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WASTE DISCHARGE REQUIREMENTS ORDER R5-2019-0083 and Monitoring and Reporting Program

ORDER INFORMATION

Program:	Land Disposal (Title 27)
Order Type(s):	Waste Discharge Requirements (WDRs) and Monitoring and Reporting Program (MRP)
Status:	Tentative
Dischargers:	County of Tulare
Facility:	Orosi Solid Waste Landfill
Address:	State Highway (Road 128) and Avenue 428, Orosi
County:	Tulare County
Prior Order(s):	Time Schedule Order R5-2010-0107; Order R5-2009-0107; Order 5-01-097; Order 71-327

I, Patrick Pulupa, Executive Officer, hereby certify that the following is a full, true, and correct copy of the orders adopted by the California Regional Water Quality Control Board, Central Valley Region, on 5 December 2019.

Patrick Pulupa, Executive Officer

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GLOSSARY

ADC ..... Alternative Daily Cover

Antidegradation Policy ... *Statement of Policy with Respect to Maintaining High Quality Waters in California*, State Water Board Resolution 68-16

Basin Plan ..... Water Quality Control Plan for Tulare Lake Basin, 3rd Edition

bgs ..... Below Ground Surface

CalRecycle ..... California Department of Resources Recovery and Recycling

CAMP ..... Corrective Action Monitoring Program

C&D ..... Construction and Demolition Waste

CEQA ..... California Environmental Quality Act, Public Resources Code section 21000 et seq.

CEQA Guidelines ..... California Code of Regulations, Title 14, section 15000 et seq.

C.F.R. ..... Code of Federal Regulations

COC[s] ..... Constituent[s] of Concern

CQA ..... Construction Quality Assurance

C-Soil ..... Contaminated Soil

DMP ..... Detection Monitoring Program

DTSC ..... California Department of Toxic Substances Control

DWR ..... California Department of Water Resources

EC ..... Electrical Conductivity

EIR ..... Environmental Impact Report

EMP ..... Evaluation Monitoring Program

FEMA ..... Federal Emergency Management Agency

GCL ..... Geocomposite Liner

GLOSSARY

HDPE ..... High-Density Polyethylene

JTD ..... Joint Technical Document

LCRS ..... Leachate Collection and Removal System

LEA ..... Local Enforcement Agency

LFG ..... Landfill Gas Condensate

MCE ..... Maximum Credible Earthquake

MDB&M ..... Mount Diablo Base and Meridian

MDL ..... Method Detection Limit

µg/L ..... Micrograms per Liter

µmhos/cm ..... Micromhos per Centimeter

mg/L ..... Milligrams per Liter

MPE ..... Maximum Probable Earthquake

MRP ..... Monitoring and Reporting Program

MSL ..... Mean Sea Level

MSW ..... Municipal Solid Waste

MW ..... Monitoring Well

ND ..... Non-Detect

PCPMP ..... Preliminary Closure and Post-Closure Maintenance Plan

R[O]WD ..... Report of Waste Discharge

RCRA ..... Resource Conservation and Recovery Act

SPRRs ..... Standard Provisions and Reporting Requirements, December 2015 Edition

SERC ..... State Emergency Response Commission

Subtitle D ..... 40 C.F.R. part 258

GLOSSARY

Title 22.....California Code of Regulations, Title 22

Title 23.....California Code of Regulations, Title 23

Title 27.....California Code of Regulations, Title 27

Unified Guidance.....*Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance* (USEPA, 2009)

USEPA.....United States Environmental Protection Agency

VOC[s].....Volatile Organic Compound[s]

WDRs.....Waste Discharge Requirements

WMU .....Waste Management Unit

WQPS .....Water Quality Protection Standard

(Findings begin on next page)

FINDINGS

The California Regional Water Quality Control Board, Central Valley (Central Valley Water Board) hereby finds as follows:

Introduction

1. The County of Tulare (Discharger) owns and maintains the Orosi Solid Waste Landfill (Facility), which is located north of the City of Orosi, southeast of the intersection of State Highway 63 (Road 128) and Avenue 428 in Tulare County, Mount Diablo Base and Meridian (MDB&M) section 5, T16S, R25E. The Facility's location is depicted on the Site Location Map in **Attachment A**.

2. As Facility owners, the Discharger is responsible for compliance with the Waste Discharge Requirements (WDRs) prescribed in this Order.

3. The existing landfill waste management unit (WMU) authorized by this Order is described as follows:

Table 1—Units Permitted under Order

Unit	Liners	Class	Phases	Acreage	Status
Existing Unit[1]	None	Class III	N/A	9	Closed

4. The following materials are attached to this Order and incorporated herein:

   a. Attachment A—Site Location Map

   b. Attachment B—Site Plan

   c. Standard Provisions and Reporting Requirements, December 2015 ed. (SPRRs)

5. Also attached **is Monitoring and Reporting Program R5-2019-0083**, which establishes a Monitoring and Reporting Program (MRP) for discharges regulated under the WDRs prescribed herein. Compliance with the MRP and subsequent revisions thereto is required under this Order.

[1] For the purposes of this Order, unlined disposal areas within the Facility—constructed prior to Subtitle D—shall be treated as a single "existing unit."

6. Any additional information set forth in the attached **Information Sheet** is also incorporated herein.

Facility

7. The Facility is situated on a 40-acre property, comprised of Assessor's Parcel Number (APN) 025-020-022, at the intersection of State Highway 63 (Road 128) and Avenue 428, Orosi, Tulare County. The existing landfill consists of one unlined WMU covering approximately 9 acres. The existing permitted landfill area is shown in **Attachment B**.

Classifications and Permitting

8. The Facility's landfill is subject to federal municipal solid waste (MSW) regulations promulgated under the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. section 6901 et seq. Typically referred to as "Subtitle D," these MSW regulations are now codified as 40 C.F.R. part 258, and implemented in part through the provisions in California Code of Regulations, title 27 (Title 27).

9. For the purposes of this Order, the unlined disposal area within the Facility is designated as the Existing Unit. The Existing Unit is laterally coextensive with the "Existing Footprint," i.e., the area covered by waste as of the date that the Facility became subject to Subtitle D. (See Title 27, § 20164.)

10. On 27 April 2001, the Central Valley Regional Board issued Order No. 5-01-097, classifying the Existing Unit as a "Class III" WMU under the current Title 27 classification system.

11. On 9 September 2009, the Central Valley Regional Board issued Order R5-2009-0107 (2009 WDRs Order), which continued to classify the Existing Unit as a Class III WMU. This Order continues to classify all onsite WMU as a Class III unit in accordance with Title 27.

12. This Order updates the waste discharge requirements (WDRs) for the Facility's WMU or landfill, as part of an administrative policy of periodic review, to incorporate revisions to regulations and policies adopted thereunder, for continued post-closure maintenance.

Site Description

13. The Facility is located within a relatively topographically flat region of the San Joaquin Valley. The native ground surface elevation ranges from 388 to 409 feet mean sea level (MSL) depending on location. The native ground surface slopes approximately 15 feet per mile toward the southwest. The Sand Creek (intermittent) flows from north to south along the eastern boundary of the facility.

14. Land uses within one mile of the Facility include agriculture, rural, and single-family residences.

15. The Facility overlies Quaternary-age alluvial deposits from Sand Creek which consist of moderately to highly permeable interbedded clay, silt, silty-sand, sand and gravel. Granite, gabbro, metagabbro, and metasedimentary rock outcrop within two to five miles of the Facility.

16. The measured hydraulic conductivity of the native soils underlying the WMU ranges between 1×10^{-3} and 1×10^{-6} centimeters per second (cm/s).

17. Based on a site-specific seismic analysis, the closest known Holocene fault is the Owens Valley Fault. The controlling maximum probable earthquake (MPE) for the site is a moment of magnitude 8.3 event along the Owens Valley Fault at a closest rupture distance of 42 miles from the site. It is estimated that a MPE event would produce a peak ground acceleration of 0.07g at the Facility at a 300-year recurrence interval.

18. The Facility receives an average of 10.94 inches of precipitation per year as measured at the Visalia Station. The mean pan evaporation is 70.7 inches per year as measured at the Tulare Station.

19. The 100-year, 24-hour precipitation event for the Facility is estimated to be 3.90 inches, based on National Oceanic and Atmospheric Administration, National Weather Service of Hydrologic Development (NOAA).

20. The Facility is within a 100-year flood plain based on the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map, Community-Panel Number 06107C0335E.

21. Storm water retention basins are located north, west and southeast of the WMU as shown on Attachment B. The basins retain storm water during the rainy season and are normally dry during the summer months.

Surface Water and Groundwater Conditions

22. The Water Quality Control Plan for the Tulare Lake Basin, Third Edition, revised May 2018 (Basin Plan), designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the Basin.

23. Surface water drainage from the site is to the St. Johns River and Cross Creek in the Alta Hydrologic Area (551.60) of the Tulare Lake Basin.

24. The St. Johns River and Cross Creek are categorized as "Valley Floor Water" in the Basin Plan. The designated beneficial uses of the St. Johns River and Cross Creek, as specified in the Basin Plan, are agricultural supply, industrial service and process supply; water contact and non-contact water recreation; warm freshwater habitat; wildlife habitat; preservation of rare, threatened, and endangered species; and groundwater recharge.

25. According to the 2018 *Second Semi-Annual and Annual Monitoring Report*, the first encountered groundwater ranges from about 58 to 75 feet below the native ground surface (bgs) and is unconfined. The depth to groundwater fluctuates seasonally from approximately five to ten feet depending upon location and has fluctuated up to 45 feet since 1991. Groundwater elevations range from about 314 feet MSL to 323 feet MSL.

26. Monitoring data in the 2018 *Second Semi-Annual and Annual Monitoring Report* indicates background groundwater quality for first encountered groundwater has electrical conductivity (EC) ranging between 900 and 990 micromhos/cm, with TDS ranging between 640 and 650 mg/L.

27. The direction of groundwater flow varies seasonally and, recently, generally flows toward the north/northwest. Historically, it flowed southwest. The average groundwater gradient ranges from 0.004 to 0.009 foot per foot.

28. The designated beneficial uses of the groundwater, as specified in the Basin Plan, are municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.

29. The closest surface water body to the Facility is Sand Creek (intermittent), which flows from north to south along the eastern boundary of the Facility.

30. According to the *2017 First Semi-Annual Monitoring Report*, the latest available monitoring data indicate that the background surface water of Sand Creek has a specific conductivity of approximately 210 microsiemens per centimeter (µs/cm) and total dissolved solids (TDS) of approximately 190 milligrams per liter (mg/l).

31. Groundwater conditions at the Facility have historically shown no indications of a release from the WMU. General chemistry analysis indicates that monitoring parameter concentrations are generally stable.

32. Since 2005, the following inorganic waste constituents were consistently detected in point of compliance (POC) groundwater monitoring wells at concentrations exceeding their respective WQPS: calcium, magnesium, barium, TDS, potassium, sodium, and sulfate. Additionally, the following other inorganic waste constituents have also been detected in POC wells at concentrations

exceeding their respective WQPS on fewer occasions: EC, manganese, vanadium, chloride, chromium, copper, and nickel.

33. The Discharger submitted a Notice of Intent, dated 1 August 2008, and the *Demonstration Report for the Orosi Landfill*, dated 4 November 2008, to demonstrate that a source other than the WMU caused the evidence of a measurably significant release to groundwater. In a letter dated 26 September 2011, Central Valley Water Board staff concurred that the statistical exceedances were caused by a combination of statistical error and by natural spatial variability and not by a release from the WMU. The WQPS was subsequently amended to prevent the recurrence of the previous statistical errors.

34. If statistical analyses of groundwater monitoring data determine that there is measurably significant evidence of a release from the WMU, the Discharger will be required to implement an EMP in accordance with §20385(a)(2) and (3), §20415(b)(1)(C), §20415(c)(C), and §20425(a) through (i) of Title 27.

35. Surface water detection monitoring data indicates that the Facility has not impacted surface water within Sand Creek.

Groundwater, Surface and Unsaturated Zone Monitoring

36. The groundwater monitoring network for the WMU consists groundwater monitoring wells as described in the MRP.

37. Surface water is sampled from Sand Creek when water is present. The background surface water sampling point, S-B, is immediately south of Avenue 428 and the down gradient surface water sampling point, S-D, is immediately southeast of the facility (see Attachment B).

38. As of the date of this Order, the existing groundwater monitoring network is set forth in **Table 2** below. At the time of adoption, the detection monitoring program for groundwater complies with Title 27.

Table 2—Groundwater Monitoring Network

Well	Program	Monitored Units
M-1	Background	Existing Unit
M-2R	Detection	-
M-3	Detection	-
M-4	Detection	-

39. Volatile organic compounds (VOCs) are often detected in a release from a MSW landfill and are often associated with releases of landfill gas rather than leachate. Since volatile organic compounds are not naturally occurring and thus have no background value, they are not amenable to the statistical analysis procedures contained in Title 27 for the determination of a release of wastes from a landfill unit. Title 27, sections 20415(e)(8) and (9) allow the use of a non-statistical evaluation of monitoring data that will provide the best assurance of the earliest possible detection of a release from a landfill unit in accordance with Title 27, sections 20415(b)(1)(B)2.-4. However, Title 27 does not specify a specific method for non-statistical evaluation of monitoring data.

40. The Discharger submitted a Water Quality Protection Standard (WQPS) report proposing statistical data analysis methods to calculate concentration limits for each monitored constituent in accordance with Title 27. The WQPS report proposed to use Interwell data analysis to calculate prediction limits for the monitored constituents. The WQPS and approved data evaluation methods are included in MRP R5-201X-0083.

41. The Central Valley Water Board may specify a non-statistical data analysis method pursuant to Title 27, section 20080(a)(1). Water Code section 13360(a)(1) allows the Central Valley Water Board to specify requirements to protect groundwater or surface waters from leakage from a solid waste site, which includes a method to provide the best assurance of determining the earliest possible detection of a release.

42. In order to provide the best assurance of the earliest possible detection of a release of non-naturally occurring waste constituents from a landfill unit, the SPRRs specify a non-statistical method for the evaluation of monitoring data for non-naturally occurring compounds. The specified non-statistical method for evaluation of monitoring data provides two criteria (or triggers) for making the determination that there has been a release of non-naturally occurring waste constituents from a landfill unit. The presence of two non-naturally occurring waste constituents above their respective method detection limit (MDL), or one

non-naturally occurring waste constituent detected above its practical quantitation limit (PQL), indicates that a release of waste from a Unit has occurred. Following an indication of a release, verification testing must be conducted to determine whether there has been a release from the landfill unit or the detection was a false detection. The detection of two non-naturally occurring waste constituents above the MDL as a trigger is appropriate due to the higher risk of false-positive analytical results and the corresponding increase in sampling and analytical expenses from the use of one non-naturally occurring waste constituent above its MDL as a trigger.

43. For a naturally occurring constituent of concern, the Title 27 requires concentration limits for each constituent of concern be determined as follows:

    a. By calculation in accordance with a statistical method pursuant to Title 27, section 20415(e)(8); or

    b. By an alternate statistical method meeting the requirements of Title 27, section 20415(e)(8)(E).

