water Board) finds that:

1. Waste Management of Alameda County, Inc. (hereinafter Discharger) owns and operates the Altamont Landfill and Resource Recovery Facility (Facility) located about 3.5 miles east of the City of Livermore's eastern boundary, in Sections 15, 16, 17, and 21, T2S, R3E, MDB&M. The Facility is a municipal solid waste (MSW) landfill and compost facility regulated under authority given in Water Code section 13000 et seq.; California Code of Regulations, Title 27 (Title 27), section 20005 et seq.; and 40 Code of Federal Regulations section 258 (a.k.a. Subtitle D) in accordance with State Water Resources Control Board (State Water Board) Resolution 93-62.

2. The Facility is located on a 2,064-acre property at 10840 Altamont Pass Road, in the unincorporated area of Alameda County, and is comprised of Alameda County Assessor's Parcel Numbers (APN) 99B-6225-1, 99B-6250-1, 99B-6275-1-1, 99B-6275-1-2, 99B-6275-1-3, 99B-6275-1-4, 99B-6062-1-2, 99B-6062-2, 99B-6062-3-4, and 99B-6062-5-2.

3. The State Water Board's Land Disposal Program implements state and federal regulations for sites and facilities where waste is discharged to land. Requirements for siting, operation, and closure of waste disposal sites are enforced through the issuance of waste discharge requirements and compliance and enforcement efforts to ensure adequate protection of water quality. The Facility is a large landfill for this region with a long history of waste discharge requirement updates and revisions to facilitate changing operations. On 24 February 2017, the Central Valley Water Board adopted Waste Discharge Requirements Order R5-2016-0042-01 and Amending Waste Discharge Requirements Order R5-2017-0026 for the Facility (hereafter WDRs). The WDRs prescribe conditions to be met to allow the discharge of waste into completed Class II and Class III waste management units (WMUs) at the Facility. On 8 May 2017, the Discharger received a Notice of Applicability (NOA) 2015-0121-DWQ-R5S008, issued under the State Water Board's General Waste Discharge Requirements for Composting Operations (Composting General Order), to conduct composing operations at the Facility. The WDRs and Composting General Order include the following standards and

specifications to be met for the construction, operation, closure, post-closure maintenance, and corrective action of existing and future WMUs at the Facility. The dimensions of each WDR and Composting General Order approved waste management unit are presented in Table 1 below:

Table 1: Approved Waste Management Units

Unit	Area	Liner/LCRS Components	WMU Classification & Status
Fill Area 1, Unit 1	122 acres	Unlined	Class III
Fill Area 1, Unit 2	113 acres	Lined	Class II
Fill Area 2, Unit 1	208 acres	Lined	Class II, with 24.8 acres
Fill Area 2, Unit 2	29 acres	Lined	Class II, future – Not Yet
Fill Area 2 – Surface Impoundment	2.5 acres, (~8 Million gallons)	Double Lined	Class II
Fill Area 1 North – Surface Impoundment	1.37 acres, (~3.62 million gallons)	Double Lined	Class II
Fill Area 1 South – Surface Impoundment	1.21 acres, (~3.16 million gallons)	Double Lined	Class II
Covered Aerated Static Pile Pad (CASP Pad) Curing Pad	10 acres 28 acres	$k \leq 1x10^{-5}$ cm/s subgrade $k \leq 1x10^{-5}$ cm/s subgrade	Composting Composting
Compost Wastewater Surface Impoundment	1.8 acres (~5 million gallons)	Lined	Compost Leachate

4. Since the adoption of the WDRs and subsequent amendments, Central Valley Water Board staff and the Discharger have been in frequent discussions regarding compliance issues at the Facility. As outlined in this Cease and Desist Order (CDO), the Central Valley Water Board alleges the Discharger is now operating the Facility outside the specifications and conditions in the Federal Code of Regulations 40 CFR subsection 258, California Code of Regulations Title 27, the individual WDRs, and the Composting General Order. Therefore, this CDO has been prepared to provide the Discharger a time schedule with specific requirements to compel the Discharger to resolve past compliance issues, achieve compliance with Title 27 and the WDRs, and conform to its NOA in a time frame acceptable to the Central Valley Water Board. The items to be addressed in this CDO include the following:

   a. Implementation of an approved Fill Area 2 Unit 1 (FA2) Detection Monitoring Program as proposed in Attachments B and C.

   b. Completion of the MW-4A Evaluation Monitoring Program and implementation of an approved Detection Monitoring Program along the northern and eastern limits of Fill Area 1 as proposed in Attachment D.

c. Continued implementation of the Fill Area 1 (FA1) Corrective Action Program.

d. Continued operation of solidification basins at the Facility.

e. Leachate treatment or storage capacity at the composting Facility.

The Central Valley Water Board contends that this CDO is based on deviations from requirements and directives in WDRs Order R5-2017-0026, its accompanying Monitoring and Reporting Program R5-2016- 0042-01 (MRP), Title 27, the Composting General Order, and past discharges, which are expected to cease if the terms of this CDO are adhered to. A chronology of the Discharger's compliance issues is contained in Attachment A. This CDO represents a negotiated resolution to these compliance issues.

STATUS OF FILL AREA 2 MONITORING WELL NETWORK

5. During a 5 June 2019 Central Valley Water Board staff meeting with the Discharger, the Discharger discussed its latest 27 March 2019 FA2 interim fill phase construction and monitoring proposal and provided an update regarding the discharge of waste into FA2/Phase 1. It also informed Central Valley Water Board staff that it had decommissioned groundwater monitoring wells MW-14, MW-14R, and MW-21, and soil gas probe VP-1, which were installed to comply with the WDRs. These detection monitoring wells, three of which are interim point of compliance (POC) wells for FA2 Phase 1, were removed during the last week of May 2019 in order to facilitate construction of FA2 Phase 2, less than 70 days after the Discharger began placing waste into FA2 Phase 1. Four new wells were installed by the Discharger at the new downgradient extent.

6. In order to have current information about the Facility for this CDO, on 14 August 2019, Central Valley Water Board staff inspected the Facility and confirmed that the Discharger was discharging waste without an approved monitoring network.

7. Although the Discharger has proposed and installed wells for FA2, the Discharger does not have an approved detection monitoring network for the interim phases within FA2 or along the final point of compliance of FA2. Without an adequate monitoring network, the Central Valley Water Board cannot effectively evaluate the performance of the liner system and direct corrective action at the earliest possible time to protect water quality. No landfill has been allowed to remove required POC monitoring wells while placing waste into a cell. Removing a POC network while placing waste into a cell violates the WDRs specifications and provisions issued to the Facility listed below:

   a. Facility Specification C.6 of the WDRs states: *The Discharger shall maintain in good working order any facility, control system, or monitoring device installed to achieve compliance with the waste discharge requirements.*

   b. Facility Specification C.11.d of the WDRs states in part: *No waste may be placed into Fill Area 2 until the Discharger has an approved landfill gas monitoring program….*

   c. Discharge Specification B.16 of the WDRs states: *Unsaturated zone monitoring systems shall be capable of measuring both saturated (soil pore liquids or leachate)*

and unsaturated (soil pore gas or landfill gas) COC concentrations that may exist as a result of a release from the waste management unit.

d. Provision H.8.h of the WDRs states in part: *The Discharger shall submit a work plan(s) that complies with Title 27 section 21760(a)(3) to install groundwater monitoring wells for Fill Area 2 to complete well installation and required initial sampling prior to placement of waste in the corresponding units. The work plan(s) shall propose monitoring wells for the following areas:*
… At the downgradient edge of each module with appropriate spatial distribution to provide sufficient number of Point of Compliance (POC) wells and piezometers to establish groundwater flow and direction of Fill Area 2 as the area expands into the permitted landfill footprint.

e. Provision H.8.h of the WDRs also states: *Prior to discharge to new phases of construction (modules) in Fill Area 2, the Discharger shall submit a Water Quality Protection Standard that complies with Title 27 section 20390 for detection monitoring wells based on un-impacted background groundwater data.*

f. Provision H.8.J.1 of the WDRs state in part: *Submit a WQPS and concentration limits Technical Report that complies with Title 27 Section 20390 for each Unit that shall clearly indicate the concentration limits for each compliance point and for each monitored medium i.e. ground water, surface water, unsaturated zone.…*

g. Monitoring Specification G.1 of the WDRs states in part: *The Discharger shall comply with the detection monitoring program provisions of Title 27 for groundwater, surface water, and the unsaturated zone, and in accordance with Monitoring and Reporting Program (MRP) R5-2016-0042, and the Standard Monitoring Specifications listed in Section I of the SPRRs dated December 2015….*

h. Monitoring Specification G.3 of the WDRs states in part: *The Discharger shall comply with the Water Quality Protection Standard as specified in this Order, MRP R5-2016-0042, and the SPRRs ….*

i. Monitoring Specification G.5 of the WDRs states: *Fill Area 2 will be filled in stages; a detection monitoring well shall be installed at the downgradient edge of each phase. As a result, the footprint of the waste management unit will expand over time. The Discharger must develop and implement a plan that will ensure there will be a groundwater monitoring well at the downgradient edge of the waste throughout the life of the facility.*

j. Standard Monitoring Specifications I.5 of the WDRs Standard Provisions, which were incorporated into the WDRs state in part: *A Detection Monitoring Program for a new landfill facility shall be installed, operational, and one year of monitoring data collected from background monitoring points prior to the discharge of wastes [Title 27, § 20415(e)(6)]*.

k. General Provision K.4 of the WDRs Standard Provision states: *The owner of the waste management facility shall have the continuing responsibility to assure protection of waters of the state from discharged wastes and from gases and*

leachate generated by discharged waste during the active life, closure, and post-closure maintenance period of the waste management units and during subsequent use of the property for other purposes.

The Central Valley Water Board memorialized the Discharger's proposed monitoring network in the WDRs, as outlined in its Report of Waste Discharge. The Report of Waste Discharge contained a plan to construct FA2, Unit 1 in separate interim fill phases out to the final permitted limit of FA2, Unit 1. Each new fill phase in FA2 would be connected to existing fill phases to ultimately form one single contiguous FA2 Unit 1 WMU. As memorialized in the WDRs, the Central Valley Water Board required detection monitoring wells to be located along the downgradient edge of all completed sections of the FA2 WMU, as it was constructed out in fill phases to its permitted permanent limit. The Discharger has submitted multiple proposals to install additional groundwater and soil gas wells in FA2 to ensure compliance with this phased construction and detection monitoring proposal. The Central Valley Water Board recognizes the difficulty in predicting demands and changes to landfill capacity, and recognizes that the cell phases and final limits of FA2 are conceptual and may be modified in the future based on waste intake rates, design and construction. Consistent with the above references, however, the Discharger must have an approved detection monitoring well network in place for each proposed interim fill phase within FA2, as well as for the final permitted limit of FA2, so that concentration limits developed in accordance with Title 27 can be applied to each interim fill phase POC well as well as all permanent wells installed along the final permitted limit of FA2.

8. To address the failure to maintain an approved monitoring network for interim POC wells located within the interior of FA2, this CDO obligates the Discharger to not discharge waste into a new fill phase in the FA2 waste management unit that was not in existence at the time of adoption of this Order unless the following occur:

    a. Proposed interim POC wells have been installed for the relevant phase of the FA2 waste management unit in accordance with the schedule in Attachment B;
    b. Final permanent FA2 limit wells have been installed in accordance with the schedule in Attachment B.
    c. The Discharger complies with the existing WDRs to implement a Water Quality Monitoring and Response Program for FA2 Unit 1 that complies with all applicable provisions of the WDRs, Title 27, and 40 Code of Federal Regulations Part 258 (Subtitle D) that are not specifically referred to in this CDO.

COMPLETION OF THE MW-4A EVALUATION MONITORING PROGRAM

9. On 23 May 2017, bicarbonate, calcium, and five volatile organic compounds (VOCs) were detected above established concentration limits in groundwater monitoring well MW-4A. Monitoring well MW-4A is located approximately 250 feet beyond the northeastern limit of FA1. Retesting confirmed the bicarbonate exceedance and the detection of three VOCs.

10. To assess the nature of the MW-4A Release, which occurred along the far northeastern side of FA1, MW-4A was sampled ten additional times between June 2017 and May 2018. The analytical results from these additional sampling events, as well as the

analytical results from the most recent March and May 2019 sampling events, confirm that a release occurred along the northern/upgradient boundary of FA1. For the past four sampling events that have occurred since May 2019 and through September 2020, no VOCs have been detected in MW-4A and there have been no inorganic statistical exceedances during the last two sampling events.

11. The Discharger attributes the MW-4A Release to landfill gas (LFG). Therefore, to stop the release and prevent another release from occurring near MW-4A, the Discharger installed four new in-waste LFG extraction wells (734, 735, 736 and 737), and increased extraction/flow rates in existing in-waste extraction wells 681 and 682. Combined extraction/flow rates in the area of these listed wells were increased from ~340 SCFM to ~600 SCFM.

12. To define the extent of the MW-4A release, the Discharger advanced four borings and collected grab groundwater samples from each boring. Three of the borings were completed as multi-depth LFG monitoring probes (LOC-1, LOC-2, and LOC-3), and the fourth boring (LOC-4) was completed as a groundwater monitoring well (MW-31).

13. 2-Butanone (MEK) and acetone were detected in the single grab groundwater samples collected from boring LOC-1, and acetone was also detected in LOC-3 and LOC-4. However, even with relatively low methane detection, as low as 0.0003%, multiple VOCs were detected in soil gas probes LOC-1, LOC-2, and LOC-3, each of which is located approximately 200 feet beyond the limit of FA1.

14. The Discharger submitted the 14 January 2019 Amended Report of Waste Discharge for MW-4A Area to address the MW-4A Release. In this report the Discharger states: 1) that the MW-4A investigation defined the nature and extent of the MW-4A Release; 2) that subsurface concentrations are not indicative of an ongoing release, and; 3) that current concentrations are only residual impacts from the initial release. To confirm this theory, the Discharger proposes to collect one additional round of soil gas samples from gas probes LOC-1, LOC-2, and LOC-3, and to collect groundwater samples quarterly for two years from monitoring wells MW-4A and MW-31. Given that the Discharger has attributed the cause of the MW-4 release to LFG migration out of FA1 Unit 1, that even with low methane detection (as low as 0.0003%) VOCs were detected in soil gas 200 feet beyond the limit of FA1 Unit 1, and that bicarbonate exceedances continue to persist in well MW-4A, the Central Valley Water Board finds that the Discharger's proposal to conduct only one additional soil gas sampling event is insufficient. Therefore, the Discharger is required to implement an evaluation monitoring program adequate to assess and monitor this FA1 release, near MW-4A, and for any other LFG or VOC release from FA1, consistent with directives below.

15. The Discharger asserts that the documented releases of waste along the eastern side of FA1, near MW-4A and E-20B, are due to LFG migration from the pre-Subtitle D Unit 1. The Discharger also contends that LFG migration issues are more commonly observed at landfills constructed prior to Subtitle D requirements. Therefore, except for MW-4A and E-20B, no other groundwater or soil gas monitoring locations are located along the eastern limit of FA1, between MW-4A and Energy Plant 1, or the northern limit of FA1, between MW-4A and MW-6. The Central Valley Water Board finds the Discharger's conclusions regarding the release being unable to migrate beyond the boundaries unsupported by reasonable scientific analysis of available data. Therefore, the Discharger is required to complete the evaluation monitoring program by installing

additional monitoring points at the locations and within the timelines as agreed on by the Central Valley Water Board and the Discharger, as outlined in Attachment D.

16. The current version of the Discharger's site conceptual model does not adequately address the detection of LFG transported VOCs in MW-4A and E-20B, which necessitates the assessment and monitoring of this constituent transport pathway. Since groundwater is only monitored at three locations along the entire northern and eastern perimeter of FA1, at MW-6, MW-4A, and E-20B, additional soil gas and groundwater monitoring locations as specified in Attachment D will be required to:

    a. Monitor the nature and extent of the documented releases at MW-4A and E-20B.

    b. Monitor the effectiveness of ongoing in-waste corrective action efforts near MW-4A and E-20B.

    c. Establish an effective Title 27 detective monitoring program along the combined northern and eastern upgradient limits of FA1.

CONTINUED IMPLEMENTATION OF THE FA1 CORRECTIVE ACTION PRGRAM

17. The Discharger has chosen LFG extraction as its corrective action measure to address LFG impacts to groundwater monitoring wells MM-4A and E-20B, and gas probe GP-9. Therefore, this CDO will require the Discharger to submit a report that outlines its FA1 Corrective Action Program as required in the WDRs/MRP.

18. The Corrective Action Program should be designed to prevent LFG releases such as the one that occurred near MW-4A in 2017. The corrective action plan is designed to investigate the cause of the spill, the extent of the release's impacts, and prevent future releases. While the plan may propose monitoring, such monitoring is not necessarily duplicative of requirements to bring the Facility into compliance with existing law, WDRs, and this CDO.

CONTINUED OPERATION OF SOLIDIFICATION BASIN AT THE FACILITY

19. Finding 45 of the WDRs states: "*Title 27 section 20200(d) requires that the solidified waste does not contain 'liquid in excess of the moisture holding capacity as a result of waste management operations, compaction, or settlement.' These WDRs require the Discharger to evaluate their solidification processes to show compliance with Title 27. These WDRs also require the Discharger to provide a technical report demonstrating that solidification operation does not result in the introduction of liquids into a solid waste WMU in excess of the moisture holding capacity of the WMU as a result of waste management operations, compaction, or settlement. In addition, these WDRs require that the Discharger provide Standard Operating Procedures for the solidification process.*"

20. Current methods of discharging liquid waste at the Facility violate Section 258.28(a) of 40 CFR, and State Water Board Resolution 93-62. This CDO requires compliance with all applicable law, including the WDRs. Given past practice at the Facility and the time needed to transition its business operations to be in compliance, this CDO allows for the continued use of the two liquid waste solidification basins atop FA1 Unit 2, until new solidification basins are permitted, approved, and constructed. This CDO requires the

Discharger to submit a Report of Waste Discharge to install off waste liquid solidification basins completed as Class II liquid waste management units within 180 days from adoption of this Order. The CDO also requires the Discharger to submit a report documenting the installation and operation of new off-waste footprint solidification basins as proposed in the ROWD within 12 months of approval of the ROWD.

a. Section 258.28(a) of 40 CFR states in part, *Bulk or noncontainerized liquid waste may not be placed in MSWLF units ….*

b. Resolution 93-62 states in part that the Regional Water Boards shall implement those portions of the following sections of the federal MSW regulations that either are more stringent than, or do not exist within, the SWRCB's Title 27 regulations, and specifically calls out liquid waste acceptance Section 258.28 of 40 CFR as a more stringent regulation.

21. During the 11 February 2019 meeting, the Discharger agreed to move the solidification process and stated that it would submit a work plan to construct new solidification units outside the limit of any of the Facility's solid WMUs.

22. On 15 July 2019, the Discharger submitted the July 2019 Conceptual Plan for Solidification Operations. Its plan contained a proposal to construct two concrete lined solidification basins. The plan also included a proposal to install two vacuum lysimeters beneath each basin to serve as a leak detection system.

23. The solidification basins proposed by the Discharger in the July 2019 Conceptual Plan for Solidification Operations do not meet Title 27 requirements for containment of designated waste. Class II liquid waste management units must be completed as doubled lined containment systems with an LCRS installed between the liners, as outlined in Table 2.1 of Section 20210 and Table 4.1 of Section 20320. Unsaturated zone monitoring is required as outlined in Section 20415(d) of Title 27. Therefore, this CDO requires the Discharger to submit a revised design for review that includes a secondary liner, and a leachate recovery system. Furthermore, this CDO requires the Discharger to propose a monitoring system to comply with Title 27 for class II surface impoundments. Finally, this CDO requires the Discharger to submit an operations and maintenance plan that addresses how hazardous waste will not be discharged or produced by the mixture of the liquids and solidifier discharged into the Class II surface impoundment solidification basins.

LEACHATE STORAGE CAPACITY AT THE COMPOSTING FACILITY

24. The Discharger was issued an NOA to operate a composting facility under the conditions of the Composting General Order. Among other requirements, the Discharger is mandated to contain all runoff from the working surfaces in addition to precipitation that falls into the detention pond from a 25-year, 24-hour peak storm event at a minimum, as specified in the Composting General Order.

25. On 12 February 2019, the Discharger notified Central Valley Water Board staff that to prevent a release of compost leachate to surface water, due to heavy rain events, that they would begin transferring compost leachate into Class II surface impoundment LSI2. LSI2 is regulated under the WDRs, which preclude the discharge of liquid outside permit conditions. Although designed to contain leachate and underdrain water, Class II surface

impoundment LSI2 was permitted to contain underdrain leachate from FA1, not compost leachate.

26. On 14 February 2019, the Discharger notified Central Valley Water Board staff that 600,000 gallons of compost leachate had been discharged into LSI2. Then on 18 February 2019, the Discharger again notified Central Valley Water Board staff that it was continuing to discharge compost leachate into LSI2, and that it was looking into procuring storage tanks to provide additional storage of compost leachate to prevent a release.

27. In response the Central Valley Water Board issued a NOV on 22 February 2019 to the Discharger for the discharge of compost leachate into LSI2. The Discharger was asked to submit a *Conceptual Design Report* to address any compost leachate capacity issues at the Facility.

28. In an 8 March 2019 letter, the Discharger notified Central Valley Water Board staff that a total of three million gallons of compost leachate had been transferred into LSI2, and that 25 temporary storage tanks, each with a capacity of 21,000 gallons, for a total capacity of 525,000 gallons, had been delivered to the Facility to store and manage compost leachate.