Landfill Closure

44. The Discharger submitted a design plan for the closure of the WMU in the Final Closure Plan and Post Closure Maintenance Plan (Closure Plan), dated 20 August 2008. The Closure Plan proposed the construction of an engineered alternative in lieu of the prescriptive cover design specified in Title 27, section 21090, subdivision (a). The engineered alternative consists of the following design (in ascending order): two-foot thick foundation layer, a geosynthetic clay liner, and a two-foot thick vegetated soil layer.

45. On 29 June 2010, the Discharger requested a one-year extension of the 9 October 2010 deadline to install a final cover system based on unexpected time delays resulting from the excavation and clean closure of the northwestern portion of the Unit. On 23 September 2010, Time Schedule Order R5-2010-0107 for Orosi Solid Waste Landfill (TSO) was adopted. The TSO required the closure construction activities to be completed by 10 October 2011 and a final construction report submitted to the Executive Officer for review and approval. All requirements have been completed, but the TSO has not been rescinded.

46. Title 27, section 21090 provides the minimum prescriptive final cover components for landfills consisting of, in ascending order, the following layers:

    a. Two-foot soil foundation layer.

    b. One-foot soil low flow-hydraulic conductivity layer, less than $1x10^{-6}$ cm/s or equal to the hydraulic conductivity of any bottom liner system.

c. Geomembrane layer (this layer is required for composite-lined landfills for equivalency to bottom liner).

d. One-foot soil erosion resistant/vegetative layer.

47. Title 27 allows engineered alternative final covers provided the alternative design will provide a correspondingly low flow-through rate throughout the post-closure maintenance period.

48. Staff reviewed the Closure Plan and, in a letter dated 24 September 2008, determined that the Closure Plan was adequate, and that the Discharger had demonstrated that the engineered alternative final cover met the performance goals of Title 27 and that it was equivalent to the prescriptive standard.

49. The Discharger performed a slope stability analysis for the proposed final cover. The Discharger's static and dynamic stability analysis demonstrates that the side slopes of the final cover are stable in accordance with the requirements of Title 27.

50. The Closure Certification Report was approved by the California Department of Resources Recycling and Recovery on 10 May 2012 with Central Valley Water Board staff concurrence.

Landfill Post-Closure Maintenance

51. The Discharger submitted a November 2007 *Preliminary Closure and Post-closure Maintenance Plan* for closure and post-closure maintenance of the Facility. The plan includes inspection, maintenance, and monitoring of the WMU during the post-closure maintenance period and includes a post-closure maintenance cost estimate for the entire facility. Inspection and maintenance will include the condition of the final cover, drainage features, groundwater monitoring wells, access roads, and site security. The plan will be implemented for a minimum period of 30 years or until the waste no longer poses a threat to environmental quality, whichever is greater.

52. Once every five years during the post-closure maintenance period, aerial photographic maps of the closed landfill area will be made to identify and evaluate landfill settlement. Iso-settlement maps will be prepared to determine the amount of differential settlement occurring over the previous five years. Pursuant to Title 27, section 21090(e)(2), this Order requires iso-settlement maps to be prepared and submitted every five years.

53. The completed final cover will be periodically tested for damage or defects by monitoring surface emissions pursuant to California Code of Regulations, title 17,

section 95471(c) and Title 27, section 21090(a)(4)(A). Defects will be repaired and tested for adequacy based on the closure CQA Plan.

Financial Assurances

54. The Discharger's operative PCPMP includes costs estimates for:

    a. Post-Closure Maintenance (§§ 22210–22212); and

    b. Corrective Action for foreseeable releases (§§ 22220–22222).

55. As of the date of this Order, the Discharger's cost estimates, calculated in accordance with Title 27, are as follows:

Table 3—Current Cost Estimates (Financial Assurances)

Requirement	Estimated Cost
Post-Closure Maintenance	$22,390,000
Corrective Action	$738,210

56. This Order requires the Discharger to maintain financial assurances with CalRecycle in at least the Estimated Cost amounts specified above.

Compliance with CEQA

57. The action to revise waste discharge requirements for this existing facility is exempt from the provisions of the California Environmental Quality Act (CEQA), Public Resource Code section 21000, et seq., and the CEQA guidelines, in accordance with Title 14, section 15301.

Compliance with Antidegradation Policy

58. The State Water Resources Control Board's (State Water Board) *Statement of Policy with Respect to Maintaining High Quality Waters in California*, Resolution 68-16 (*Antidegradation Policy*) prohibits the Central Valley 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.

59. Consistent with Title 27, this Order requires the Dischargers to maintain the Facility so as to contain waste within WMUs, thereby preventing degradation of

water quality. To the extent that there are releases from Facility WMUs, Dischargers will be required to address such releases through a Corrective Action Program. (See Title 27, §§ 20385, 20415, 20430.) Accordingly, this Order complies with the *Antidegradation Policy*.

60. Anti-Degradation Policy applies when an activity discharges to high quality waters and will result in some degradation of such high quality waters. When it applies, the Policy requires that WDRs reflect best practicable treatment or control (BPTC) of wastes and that any degradation of high quality waters (a) will be consistent with the maximum benefit to the people of the State, and (b) will not result in an exceedance of water quality objectives. If the activity will not result in the degradation of high quality waters, Anti-Degradation Policy does not apply, and the Discharger need only demonstrate that it will use "best efforts" to control the discharge of waste.

61. Anti-Degradation Policy does not apply to the discharge of waste to the Facility. The requirements of this Order are designed to ensure that any such wastes remain contained at the facility and will not reach waters of the State. The requirements of this Order reflect the Discharger's best efforts to control such wastes.

Other Regulatory Considerations

62. For the purposes of California Code of Regulations, title 23 (Title 23), section 2200, the Facility has a threat-complexity rating of 3-B, where:

    a. Category 3 threat to water quality, defined as, "Those discharges of waste that could degrade water quality without violating water quality objectives, or could cause a minor impairment of designated beneficial uses as compared with Category 1 and Category 2."

    b. Category B complexity, defined as, "Any discharger not included in Category A that has physical, chemical, or biological treatment systems (except for septic systems with subsurface disposal), or any Class 2 or Class 3 waste management units."

63. This Order is issued pursuant to Water Code section 13267, subdivision (b)(1), which provides that:

> [T]he 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 … 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.

64. The technical reports required under this Order, as well as those required under the separately issued MRP, are necessary to ensure compliance with prescribed WDRs and the provisions of Title 27, Subtitle D (40 C.F.R. part 258) and State Water Board Resolution 93-62. Additionally, the burdens associated with such reports are reasonable relative to the need for their submission.

65. Statistical data analysis methods outlined in the USEPA's 2009 *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance* (*Unified Guidance*) are appropriate for determining compliance with Groundwater Limitations of this Order. Other methods may be appropriate as well.

Procedural Matters

66. All of the above information, as well as the information contained in the attached **Information Sheet**, was considered by the Central Valley Water Board in prescribing the WDRs set forth below.

67. The Discharger, interested agencies, and other interested persons were notified of the Central Valley Water Board's intent to prescribe the WDRs in this Order, and provided an opportunity to submit their written views and recommendations at a public hearing. (Wat. Code, § 13167.5.)

68. At a public meeting, the Central Valley Water Board heard and considered all comments pertaining to the discharges regulated under this Order.

69. The Central Valley Water Board will review and revise the WDRs in this Order as necessary.

REQUIREMENTS

IT IS HEREBY ORDERED, pursuant to California Water Code sections 13263 and 13267, that Order R5-2009-0107 and Time Schedule Order R5-2010-0107 are rescinded except for purposes of enforcement, and that County of Tulare, its agents,

successors, and assigns, in order to meet the provisions of Division 7 of the California Water Code and the regulations adopted thereunder, shall comply with the following.

A. Prohibitions—Except as otherwise expressly directed below, the Dischargers shall comply with all Standard Prohibitions (SPRRs, § C), which are incorporated herein, as well as the following.

1. The discharge of any additional waste at this Facility is prohibited.

2. The Discharger shall comply with all Standard Prohibitions listed in Section C of the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements for Nonhazardous Solid Waste Discharges Regulated by Subtitle D and/or Title 27* (SPRRs), dated December 2015 which are attached hereto and made part of this Order by reference.

B. Discharge Specifications—Except as otherwise expressly directed below, the Dischargers shall comply with all Standard Discharge Specifications (SPRRs, § D), which are incorporated herein, as well as the following.The discharge of any additional waste is prohibited.

1. The Discharger shall promptly remove and relocate all waste discharged at the Facility in violation of this Order. If unable to do so, they shall submit a report to the Central Valley Water Board: explaining how the violative discharge(s) occurred, and why the waste(s) cannot be removed; and proposing waste acceptance program updates to prevent reoccurrences.

2. The Discharger shall comply with all Standard Discharge Specifications listed in Section D of the SPRRs.

C. Facility Specifications—The Discharger shall comply with all Standard Facility Specifications (SPRRs, § E) which are incorporated herein.

D. Financial Assurances—Except as otherwise directed below, the Discharger shall comply with all Standard Financial Assurance Provisions (SPRRs, § H), as well as the following.

1. The Discharger shall maintain with CalRecycle assurances of financial responsibility for the Estimate Cost amounts specified for each category in **Finding 55** and **Table 3**, adjusted annually for inflation.

2. A report regarding financial assurances, or a copy of the financial assurances report submitted to CalRecycle, shall be submitted to the Central Valley Water Board annually, **no later than 1 October**.

3. If CalRecycle determines that the Discharger's financial assurances for the Facility are inadequate, the Discharger shall, within 90 days of such determination:

   a. Obtain a new financial assurance mechanism for the amount specified by CalRecycle; and

   b. Submit a report documenting such financial assurances to CalRecycle and the Central Valley Water Board.

E. Landfill Post-Closure Maintenance—Except as otherwise directed below, the Dischargers shall comply with all Post-Closure Specifications (SPRRs, § G) and closure-related Standard Construction Specifications (SPRRs, § F), as well as the following with respect to closure of the WMU at the Facility.

1. The Discharger shall ensure that the vegetative/erosion resistant layer receives necessary seed, binder, and nutrients to establish the vegetation proposed in the final closure plan. The Discharger shall install necessary erosion and sedimentation controls to prevent erosion and sediment in runoff from the closed landfill during the period the vegetation is being established.

F. Monitoring—Except as otherwise directed below, the Discharger shall comply with all applicable Standard Monitoring Specifications (SPRRs, § I) and Standard Response to Release Specifications (SPRRs, § J), as well as the following:The Discharger shall comply with all provisions of the separately issued MRP R5-2019-XXXX and any subsequent revisions thereto.

2. The Discharger shall comply with the WQPS set forth in the operative MRP (see also Title 27, § 20390); and shall verify the compliance of the WMU with each subsequent monitoring event.

3. For the WMU, the Discharger shall implement a groundwater and surface water detection monitoring program (DMP) in accordance with Title 27, sections 20385, 20415 and 20420.

4. Constituents of concern (COC) in water passing through the WMU's Point of Compliance shall not exceed concentration limits specified in the operative MRP. The Point of Compliance is a vertical plane situated at the hydraulically downgradient limit of the WMU, extending through the uppermost underlying aquifer. (See Title 27, §§ 20164, 20405.)

G. General Provisions—Except as otherwise expressly directed below, the Dischargers shall comply with the Standard General Provisions (SPRRs, § K), as

well as the following.Notwithstanding Section F.1, the provisions of this Order shall supersede any contrary provision in the MRP (and revisions thereto).

2. The Dischargers shall comply with all applicable provisions of Title 27 and Code of Federal Regulations, title 40, part 258, including those not specifically referenced in this Order.

3. The Dischargers shall ensure that operating personnel are familiar with this Order (including all attachments and SPRRs) and the operative MRP, both of which shall be kept onsite and made available at all times to operating personnel and regulatory agency personnel.

4. All reports and monitoring data shall be submitted online in an appropriately formatted file via the State Water Board's GeoTracker Database, at http://geotracker.waterboards.ca.gov. (Title 23, §§ 3892(d), 3893.) Additional information regarding electronic submittals is accessible through the "Information" tab on the GeoTracker homepage.

   After uploading a document via GeoTracker, the submitting party shall notify Central Valley Water Board staff via email at CentralValleyFresno@WaterBoards.ca.gov, including the following information body of the email:

   Attention: Title 27 Unit
   Report Title: [Title of Report]
   Dischargers: County of Tulare
   Facility: Orosi Solid Waste Landfill
   County: Tulare County
   CIWQS ID: 224622

5. All reports and workplans that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geological sciences, shall:

   a. Be prepared by, or under the direction of, professionals registered to practice in California pursuant to Business and Professions Code sections 6735, 7835 and 7835.1; and

   b. Bear the signature(s) and seal(s) of the responsible registered professional(s) described above.

If, in the opinion of the Executive Officer, the Discharger 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 sections 13268, 13350 and 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

Any person aggrieved by this Central Valley 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. The State Water Board must receive the petition by 5:00 p.m. 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 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions are available on the Internet (at the address below), and will be provided upon request.

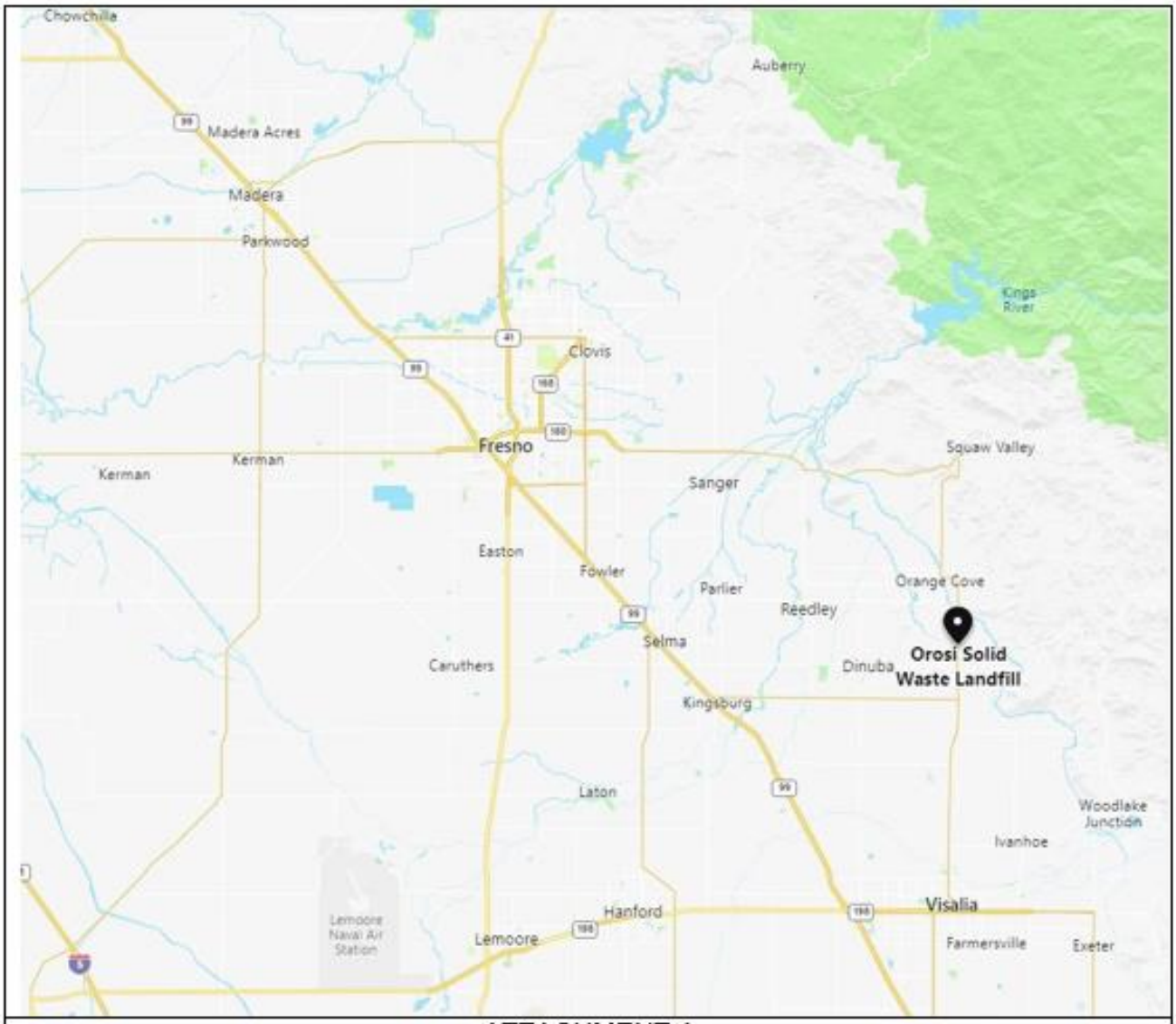
(http://www.waterboards.ca.gov/public_notices/petitions/water_quality)