29. In response to the 22 February 2019 NOV, issued to the Discharger for the discharge of compost leachate to LSI2, the Discharger submitted the 30 May 2019 *Conceptual Design Report*. The report contained the results of a revised water balance for the Facility's CASP, which selected a 25-year, 24-hour peak storm event occurring during a combined 25-year wet year as a reasonable design criterion. Based on these calculations, the Discharger has proposed to construct a second compost leachate surface impoundment with a storage capacity of 19.6 to 21.5-acre feet (~6.38 to 7.00 million gallons), excluding the volume needed to maintain two feet of freeboard. The submitted report states that the existing and proposed compost leachate surface impoundments will be connected hydraulically through a network of pipes and pumps to allow for the management/transfer of compost leachate between the two impoundments.

30. The Discharger's 30 May 2019 *Conceptual Design Report* states that, consistent with the requirements of the Composting General Order and the existing compost leachate impoundment, the second compost leachate impoundment will be designed and constructed with a geosynthetic liner system. This system will consist of a 60-mil high density polyethylene geomembrane underlain with a geosynthetic clay liner to achieve a hydraulic conductivity of 1.0 x10-6 cm/s or less, and a pan lysimeter will be constructed under the lowest point of the liner. To monitor the lysimeter below geosynthetic liner system, an 18-inch HDPE perforated pipe will be installed within a gravel trench encased by 60-mil HDPE geomembrane beneath the liner.

31. On 20 December 2019, the Discharger submitted the *Permit Design Package for Contact Water Pond 2*, which proposed construction of Contact Water Pond 2 immediately west of the existing contact water pond at the Facility. This permit design package contained permit drawings, specifications, and a CQA Plan for the proposed pond.

32. On 23 January 2020, the Central Valley Water Board sent comments on *Permit Design Package for Contact Water Pond 2* to the Discharger, requesting the Discharger address

the following issues: spraying of contact water in Pond 1 or Pond 2 in the water balance of scenario 3 in Appendix A, Attachment B; development and submission of a contingency plan if the Discharger chose to provide wastewater storage less than a 100-year wet season; and storage capacity to accommodate a 25-year wet season in the water balance of Appendix A, Attachment B.

33. The Discharger is exploring options that would provide for adequate storage or treatment of compost leachate and/or contingency plans to ensure that there is sufficient treatment or storage capacity to accommodate a 100-year wet year. This CDO requires the Discharger to submit an updated Permit Design Package for Contact Water Pond 2 or an alternative treatment or storage approach within 90 days from adoption of this Order. If the Discharger decides to submit an alternative treatment or storage approach, the Discharger must provide all necessary data and information to support the alternative approach, and demonstrate how the alternative approach provides for adequate treatment or storage of compost leachate and/or contingency plans to ensure that there is sufficient treatment or storage capacity to accommodate a 100-year wet year.

COMPOSTING GENERAL ORDER

34. Section 6 of DESIGN, CONSTRUCTION AND OPERATION REQUIREMENTS –ALL TIERS of the Composting General Order states: *Detention ponds if used, must be designed, constructed, and maintained to prevent conditions contributing to, causing, or threatening to cause contamination, pollution, or nuisance, and must be capable of containing, without overflow or overtopping (taking into consideration the crest of wind-driven waves and water reused in the composting operation), all runoff from the working surfaces in addition to precipitation that falls into the detention pond from a 25-year, 24-hour peak storm event at a minimum, or equivalent alternative approved by the Central Valley Water Board.*

35. Section 1 of DESIGN, CONSTRUCTION AND OPERATION REQUIREMENTS –TIER II ONLY of the Composting General Order states in part: *Working surfaces must be capable of resisting damage from the movement of equipment and weight of piles, and have a hydraulic conductivity of 1.0 x 10-5 centimeters per second (cm/s) or less*…

36. Section 2.a of DESIGN, CONSTRUCTION AND OPERATION REQUIREMENTS – TIER II ONLY of the Composting General Order states in part: *Detention ponds must be designed, constructed, operated, and maintained to meet a hydraulic conductivity of 1.0 x 10-6 cm/s or less. These ponds must include one of the following: a. A liner system consisting of a 40 thousandths of an inch (mil) synthetic geomembrane (60-mil if high-density polyethylene), underlain by either one foot of compacted clay or a geosynthetic clay liner installed over a prepared base;* …

37. Section 3 of DESIGN, CONSTRUCTION AND OPERATION REQUIREMENTS –TIER II ONLY of the Composting General Order states in part: *Detention ponds must be designed and constructed with a pan lysimeter monitoring device under the lowest point of the pond, or an equivalent engineered alternative specified in an NOI and/or a technical report, and approved by the Central Valley Water Board. The engineered alternative must provide equivalent assurance of the earliest possible detection or prevention of a release from the pond.*

38. The detention pond was designed and constructed to meet the 25-year, 24-hour peak storm event with additional capacity based on a water balance study. However, this CDO directs the Discharger to submit a work plan to construct additional compost leachate storage as specified in Discharger's 30 May 2019 *Conceptual Design Report*, or alternative treatment or storage options, and to submit a final CQA report documenting the installation of the final approved additional compost leachate management system.

REGULATORY CONSIDERATIONS

39. *The Water Quality Control Plan (Basin Plan) For the California Regional Water Quality Control Board,* Fifth Edition, revised May 2018 (hereafter Basin Plan), designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the basin. The designated beneficial uses of underlying groundwater, as stated in the Basin Plan, are domestic and municipal supply, agricultural supply, and industrial supply.

California Water Code

40. Water Code section 13301 states in part,

> *When a regional board finds that a discharge of waste is taking place or threatening to take place in violation of requirements or discharge prohibitions prescribed by the regional board or the state board, the board may issue an order to cease and desist and direct that those persons not complying with the requirements or discharge prohibitions (a) comply forthwith, (b) comply in accordance with a time schedule set by the board, or (c) in the event of a threatened violation, take appropriate remedial or preventative action. In the event of an existing or threatened violation of waste discharge requirements in the operation of a community sewer system, cease and desist orders may restrict or prohibit the volume, type, or concentration of waste that might be added to such system by dischargers who did not discharge into the system prior to the issuance of the cease and desist order. Cease and desist orders may be issued directly by a board, after notice and hearing, or in accordance with the procedure set forth in Section 13302.*

The Central Valley Water Board finds that the discharge of waste outside the prohibitions and specifications of the WDRs, Title 27, the Federal Regulations and the Composting General Order threatens water quality. Specifically, this CDO requires Discharger to install and maintain an adequate detection monitoring well network for the internal boundaries and final permitted limit of FA2, so staff can evaluate the performance of the FA2 liner system. An appropriate well network will also identify a release as soon as possible. These findings also show that LFG migration away from FA1 impacted the vadose zone and groundwater surrounding the fill area. The Discharger continues to operate solidification basins over waste in FA1, and the CASP facility has insufficient storage.

41. Water Code section 13267 states that:

> *(a) A regional board, in establishing or reviewing any water quality control plan or waste discharge requirements, or in connection with any action relating to any plan*

or requirements or authorized by this division, may investigate the quality of any waters of the state within this region.

(b)(1) In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports and shall identify the evidence that supports requiring that person to provide the reports.

The technical reports required by this CDO are necessary to ensure compliance with the Composting General Order and WDRs, and to assure protection of the public health and safety. The Discharger operates the Facility that discharges the waste subject to this CDO.

California Code of Regulations, Title 27

42. Article 1, Subchapter 3 – Water Monitoring, of Title 27 requires the Discharger to establish and maintain a monitoring and response program, approved by the Central Valley Water Board, for each unit at a Facility. This includes the establishment of required Monitoring Programs, Water Quality Protection Standard, Constituents of Concern, Monitoring Points and the Point of Compliance, and a Compliance Period.

    a. Section 20385(a)(1) of Title 27 states in part: *The discharger shall institute a detection monitoring program* …

    b. Section 20390(a) of Title 27 states in part: *For each Unit, the RWQCB shall establish a water quality protection standard (Water Standard) in the WDRs. This Water Standard shall consist of the list of constituents of concern (under § 20395), the concentration limits (under § 20400), and the Point of Compliance and all Monitoring Points (under § 20405).*

    c. Section 20395(a) of Title 27 states in part: *COCs - For each Unit, the RWQCB shall specify in the WDRs the Constituents of Concern (COCs) to which the Water Standard (under § 20390) applies. The COC list shall include all waste constituents, reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the Unit.*

    d. Section 20400(a) of Title 27 states in part: *Proposal of Concentration Limits -For each Constituent of Concern (COC) specified pursuant to § 20395 (or for a solid waste constituent that is addressed by a cleanup and abatement action taken pursuant to SWRCB Resolution No. 92-49), the discharger shall propose one of the following for each medium (under § 20415, including ground water, surface water, and the unsaturated zone) monitored pursuant to § 20415 of this article*:…

e. Section 20400(b) of Title 27 states in part: *Adoption of Concentration Limits -The RWQCB shall review the proposed concentration limits and statements and shall approve, modify, or disapprove each proposed limit and each proposed statement…*

f. Section 20405(a) of Title 27 states in part: *For each Unit, the RWQCB shall specify in the WDRs the Point of Compliance at which the Water Standard (of §20390) applies. The Point of Compliance is a vertical surface located at the hydraulically downgradient limit of the Unit that extends through the uppermost aquifer underlying the Unit. For each Unit, the RWQCB shall specify Monitoring Points (as defined in § 20164) along the Point of Compliance, and shall specify additional Monitoring Points at locations determined pursuant to § 20415(b-d) at which the Water Standard under § 20390 applies and at which monitoring shall be conducted.*

g. Section 20415(a),(b), (c), and (d) of Title 27 require the Discharger to develop a water quality monitoring program to satisfy § 20420, § 20425, or § 20430 of this article, and that this monitoring program include a Ground Water Monitoring System, a Surface Water Monitoring Systems, and an Unsaturated Zone Monitoring System.

h. Section 20405(a) of Title 27 states in part: *For each Unit, the RWQCB shall specify in the WDRs the POC at which the Water Standard… applies. The POC is a vertical surface located at the hydraulically downgradient limit of the Unit that extends through the uppermost aquifer underlying the Unit.*

i. Section 20425(b) of Title 27 states in part: *The discharger shall collect and analyze all data necessary to assess the nature and extent of the release from the Unit. This assessment shall include a determination of the spatial distribution and concentration of each COC throughout the zone affected by the release. The discharger shall complete and submit this assessment within 90 days of establishing an evaluation monitoring program.*

j. Section 20425(i) of Title 27 states: *Any time the RWQCB determines that the evaluation monitoring program does not satisfy the requirements of this section, the RWQCB shall send written notification of such determination to the discharger by certified mail, return receipt requested. The discharger shall, within 90 days of such notification by the RWQCB, submit an amended report of waste discharge to make appropriate changes to the program.*

k. Section 20430(b) of Title 27 states: *The discharger shall take corrective action to achieve the following goals: to remediate releases from the Unit; to ensure that the discharger achieves compliance with the Water Standard adopted under section 20390 for that Unit*.

l. Section 20430(c) of Title 27 states: *The discharger shall implement corrective action measures that ensure that COCs achieve their respective concentration limits at all Monitoring Points and throughout the zone affected by the release, including any portions thereof that extend beyond the facility boundary, by removing the waste constituents or treating them in place.*

m. Section 20430(j) of Title 27 states in part: *Any time the RWQCB determines that the corrective action program does not satisfy the requirements of this section, the*

discharger shall, within 90 days of receiving written notification of such determination by the RWQCB, submit an amended report of waste discharge to make appropriate changes to the program.