Attachments:
Attachment A—Site Location Map
Attachment B—Site Plan

Monitoring and Reporting Program R5-2019-0083 [Separate Order]

Information Sheet

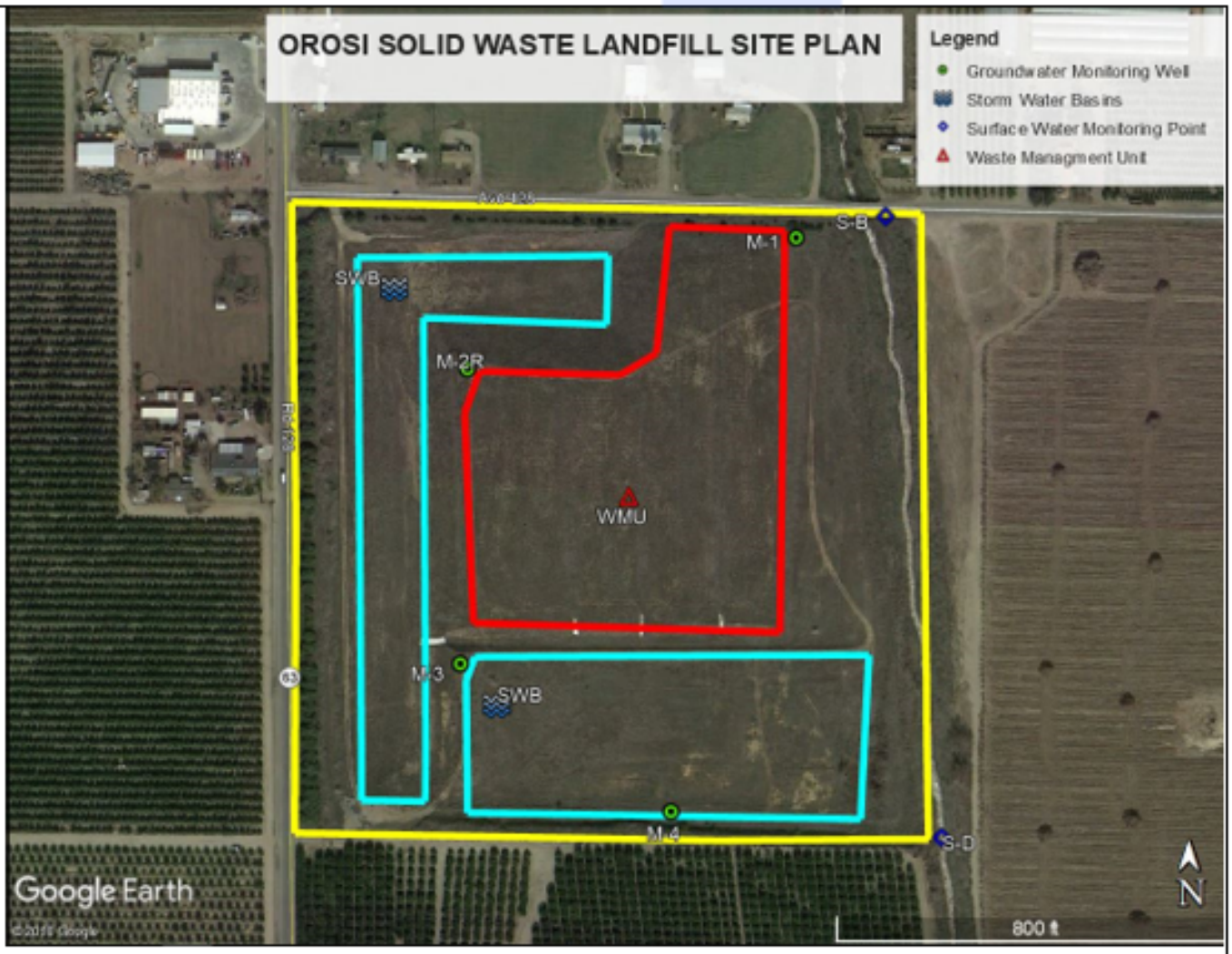
ATTACHMENT A—SITE LOCATION MAP



ATTACHMENT A

SITE LOCATION MAP
ORDER NO. R5-2019-0083
WASTE DISCHARGE REQUIREMENTS
COUNTY OF TULARE
OROSI SOLID WASTE LANDFILL
POST-CLOSURE MAINTENANCE
TULARE COUNTY

ATTACHMENT B—SITE PLAN



ATTACHMENT B

SITE LOCATION MAP
ORDER NO. R5-2019-0083
WASTE DISCHARGE REQUIREMENTS
COUNTY OF TULARE
OROSI SOLID WASTE LANDFILL
POST-CLOSURE MAINTENANCE
TULARE COUNTY

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5-2019-0083

MONITORING AND REPORTING PROGRAM
FOR
COUNTY OF TULARE
OROSI SOLID WASTE LANDFILL
TULARE COUNTY

Separately issued pursuant to Water Code section 13267, subdivision (b)(1), this Order establishes a Monitoring and Reporting Program (MRP) for waste discharges regulated under Waste Discharge Requirements Order R5-2019-0083 (WDRs Order). Each of the Findings set forth in the WDRs Order, including those pertaining to the need for submission of reports, are hereby incorporated as part of this MRP Order.

This MRP Order may be separately revised by the Executive Officer, in accordance with their delegated authority under Water Code section 13223.

A. Monitoring Requirements

1. Groundwater Monitoring

a. **Required Network**—The Facility's groundwater monitoring network shall consist of the wells listed below in

b. **Table** 1. As of the date of this Order, the Discharger's groundwater monitoring network meets the requirements of Title 27.

Table 1—Groundwater Monitoring Network

Well	Program	Monitored Units
M-1	Background	Existing Unit
M-2R	Detection	-
M-3	Detection	-
M-4	Detection	-

c. **Sample Collection and Analysis**—Groundwater samples shall be collected from each well, and analyzed for the field parameters and monitoring parameters specified in **Table 2** (in accordance with the specified schedule).[1]

[1] Monitoring wells established for the Detection Monitoring Program (DMP) constitute the monitoring points for the groundwater Water Quality Protection Standard (WQPS).

Table 2—Groundwater Detection Monitoring Program: Field Parameters and Monitoring Parameters

Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Field Parameters				
Temperature	TEMP	°F	-	-
Electrical Conductivity	SC	µmhos/cm	Semiannually	Semiannually
pH	PH	pH Units	-	-
Turbidity	TURB	NTUs	-	-
Monitoring Parameters				
TDS	TDS	-	-	-
Chloride	CL	-	-	-
Carbonate	CACO3	-	-	-
Bicarbonate	BICACO3	-	-	-
Nitrate as Nitrogen	NO3N	mg/L	Semiannually	Semiannually
Sulfate	SO4	-	-	-
Calcium	CA	-	-	-
Magnesium	MG	-	-	-
Potassium	K	-	-	-
Sodium	NA	-	-	-
Short List VOCs (per Attachment A)	(*various*)	µg/L	-	-
1,2,3-Trichloropropane per Method SRL-524M-TCP	TCPR123	ng/L	-	-

d. **Analysis for Five-Year COCs**—Additionally, the Discharger shall analyze for groundwater samples from each well for the Five-Year COCs listed in **Table 3**.[2]

Table 3—Groundwater Detection Monitoring Program, Five-Year COC Monitoring Parameters

Parameter	GeoTracker Code	Units	Sampling & Reporting Freq.
Total Organic Carbon	TOC	mg/L	-
Dissolved Inorganics (per Attachment B)		-	-

[2] Five-Year COCs were last monitored in 2016 and shall be analyzed again in 2021.

Parameter	GeoTracker Code	Units	Sampling & Reporting Freq.
Extended List VOCs (per Attachment C)	(*various*)	µg/L	Every 5 Years
Semi-Volatile Organic Compounds (per Attachment D)		-	Next Report Due: 2021
Chlorophenoxy Herbicides (per Attachment E)		-	-
Organophosphorus Compounds (per Attachment E)		-	-

e. **Groundwater Conditions**—Each quarter, the Discharger shall also monitor overall groundwater conditions specified per **Table 4**. The results monitoring shall be reported in each Semiannual Monitoring Report (SMR).

Table 4—Groundwater Conditions Monitoring

Parameter	GeoTracker Code	Monitoring Freq.	Reporting Freq.
Elevation (Well-Specific)	ELEV	-	-
Gradient	(none)	Quarterly	Semiannually
Flow Rate[3]	(none)	-	(SMRs)

2. Leachate Seep Monitoring—Leachate that seeps to the surface from any landfill WMU shall, immediately upon detection, be sampled and analyzed for the field parameters and monitoring parameters in Table 5 and Table 6. Additionally, the volume of leachate seepage shall be estimated in terms of gallons per day, and reported as "Leachate Flow Rate" per Section C.3 of this MRP.

Table 5—Leachate Seep Monitoring: Field Parameters and Monitoring Parameters

Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Field Parameters				
Total Flow	(*none*)	Gallons	Monthly	

[3] To the extent feasible, the Dischargers shall determine ground water flow rate and direction in: (1) the uppermost aquifer; (2) any zones of perched water; and (3) in any additional portions of the zone of saturation monitored pursuant to Title 27, section 20415, subdivision (b)(1).

Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Flow Rate	FLOW	Gallons/Day	Monthly	Semiannually
Electrical Conductivity	SC	µmhos/cm	Quarterly	(SMRs)
pH	PH	pH Units	Quarterly	
Monitoring Parameters				
TDS	TDS	-	-	-
Chloride	CL	-	-	-
Carbonate	CACO3	-	-	-
Bicarbonate	BICACO3	-	Upon 1st	Upon 1st
Nitrate (as Nitrogen)	NO3N	mg/L	Discovery	Discovery
Sulfate	SO4	-	-	-
Calcium	CA	-	-	-
Magnesium	MG	-	-	-
Potassium	K	-	-	-
Sodium	NA	-	-	-
Short List VOCs (see Attachment A)	(*various*)	µg/L	-	-
1,2,3-Trichloropropane per Method SRL-524M-TCP	TCPR123	ng/L	-	-

a. **Analysis for Five-Year COCs**—Every five years, the Dischargers shall sample and analyze leachate present in the sump for the monitoring parameters listed in **Table 6**. The Dischargers shall perform this analysis again in 2021.

Table 6—Leachate Seep Monitoring: Five-Year COC Monitoring Parameters

Parameter	GeoTracker Code	Units	Sampling & Reporting Freq.
Total Organic Carbon	TOC	mg/L	-
Dissolved Inorganics (per Attachment B)	-	-	-
Extended List VOCs (per Attachment C)	(*various*)	µg/L	Upon 1st
Semi-Volatile Organic Compounds (per Attachment D)	-	-	Discovery

Parameter	GeoTracker Code	Units	Sampling & Reporting Freq.
Chlorophenoxy Herbicides (per Attachment E)	-	-	-
Organophosphorus Compounds (per Attachment E)	-	-	-

3. **Surface Water Monitoring**—The Discharger shall operate a surface water detection monitoring system for any landfill facility where runoff from landfill areas flows or could flow to waters of the United States. The monitoring system shall comply with the applicable provisions of Title 27, sections 20415 and 20420. At the Facility, runoff from landfill areas flows to onsite retention basins, all storm water is retained on site. The current surface water detection monitoring system meets the applicable requirements of Title 27.

Table 7—Surface Water Monitoring Network

Mon Pt.	Status
S-B	Upstream
S-D	Downstream

Table 8—Surface Water Monitoring: Field Parameters and Monitoring Parameters

Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Field Parameters				
Electrical Conductivity	SC	µmhos/cm	-	-
pH	PH	pH Units	Semiannual	Semiannual
Turbidity	TURB	Turbidity Units	-	-
Flow to Water of U.S.	(None)	Yes or No	-	-
Monitoring Parameters				
TDS	TDS	-	-	-
Carbonate	CACO3	-	-	-
Bicarbonate	BICACO3	-	Semiannual	Semiannual
Nitrate (as Nitrogen)	NO3N	mg/L	-	-
Sulfate	SO4	-	-	-
Calcium	CA	-	-	-
Magnesium	MG	-	-	-
Potassium	K	-	-	-
Sodium	NA	-	-	-
Short List VOCs (see Attachment A)	(*various*)	µg/L	-	-

Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
1,2,3-Trichloropropane per Method SRL-524M-TCP	TCPR123	ng/L	-	-

a. **Analysis for Five-Year COCs**—Additionally, the Discharger shall analyze for surface water samples from each monitoring point for the Five-Year COCs listed in **Table 9**.[4]

Table 9—Surface Water Monitoring Program, Five-Year COC Monitoring Parameters

Parameter	GeoTracker Code	Units	Sampling & Reporting Freq.
Total Organic Carbon	TOC	mg/L	-
Dissolved Inorganics (per Attachment B)	(*various*)	-	-
Extended List VOCs (per Attachment C)		µg/L	Every 5 Years
Semi-Volatile Organic Compounds (per Attachment D)		-	Next Report Due: 2021
Chlorophenoxy Herbicides (per Attachment E)		-	-
Organophosphorus Compounds (per Attachment E)		-	-

4. General Monitoring Provisions

a. Detection Monitoring Systems

i. All detection monitoring systems designed and constructed pursuant to this Order shall be a certified by a California-licensed professional civil engineer or geologist (Qualified Professional) as meeting the requirements of Title 27.

ii. The Discharger shall revise its DMP system, the groundwater detection monitoring system (after review and approval by Central Valley Water Board staff) as needed each time a new landfill cell or module is constructed.