43. Section 20925(c) of Title 27, which states in part: *Depth - (1) The depth of the wellbore of all monitoring wells shall equal the maximum depth of waste. The number and depths of monitoring probes within the wellbore shall be installed in accordance with the following criteria, except as specified in ¶(c)(2) of this section.*

(A) a shallow probe shall be installed 5 to 10 feet below the surface;

(B) an intermediate probe shall be installed at or near half the depth of the waste;

(C) a deep probe shall be set at or near the depth of the waste;

(D) the specified depths of monitoring probes within the wellbore shall be adjusted based on geologic data obtained during drilling, and probes shall be placed adjacent to soils which are most conducive to gas flow;

(E) All probes shall be installed above the permanent low seasonal water table, above and below perched ground water, and above bedrock; and

(F) When the depth of the waste does not exceed 30 feet, the operator may reduce the number of probes to two, with one probe located in the shallow zone as indicated above and the other located adjacent to permeable soils at or near the depth of the waste.

44. Section 20925(d) of Title 27, Monitoring Well Construction states in part:

(1) Monitoring wells shall be drilled by a licensed drilling contractor or by a drilling crew under the supervision of the design engineer or engineering geologist. Wells shall be logged during drilling by a geologist or geotechnical engineer. Soils shall be described using the ASTM Designation: D2488-84 method for visual classification, Standard Practice for Description and Identification of Soils (Visual-Manual Procedure), which is incorporated by reference. Rock units shall be described in a manner appropriate for geologic investigation.

(2) A record of each monitoring well shall be maintained by the operator and submitted to the EA upon request. The record shall include:

(A) a map of the disposal site drawn to a scale proposed by the design engineer or engineering geologist sufficient to show the location of all monitoring wells. Each well must be identified with a number that corresponds to the well log. Surface elevations at the wellheads shall be denoted on the map;

(B) well logs, including the names of the person(s) logging the hole; and

(C) an as-built description, including a well detail which indicates probe material and depth, extent and type of filter pack, thickness and material used or seals, extent and material used for backfill, size and interval of perforations, and a description of any shutoff valves or covers.

(3) To isolate monitored zones within the wellbore and prevent contamination of perched ground water and permanent ground water, the operator shall provide a minimum seal of five (5) feet of bentonite at the surface and between the monitored zones.

45. Section 21760(a)(3) of Title 27 states in part: *Dischargers shall submit detailed plans and equipment specifications for compliance with the ground water and unsaturated zone monitoring requirements… Dischargers shall provide a technical report which includes rationale for the spatial distribution of ground water and unsaturated zone monitoring facilities, [e.g., the location and design of Monitoring Points and Background Monitoring Points for each monitored medium under s20415(b-e)], and for the selection of other monitoring equipment*….

46. The issuance of this CDO is an enforcement action by a regulatory agency and is exempt from the provisions of the California Environmental Quality Act, pursuant to California Code of Regulations, title 14, section 15321(a)(2).

47. The Central Valley Water Board retains the right to seek enforcement of any term of this CDO.

48. On 22 April 2021, in Rancho Cordova, California, after due notice to the Discharger and all other affected persons, the Central Valley Water Board conducted a public hearing at which evidence was received to consider this CDO pursuant to Water Code section 13301. This CDO, although stipulated to by the Central Valley Water Board Prosecution Team and Discharger, may be modified by the Central Valley Water Board.

IT IS HEREBY ORDERED that, pursuant to Water Code sections 13301 and 13267, Waste Management of Alameda County, Inc, its agents, successors, and assigns shall, in accordance with the following time schedule and tasks, implement them to ensure compliance with Waste Discharge Requirements (WDRs) Order R5-2016-0042-01, Amending WDRs Order R5-2017-0026 and NOA 2015-0121-DWQ-R5S008 issued under the State Water Board General Waste Discharge Requirements for Composting Operations.

FILL AREA 2 MONITORING UNDER ARTICLE 1, SUBCHAPTER 3 – CCR Title 27

1. The discharge of waste into any interim fill phases in FA2 that have not received waste as of the date of adoption of this Order shall cease unless the following occur:

   a. Proposed interim POC wells for the relevant fill phase are installed pursuant to the schedule in Attachment B, and sampled, and incorporated into the monitoring schedule outlined in the MRP.

   b. The proposed and agreed to final permanent FA2 limit wells and gas probes are installed pursuant to the schedule in Attachment B and C, and sampled, and incorporated in the monitoring schedule outlined in the MRP[1].

   Footnote [1] - The permanent FA2 edge of waste POC wells located in the thalweg of the canyon along the final downgradient limit of FA2 (and the other two permanent edge of waste POC well clusters located on either side of the canyon) may need to be decommissioned in the future to construct a stability berm across the canyon. In the event that any of these final permanent FA2 wells need to be decommissioned,

temporary wells shall be installed downgradient of the proposed berm, no greater than 150 meters from the berm (40 C.F.R. § 258.40 – Design Criteria), to function as comparable replacement wells during construction and ensure ongoing monitoring and reporting is completed in accordance with the MRP's semi-annual sampling requirements. Once construction of the stability berm is complete, the Discharger shall replace each permanent edge of waste POC well that was removed to construct the stability berm. Replacement wells shall be installed adjacent to the location of each removed well, and all replacement wells shall be installed within 180 days of berm completion.

Water Quality Protection Standards

2. To comply with Section 20415(b)(1)(B) of Title 27, background groundwater monitoring wells shall have a sufficient number of Monitoring Points and Background Monitoring Points installed at appropriate locations and depths to yield groundwater samples from portions of the zone of saturation, including other aquifers not monitored pursuant to Section 20415(b)(1)(B)(1) and Section 20415(b)(1)(B)(2), to provide the best assurance of the earliest possible detection of a release from each fill phase within FA2 and along the final limit of FA2. The Discharger may use Intrawell or Interwell Statistical Analysis methods, or other alternative statistical methods, to establish background water quality values for all wells installed within FA2 and along the final proposed limit of FA2, Unit 1.

   Based on discussions with the Discharger and review of its 21 February 2020 Fill Area 2 Addendum to Supplemental Concentration Limits report, the Discharger has proposed to use an Interwell statistics methodology to calculate background groundwater concentration limits to monitor for a release from FA2. For the purposes of this stipulated CDO, and to accommodate the Discharger's construction schedule, this Order will implement the following approach to the application of water quality protection standards during the construction project of Fill Area 2 with three compliance tiers outlined below.

   Upon adoption of this Order:

   a. All FA2 wells with eight or more independent samples collected prior to the placement of waste in FA2, with existing Central Valley Water Board staff approved concentration limits, shall utilize their most recently approved limits, unless revised limits are proposed by the Discharger and approved by Central Valley Water Board staff in accordance with the WDRs.

   b. All FA2 interim fill phase wells, as shown on Attachment B, shall utilize the concentration limits proposed by the Discharger in their 21 February 2020 Fill Area 2 Addendum to Supplemental Concentration Limits.

   c. For all new final permanent FA2 edge of waste wells, as shown on Attachment B, the Discharger must begin sampling each new permanent well in accordance with the WDRs within 45 days of installation, and each new permanent well must be properly developed before the initial sampling event. Anthropogenic only constituent analysis will serve as interim concentration limits for these permanent wells until inorganic limits can also be established. To establish inorganic limits, samples are to be collected at least quarterly after permanent well installation until eight independent groundwater samples have been obtained from each new permanent monitoring well. For each new permanent well, the Discharger shall propose to Central Valley

Water Board staff for their approval a complete set of concentration limits, including inorganic limits, after eight independent groundwater samples have been obtained. The Discharger shall use interim concentration limits until a complete set of concentration limits is approved by the Central Valley Water Board.

To assure that there is no hiatus in monitoring data, any new wells that are installed in accordance with this Order and as depicted on Attachment B, and that are to be used over the construction, operation, or post closure of the unit, shall be installed and removed in accordance with the approved procedure contained in this Order. To allow flexibility of the future phase build out, the Discharger may adjust the location of or install additional interim POC wells from those presented on Attachment B to account for future well removal without the loss of data collection in accordance with collection frequencies as required in the MRP.

3. No later than 90 days after Central Valley Water Board adoption of this Order, the Discharger shall update the Sampling and Analysis plan for the interim POC detection monitoring program. Any update shall include appropriate sampling and analytical methods for ground water, surface water, and the unsaturated zone that accurately measure the concentration of each COC, including proposed method MDLs and PQLs.

4. No later than one year after adoption of this Order, the Discharger shall submit revised background water quality values in accordance with Section 20415(e)(6-12) as applicable. The revised background values shall include an update of the *21 February 2020 Addendum to Supplemental Concentration Limits Fill Area 2 Groundwater Compliance Monitoring Report* based on incorporation of new groundwater data collected since that report was developed, and shall provide background values for the alluvial, weathered, and unweathered bedrock zones.

Groundwater Detection Monitoring Network

5. No later than 90 days after adoption of this Order, the Discharger shall submit a work plan to install all agreed upon groundwater monitoring wells, as shown in Attachment B, including each proposed interim fill phase well in FA2 and each proposed final FA2 permitted limit permanent well.

   a. Groundwater monitoring wells shall be installed in any perched zone encountered during advancement of any boring while installing a detection monitoring device.

   b. At each approved monitoring location, well screen intervals shall be set at the appropriate sampling intervals the Discharger has identified beneath the site: In the 1) alluvium if saturated, 2) fractured rock, and 3) within fractures within the underlying massive bedrock, as applicable.

   c. Interim POC wells shall be monitored semi-annually in accordance with the MRP unless there is a confirmed exceedance of an applicable water quality protection standard. In the event that an interim POC well exceeds an applicable water quality protection standard, the Discharger agrees to conduct quarterly monitoring for the interim POC well that has the confirmed exceedance until the interim POC well is abandoned.

d. If the Discharger believes the limit of any new or existing interim fill phase in FA2 may need to be altered at some time in the future due to incoming waste volumes, the Discharger may adjust an interim POC well location, or install an additional interim POC well(s) and use Interwell established background values as necessary to ensure interim POC wells are located along the downgradient edge of each completed fill phase in FA2. The adjustment of an interim POC well location shall be proposed to Central Valley Water Board staff in a work plan addendum. Adjusted or additional interim wells proposed shall be installed along with the other approved interim FA2 wells for the relevant phase, and such interim wells shall be monitored in accordance with Provision 5c above, and the MRP.

e. **Upon the Central Valley Water Board's approval of the groundwater monitoring work plan identified above**, the Discharger shall commence implementation of the plan approved by the Central Valley Water Board, as well as any modifications requested by the Board, in accordance with the agreed upon dates set forth in Attachment B. The Discharger and Central Valley Water Board agree to work in good faith to resolve any disagreements that may arise with respect to any workplan modifications that may be requested by the Central Valley Water Board.

6. **Within 60 days of installing any new groundwater monitoring well that is part of the agreed upon detection monitoring network**, as outlined in Attachments B, C, and D, or of installing additionally proposed or agreed on wells, the Discharger shall submit a Well Installation Report documenting well installation. All new FA1 and FA2 final edge-of-waste permanent monitoring wells are to be sampled quarterly after well installation until eight independent groundwater samples have been obtained from each new FA1 and FA2 final edge-of-waste permanent monitoring wells, after which each well shall be sampled at the frequency outlined in the Table 1 of the Monitoring and Reporting Program R5-2016-0042-01 (MRP) for detection monitoring.

Unsaturated Zone Monitoring Network

7. **No later than 90 days after adoption of this Order**, the Discharger shall submit a plan to install all agreed upon vadose zone monitoring devices (i.e. soil gas monitoring points) as show on Attachments C and D, as well as those required by the WDRs for FA2. The plan shall describe the following requirements:

a. Each soil gas monitoring point shall be designed to collect vapor from within the vadose at independent designated depth intervals. A minimum of three sampling intervals shall be installed at each required soil gas monitoring location, unless shallow groundwater is encountered, in accordance with the depth requirements outlined in Section 20925(c) of Title 27.

b. Each soil gas monitoring point shall be designed and completed in accordance with the well construction requirements outlined in section 20925(d) of Title 27.

c. Each sampling interval of each soil gas monitoring point shall be sampled and analyzed as described in the MRP.

d. **Upon the Central Valley Water Board's approval of the vadose zone monitoring devices plan identified above**, the Discharger shall commence implementation of the plan approved by the Central Valley Water Board, as well as any modifications

requested by the Board, in accordance with the agreed upon dates set forth in Attachments C and D.

e. **No later than 60 days after installation**, the Discharger shall submit Installation Reports for the well/device installed for vadose zone monitoring network and indicate when each well/device will be sampled. Each installed vadose zone monitoring device will become part of the detection monitoring program and shall be sampled at the frequency outlined in Section 2a of the MRP.

Surface Water Monitoring

8. **No later than 90 days after adoption of the Order**, the Discharger shall submit a plan to perform surface water monitoring adequate to ensure that all surface water flowing out from FA2 has not been impacted by waste discharges conducted within FA2. The plan shall propose the locations for the surface water quality samples as well as a proposed monitoring frequency. Included in the plan shall be a sampling and analysis plan for the collection and analysis of the surface water samples.

Monitoring Device Removal

9. The Discharger shall not remove any Central Valley Water Board required interim FA2 fill phase monitoring device without a 30-day notification to the Central Valley Water Board. This notice must be provided in writing and verbally to the Central Valley Water Board and must state what monitoring device(s) will be replacing the device(s) to be destroyed. This is to ensure continued detection monitoring of FA2 as it is constructed in phases to its final permitted limit. The notice must also include a schedule for removal. The Discharger may remove a monitoring device after the 30-day notice has expired, unless the Central Valley Water Board provides the Discharger with a written objection. Written objections must include an explanation for the objection. If the Central Valley Water Board provides a written objection to the Discharger, the Discharger must address the objection and must submit a new 30-day notification to the Water Board prior to removal of any required interim FA2 monitoring device. This notification requirement is to provide flexibility in the build out of the landfill, and ensures that the Discharger maintains an interim detection well monitoring network, as agreed upon in Attachments B, for each interim fill phase in FA2.

COMPLETION OF THE MW-4A EVALUATION MONITORING PROGRAM

10. Conduct monitoring of groundwater wells MW-4A and MW-31, as required by the MRP.

11. Conduct monitoring of soil gas probes LOC-1, LOC-2, and LOC-3, as required by the MRP for unsaturated zone monitoring. Semi-annual monitoring of these probes shall consist of collecting methane, carbon dioxide, oxygen, and remainder gas. If methane concentrations exceed 1.0 percent by volume, then a gas sample shall be obtained using a Summa Canisters and laboratory analyzed for VOCs using EPA Method TO-15.

12. Document the results of each groundwater and soil gas sampling event, as requested above, in separate corrective action status reports. These reports are to be submitted semi-annually by 1 August and 1 February each year. Tables documenting historical sampling results for each sampling location must be included in each report, and each semi-annual report must include:

a. A table that summarizes new construction details of each LFG extraction well located near MW-4A and E-20B that the Discharger believes is responsible for controlling and remediating LFG within and beyond the limit of FA1 near MW-4A and E-20B.

b. A map showing all groundwater and LFG monitoring and extraction wells located in the vicinity of MW-4A and E-20B, as well as the estimated radius of influence at each LFG extraction well the Discharger believes is responsible for controlling and remediating LFG near MW-4A and E-20B.

c. A table and discussion regarding extraction rates for each LFG extraction well the Discharger believes is responsible for controlling and remediating LFG near MW-4A and E-20B.

d. A discussion regarding the method/assumption by which the achieved radius of influence was determined for each LFG extraction well.

13. No later than 60 days after adoption of the Order, the Discharger shall submit a work plan to install and begin monitoring a network of detection groundwater and soil gas monitoring wells along the northern and eastern limits of FA1. All required and agreed upon well locations for this required FA1 monitoring well network and the date by when each monitoring well is to be installed is depicted in Attachment D. Each soil gas well shall be installed in accordance with depth requirements as outlined in Section 20925(c) of Title 27 and the well construction requirements as outlined in Section 20925(d) of Title 27.

14. No later than 90 days after adoption of the Order, the Discharger shall submit updated correction action financial assurance costs estimates for both FA1 and FA2 to include supplemental LFG control systems as corrective action measures.

CONTINUED IMPLEMENTATION OF THE FA1 CORRECTIVE ACTION PROGRAM

15. No later than 30 days after adoption of the Order, the Discharger shall submit a report that outlines the LFG extraction wells the Discharger is operating as its Corrective Action Program to address the LFG impacts outside the limits of FA1, in groundwater monitoring wells E-20B, and MW 4A. and gas probe GP-9. This report must include the tables and map requested in Item 13 above and provide a discussion regarding extraction flow rates and the achieved radius of influence at each LFG extraction well. After the submittal of this initial report, Corrective Action reporting shall continue as outlined in Item 13 above.

16. Continue operating the LFG extraction system responsible for the Corrective Action Programs implemented to address the E-20B, MW-4A, and GP-9 releases The LFG extraction system shall be operated continuously, except during periods of reported shut downs, such that all devices that extract LFG from FA1 have a measurable negative pressure. Consistent with the MRP, the Discharger shall report any shutdowns, length, and cause of such shut down, which shall be reported semi-annually.

CONTINUED OPERATION OF SOLIDIFICATION BASIN AT THE FACILITY

17. **No later than 180 days after adoption of the Order**, the Discharger shall submit a Report of Waste Discharge to install off waste liquid solidification basins completed as Class II liquid waste management units. The Report of Waste Discharge shall include construction plans, specifications, and a CQA Plan for the proposed solidification basins.

18. **No later than 12 months from approval of the Report of Waste Discharge**, the Discharger shall submit a report documenting the installation and operation of new off-waste footprint solidification basins as proposed in the ROWD required in accordance with paragraph 17 above. This report must also document the decommissioning of the existing over-waste solidification basin in accordance with the WDRs.

INSUFFICIENT COMPOST LEACHATE STORAGE CAPACITY

19. **No later than 90 days after adoption of this Order**, the Discharger shall submit an updated *Permit Design Package for Contact Water Pond 2*, or an alternative treatment or storage approach and/or contingency plan that provides for sufficient treatment or storage capacity of composting leachate water to accommodate a 100-year wet year. The updated package must address the Central Valley Water Board's January 23, 2020 comments on the *Permit Design Package for Contact Water Pond 2* originally submitted by Discharger on December 20, 2019 and attached hereto as Attachment E if the Discharger decides to move forward with Permit Design for Contact Water Pond 2 rather than submitting and alternative treatment or storage approach and/or contingency plan. The Design Report Package for Contact Water Pond 2 shall include all associated piping runs and pumps installed to hydraulically connect the curing pad and the two surface impoundments, as well as proposed modifications to the curing pad to allow for containment, collection, and direction of compost leachate runoff to the Facility's two compost leachate surface impoundments, as applicable.

20. **No later than 18 months after adoption of this Order**, the Discharger shall submit a Final Post-Construction Report as required by the Composting General Order, documenting the installation of the second compost leachate surface impoundment, or implementation of the alternative treatment or storage approach and/or contingency plan. Documentation shall show installation of all associated piping runs, connections, and pumps, as proposed in the Design Report Package requested above as applicable. As required by the Composting General Order, the post-construction report must contain as-built plans and specifications to document that all completed containment and monitoring structures were properly constructed and tested.

GENERAL REPORTING REQUIREMENTS

21. All reports submitted to the Central Valley Water Board shall be included in the Discharger's Operating Record. Furthermore, any person signing a document submitted under this CDO shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my knowledge and on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware

that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

22. In accordance with California Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain work plans, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by the Discharger shall contain the professional's signature and/or stamp of the seal.

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this CDO, 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. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this CDO, except that if the thirtieth day following the date of this CDO falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:

(http://www.waterboards.ca.gov/public_notices/petitions/water_quality)

I, PATRICK PULUPA, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of the Cease and Desist Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 22 April 2021.

Date: 2021.05.13 11:23:20 -07'00'

PATRICK PULUPA, Executive Officer

Attachment A
Chronology of Collaborative Effort to Achieve compliance with Fill Area 2 (FA2) Monitoring Network

During the 5 May 2014 meeting, the Discharger agreed to submit a work plan to ensure groundwater monitoring wells would be located at the edge of waste for each phase in FA2/Unit1 as required by the Waste Discharge Requirements (WDRs). Additionally, the Discharger agreed that well installation would be expedited to establish background concentrations prior to the placement of waste in FA2. (Exhibit 17.)

In an 11 April 2014 NOV, Central Valley Water Board staff, in an effort to ensure compliance with the WDRs, directed the Discharger to submit a report that: 1) Outlined the Discharger's plan for disposing waste into each fill phase in FA2; 2) contained an estimated time schedule for the disposal of waste into each phase, and; 3) contained a proposal to install a network of monitoring wells within FA2. The FA2 well installation proposal was to ensure that there would be a groundwater monitoring well at the downgradient edge of waste, for each phase, throughout the life of the Facility. Wells were to be placed along the POC of each fill phase in FA2/Unit1, and all proposed wells were to be installed at least two years in advance of waste disposal, to establish water quality protect standards. (Exhibit 18.)