[4] Five-Year COCs were last monitored in 2016, and shall be analyzed again in 2021.

iii. The Discharger shall comply with the detection monitoring program provisions of Title 27 for groundwater and the unsaturated zone in accordance with Standard Monitoring Specifications in Section I of the SPRRs and the Monitoring Specifications in Section G of the WDRs.

b. Sample Collection and Analysis Plan

i. All samples shall be collected, preserved and transported in accordance with the approved Sample Collection and Analysis Plan (SCAP) and the quality assurance/quality control (QA/QC) standards therein.

ii. The Discharger may use alternative analytical test methods (including new USEPA-approved methods), provided that the alternative methods have method detection limits (MDLs) equal to or lower than the analytical methods specified in this MRP, and are identified in the approved SCAP.

B. Additional Facility Monitoring

1. Regular Visual Inspection—The Discharger shall perform regular visual inspections at the Facility in accordance with Table 10 and results of these regular visual inspections shall be included in Semiannual Monitoring Reports (SMRs).

Table 10—Regular Visual Inspections

Category	Observations
Within Unit	Evidence of ponded water at any point on unit outside of any contact storm water/leachate diversions structures on the active face of unit (record affected areas on map). Evidence of erosion and/or of day-lighted refuse.
Unit Perimeter	Evidence of leachate seeps, estimated size of affected area and flow rate (record affected areas on map).
Receiving Waters	Evidence of erosion and/or of day-lighted refuse. Floating and suspended materials of waste origin—presence or absence, source and size of affected areas. Discoloration and turbidity—description of color, source and size of affected areas.

Table 11—Regular Visual Inspection Schedule

Category	Wet Season (1 Oct. to 30 April)	Dry Season (1 May to 30 Sept.)
Active Units	Weekly	Monthly
Inactive or Closed Units	Monthly	Quarterly

3. **Annual Facility Inspections**—Prior to **15 November** of each year, the Discharger shall inspect the Facility to assess repair and maintenance needs for drainage control systems, cover systems and groundwater monitoring wells; and preparedness for winter conditions (e.g., erosion and sedimentation control). If repairs are made as result of the annual inspection, problem areas shall be photographed before and after repairs. Any necessary construction, maintenance, or repairs shall be completed by 31 October. See Section C.4 for reporting requirements.

4. **Major Storm Events**—Within seven days of any storm event capable of causing damage or significant erosion (Major Storm Event), the Discharger shall inspect the Facility for damage to any precipitation, diversion and drainage facilities, and all landfill side slopes. Necessary repairs shall be completed within 30 days of the inspection. The Discharger shall take photos of any problem areas before and after repairs. See Section C.5 for reporting requirements.

5. **Five-Year Iso-Settlement Surveys (Closed Landfill Units)**—The Discharger shall conduct a five-year iso-settlement survey of each closed landfill units, and produce an iso-settlement map accurately depicting the estimated total change in elevation of each portion of the final cover's low-hydraulic-conductivity layer. For each portion of the landfill, this map shall show the total lowering of the surface elevation of the final cover, relative to the baseline topographic map. (Title 27, § 21090, subds. (e)(1)-(2).) See Section C.6 for reporting requirements.

C. Reporting Requirements

Table 12—Summary of Reporting Schedule

Report	End of Reporting Period	Due Date
Semiannual Monitoring Report (§ C.1)	30 June, 31 December	31 August, 28 February
Annual Monitoring Report (§ C.2)	31 December	28 February
Leachate Seep Notification via Phone or Email (§ C.3)	(Continuous)	Immediately upon Discovery

Report	End of Reporting Period	Due Date
Written Leachate Seep Report (§ C.3)	(Continuous)	7 Days After Discovery
Facility Inspection Report (§ C.4)	31 October	15 November
Major Storm Event Report (§ C.5)	(Continuous)	7 Days After Damage Discovery
Survey / Iso-Settlement Map (§ xx)	Every 5 Years	Every 5 Years
Financial Assurances Report (§ C.7)	31 December	1 October

1. Semiannual Monitoring Reports (SMRs)—On **31 August** and **28 February**[5] of each year, the Dischargers shall submit Semiannual Monitoring Reports (SMRs) in accordance with the provisions below.

a. For each groundwater monitoring point addressed by the report, the SMR shall contain a description of:

i. The time of water level measurement;

ii. The type of pump (or other device) used for purging and the elevation of the pump intake relative to the elevation of the screened interval;

iii. The method of purging used to stabilize water in the well bore before the sample is taken including the pumping rate; the equipment and methods used to monitor field pH, temperature, and conductivity during purging; results of pH, temperature, conductivity, and turbidity testing; and the method of disposing of the purge water;

iv. The type of pump (or other device) used for sampling, if different than the pump or device used for purging; and

v. A statement that the sampling procedure was conducted in accordance with the approved SCAP.

[5] The 28 Feb. Semiannual Monitoring Report may be combined with the Annual Monitoring Report (due on the same date), provided that the combination is clearly indicated in the title of the report.

b. The SMR shall include a map or aerial photograph showing the locations of observation stations, monitoring points, and background monitoring points.

c. The SMR shall include an estimated quarterly groundwater flow rate and direction in: (1) the uppermost aquifer; (2) any zones of perched water; and (3) any additional zone of saturation monitored based upon water level elevations taken prior to the collection of the water quality data submitted in the report. (See Title 27, § 20415, subd. (e)(15).)

d. The SMR shall include cumulative tabulated monitoring data for all monitoring points and constituents for groundwater, leachate, and surface water (if required under this Order). Concentrations below the laboratory reporting limit shall not be reported as "ND" unless the reporting limit is also given in the table. Otherwise they shall be reported "<" the reporting limit (e.g., <0.10). Absent specific justification for reporting in other units, all units shall be as required per Table 2, Table 3, Table 5, Table 6, Table 8 and Table 9. (See SPRRs, § I. [Standard Monitoring Specifications re: MDLs and PQLs].)

e. The SMR shall include laboratory statements of results of all analyses evaluating compliance with the WDRs.

f. The SMR shall include an evaluation of the concentration of each monitoring parameter, or Five-Year COC monitoring parameter, when such sampling is conducted, as compared to the current concentration limits, and the results of any required verification testing for constituents exceeding a concentration limit. In the event of verified exceedances of concentration limits for wells or constituents not already in corrective action monitoring, the Discharger shall report any actions taken under Section J of the SPRRs (Response to Release).

g. The SMR shall include an evaluation of the effectiveness of leachate monitoring and control facilities, as well as run-off/run-on control facilities.

h. The SMR shall include a summary of all Regular Visual Inspections (§ B.1) conducted during the reporting period.

i. The SMR shall include a summary of inspection, leak search, and repair of final covers on any closed landfill units in accordance with an approved final post-closure maintenance plan as required by

Sections G.26-29 of the SPRRs (Standard Closure and Post-Closure Maintenance Specifications).

2. Annual Monitoring Reports (AMRs)—On **28 February** of each year,[6] the Discharger shall submit Annual Monitoring Reports (AMRs) in accordance with the provisions below.

a. The AMR shall include graphs showing historical trends for monitoring parameters at each background and compliance monitoring point.[7] All monitoring parameters shall be graphed to show historical trends at each monitoring point and background monitoring point, for all samples taken within at least the previous five calendar years. All analyses for Five-Year COCs shall be graphically presented in the graph. Each graph shall plot the concentration of one or more constituents for the period of record for a given monitoring point or background monitoring point, at a scale appropriate to show trends or variations in water quality. The graphs shall plot each datum, rather than plotting mean values.[8]

b. The AMR shall also include the following:

i. An evaluation of the monitoring parameters with regard to the cation/anion balance, and a graphical presentation using a Stiff diagram, Piper graph or Schoeller plot;

ii. All historical monitoring data for which there are detectable results, including data for the previous year, shall be submitted in tabular form in a digital file[9];

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[6] See instructions in **Footnote 5** regarding combination of AMR with the 28 Feb. SMR.

[7] If analyzed during the annual reporting period, the monitoring parameters for Five-Year COCs shall be included in the graphs as well.

[8] Graphical analysis of monitoring data may be used to provide significant evidence of a release.

[9] For the purposes of this Order, the Central Valley Water Board regards submittal of data in hard copy and digital formats as necessary for statistical analysis and periodic review. (Title 27, § 20420, subd. (h).)

iii. Quarterly hydrographs of each well showing the elevation of groundwater with respect to the elevations of the top and bottom of the screened interval and the elevation of the pump intake[10];

iv. A comprehensive discussion of the compliance record, and the result of any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the waste discharge requirements;

v. A map showing the area and elevations in which filling has been completed during the previous calendar year, a comparison to final closure design contours, and a projected year in which each discrete landfill module will be filled;

vi. A written summary of the monitoring results, indicating any changes made or observed since the previous AMR;

vii. Updated concentration limits for each monitoring parameter at each monitoring well based on the new data set.

3. Seep Reporting—Upon discovery of seepage from any disposal area within the Facility, the Discharger shall immediately report such seepage to the Central Valley Water Board via telephone or email; and within seven days, submit a written report with the following information:

a. Map(s) depicting the location(s) of seepage;

b. Estimated flow rate(s);

c. A description of the nature of the discharge (e.g., all pertinent observations and analyses);

d. Verification that samples have been submitted for analyses of the Field Parameters and Monitoring Parameters listed in **Table 5** and **Table 6** of this MRP, and an estimated date that the results will be submitted to the Central Valley Water Board; and

e. Corrective measures underway or proposed, and corresponding time schedule.

[10] Hydrographs shall be prepared quarterly, but submitted annually.

4. **Annual Facility Inspection Report**—By **15 November** of each year, the Discharger shall submit a report describing the results of the inspection and the repair measures implemented, preparations for winter, and include photographs of any problem areas and the repairs. (See MRP, § B.3.)

5. **Major Storm Event Reports**—Immediately following each post-storm inspection described in Section B.4 of this MRP, the Discharger shall notify Central Valley Water Board staff of any damage or significant erosion (upon discovery). Subsequent repairs shall be reported to the Central Valley Water Board (together with before and after photos of the repaired areas) within 14 days of completion.

6. **Survey and Iso-Settlement Map (Closed Landfill Units)—**The Discharger shall submit all iso-settlement maps prepared in accordance with Section B.5 of this MRP. (See Title 27, § 21090, subd. (e).)

7. **Financial Assurances Report**—By 1 October of each year, the Discharger shall submit a copy of the annual financial assurances report due to CalRecycle that updates the financial assurances for post-closure maintenance and corrective action.

8. **Water Quality Protection Standard Reporting**—The Discharger shall submit Water Quality Protection Reports (WQPS Reports) as required per see Section E.2 of this MRP.

9. **General Reporting Provisions**

   a. **Transmittal Letters**—Each report submitted under this MRP shall be accompanied by a Transmittal Letter providing a brief overview of the enclosed report, as well as the following:

      i. Any violations found since the last report was submitted, a description of all actions undertaken to correct the violation (referencing any previously submitted time schedules for compliance), and whether the violations have been corrected[11];

      ii. A statement from the submitting discharger, or its authorized agent, signed under penalty of perjury, certifying that, to the

[11] if no violations have occurred since submittal of the last report, the Transmittal Letter shall so state.

best of the signer's knowledge, the contents of the enclosed report are true, accurate and complete.

b. **Monitoring Data and Reports**—All monitoring data and reports under this MRP shall be submitted via the State Water Board's Geotracker Database at (https://geotracker.waterboards.ca.gov). (See Title 23, § 3890 et seq.; Title 27, div. 3.)

After uploading each report, the Discharger shall notify Central Valley Water Board staff via email at CentralValleyFresno@Waterboards.ca.gov. The following information shall be included in the body of the email:

Attention:	Title 27 Unit
Report Title:	[Title]
GeoTracker Upload ID:	L10006224859
Discharger Name:	County of Tulare
Facility Name:	Orosi Solid Waste Landfill
County:	Tulare County
CIWQS Place ID:	224622

c. **Data Presentation and Formatting**—In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, the concentrations, and the units are readily discernible. Additionally, the submitted data shall be summarized in such a manner so as to illustrate clearly the compliance with waste discharge requirements or the lack thereof.

d. **Compliance with SPRRs**—All reports submitted under this MRP shall comply with applicable provisions of the SPRRs, including those in Section I (Standard Monitoring Specifications) and Section J (Response to Release).

e. **Additional Requirements for Monitoring Reports**—Each monitoring report submitted under this MRP (e.g., SMRs per § C.1) shall include a discussion of relevant field and laboratory tests, and the results of all monitoring conducted at the site shall be reported to the Central Valley Water Board in accordance with the reporting schedule above for the calendar period in which samples were taken or observations made.

D. Record Retention Requirements—The Discharger shall maintain permanent records of all monitoring information, including without limitation: calibration and maintenance records; original strip chart recordings of continuous monitoring instrumentation; copies of all reports required by this MRP; and records of all

data used to complete the application for WDRs. Such records shall be legible, and show the following for each sample:

1. Sample identification and the monitoring point or background monitoring point from which it was taken, along with the identity of the individual who obtained the sample;

2. Date, time and manner of sampling;

3. Date and time that analyses were started and completed, and the name of the personnel and laboratory performing each analysis;

4. A complete list of procedures used (including method of preserving the sample, and the identity and volumes of reagents used);

5. A calculation of results; and

6. The results of all analyses, as well as the MDL and PQL for each analysis (all peaks shall be reported).

E. Water Quality Protection Standard (WQPS)

1. Components of WQPS

a. For each WMU, the WQPS shall consist of: (i) all Constituents of Concern (COCs); (ii) the concentration limit applicable for each COC; (iii) the verification retesting procedure to confirm measurably significant evidence of a release; the point of compliance; and (iv) all water quality monitoring points for each monitored medium.

b. For naturally occurring constituents, the WQPS shall consist of: (i) naturally occurring COCs; (ii) the concentration limits of each naturally occurring COC; (iii) the point of compliance; and (iv) all monitoring points.

2. WQPS Report—Any proposed changes to the WQPS, other than annual update of the concentration limits, shall be submitted in a WQPS Report for review and approval.

a. The WQPS report shall be certified by a Qualified Professional (per MRP, § A.4.a.i), and contain each of the following components

i. An identification of all distinct bodies of surface water and groundwater[12] that could be affected in the event of a release from a WMU or portion thereof;

ii. A map of monitoring points and background monitoring points for the detection monitoring programs for groundwater, surface water (if required) and the unsaturated zone, as well as the point of compliance in accordance with Title 27, section 20405;

iii. An evaluation the perennial direction(s) of groundwater movement within the uppermost zone(s);

iv. A proposed statistical method for calculating concentration limits for monitoring parameters and COCs detected in at least 10 percent of the background data (naturally-occurring constituents) using a statistical procedure from subdivisions (e)(8)(A)-(D) or (e)(8)(E) of Title 27, section 20415; and

v. A re-testing procedure to confirm or deny measurably significant evidence of a release (see Title 27, §§ 20415, subd. (e)(8)(E), 20420, subds. (j)(1)-(3)).

b. If subsequent sampling of the background monitoring point(s) indicates significant water quality changes due to either seasonal fluctuations or other reasons unrelated to waste management activities at the site, the Discharger may request modification of the WQPS.

c. The Discharger proposed methods for calculating concentration limits in their most recently approved WQPS Report. Limits are calculated using interwell prediction limits.

d. The WQPS shall be updated annually for each monitoring well using new and historical monitoring data.

3. Monitoring Parameters—A select group of constituents monitored during each sampling event, monitoring parameters are the waste constituents,

[12] This list shall include at least the uppermost aquifer and any permanent or ephemeral zones of perched groundwater underlying the facility.

reaction products, hazardous constituents and physical parameters that provide a reliable indication of a release from a given WMU.