In its 29 May 2014 *Monitoring Well Installation Work Plan for Fill Area 2*, the Discharger proposed to install thirteen monitoring wells in phases with three monitoring well clusters to be installed after approval of the workplan. In the 2 July 2014 response letter, Central Valley Water Board staff conditionally approved the installation of the three proposed well clusters and required supplemental work plan addendums to install additional wells in FA2/Unit1, as previously requested. (Exhibit 34.)

On 8 August 2014, the Discharger made a written request to install only two of the three wells on an expedited schedule and to postpone one due to the need for the mobilization of a different drilling rig for the deep well that it had proposed in the 29 May 2014 work plan. (Exhibit 35) Central Valley Water Board staff responded in a 4 September 2014 letter, requesting that all three originally proposed wells be installed. In addition, Central Valley Water Board staff directed the Discharger to complete at least eight consecutive groundwater sampling events at each proposed monitoring location to establish required water quality protection standards. (Exhibit 36.)

During a 11 August 2015 meeting, Central Valley Water Board staff reminded the Discharger that a detection monitoring program for any new unit must be installed, operational, and monitored for at least one year prior to discharging waste into the unit. (Exhibit 19.)

On 26 October 2015, the Discharger submitted a report documenting the completion of the first FA2, Unit 1, fill phase (FA2/Phase 1) completed as a 24.8-acre WMU. (Exhibit 20.)

In a 2 September 2015 letter, Central Valley Water Board staff cited two key requirements in the WDRs regarding the Discharger's planned use of FA2: (Exhibit 19.)

a) *Detection and Corrective Action Monitoring Specification* E.2 of the WDRs states that a detection monitoring program for any new unit shall be installed, operational, and that one year of monitoring data shall be collected prior to the discharge of waste, as per CCR Title 27 Section 20415(e)(6).

b) *Provision G.23.a.3* of the WDRs requires the submittal of a WQPS report, for detection monitoring wells, prior to the discharge of waste into FA2.

In a 3 May 2016 letter, Central Valley Water Board staff notified the Discharger that its FA2 unsaturated zone monitoring plan, as proposed in the 21 April 2016 *Work Plan - Supplementary LFG Probe Installation Fill Area 2, Phase 1* was inadequate. Central Valley Water Board staff again reminded the Discharger that the monitoring network for FA2, which includes groundwater monitoring wells and unsaturated zone monitoring wells, must be in place so samples can be taken and WQPS established prior to the discharge of waste into FA2. (Exhibit 21.) Discharger met with Central Valley Water Board on 9 May 2016 to discuss the staff's request that gas probes be installed every 500 feet around each phase and that WQPS be developed from VOC gas data. Multiple options for gas monitoring were discussed.

In a 6 May 2016 letter, Central Valley Water Board staff provided comments regarding the Discharger's 17 March 2016 revised FA2, Phase 2, design report. Central Valley Water Board staff stated that this revised plan was an example of how the Discharger's design plans to construct FA2, could negatively impact other compliance items, such as the Discharger's installation of an adequate detection monitoring network and establishment of WQPS, that are required for the Discharger to comply with the WDRs and Title 27. The Regional Board expressed frustration that submitted plans would later be revised, or that the Discharger articulated waste disposal volumes were out of the Discharger's control. However, while the Regional Board is willing to give flexibility as to the manner of compliance, the environmental requirements need to be addressed regardless of future waste disposal volumes. Subsequently, Central Valley Water Board staff requested the Discharger finalize its plans for constructing, managing, and filling FA2 in compliance with all applicable law. Central Valley Water Board staff also recommended that the Discharger submit a revised FA2 construction plan, with fill phase limits, to assure adequate time to evaluate the Discharger's FA2 detection monitoring proposal. (Exhibit 22.)

In a 25 April 2017 letter, Central Valley Water Board staff requested the Discharger to submit a revised *Unsaturated Zone Monitoring Program Work Plan*. The request was made to ensure compliance with the WDRs and Section 21760(a)(3) of Title 27. (Exhibit 23.)

Later that year in a 9 November 2017 letter, Central Valley Water Board staff reviewed the Discharger's 30 May 2017 *Unsaturated Zone Monitoring Program Gas Probe Installation and Sampling Work Plan Addendum*. This addendum failed to propose any vadose zone sampling device and therefore had to be revised and resubmitted. The Central Valley Water Board staff directed the revision to include soil gas probes, or other unsaturated zone monitoring devices, along the edge of waste closest to the LCRS, as required by the WDRs. (Exhibit 24.) The Discharger submitted a letter response on 19 January 2018 that is not consistent with this directive.

During a 17 May 2018 meeting, the Discharger explained that the prior conceptual design needed revision due to slope stability and operational issues and presented a new FA2 map with adjusted limits for FA2, Phases 2, 3, and 4 in FA2, and the downgradient FA2 stormwater basin. However, no other fill phases were shown on the map. After presenting the map, the Discharger stated that based on the new FA2 fill and construction plan, that all monitoring wells located in the foot print of FA2 would have to be removed, and it would not be possible to maintain edge of waste fill phase POC monitoring wells during the buildout of FA2. Given the Title 27 POC requirements, both parties agreed that a WDRs/MRP revision may be necessary. (Exhibit 25.)

During a 17 July 2018 meeting, the Discharger informed Central Valley Water Board staff that the construction of the originally proposed fill phases in FA2, as originally proposed in the JTD and WDRs, needed to be revised. Based on this evaluation, the Discharger submitted a new FA2 fill phase and detection monitoring plan. In response, Central Valley Water Board staff stated that, in general, the Discharger's new FA2 fill phase and detection monitoring well plan appeared to address most of the concerns Central Valley Water Board staff had discussed with the Discharger in the previous

17 May 2018 meeting. Remaining issues related to maintaining POC wells, as well as permitting, WDRs and MRP issues, remained unresolved. Central Valley Water Board staff needed a formal proposal from the Discharger to further evaluate Discharger's proposal. Discharger submitted the Revised Plan for Fill Area 2 Monitoring Locations on 31 August 2018.

In a 5 December 2018 Letter, Central Valley Water Board staff approved select WQPS concentration limits for three FA2/Phase 1 wells, one upgradient well and two downgradient wells. Central Valley Water Board staff also informed the Discharger that if it still wanted to use intrawell statistics to establish concentration limits, then all interim and final FA2 POC wells would need to be installed prior to the placement of any waste into any fill phase in FA2. (Exhibit 27.)

On 17 December 2018, the Discharger submitted a letter stating that they had completed all requisite tasks necessary to place waste in FA2, including the establishment of concentration limits for select FA2/Phase 1 wells, and requesting further discussion on certain issues related to concentration limits and unsaturated monitoring devices.

In an 18 January 2019 letter, Central Valley Water Board staff provided a response to the Discharger's 17 December 2018 letter, outlined what additional work would be required to place waste in FA2, and provided comments regarding the Discharger's 31 August 2018 *Revised Plan for Fill Area 2 Monitoring Locations* (*Revised Work Plan*). The *Revised Work Plan* contained a proposal to construct and monitor FA-2 out to its permitted extent in 13 separate fill phases. Each proposed fill phase would be constructed in sequence adjacent to previously completed phases to form one contiguous WMU, and buildout to the final downgradient limit of FA-2 was expected to take about 10-years. Central Valley Water Board staff made recommendations to the Discharger's *Revised Work Plan*, to ensure adequate detection monitoring in FA2 as it was constructed, and again stated that water quality protection standards must be established for all monitoring wells, for each fill phase, prior to the placement of waste into any FA2 fill phase. (Exhibit 28.)

During a 11 February 2019 meeting, the Discharger stated that it would: 1) Begin placing waste in FA2/Phase 1 in March 2019; 2) construct FA2/Phase 2 during that summer; 3) attach the FA2/Phase 1 and FA2/Phase 2 liners by September 2019, and; 4) begin placing waste in FA/2Phase 2 by May 2020. The Discharger requested it be allowed to install POC wells up to 150 meters from the limit of each FA2 fill phase, which the Discharger contends is allowed under the Federal Regulations. However, Central Valley Water Board staff contend that it is not compliant with Title 27. The Discharger also stated that it would address the Central Valley Water Board staff concerns with FA2, as outlined in a 15 January 2019 memorandum. (Exhibit 29.)

In a 25 March 2019 e-mail, the Discharger notified Central Valley Water Board staff that it had begun active disposal operations into FA2/Phase 1. At that time, the Discharger had met

Financial Assurance requirements, installed an appropriate monitoring network, and established Water Quality Protection Standards, but only for FA2/Phase 1. (Exhibit 30.)

On 27 March 2019, the Discharger submitted a modified FA2/Unit 1 detection monitoring well network proposal. In this proposal, the Discharger states that full buildout to the southern downgradient limit of FA2 is expected in nine years. However, *"Given the uncertainty of future waste intake rates, the configuration (i.e., size and extent) of future cells in FA2 past Phase 3 is conceptual at this time. Therefore, the attached plan provides proposed monitoring locations for Phases 1 through 3 of FA2."* The Report also states that consistent with the 2014 approved Workplan, the2015 JTD, and the 2016 WDRs/MRP, proposed monitoring locations for each additional phase would be provided to Central Valley Water Board in conjunction with the submittal of permit-level drawings for each phase, so that monitoring wells could be positioned appropriately. (Exhibit 31.) However, this proposal fails to comply with the WDRs, and the Title 27 section 20415(e)(6) requirement to conduct twelve months of well sampling prior to the acceptance of waste.

In a 16 May 2019 e-mail, Central Valley Water Board staff notified the Discharger that their latest 27 March 2019 *Fill Area 2 Monitoring Location* report, which contained a revised FA2 fill phase construction and monitoring proposal, was incomplete. (Exhibit 32 and Exhibit 37.)

In a separate 16 May 2019 e-mail, the Discharger notified Central Valley Water Board staff that it had begun to construct FA2/Phase 2 and to excavate FA2/Phase 3. (Exhibit 33.)

During a 5 June 2019 meeting, the Discharger discussed its latest 27 March 2019 FA2 fill phase construction and monitoring proposal and provided an update regarding the discharge of waste into FA2/Phase 1. It also informed Central Valley Water Board staff that it had decommissioned groundwater monitoring wells MW-14, MW-14R, and MW-21, and soil gas probe VP-1, which had been installed to comply with the WDRs. These required detection monitoring wells were removed during the last week of May 2019, less than 70 days after the Discharger began placing waste into FA2, and without approval from the Central Valley Water Board. Three new monitoring wells and one new soil gas probe were installed at the new downgradient edge of the FA2 contiguous area. (Exhibit 16.). As of the meeting, the Central Valley Water Board's position was that the monitoring system was not in compliance with state and federal guidelines.

During the 5 June 2019 meeting, Central Valley Water Board staff also stated that the latest 27 March 2019 FA2 fill phase and monitoring proposal was not complete, because it failed to contain monitoring wells required to comply with the WDRs, and it failed to address previous Central Valley Water Board staff comments regarding FA2 as discussed in the 11 February 2019 meeting. The March 2019 FA2 proposal also did not include information regarding the construction of all FA2 fill phases. While a phased approach may provide Discharger with the most flexibility, it is acceptable to the Central Valley Water Board staff only as long as all FA2 wells are installed to provide continues POC monitoring of all proposed phases with approved water quality protection standards as required by law. Since it only addressed Phases 1-3, it also dramatically reduced the number of previously proposed fill phases and monitoring locations compared to the Discharger's August 2018 FA2 monitoring proposal. Subsequently, Central Valley Water Board staff immediately notified the Discharger that it was discharging waste into FA2 without a complete Detection Monitoring Program in violation of the WDRs and Title 27. (Exhibit 16.)

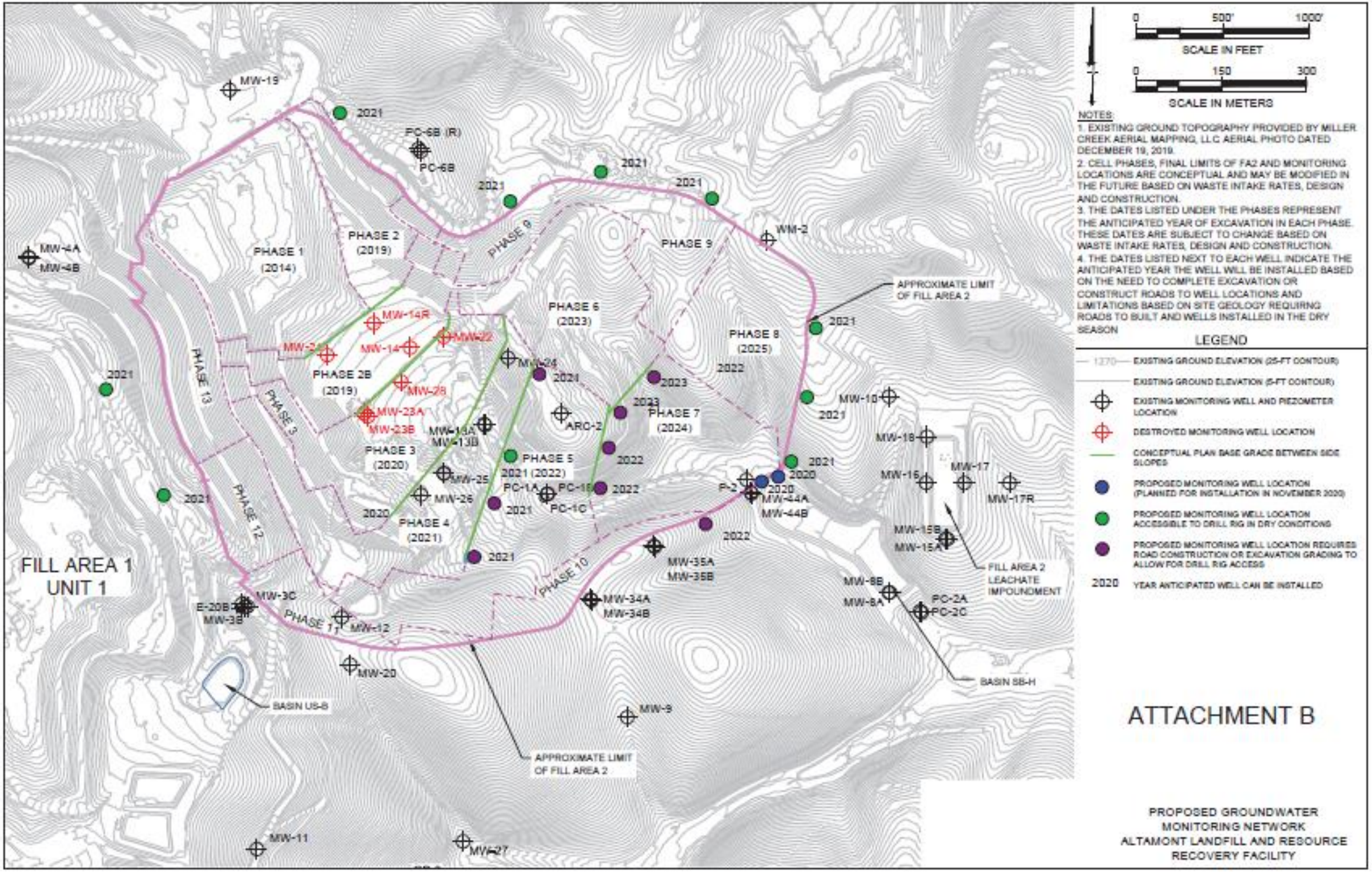
Immediately following the 5 June 2019 meeting, Central Valley Water Board staff briefed management of the meeting and recommended enforcement action be taken to address the

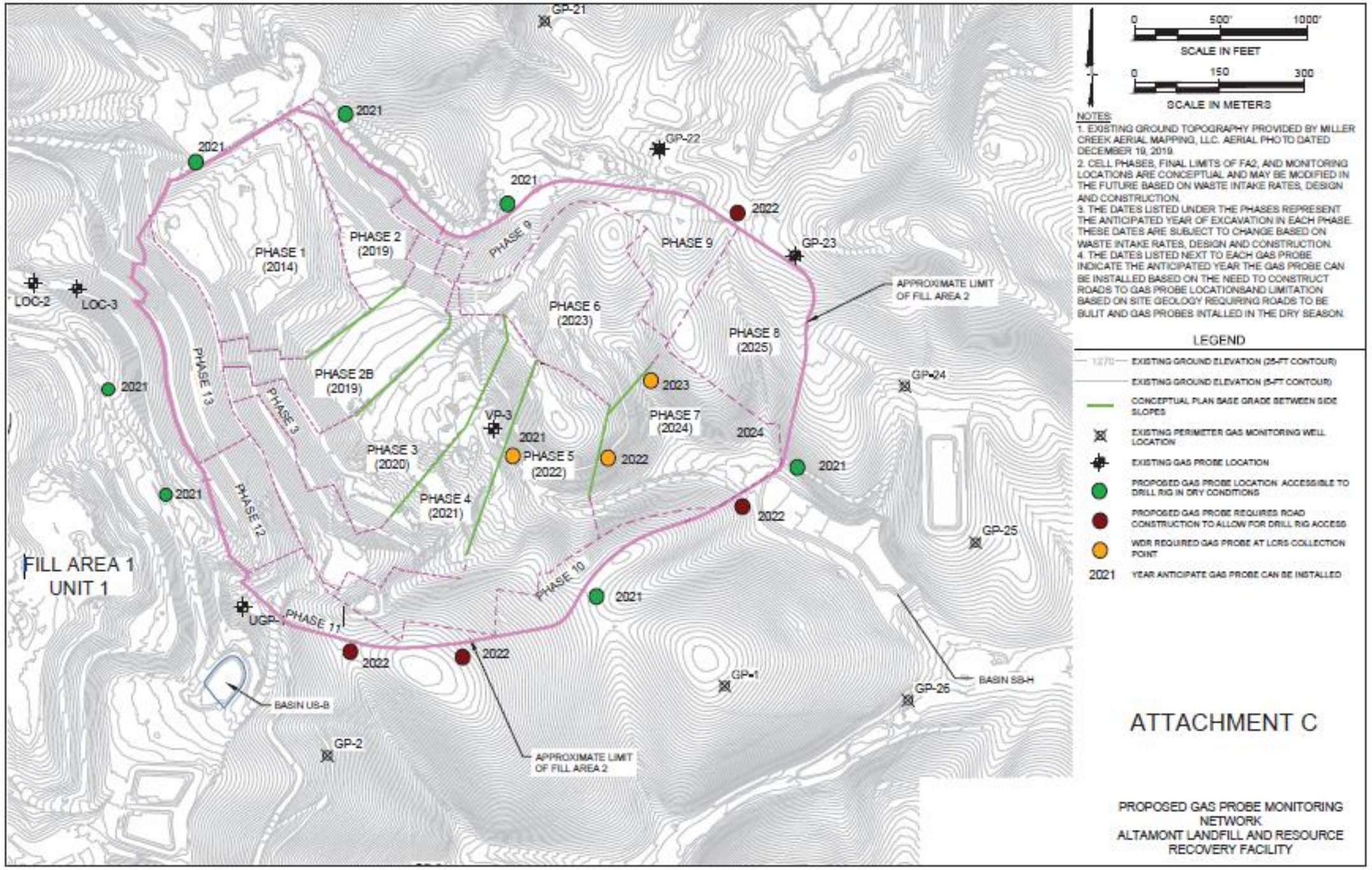
Discharger's failures to comply with its WDRs and Composting NOA, and to outline Facility work that will be required for the Discharger to come into and maintain compliance with Title 27, its WDRs, and its NOA for composting operations.