For the purposes of this MRP, the monitoring parameters are set forth in: Table 2 and Table 3 (groundwater); and Table 5 and Table 6 (leachate).

4. **Constituents of Concern (COCs)**—COCs include a larger group of waste constituents, their reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the WMU, and are required to be monitored every five years. (See Title 27, §§ 20395, 20420(g).) The COCs under this Order are as follows:

   For the purposes of this MRP, the COCs are set forth in: Table 3 (Groundwater); and Table 56 (Leachate) and Table 6 (Surface Water).

   Additionally, Table 2 (Groundwater),Table 5 (Leachate) and Table 58 (Surface Water) incorporate additional COCs set forth in MRP Attachment A (Volatile Organic Compounds, Short List).

   Further, Table 3 (Groundwater), Table 6 (Leachate) and Table 9 (Surface Water) incorporate the Five-Year COCs listed in MRP Attachment B (Dissolved Inorganics), MRP Attachment C (Volatile Organic Compounds, Extended List), MRP Attachment D (Semi-Volatile Organic Compounds) and MRP Attachment E (Chlorophenoxy Herbicides and Organophosphorus Compounds). The last Five-Year COC Report was submitted in the 2017 AMR. Five-Year COCs are to be monitored again in 2021.

5. **Concentration Limits**—The concentration limit of each naturally occurring COC shall be determined as follows:

   a. By calculation in accordance with a statistical method in accordance with Title 27, section 20415, subdivision (e)(8); or

   b. By an alternate statistical method in accordance with Title 27, section 20415, subdivision (e)(8)(E).

6. **Retesting Procedures to Confirm Release**—If monitoring results indicate measurably significant evidence of a release per Section I.45 of the SPRRs, the Discharger shall:

   a. For analytes detected in less than 10 percent of background samples (e.g., non-naturally occurring), the Discharger shall use the non-statistical retesting procedure required per Section I.46 of the SPRRs (Standard Monitoring Specifications).

b. For analytes detected in at least 10 percent of background samples (naturally occurring), the Discharger shall use one of the statistical retesting procedures required per Section I.47 of the SPRRs.

7. **Point of Compliance (POC)**—The point of compliance for the water standard at each waste management unit is a vertical surface located at the hydraulically downgradient limit of the Unit that extends through the uppermost aquifer underlying the unit.

8. **Monitoring Points**—A monitoring point is a well, device, or location specified in the waste discharge requirements, which monitoring is conducted and at which the water quality protection standard applies. The monitoring points for each monitored medium are listed in Section A of this MRP.

9. **Compliance Period**—The Compliance Period for the WMU shall be the number of years equal to its active life plus the closure period. The compliance period is the minimum period during which the Discharger shall conduct a water quality monitoring program subsequent to a release from the WMU. The compliance period shall begin anew each time the Discharger initiates an Evaluation Monitoring Program. (See Title 27, § 20410.)

If, in the opinion of the Executive Officer, the Discharger 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 sections 13268, 13350 and 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

Any person aggrieved by this Central Valley 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. The State Water Board must receive the petition by 5:00 p.m. 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 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions are available on the Internet (at the address below), and will be provided upon request.

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

MRP Glossary

MRP Attachments

Attachment A—Volatile Organic Compounds, Short List
Attachment B—Dissolved Inorganics (Five-Year COCs)
Attachment C—Volatile Organic Compounds, Extended List (Five-Year COCs)
Attachment D—Semi-Volatile Organic Compounds (Five-Year COCs)
Attachment E—Chlorophenoxy Herbicides and Organophosphorus Compounds (Five-Year COCs)

MRP GLOSSARY

AMR .....Annual Monitoring Report

COCs .....Constituents of Concern

DMP .....Detection Monitoring Program

Five-Year COCs .....COCs Monitored Every Five Years

GP .....Gas Probe

LCRS .....Leachate Collection and Removal System

MDL .....Method Detection Limit

µg/L.....Micrograms per Liter

mg/L.....Milligrams per Liter

MRP .....Monitoring and Reporting Program

MSW .....Municipal Solid Waste

MW.....Monitoring Well

ND.....Non-Detect (i.e., < RL)

ng/L.....Nanograms per Liter

POC .....Point of Compliance

QA/QC .....Quality Assurance / Quality Control

RL .....Laboratory Reporting Limit

SCAP .....Sample Collection and Analysis Plan

SMR .....Semiannual Monitoring Report

SPRRs .....Standard Provisions and Reporting Requirements, December 2015 Edition

Title 27.....California Code of Regulations, Title 27

USEPA.....United States Environmental Protection Agency

GLOSSARY

WDRs Order.....Waste Discharge Requirements Order

WMU .....Waste Management Unit

WQPS .....Water Quality Protection Standard

MRP ATTACHMENT A—VOLATILE ORGANIC COMPOUNDS, SHORT LIST

Volatile Organic Compounds—Short List USEPA Method 8260B	GeoTracker Code
Acetone	ACE
Acrylonitrile	ACRAMD
Benzene	BZ
Bromochloromethane	BRCLME
Bromodichloromethane	BDCME
Bromoform (Tribromomethane)	TBME
Carbon disulfide	CDS
Carbon tetrachloride	CTCL
Chlorobenzene	CLBZ
Chloroethane (Ethyl chloride)	CLEA
Chloroform (Trichloromethane)	TCLME
Dibromochloromethane (Chlorodibromomethane)	DBCME
1,2-Dibromo-3-chloropropane (DBCP)	DBCP
1,2-Dibromoethane (Ethylene dibromide; EDB)	EDB
o-Dichlorobenzene (1,2-Dichlorobenzene)	DCBZ12
m-Dichlorobenzene (1,3-Dichlorobenzene)	DCBZ13
p-Dichlorobenzene (1,4-Dichlorobenzene)	DCBZ14
trans- l ,4-Dichloro-2-butene	DCBE14T
Dichlorodifluoromethane (CFC-12)	FC12
1,1-Dichloroethane (Ethylidene chloride)	DCA11
1,2-Dichloroethane (Ethylene dichloride)	DCA12

MRP ATTACHMENT A—VOLATILE ORGANIC COMPOUNDS, SHORT LIST

Volatile Organic Compounds—Short List USEPA Method 8260B	GeoTracker Code
1,1 -Dichloroethylene (1,1 -Dichloroethene; Vinylidene chloride)	DCE11
cis- 1,2-Dichloroethylene (cis- 1,2-Dichloroethene)	DCE12C
trans-1,2-Dichloroethylene (trans-1,2-Dichloroethene)	DCE12T
1,2-Dichloropropane (Propylene dichloride)	DCPA12
cis- 1,3-Dichloropropene	DCP13C
trans- 1,3-Dichloropropene	DCP13T
Di-isopropylether (DIPE)	DIPE
Ethanol	ETHANOL
Ethyltertiary butyl ether	ETBE
Ethylbenzene	EBZ
2-Hexanone (Methyl butyl ketone)	HXO2
Hexachlorobutadiene	HCBU
Methyl bromide (Bromomethene)	BRME
Methyl chloride (Chloromethane)	CLME
Methylene bromide (Dibromomethane)	DBMA
Methylene chloride (Dichloromethane)	DCMA
Methyl ethyl ketone (MEK: 2-Butanone)	MEK
Methyl iodide (Iodomethane)	IME
Methyl t-butyl ether	MTBE
4-Methyl-2-pentanone (Methyl isobutylketone)	MIBK
Naphthalene	NAPH

MRP ATTACHMENT A—VOLATILE ORGANIC COMPOUNDS, SHORT LIST

Volatile Organic Compounds—Short List USEPA Method 8260B	**GeoTracker Code**
Styrene	STY
Tertiary amyl methyl ether	TAME
Tertiary butyl alcohol	TBA
1,1,1,2-Tetrachloroethane	TC1112
1,1.2,2-Tetrachloroethane	PCA
Tetrachloroethylene (Tetrachloroethene; Perchloroethylene)	PCE
Toluene	BZME
1,2,4-Trichlorobenzene	TCB124
1,1,1-Trichloroethane (Methylchloroform)	TCA111
1,1,2-Trichloroethane	TCA112
Trichloroethylene (Trichloroethene)	TCE
Trichlorofluoromethane (CFC- 11)	FC11
1,2,3 Trichloropropane [*use SRL-524M-TCP in lieu of USEPA Method 8260*]	TCPR123
Vinyl acetate	VA
Vinyl chloride	VC
Xylenes	XYLENES

MRP ATTACHMENT B—DISSOLVED INORGANICS (FIVE-YEAR COCs)

Constituent	GeoTracker Code	USEPA Method
Aluminum	AL	200.8
Antimony	SB	200.8
Barium	BA	200.8
Beryllium	BE	200.8
Cadmium	CD	200.8
Chromium	CR	200.8
Cobalt	CO	200.8
Copper	CU	200.8
Silver	AG	200.8
Tin	SN	200.8
Vanadium	V	200.8
Zinc	ZN	200.8
Iron	FE	200.8
Manganese	MN	200.8
Arsenic	AS	200.8
Lead	PB	200.8
Mercury	HG	200.8
Nickel	NI	200.8
Selenium	SE	200.8
Thallium	TL	200.8
Cyanide	CN	SM4500CN
Sulfide	S	SM4500SF

MRP ATTACHMENT C—VOLATILE ORGANIC COMPOUNDS, EXTENDED LIST (FIVE-YEAR COCs)

Volatile Organic Compounds USEPA Method 8260, Extended List	GeoTracker Code
Acetone	ACE
Acetonitrile (Methyl cyanide)	ACCN
Acrolein	ACRL
Acrylonitrile	ACRAMD
Allyl chloride (3-Chloropropene)	CLPE3
Benzene	BZ
Bromochloromethane (Chlorobromomethane)	BRCLME
Bromodichloromethane (Dibromochloromethane)	DBCME
Bromoform (Tribromomethane)	TBME
Carbon disulfide	CDS
Carbon tetrachloride	CTCL
Chlorobenzene	CLBZ
Chloroethane (Ethyl chloride)	CLEA
Chloroform (Trichloromethane)	TCLME
Chloroprene	CHLOROPRENE
Dibromochloromethane (Chlorodibromomethane)	DBCME
1,2-Dibromo-3-chloropropane (DBCP)	DBCP
1,2-Dibromoethane (Ethylene dibromide; EDB)	EDB
o-Dichlorobenzene (1,2-Dichlorobenzene)	DCBZ12
m-Dichlorobenzene(1,3-Dichlorobenzene)	DCBZ13

MRP ATTACHMENT C—VOLATILE ORGANIC COMPOUNDS, EXTENDED LIST (FIVE-YEAR COCS)

Volatile Organic Compounds USEPA Method 8260, Extended List	GeoTracker Code
p-Dichlorobenzene (1,4-Dichlorobenzene)	DCBZ14
trans- 1,4-Dichloro-2-butene	DCBE14T
Dichlorodifluoromethane (CFC 12)	FC12
1,1 -Dichloroethane (Ethylidene chloride)	DCA11
1,2-Dichloroethane (Ethylene dichloride)	DCA12
1,1 -Dichloroethylene (1, l-Dichloroethene; Vinylidene chloride)	DCE11
cis- l ,2-Dichloroethylene (cis- 1,2-Dichloroethene)	DCE12C
trans- l ,2-Dichloroethylene (trans- 1,2-Dichloroethene)	DCE12T
1,2-Dichloropropane (Propylene dichloride)	DCPA12
1,3-Dichloropropane (Trimethylene dichloride)	DCPA13
2,2-Dichloropropane (Isopropylidene chloride)	DCPA22
1,1 -Dichloropropene	DCP11
cis- 1,3-Dichloropropene	DCP13C
trans- l ,3-Dichloropropene	DCP13T
Di-isopropylether (DIPE)	DIPE
Ethanol	ETHANOL
Ethyltertiary butyl ether	ETBE
Ethylbenzene	EBZ
Ethyl methacrylate	EMETHACRY
Hexachlorobutadiene	HCBU
2-Hexanone (Methyl butyl ketone)	HXO2

MRP ATTACHMENT C—VOLATILE ORGANIC COMPOUNDS, EXTENDED LIST (FIVE-YEAR COCS)

Volatile Organic Compounds USEPA Method 8260, Extended List	GeoTracker Code
Isobutyl alcohol	ISOBTOH
Methacrylonitrile	METHACRN
Methyl bromide (Bromomethane)	BRME
Methyl chloride (Chloromethane)	CLME
Methyl ethyl ketone (MEK; 2-Butanone)	MEK
Methyl iodide (Iodomethane)	IME
Methyl t-butyl ether	MTBE
Methyl methacrylate	MMTHACRY
4-Methyl-2-pentanone (Methyl isobutyl ketone)	MIBK
Methylene bromide (Dibromomethane)	DBMA
Methylene chloride (Dichloromethane)	DCMA
Naphthalene	NAPH
Propionitrile (Ethyl cyanide)	PACN
Styrene	STY
Tertiary amyl methyl ether	TAME
Tertiary butyl alcohol	TBA
1,1,1,2-Tetrachloroethane	TC1112
1,1,2,2-Tetrachloroethane	PCA
Tetrachloroethylene (Tetrachloroethene; Perchloroethylene; PCE)	PCE
Toluene	BZME
1,2,4-Trichlorobenzene	TCB124

MRP ATTACHMENT C—VOLATILE ORGANIC COMPOUNDS, EXTENDED LIST (FIVE-YEAR COCS)

Volatile Organic Compounds USEPA Method 8260, Extended List	**GeoTracker Code**
1,1,1 -Trichloroethane (Methylchloroform)	TCA111
1,1,2-Trichloroethane	TCA112
Trichloroethylene (Trichloroethene; TCE)	TCE
Trichlorofluoromethane (CFC-11)	FC11
1,2,3-Trichloropropane [*use SRL-524M-TCP in lieu of USEPA Method 8260*]	TCPR123
Vinyl acetate	VA
Vinyl chloride (Chloroethene)	VC
Xylene (total)	XYLENES

MRP ATTACHMENT D—SEMI-VOLATILE ORGANIC COMPOUNDS (FIVE-YEAR COCs)

Semi-Volatile Organic Compounds USEPA Methods 8270C or 8270D (Base, Neutral & Acid Extractables)	GeoTracker Code
Acenaphthene	ACNP
Acenaphthylene	ACNPY
Acetophenone	ACPHN
2-Acetylaminofluorene (2-AAF)	ACAMFL2
Aldrin	ALDRIN
4-Aminobiphenyl	AMINOBPH4
Anthracene	ANTH
Benzo[a]anthracene (Benzanthracene)	BZAA
Benzo[b]fluoranthene	BZBF
Benzo[k]fluoranthene	BZKF
Benzo[g,h,i]perylene	BZGHIP
Benzo[a]pyrene	BZAP
Benzyl alcohol	BZLAL
Bis(2-ethylhexyl) phthalate	BIS2EHP
alpha-BHC	BHCALPHA
beta-BHC	BHCBETA
delta-BHC	BHCDELTA
gamma-BHC (Lindane)	BHCGAMMA
Bis(2-chloroethoxy) methane	BECEM
Bis(2-chloroethyl) ether (Dichloroethyl ether)	BIS2CEE

MRP ATTACHMENT D—SEMI-VOLATILE ORGANIC COMPOUNDS (FIVE-YEAR COCs)

Semi-Volatile Organic Compounds USEPA Methods 8270C or 8270D (Base, Neutral & Acid Extractables)	GeoTracker Code
Bis(2-chloro-1-methyethyl) ether (Bis(2-chloroisopropyl) ether; DCIP)	BIS2CIE
4-Bromophenyl phenyl ether	BPPE4
Butyl benzyl phthalate (Benzyl butyl phthalate)	BBP
Chlordane	CHLORDANE
p-Chloroaniline	CLANIL4
Chlorobenzilate	CLBZLATE
p-Chloro-m-cresol (4-Chloro-3-methylphenol)	C4M3PH
2-Chloronaphthalene	CNPH2
2-Chlorophenol	CLPH2
4-Chlorophenyl phenyl ether	CPPE4
Chrysene	CHRYSENE
o-Cresol (2-methylphenol)	MEPH2
m-Cresol (3-methylphenol)	MEPH3
p-Cresol (4-methylphenol)	MEPH4
4,4'-DDD	DDD44
4,4'-DDE	DDE44
4,4'-DDT	DDT44
Diallate	DIALLATE
Dibenz[a,h]anthracene	DBAHA
Dibenzofuran	DBF

MRP ATTACHMENT D—SEMI-VOLATILE ORGANIC COMPOUNDS (FIVE-YEAR COCs)

Semi-Volatile Organic Compounds USEPA Methods 8270C or 8270D (Base, Neutral & Acid Extractables)	GeoTracker Code
Di-n-butyl phthalate	DNBP
3,3'-Dichlorobenzidine	DBZD33
2,4-Dichlorophenol	DCP24
2,6-Dichlorophenol	DCP26
Dieldrin	DIELDRIN
Diethyl phthalate	DEPH
p-(Dimethylamino) azobenzene	PDMAABZ
7,12-Dimethylbenz[a]anthracene	DMBZA712
3,3'-Dimethylbenzidine	DMBZD33
2,4-Dimehtylphenol (m-Xylenol)	DMP24
Dimethyl phthalate	DMPH
m-Dinitrobenzene	DNB13
4,6-Dinitro-o-cresol (4,6-Dinitro-2-methylphenol)	DN46M
2,4-Dinitrophenol	DNP24
2,4-Dinitrotoluene	DNT24
2,6-Dinitrotoluene	DNT26
Di-n-octyl phthalate	DNOP
Diphenylamine	DPA
Endosulfan I	ENDOSULFANA
Endosulfan II	ENDOSULFANB
Endosulfan sulfate	ENDOSULFANS

MRP ATTACHMENT D—SEMI-VOLATILE ORGANIC COMPOUNDS (FIVE-YEAR COCs)

Semi-Volatile Organic Compounds USEPA Methods 8270C or 8270D (Base, Neutral & Acid Extractables)	GeoTracker Code
Endrin	ENDRIN
Endrin aldehyde	ENDRINALD
Ethyl methanesulfonate	EMSULFN
Famphur	FAMPHUR
Fluoranthene	FLA
Fluorene	FL
Heptachlor	HEPTACHLOR
Heptachlor epoxide	HEPT-EPOX
Hexachlorobenzene	HCLBZ
Hexachlorocyclopentadiene	HCCP
Hexachloroethane	HCLEA
Hexachloropropene	HCPR
Indeno(1,2,3-c,d) pyrene	INP123
Isodrin	ISODRIN
Isophorone	ISOP
Isosafrole	ISOSAFR
Kepone	KEP
Methapyrilene	MTPYRLN
Methoxychlor	MTXYCL
3-Methylcholanthrene	MECHLAN3
Methyl methanesulfonate	MMSULFN

MRP ATTACHMENT D—SEMI-VOLATILE ORGANIC COMPOUNDS (FIVE-YEAR COCs)

Semi-Volatile Organic Compounds USEPA Methods 8270C or 8270D (Base, Neutral & Acid Extractables)	GeoTracker Code
2-Methylnaphthalene	MTNPH2
1,4-Naphthoquinone	NAPHQ14
1-Naphthylamine	AMINONAPH1
2-Naphthylamine	AMINONAPH2
o-Nitroaniline (2-Nitroaniline)	NO2ANIL2
m-Nitroaniline (3-Nitroaniline)	NO2ANIL3
p-Nitroaniline (4-Nitroaniline)	NO2ANIL4
Nitrobenzene	NO2BZ
o-Nitrophenol (2-Nitrophenol)	NTPH2
p-Nitrophenol (4-Nitrophenol)	NTPH4
N-Nitrosodi-n-butylamine (Di-n-butylnitrosamine)	NNSBU
N-Nitrosodiethylamine (Diethylnitrosamine)	NNSE
N-Nitrosodimethylamine (Dimethylnitrosamine)	NNSM
N-Nitrosodiphenylamine (Diphenylnitrosamine)	NNSPH
N-Nitrosodipropylamine (N-Nitroso-N-dipropylamine; Di-n-propylnitrosamine)	NNSPR
N-Nitrosomethylethylamine (Methylethylnitrosamine)	NNSME
N-Nitrosopiperidine	NNSPPRD
N-Nitrosospyrrolidine	NNSPYRL
5-Nitro-o-toluidine	TLDNONT5
Pentachlorobenzene	PECLBZ

MRP ATTACHMENT D—SEMI-VOLATILE ORGANIC COMPOUNDS (FIVE-YEAR COCs)

Semi-Volatile Organic Compounds USEPA Methods 8270C or 8270D (Base, Neutral & Acid Extractables)	GeoTracker Code
Pentachloronitrobenzene (PCNB)	PECLNO2BZ
Pentachlorophenol	PCP
Phenacetin	PHNACTN
Phenanthrene	PHAN
Phenol	PHENOL
p-Phenylenediamine	ANLNAM4
Polychlorinated biphenyls (PCBs; Aroclors)	PCBS
Pronamide	PRONAMD
Pyrene	PYR
Safrole	SAFROLE
1,2,4,5-Tetrachlorobenzene	C4BZ1245
2,3,4,6-Tetrachlorophenol	TCP2346
o-Toluidine	TLDNO
Toxaphene	TOXAP
2,4,5-Trichlorophenol	TCP245
0,0,0-Triethyl phosphorothioate	TEPTH
sym-Trinitrobenzene	TNB135

MRP ATTACHMENT E—CHLOROPHENOXY HERBICIDES AND ORGANOPHOSPHORUS COMPOUNDS (FIVE-YEAR COCS)

Chlorophenoxy Herbicides USEPA Method 8151A	**GeoTracker Code**
2,4 D (2,4 Dichlorophenoxyacetic acid)	24D
Dinoseb (DNBP; 2 sec Butyl 4,6 dinitrophenol)	DINOSEB
Silvex (2,4,5 Trichlorophenoxypropionic acid; 2,4,5 TP)	SILVEX
2,4,5 T (2,4,5 Trichlorophenoxyacetic acid)	245T

Organophosphorus Compounds USEPA Method 8141B	**GeoTracker Code**
Atrazine	ATRAZINE
Chlorpyrifos	CLPYRIFOS
0,0-Diethyl 0-2-pyrazinyl phosphorothioate (Thionazin)	ZINOPHOS
Diazinon	DIAZ
Dimethoate	DIMETHAT
Disulfoton	DISUL
Methyl parathion (Parathion methyl)	PARAM
Parathion	PARAE
Phorate	PHORATE
Simazine	SIMAZINE

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2019-0083

WASTE DISCHARGER REQUIREMENTS
FOR
COUNTY OF TULARE
OROSI SOLID WASTE LANDFILL
TULARE COUNTY
AND
MONITORING AND REPORTING PROGRAM

INFORMATION SHEET

The County of Tulare (hereafter Discharger) owns and maintains the closed Orosi Solid Waste Landfill (Facility), which is located about one mile north of Orosi. The existing 40-acre facility contains one unlined waste management unit (WMU) covering approximately nine acres. The Facility received waste from the mid-1940s until 1987. There are domestic, industrial, and agricultural groundwater supply wells within one mile of the Facility.

On 16 July 2009, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) adopted Waste Discharge Requirements (WDRs) Order R5-2009-0107 for the closure and post-closure maintenance of the WMU. The Facility has historically been classified as a Class III disposal site in accordance with Title 27, California Code of Regulations, §20004 et seq. These WDRs provide for continuing post-closure maintenance and continue to classify the Facility as a Class III disposal site in accordance with Title 27.

On 23 September 2010, the Central Valley Water Board adopted Time Schedule Order R5-2010-0107 (TSO) to mandate a deadline for the construction of a final cover system. A final cover system was completed in January 2012 and consists of the following components (in ascending order): two-foot thick foundation layer, a geosynthetic clay liner, and a two-foot thick vegetated soil layer.

The Facility is located within a relatively topographically flat region of the San Joaquin Valley. The native ground surface elevation ranges from 388 to 409 feet mean sea level. The Facility overlies Quaternary-age alluvial deposits from the Sand Creek, which consist of moderately to highly permeable, interbedded clay, silt, sand and gravel. The Sand Creek flows, from north to south, along the eastern boundary of the Facility.

The WDRs are being revised to provide for continued post-closure maintenance. Monitoring data from the 2018 Second Semi-Annual and Annual Monitoring Report indicates background groundwater quality for first encountered groundwater has electrical conductivity ranging between 900 and 990 micromhos/cm, with total dissolved solids ranging between 640 and 650 milligrams per liter. first encountered groundwater ranges from about 58 to 75 feet below the native ground surface and is unconfined. The depth to groundwater fluctuates seasonally from approximately five to ten feet.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

STANDARD PROVISIONS AND REPORTING REQUIREMENTS
FOR
WASTE DISCHARGE REQUIREMENTS
FOR
NONHAZARDOUS SOLID WASTE DISCHARGES
REGULATED BY SUBTITLE D AND/OR TITLE 27
(40 C.F.R. section 258 and Title 27, § 20005 et seq.)

December 2015

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A. APPLICABILITY

1. These Standard Provisions and Reporting Requirements (SPRRs) are applicable to nonhazardous solid waste disposal sites that are regulated by the Central Valley Regional Water Quality Control Board (hereafter, Central Valley Water Board) pursuant to the provisions of California Code of Regulations, title 27 ("Title 27"), section 20005 et seq., and municipal solid waste (MSW) landfills that are subject to the Federal Subtitle D regulations contained in 40 Code of Federal Regulations section 258 (hereafter, "Subtitle D" or "40 C.F.R. § 258.XX") in accordance with State Water Resources Control Board (State Water Board) Resolution 93-62. The Subtitle D regulations are only applicable to MSW landfills and therefore any requirements in these SPRRs that are referenced as coming from Subtitle D are not applicable to non-MSW waste management units such as Class II surface impoundments, Class II waste piles, and non-MSW landfill units. All Subtitle D requirements in these SPRRs are referenced with "[40 C.F.R. § 258.XX]" after the requirement.

2. "Order," as used throughout this document, means the Waste Discharge Requirements (WDRs) to which these SPRRs are incorporated.

3. The requirements prescribed herein do not authorize the commission of any act causing injury to the property of another, and do not protect the Discharger from liabilities under federal, state, or local laws. This Order does not convey any property rights or exclusive privileges.

4. The provisions of this Order are severable. If any provision of this Order is held invalid, the remainder of this Order shall not be affected.

5. If there is any conflicting or contradictory language between the WDRs, the Monitoring and Reporting Program (MRP), or the SPRRs, then language in the WDRs shall govern over either the MRP or the SPRRs, and language in the MRP shall govern over the SPRRs.

6. If there is a site-specific need to change a requirement in these SPRRs for a particular landfill facility, the altered requirement shall be placed in the appropriate section of the WDRs and will supersede the corresponding SPRRs requirement. These SPRRs are standard and cannot be changed as part of the permit writing process or in response to comments, but they will be periodically updated on an as-needed basis.

7. Unless otherwise stated, all terms are as defined in Water Code section 13050 and in Title 27, section 20164.

B. TERMS AND CONDITIONS

1. Failure to comply with any waste discharge requirement, monitoring and reporting requirement, or Standard Provisions and Reporting Requirement, or

other order or prohibition issued, reissued, or amended by the Central Valley Water Board or the State Water Board, or intentionally or negligently discharging waste, or causing or permitting waste to be deposited where it is discharged into the waters of the state and creates a condition of pollution or nuisance, is a violation of this Order and the Water Code, which can result in the imposition of civil monetary liability [Wat. Code, § 13350(a)]

2. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to [Wat. Code, § 13381]:

   a. Violation of any term or condition contained in this Order;

   b. Obtaining this Order by misrepresentation, or failure to disclose fully all relevant facts;

   c. A change in any condition that results in either a temporary or permanent need to reduce or eliminate the authorized discharge; or

   d. A material change in the character, location, or volume of discharge.

3. Before initiating a new discharge or making a material change in the character, location, or volume of an existing discharge, the Discharger shall file a new report of waste discharge (ROWD), or other appropriate joint technical document (JTD), with the Central Valley Water Board [Wat. Code, § 13260(c) and § 13264(a)]. A material change includes, but is not limited to, the following:

   a. An increase in area or depth to be used for solid waste disposal beyond that specified in waste discharge requirements;

   b. A significant change in disposal method, location, or volume (e.g., change from land disposal to land treatment);

   c. A change in the type of waste being accepted for disposal; or

   d. A change to previously-approved liner systems or final cover systems that would eliminate components or reduce the engineering properties of components.

4. Representatives of the Central Valley Water Board may inspect the facilities to ascertain compliance with the waste discharge requirements. The inspection shall be made with the consent of the owner or possessor of the facilities or, if the consent is refused, with a duly issued warrant. However, in the event of an emergency affecting the public health or safety, an inspection may be made without consent or the issuance of a warrant [Wat. Code, §13267(c)].

5. The Central Valley Water Board will review this Order periodically and will revise these waste discharge requirements when necessary [Wat. Code, § 13263(e) and Title 27, § 21720(b)].

6. Except for material determined to be confidential in accordance with California law and regulations, all reports prepared in accordance with terms of this Order shall be available for public inspection at the offices of the Central Valley Water Board [Wat. Code, § 13267(b)]. Data on waste discharges, water quality, geology, and hydrogeology shall not be considered confidential.

7. A discharge of waste into the waters of the state is a privilege, not a right. No discharge of waste into waters of the state, whether or not the discharge is made pursuant to waste discharge requirements, shall create a vested right to continue the discharge [Wat. Code, § 13263(g)].

8. Technical and monitoring reports specified in this Order are requested pursuant to the Water Code [§13267(b)]. Failure to furnish the reports by the specified deadlines or falsifying information in the reports, are misdemeanors that may be liable civilly in accordance with §13268(b) of the Water Code [Wat. Code, §13268(a)].

C. STANDARD PROHIBITIONS

1. The discharge of liquid or semi-solid waste (waste containing less than 50 percent solids) is prohibited, except for the following when proposed in the ROWD/JTD and approved by this Order:

    a. Dewatered sewage or water treatment sludge as described in Title 27, section 20220(c) provided it is discharged above a composite liner with a leachate collection and removal system (LCRS) [Title 27, § 20200(d)(3)].

    b. Leachate and/or landfill gas condensate that is returned to the composite-lined waste management unit (with an LCRS) from which it came [Title 27, § 20340(g) and 40 C.F.R. § 258.28].