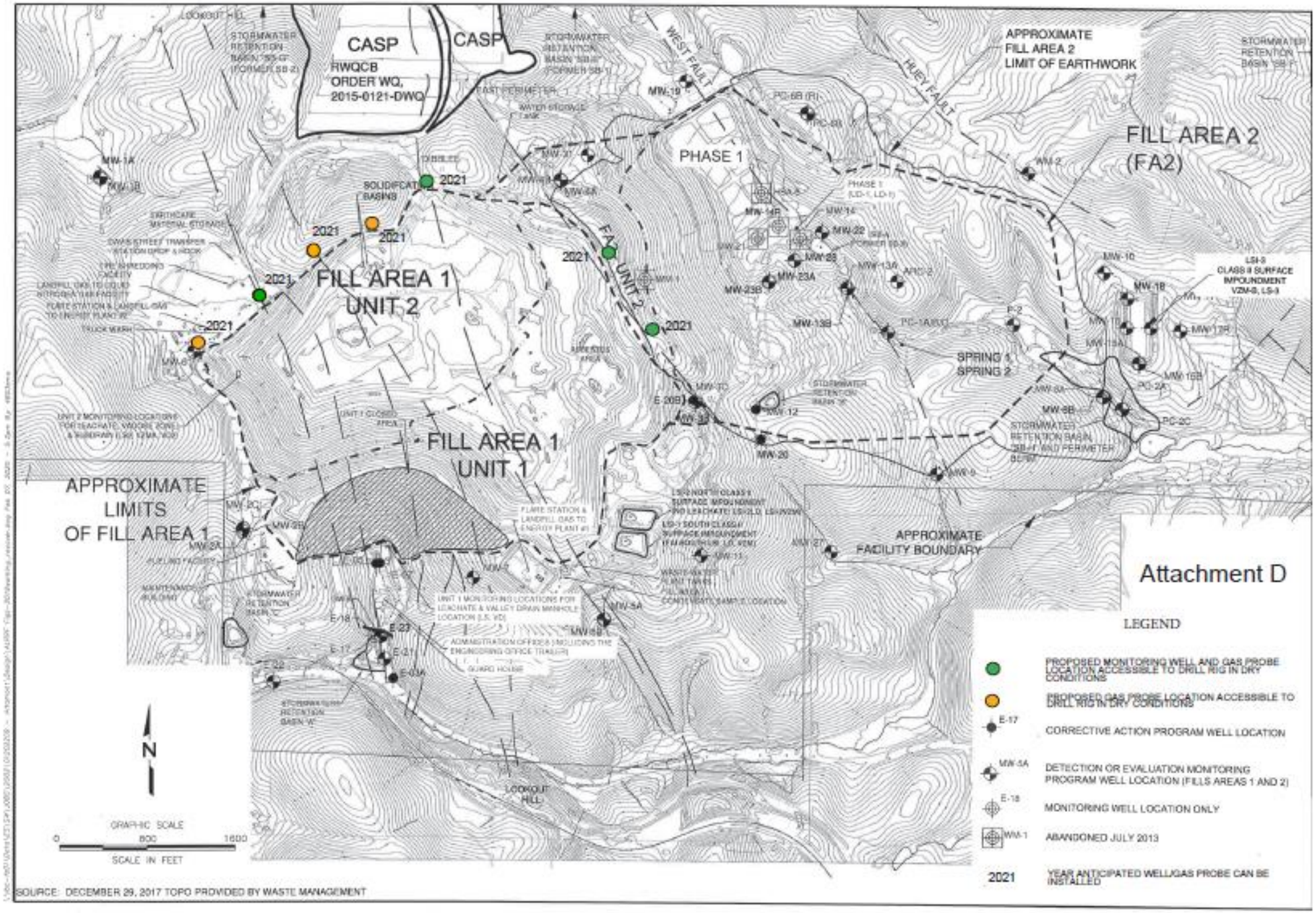
On 7 June 2019, Discharger requested a meeting with Central Valley Water Board and again requested revisions to the WDRs/MRP as the appropriate approach.

In a 25 February 2020 report, the Discharger submitted a new FA2 fill phase construction and monitoring plan. Although the Central Valley Water Board contends it does not comply with the WDRs and Title 27, for purposes of this stipulated CDO the 25 February 2020 FA2 fill phase construction and monitoring plan will be implemented by Discharger, except as otherwise modified through the terms of this CDO or through agreement between the Discharger and the Central Valley Water Board.

This CDO consolidates the requirements that will bring the Discharger into compliance. A WDR/MRP revision may be needed to reflect current or anticipated actions at the Facility, but it would not address the long-standing concerns regarding discharges, insufficient storage, and insufficient monitoring. This CDO reflects the appropriate directives given the Central Valley Water Board's contentions regarding years of non-compliance and discharges. It also is an alternative to enforcement actions that could include corrective action and penalties. While it may be a stipulated CDO, the Central Valley Water Board cannot modify or reduce legal requirements imposed by state and federal guidelines.


0 500' 1000'
SCALE IN FEET
0 150 300
SCALE IN METERS
NOTES:
1. EXISTING GROUND TOPOGRAPHY PROVIDED BY MILLER CREEK AERIAL MAPPING, LLC AERIAL PHOTO DATED DECEMBER 19, 2019.
2. CELL PHASES, FINAL LIMITS OF FA2 AND MONITORING LOCATIONS ARE CONCEPTUAL AND MAY BE MODIFIED IN THE FUTURE BASED ON WASTE INTAKE RATES, DESIGN AND CONSTRUCTION.
3. THE DATES LISTED UNDER THE PHASES REPRESENT THE ANTICIPATED YEAR OF EXCAVATION IN EACH PHASE. THESE DATES ARE SUBJECT TO CHANGE BASED ON WASTE INTAKE RATES, DESIGN AND CONSTRUCTION.
4. THE DATES LISTED NEXT TO EACH WELL INDICATE THE ANTICIPATED YEAR THE WELL WILL BE INSTALLED BASED ON THE NEED TO COMPLETE EXCAVATION OR CONSTRUCT ROADS TO WELL LOCATIONS AND LIMITATIONS BASED ON SITE GEOLOGY REQUIRING ROADS TO BUILT AND WELLS INSTALLED IN THE DRY SEASON
LEGEND
1270 EXISTING GROUND ELEVATION (25-FT CONTOUR)
EXISTING GROUND ELEVATION (5-FT CONTOUR)
EXISTING MONITORING WELL AND PIEZOMETER LOCATION
DESTROYED MONITORING WELL LOCATION
CONCEPTUAL PLAN BASE GRADE BETWEEN SIDE SLOPES
PROPOSED MONITORING WELL LOCATION (PLANNED FOR INSTALLATION IN NOVEMBER 2020)
PROPOSED MONITORING WELL LOCATION ACCESSIBLE TO DRILL RIG IN DRY CONDITIONS
PROPOSED MONITORING WELL LOCATION REQUIRES ROAD CONSTRUCTION OR EXCAVATION GRADING TO ALLOW FOR DRILL RIG ACCESS
2020 YEAR ANTICIPATED WELL CAN BE INSTALLED
FILL AREA 1 UNIT 1
PHASE 1 (2014)
PHASE 2 (2019)
PHASE 2B (2019)
PHASE 3 (2020)
PHASE 4 (2021)
PHASE 5 2021 (2022)
PHASE 6 (2023)
PHASE 7 (2024)
PHASE 8 (2025)
PHASE 9
PHASE 10
PHASE 11
PHASE 12
PHASE 13
PHASE 3
APPROXIMATE LIMIT OF FILL AREA 2
FILL AREA 2 LEACHATE IMPOUNDMENT
BASIN US-B
BASIN SB-H
MW-19
PC-6B (R)
PC-6B
MW-4A
MW-4B
MW-14R
MW-14
MW-22
MW-2
MW-28
MW-23A
MW-23B
MW-13A
MW-13B
MW-24
ARC-2
MW-25
MW-26
PC-1A
PC-1B
PC-1C
MW-35A
MW-35B
MW-34A
MW-34B
MW-3C
E-20B
MW-3B
MW-12
MW-20
MW-9
MW-11
MW-27
WM-2
P-2
MW-44A
MW-44B
MW-10
MW-18
MW-16
MW-17
MW-17R
MW-15B
MW-15A
MW-8B
MW-8A
PC-2A
PC-2C
ATTACHMENT B
PROPOSED GROUNDWATER MONITORING NETWORK
ALTAMONT LANDFILL AND RESOURCE RECOVERY FACILITY


GP-21
GP-22
GP-23
GP-24
GP-25
GP-26
GP-1
GP-2
LOC-2
LOC-3
VP-3
UGP-1
2021
2022
2023
2024
PHASE 1 (2014)
PHASE 2 (2019)
PHASE 2B (2019)
PHASE 3 (2020)
PHASE 4 (2021)
PHASE 5 (2022)
PHASE 6 (2023)
PHASE 7 (2024)
PHASE 8 (2025)
PHASE 9
PHASE 10
PHASE 11
PHASE 12
PHASE 13
PHASE 3
PHASE 9
FILL AREA 1
UNIT 1
APPROXIMATE LIMIT OF FILL AREA 2
APPROXIMATE LIMIT OF FILL AREA 2
BASIN US-B
BASIN SB-H
0
500'
1000'
SCALE IN FEET
0
150
300
SCALE IN METERS
NOTES:
1. EXISTING GROUND TOPOGRAPHY PROVIDED BY MILLER CREEK AERIAL MAPPING, LLC. AERIAL PHOTO DATED DECEMBER 19, 2019.
2. CELL PHASES, FINAL LIMITS OF FA2, AND MONITORING LOCATIONS ARE CONCEPTUAL AND MAY BE MODIFIED IN THE FUTURE BASED ON WASTE INTAKE RATES, DESIGN AND CONSTRUCTION.
3. THE DATES LISTED UNDER THE PHASES REPRESENT THE ANTICIPATED YEAR OF EXCAVATION IN EACH PHASE. THESE DATES ARE SUBJECT TO CHANGE BASED ON WASTE INTAKE RATES, DESIGN AND CONSTRUCTION.
4. THE DATES LISTED NEXT TO EACH GAS PROBE INDICATE THE ANTICIPATED YEAR THE GAS PROBE CAN BE INSTALLED BASED ON THE NEED TO CONSTRUCT ROADS TO GAS PROBE LOCATIONSAND LIMITATION BASED ON SITE GEOLOGY REQUIRING ROADS TO BE BUILT AND GAS PROBES INTALLED IN THE DRY SEASON.
LEGEND
1270 EXISTING GROUND ELEVATION (25-FT CONTOUR)
EXISTING GROUND ELEVATION (5-FT CONTOUR)
CONCEPTUAL PLAN BASE GRADE BETWEEN SIDE SLOPES
EXISTING PERIMETER GAS MONITORING WELL LOCATION
EXISTING GAS PROBE LOCATION
PROPOSED GAS PROBE LOCATION ACCESSIBLE TO DRILL RIG IN DRY CONDITIONS
PROPOSED GAS PROBE REQUIRES ROAD CONSTRUCTION TO ALLOW FOR DRILL RIG ACCESS
WDR REQUIRED GAS PROBE AT LCRS COLLECTION POINT
2021 YEAR ANTICIPATE GAS PROBE CAN BE INSTALLED
ATTACHMENT C
PROPOSED GAS PROBE MONITORING NETWORK
ALTAMONT LANDFILL AND RESOURCE RECOVERY FACILITY


CASP
RWQCB
ORDER WQ,
2015-0121-DWQ
CASP
APPROXIMATE
FILL AREA 2
LIMIT OF EARTHWORK
FILL AREA 2
(FA2)
PHASE 1
FILL AREA 1
UNIT 2
FILL AREA 1
UNIT 1
APPROXIMATE
LIMITS
OF FILL AREA 1
APPROXIMATE
FACILITY BOUNDARY
WEST FAULT
HUEY FAULT
LOOKOUT HILL
SPRING 1
SPRING 2
Attachment D
LEGEND
PROPOSED MONITORING WELL AND GAS PROBE LOCATION ACCESSIBLE TO DRILL RIG IN DRY CONDITIONS
PROPOSED GAS PROBE LOCATION ACCESSIBLE TO DRILL RIG IN DRY CONDITIONS
E-17
CORRECTIVE ACTION PROGRAM WELL LOCATION
MW-5A
DETECTION OR EVALUATION MONITORING PROGRAM WELL LOCATION (FILLS AREAS 1 AND 2)
E-18
MONITORING WELL LOCATION ONLY
WM-1
ABANDONED JULY 2013
2021
YEAR ANTICIPATED WELL/GAS PROBE CAN BE INSTALLED
N
GRAPHIC SCALE
0
800
1600
SCALE IN FEET
SOURCE: DECEMBER 29, 2017 TOPO PROVIDED BY WASTE MANAGEMENT