2. The discharge of wastes which have the potential to reduce or impair the integrity of containment structures or which, if commingled with other wastes in the waste management unit, could produce violent reaction, heat or pressure, fire or explosion, toxic by-products, or reaction products, which, in turn:

    a. require a higher level of containment than provided by the unit; or

    b. are ‘restricted wastes’; or

    c. impair the integrity of containment structures;

    is prohibited [Title 27, § 20200(b)].

3. The discharge of wastes outside of a waste management unit or portions of a unit specifically designed for their containment is prohibited.

4. The discharge of solid waste containing free liquid or which may contain liquid in excess of the moisture holding capacity as a result of waste management operations, compaction or settlement is prohibited.

5. The discharge of waste to a closed landfill unit is prohibited.

6. The discharge of waste constituents to the unsaturated zone or to groundwater is prohibited.

7. The discharge of solid or liquid waste or leachate to surface waters, surface water drainage courses, or groundwater is prohibited.

D. STANDARD DISCHARGE SPECIFICATIONS

1. The Discharger is responsible for accurate characterization of wastes, including a determination of whether or not wastes will be compatible with containment features and other wastes at the waste management unit and whether or not the wastes are required to be managed as a hazardous waste [Title 27, § 20200(c)] or designated waste [Title 27, § 20210].

2. Leachate and landfill gas condensate collected from a waste management unit shall be discharged to the unit from which it came, or discharged to an appropriate waste management unit in accordance with Title 27 and in a manner consistent with the waste classification of the liquid [Title 27, § 20200(d) and § 20340(g)].

3. The discharge of leachate or landfill gas condensate is restricted to those portions of a waste management unit that has a composite liner system and LCRS meeting the Federal Subtitle D requirements [40 C.F.R. § 258.28].

4. Leachate and condensate returned to a composite-lined landfill unit (when approved by this Order) shall be discharged and managed such that it does not cause instability of the waste, does not cause leachate seeps, does not generate additional landfill gas that is not extracted from the landfill by an active landfill gas extraction system, does not cause contaminants to enter surface water runoff, and does not cause leachate volumes to exceed the maximum capacity of the LCRS.

5. Any discharge of waste outside the portion of the landfill that was already covered with waste as of the landfill unit's respective Federal Deadline constitutes a "lateral expansion" and requires the installation of an approved composite liner system and LCRS [40 C.F.R. § 258.40(b)].

6. Wastes shall be discharged only into waste management units specifically designed for their containment and/or treatment, as described in this Order.

7. The discharge shall remain within the designated disposal area at all times.

8. The discharge of waste shall not cause a nuisance condition [Wat. Code, § 13050(m)].

E. STANDARD FACILITY SPECIFICATIONS

1. All waste management units shall be designed, constructed, and operated to ensure that wastes, including leachate, will be a minimum of 5 feet above the highest anticipated elevation of underlying groundwater [Title 27, § 20240(c)], including the capillary fringe.

2. Surface and subsurface drainage from outside of a waste management unit shall be diverted from the unit [Title 27, § 20365(e)].

3. Interim cover is daily and intermediate cover [Title 27, § 20750(a)]. Interim cover over wastes discharged to a landfill shall be designed and constructed to minimize percolation of liquids through the wastes [Title 27, § 20705(b)].

4. Intermediate cover consisting of compacted earthen material of at least twelve (12) inches shall be placed on all surfaces of the fill where no additional solid waste will be deposited within **180 days** [Title 27, § 20700(a)].

5. During wet weather conditions, the facility shall be operated and graded to minimize leachate generation.

6. The Discharger shall **immediately** notify the Central Valley Water Board staff of any slope failure occurring at a waste management unit. Any failure which threatens the integrity of containment features or the waste management unit shall be promptly corrected in accordance with an approved method [Title 27, § 21710(c)(2)].

7. The Discharger shall **immediately** notify Central Valley Water Board staff of any flooding, unpermitted discharge of waste off-site or outside of waste management units, equipment failure, or other change in site conditions which could impair the integrity of waste or leachate containment facilities or precipitation and drainage control structures.

8. The Discharger shall limit water used for facility maintenance within landfill areas to the minimum amount necessary for dust control and construction.

9. The Discharger shall maintain in good working order any facility, control system, or monitoring device installed to achieve compliance with the waste discharge requirements.

10. The Discharger shall lock all groundwater monitoring wells with a lock on the well cap or monitoring well box. All monitoring devices shall be clearly labeled with their designation including all monitoring wells, LCRS risers, and lysimeter risers and shall be easily accessible for required monitoring by authorized personnel. Each monitoring device shall be clearly visible and be protected from damage by equipment or vehicles.

11. The Discharger shall ensure that methane and other landfill gases are adequately vented, removed from landfill units, or otherwise controlled to prevent the danger of adverse health effects, nuisance conditions, degradation, or the impairment of the beneficial uses of surface water or groundwater due to migration through the unsaturated zone.

12. The Discharger shall maintain the depth of the fluid in the sump of each landfill unit at the minimum needed for efficient pump operation (the depth at which the pump turns on given the pump intake height and maximum pump cycle frequency).

13. The depth of fluid on the landfill liner shall not exceed **30 centimeters** (cm) [40 C.F.R. § 258.40(a)(2)]. This regulation is interpreted by the Central Valley Water Board to exclude the leachate sump. The Discharger shall **immediately** notify the Central Valley Water Board staff by telephone, and follow up in writing within **seven** days if monitoring reveals that the depth of fluid on any portion of the liner (excluding the sump) exceeds 30 cm (approximately 12 inches). The written notification shall include a timetable for remedial or corrective action necessary to achieve compliance with the leachate depth limitation.

14. Each LCRS shall be tested at least annually to demonstrate proper operation. The results of the tests shall be compared with earlier tests made under comparable conditions [Title 27, § 20340(d)].

15. The Discharger shall maintain a *Storm Water Pollution Prevention Plan* and *Monitoring Program and Reporting Requirements* in accordance with State Water Board Order No. 2014-0057-DWQ (Industrial General Permit) or most recent general industrial storm water permit), or retain all storm water on-site.

16. Internal site drainage from surface or subsurface sources shall not contact or percolate through wastes.

17. New MSW landfill units or lateral expansions of existing units shall not be sited in a “wetland” [as defined in 40 C.F.R. § 232.29(r)] unless there is no practical alternative; steps have been taken to assure no net loss of wetland; the landfill unit will not degrade the wetland; the unit will not jeopardize threatened or endangered species or produce adverse modification of a critical habitat or violate any requirement of the Marine Protection, Research, and Sanctuaries Act of 1972 [40 C.F.R. § 258.12].

F. STANDARD CONSTRUCTION SPECIFICATIONS

1. The Discharger shall submit for review and approval at least **90 days** prior to proposed construction, design plans and specifications for new landfill modules that include the following:

    a. Detailed construction drawings showing all required liner system components, the LCRS, leachate sump, unsaturated zone monitoring system, any proposed landfill gas monitoring and extraction points, and access to the LCRS for required annual testing.

    b. A Construction Quality Assurance (CQA) Plan prepared by a California-registered civil engineer or certified engineering geologist, and that meets the requirements of Title 27, section 20324.

    c. A geotechnical evaluation of the area soils, evaluating their use as the base layer or reference to the location of this information in the ROWD/JTD [Title 27, § 21750(f)(4)].

    d. Information about the seismic design of the proposed new module (or reference to the location of this information in the ROWD/JTD) in accordance with Title 27, section 20370.

    e. A revised water quality monitoring plan for groundwater detection monitoring (or information showing the existing plan is adequate) in accordance with Title 27, section 20415.

    f. An Operation Plan (or reference to the location of this information in the ROWD/JTD) meeting the requirements of Title 27, section 21760(b).

2. All containment structures shall be designed by, and construction shall be supervised by, a California registered civil engineer or a certified engineering geologist, and shall be certified by that individual as meeting the prescriptive standards, or approved engineered alternative design, in accordance with this Order prior to waste discharge.

3. The Discharger shall not proceed with construction until the construction plans, specifications, and all applicable construction quality assurance plans have been approved. Waste management units shall receive a final inspection and approval of the construction by Central Valley Water Board staff before use of the unit commences [Title 27, § 20310(e)].

4. Any report, or any amendment or revision of a report, that proposes a design or design change that might affect a waste management unit's containment features or monitoring systems shall be approved by a California registered civil engineer or a certified engineering geologist [Title 27, § 21710(d)].

5. Materials used in containment structures shall have appropriate chemical and physical properties to ensure that such structures do not fail to contain waste because of pressure gradients, physical contact with waste or leachate, chemical reactions with soil or rock, climatic conditions, the stress of installation, or because of the stress of daily operations [Title 27, § 20320(a)].

6. Waste management units and their respective containment structures shall be designed and constructed to limit, to the greatest extent possible, ponding, infiltration, inundation, erosion, slope failure, washout, and overtopping [Title 27, § 20365(a)].

7. The Discharger shall design storm water conveyance systems for Class III units for a 100-year, 24-hour storm event, and shall design storm water conveyance systems for Class II units for a 1,000-year, 24-hour storm event [Title 27, § 21750(e)(3)].

8. All Class III landfill units shall be designed to withstand the maximum probable earthquake and Class II waste management units shall be designed to withstand maximum credible earthquake without damage to the foundation or to the structures that control leachate, or surface drainage, or erosion, or gas [Title 27, § 20370(a)].

9. The Discharger shall perform stability analyses that include components to demonstrate the integrity of the landfill foundation, final slopes, and containment systems under both static and dynamic conditions throughout the landfill's life including the closure period and post-closure maintenance period [Title 27, § 21750(f)(5)].

10. New waste management units and expansions of existing units shall not be located on a known Holocene fault [Title 27, § 20260(d)].

11. Liners shall be designed and constructed to contain the fluid, including landfill gas, waste, and leachate [Title 27, § 20330(a)].

12. Hydraulic conductivities shall be determined primarily by appropriate field test methods in accordance with accepted civil engineering practice. The results of laboratory tests with both water and leachate, and field tests with water, shall be compared to evaluate how the field permeabilities will be affected by leachate. It is acceptable for the Discharger to use appropriate compaction tests in conjunction with laboratory hydraulic conductivity tests to determine field permeabilities as long as a reasonable number of field hydraulic conductivity tests are also conducted [Title 27, § 20320(c)].

13. Hydraulic conductivities specified for containment structures other than the final cover shall be relative to the fluids (leachate) to be contained. Hydraulic conductivities for the final cover shall be relative to water [Title 27, § 20320(b)].

14. A test pad for each barrier layer and final cover shall be constructed in a manner duplicating the field construction. Test pad construction methods, with the designated equipment, shall be used to determine if the specified density/moisture-content/hydraulic conductivity relationships determined in the laboratory can be achieved in the field with the compaction equipment to be used and at the specified lift thickness [Title 27, § 20324(g)(1)(A)].

15. Performance requirements for geosynthetic membranes shall include, but are not limited to, a need to limit infiltration of water, to the greatest extent possible; a need to control landfill gas emissions; mechanical compatibility with stresses caused by equipment traffic, and for final covers the result of differential settlement over time and durability throughout the post-closure maintenance period [Title 27, § 20324(i)(1)].

16. The Discharger shall ensure proper preparation of the subgrade for any liner system that includes a GCL so as to provide a smooth surface that is free from rocks, sticks, or other debris that could damage or otherwise limit the performance of the GCL.

17. The Discharger shall propose an electronic leak location survey of the top liner for any new landfill module in the construction quality assurance plan unless the Discharger demonstrates that a leak location survey is not needed.

18. Leachate collection and removal systems are required for Class II landfills and surface impoundments, MSW landfills, and for Class III landfills which have a liner or which accept sewage or water treatment sludge [Title 27, § 20340(a)].

19. All new landfill units or lateral expansions of existing units that require a LCRS shall have a blanket-type LCRS that covers the bottom of the unit and extends as far up the sides as possible. The LCRS shall be of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and by any equipment used at the unit [Title 27, § 20340(e)].

20. The LCRS shall be designed, constructed, maintained, and operated to collect and remove twice the maximum anticipated daily volume of leachate from the waste management unit [Title 27, § 20340(b)].

21. Leachate collection and removal systems shall be designed and operated to function without clogging through the scheduled closure of the landfill unit and during the post-closure maintenance period.

22. The LCRS shall be designed to maintain the depth of fluid over any portion of the LCRS of no greater than 30 cm [40 C.F.R. § 258.40(a)(2)], excluding the leachate sump. The leachate sump, leachate removal pump, and pump controls shall be designed and set to maintain a fluid depth no greater than the minimum needed for efficient pump operation [Title 27, § 20340(c)].

23. All construction of liner systems and final cover systems shall be performed in accordance with a Construction Quality Assurance Plan certified by a registered civil engineer or a certified engineering geologist [Title 27, § 20323].

24. The Construction Quality Assurance program shall be supervised by a registered civil engineer or a certified engineering geologist who shall be designated the CQA officer [Title 27, § 20324(b)(2)].

25. The Discharger shall ensure that a third party independent of both the Discharger and the construction contractor performs all of the construction quality assurance monitoring and testing during the construction of a liner system.

26. The Discharger shall notify Central Valley Water Board staff at least **14 days** prior to commencing field construction activities including construction of a new lined cell or module, construction of a final cover, or any other construction that requires Central Valley Water Board staff approval under this Order.

27. The Discharger shall submit for review and approval at least **60 days** prior to proposed discharge, final documentation required in Title 27 Section 20324(d)(1)(C) following the completion of construction of a new lined landfill module. The report shall be certified by a registered civil engineer or a certified engineering geologist and include a statement that the liner system was constructed in accordance with the approved design plans and specifications, the CQA Plan, the requirements of the WDRs, and that it meets the performance goals of Title 27. The report shall contain sufficient information and test results to verify that construction was in accordance with the design plans and specifications, the construction quality assurance plan, and the performance goals of Title 27.

28. The Discharger shall not discharge waste onto a newly constructed liner system until the final documentation report has been reviewed and an acceptance letter has been received.

29. Prior to placement of waste in a new landfill unit, the Discharger shall monitor any pan lysimeter for the unit that has received enough rainfall to flood the LCRS sump. If liquid is detected in the pan lysimeter, the Discharger shall verify that the liquid is not from a leak in the primary liner system before waste can be accepted to the new module.

G. STANDARD CLOSURE AND POST-CLOSURE SPECIFICATIONS

1. The Discharger shall submit a final or partial final closure and post-closure maintenance plan at least **two years** prior to the anticipated date of closure [Title 27, § 21780(d)(1)].

2. The Discharger shall notify the Central Valley Water Board in writing that a landfill unit or portion of a unit is to be closed either at the same time that the California Department of Resources Recycling and Recovery (CalRecycle) is notified or **180 days** prior to beginning any final closure activities, whichever is sooner [Title 27, § 21710(c)(5)(A)]. The notice shall include a statement that all closure activities will conform to the most recently approved final or partial final closure plan and that the plan provides for site closure in compliance with all applicable federal and state regulations [Title 27, § 21710(c)(5)(C)].

3. Initiation of closure activities shall begin within **30 days** of final waste receipt, or within **one year** of receipt of most recent waste if additional capacity remains [40 C.F.R. § 258.60(f)].

4. Closure activities shall be completed within **180 days** of the beginning of closure activities unless an extension is granted by the Executive Officer [40 C.F.R. § 258.60(g)].

5. The Discharger shall carry out both mandatory closure and normal closure of a waste management unit or a portion of a unit in accordance with a closure and post-closure maintenance plan approved by the Central Valley Water Board [Title 27, § 20950(a)(1)] through the issuance of closure waste discharge requirements.

6. The Discharger shall notify the Central Valley Water Board that a preliminary closure and post-closure maintenance plan has been prepared and placed in the operating record by the date of initial receipt of waste at any new MSW landfill unit or lateral expansion of any existing unit [40 C.F.R. § 258.60(d)]. This notification shall be included in the cover letter transmitting the preliminary closure and post-closure maintenance plan.

7. In addition to the applicable provisions of Title 27, the preliminary closure and/or the post-closure maintenance plans for MSW landfill units shall include the following:

    a. A description of the steps necessary to close all MSW landfill units at any point during their active life in accordance with the cover design requirements [40 C.F.R. § 258.60(c)];

    b. An estimate of the largest area of the landfill unit(s) ever requiring a final cover at any time during the active life of the unit(s) [40 C.F.R. § 258.60(c)(2)];

    c. An estimate of the maximum inventory of wastes ever on-site over the active life of the waste management facility [40 C.F.R. § 258.60(c)(3)]; and

    d. A schedule for completing all activities necessary to satisfy the closure criteria in 40 C.F.R. section 258.60 [40 C.F.R. § 258.60(c)(4)].

8. The final closure and post-closure maintenance plan for the waste management unit shall include at least the following: an itemized cost analysis, closure schedule, any proposed final treatment procedures, map, changes to the unit description presented in the most recent ROWD, federal requirements for a MSW facility, land use of the closed unit, and a construction quality assurance plan [Title 27, § 21769(c) & (d)].

9. Closure of each waste management unit shall be under the direct supervision of a registered civil engineer or certified engineering geologist [Title 27, § 20950(b)].

10. The final cover of closed landfills shall be designed, graded, and maintained to prevent ponding and soil erosion due to high run-off velocities [Title 27, § 21090(b)(1)(A)].

11. The final grading design shall be designed and approved by a registered civil engineer or certified engineering geologist [Title 27, § 21090(b)(1)(C)].

12. All final cover designs shall include a minimum 1-foot thick erosion resistant layer [Title 27, § 21090(a)(3)(A)].

13. The Discharger shall close the landfill with minimum 15-foot wide benches every 50 vertical feet [Title 27, § 21090(a)].

14. Final cover slopes shall not be steeper than a horizontal to vertical ratio of one and three quarters to one and designs having any slopes steeper than a horizontal to vertical ratio of three to one, or having a geosynthetic component, shall have these aspects of their design specifically supported in the slope stability report required in Title 27, section 21750(f)(5) [Title 27, § 21090(a)].

15. For any portions of the final cover installed after July 18, 1997, for which the Central Valley Water Board has not approved a slope and foundation stability report on or before that date, the Discharger shall meet the requirements of Title 27, section 21750(f)(5) [Title 27, § 21090(a)(6)].

16. Areas with slopes greater than ten percent, surface drainage courses, and areas subject to erosion by wind or water shall be designed and constructed to prevent such erosion [Title 27, § 21090(b)(2)].

17. The Discharger shall design storm water conveyance systems for closed Class III units for a 100-year, 24-hour storm event, and shall design storm water conveyance systems for closed Class II units for a 1,000-year, 24-hour storm event [Title 27, § 21750(e)(3)].

18. Closed landfill units shall be provided with at least two permanent surveying monuments, installed by a licensed land surveyor or by a registered civil engineer, from which the location and elevation of all wastes, containment

structures, and monitoring facilities can be determined throughout the post-closure maintenance period [Title 27, § 20950(d)].

19. Following closure of any MSW landfill units, the Discharger shall notify the Executive Officer that the deed to the landfill facility property, or some other instrument that is normally examined during a title search, has been recorded and a copy placed in the operating record. The notation on the deed shall in perpetuity notify any potential purchaser of the property that the land has been used as a landfill facility and that use of the land is restricted to the planned use described in the post-closure maintenance plan [Title 27, § 20515(a)(4) and §21170, and 40 C.F.R. § 258.60(i)].

20. Construction or repair of the final cover system's low-hydraulic conductivity layer is to be carried out in accordance with an approved construction quality assurance plan [Title 27, § 21090(b)(1)(E)].

21. The Discharger shall incorporate into the closure and post-closure maintenance plan a cover-integrity monitoring and maintenance program which includes at least the following: a periodic leak search, periodic identification of other problem areas, prompt cover repair, and vegetation maintenance [Title 27, § 21090(a)(4)].

22. The Discharger shall complete a final cover survey upon completion of closure activities for that portion of the landfill. The final cover surveys shall include an initial survey and map [Title 27, § 21090(e)(1). Every **five years**, the Discharger shall conduct a survey of the closed landfill cover and submit an iso-settlement map accurately depicting the estimated total change in elevation of each portion of the final cover's low-hydraulic-conductivity layer [Title 27, § 21090(e)(2)].

23. Within **30 days** of completion of <u>all</u> closure activities, the Discharger shall certify that all closure activities were performed in accordance with the most recently approved final closure plan and CQA Plan, and in accordance with all applicable regulations. The Discharger shall also certify that closed landfill units shall be maintained in accordance with and approved post-closure maintenance plan [Title 27, § 21710(c)(6)].

24. Within **180 days** of completion of closure construction activities, the Discharger shall submit final documentation of closure, including the Certification of Closure. The closure documents shall include a final construction quality assurance report and any other documents necessary to support the certification [Title 27, § 21880].

25. The post-closure maintenance period shall continue until the Central Valley Water Board determines that wastes remaining in the landfill unit(s) no longer pose a threat to water quality [Title 27, § 20950(a)(1)].

26. The Discharger shall conduct a periodic leak search to monitor of the integrity of the final cover in accordance with the schedule in the approved final post-closure maintenance plan [Title 27, § 21090(a)(4)(A)].

27. The Discharger shall periodically inspect and identify problems with the final cover including areas that require replanting, erosion, areas lacking free drainage, areas damaged by equipment operations, and localized areas identified in the required five-year iso-settlement survey [Title 27, § 21090(a)(4)(B)].

28. The Discharger shall repair the cover promptly in accordance with a cover repair plan to be included in the final post-closure maintenance plan [Title 27, § 21090(a)(4)(C)].

29. Throughout the post-closure maintenance period, the Discharger shall maintain the structural integrity and effectiveness of all containment structures, maintain the final cover as necessary to correct the effects of settlement and other adverse factors, continue to operate the LCRS as long as leachate is generated and detected, maintain the monitoring systems, prevent erosion and related damage of the final cover due to drainage, and protect and maintain surveyed monuments [Title 27, § 21090(c)].

30. Post-closure maintenance shall be conducted for a minimum period of **30 years** or until the waste no longer poses a threat to environmental quality, whichever is greater [Title 27, § 21180(a) and Title 27, § 21900(a)].

H. STANDARD FINANCIAL ASSURANCE PROVISIONS

1. The Discharger shall establish an irrevocable fund for closure and post-closure maintenance to ensure closure and post-closure maintenance of each classified unit in accordance with an approved closure and post-closure maintenance plan [Title 27, § 20950(f) and § 22207(a)].

2. The Discharger shall obtain and maintain assurances of financial responsibility for initiating and completing corrective action for all known and reasonably foreseeable releases from the waste management unit [Title 27, §20380(b), § 22221, and § 22222].

I. STANDARD MONITORING SPECIFICATIONS

1. The water quality monitoring program shall include appropriate and consistent sampling and analytical procedures and methods designed to ensure that monitoring results provide a reliable indication of water quality at all monitoring points and background monitoring points [Title 27, § 20415(e)(4) and 40 C.F.R. § 258.53(b)].

2. All monitoring systems shall be designed and certified by a registered geologist or a registered civil engineer [Title 27, § 20415(e)(1)].

3. All monitoring wells shall be cased and constructed in a manner that maintains the integrity of the monitoring well bore hole and prevents the bore hole from acting as a conduit for contaminant transport [Title 27, § 20415(b)(4)(A)].

4. All sample chemical analyses of any material shall be performed by a laboratory certified by the California Department of Health Services [Wat. Code, § 13176(a)].

5. 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)].

6. Background for water samples or soil-pore gas samples shall be represented by the data from all samples taken from applicable background monitoring points during that reporting period (at least one sample from each background monitoring point).

7. The Discharger shall submit for approval, establish, and maintain an approved Sample Collection and Analysis Plan. The Sample Collection and Analysis Plan shall at a minimum include:

    a. Sample collection procedures describing purging techniques, sampling equipment, and decontamination of sampling equipment;

    b. Sample preservation information and shipment procedures;

    c. Sample analytical methods and procedures;

    d. Sample quality assurance/quality control (QA/QC) procedures;

    e. Chain of Custody control; and

    f. Sample analysis information including sample preparation techniques to avoid matrix interferences, method detection limits (MDLs), practical quantitation limits (PQLs) and reporting limits (RLs), and procedures for reporting trace results between the MDL and PQL.

    If required by the Executive Officer, the Discharger shall modify the Sample Collection and Analysis Plan to conform with this Order.

8. For any given monitored medium, the samples taken from all monitoring points and background monitoring points to satisfy the data analysis requirements for a given reporting period shall all be taken **within a span not to exceed 30 days**, unless a longer time period is approved, and shall be taken in a manner that

ensures sample independence to the greatest extent feasible. Specific methods of collection and analysis must be identified. Sample collection, storage, and analysis shall be performed according to the most recent version of USEPA Methods, such as the latest editions, as applicable, of: (1) Methods for the Analysis of Organics in Water and Wastewater (USEPA 600 Series), (2) Test Methods for Evaluating Solid Waste (SW-846, latest edition), and (3) Methods for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020), and in accordance with the approved Sample Collection and Analysis Plan. Appropriate sample preparation techniques shall be used to minimize matrix interferences.

9. If methods other than USEPA-approved methods or Standard Methods are used, or there is a proposed alternant USEPA method than the one listed in the MRP, the proposed methodology shall be submitted for review and approval prior to use, including information showing its equivalence to the required method.

10. The **methods of analysis and the detection limits** used must be appropriate for the expected concentrations. For the monitoring of any constituent or parameter that is found in concentrations which produce more than 90% non-numerical determinations (i.e., “trace” or “ND”) in data from background monitoring points for that medium, the analytical method having the lowest MDL shall be selected from among those methods which would provide valid results in light of any matrix effects or interferences.

11. The laboratory reporting limit (RL) for all reported monitoring data shall be set no greater than the practical quantitation limit (PQL).

12. **“Trace” results** - results falling between the MDL and the PQL - shall be reported as such, and shall be accompanied both by the estimated MDL and PQL values for that analytical run.

13. Laboratory data shall not be altered or revised by the Discharger. If the Discharger observes potential lab errors, it shall identify the issue in the monitoring report and shall describe steps that will be taken to prevent similar errors in the future.

14. **MDLs and PQLs** shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation procedures. These MDLs and PQLs shall reflect the detection and quantitation capabilities of the specific analytical procedure and equipment used by the lab, rather than simply being quoted from USEPA analytical method manuals. In relatively interference-free water, laboratory-derived MDLs and PQLs are expected to closely agree with published USEPA MDLs and PQLs. MDLs and PQLs shall be reported.

15. If the laboratory suspects that, due to a change in matrix or other effects, the true detection limit or quantitation limit for a particular analytical run differs significantly from the laboratory-derived MDL/PQL values, the results shall be flagged in the laboratory report accordingly, along with estimates of the detection limit and quantitation limit actually achieved. The **MDL shall always be calculated such that it represents the lowest achievable concentration associated with a 99% reliability of a nonzero result**. The PQL shall always be calculated such that it represents the lowest constituent concentration at which a numerical value can be assigned with reasonable certainty that it represents the constituent's actual concentration in the sample. Normally, PQLs should be set equal to the concentration of the lowest standard used to calibrate the analytical procedure.

16. All **QA/QC data** shall be reported, along with the sample results to which they apply, including the method, equipment, analytical detection and quantitation limits, the percent recovery, an explanation for any recovery that falls outside the QC limits, the results of equipment and method blanks, the results of spiked and surrogate samples, the frequency of quality control analysis, and the name and signature of a responsible person from the laboratory. **Sample results shall be reported unadjusted for blank results or spike recoveries**. In cases where contaminants are detected in QA/QC samples (i.e., field, trip, or lab blanks), the accompanying sample results shall be appropriately flagged, but the analytical results shall not be adjusted.

17. Unknown chromatographic peaks shall be reported, flagged, and tracked for potential comparison to subsequent unknown peaks that may be observed in future sampling events. Identification of unknown chromatographic peaks that recur in subsequent sampling events may be required.

18. The sampling interval of each monitoring well shall be appropriately screened and fitted with an appropriate filter pack to enable collection of representative groundwater samples [Title 27, § 20415(b)(4)(B)]. Groundwater samples shall not be field-filtered prior to laboratory analysis [40 C.F.R. § 258.53(b)]. Groundwater samples needing filtering (e.g., samples to be analyzed for dissolved metals) shall be filtered by the laboratory prior to analysis.

19. Groundwater elevations shall be measured in each well immediately prior to purging, each time groundwater is sampled. The owner or operator shall determine the rate and direction of groundwater flow each time groundwater is sampled. Groundwater elevations in wells which monitor the same waste management area shall be measured within a period of time short enough to avoid temporal variations in groundwater flow which could preclude accurate determination of groundwater flow rate and direction [40 C.F.R. § 258.53(d)].

20. Monitoring wells, piezometers, and other measurement, sampling, and analytical devices must be operated and maintained so that they perform to design

specifications throughout the life of the monitoring program [40 C.F.R. § 258.51(c)(2)]. Monitoring devices that cannot be operated and maintained to perform to design specifications shall be replaced after review and approval of a report (i.e., work plan) for the proposed replacement devices.

21. All borings are to be logged during drilling under the direct supervision of a registered geologist or registered civil engineer with expertise in stratigraphic well logging [Title 27, § 20415(e)(2)].

22. Soils are to be described according to the Unified Soil Classification System [Title 27, § 20415(e)(2)(A)]. Rock is to be described in a manner appropriate for the purpose of the investigation [Title 27, § 20415(e)(2)(B)].

23. The Discharger shall submit a work plan for review and approval at least **60 days** prior to installation or abandonment of groundwater monitoring wells.

24. The Discharger shall provide Central Valley Water Board staff a minimum of **one week** notification prior to commencing any field activities related to the installation or abandonment of monitoring devices.

25. The water quality protection standard shall consist of the constituents of concern (COC), concentration limits, and the point of compliance. The water quality protection standard shall apply during the active life of the waste management unit, closure period, post-closure maintenance period, and any compliance period under Title 27, section 20410 [Title 27, § 20390].

26. The point of compliance at which the water quality protection standard applies is a vertical surface located at the hydraulically downgradient limit of the waste management unit that extends through the uppermost aquifer underlying the unit [Title 27, § 20405).

27. The compliance period is the minimum period of time during which the Discharger shall conduct a water quality monitoring program and is the number of years equal to the active life of the waste management unit plus the closure period [Title 27, § 20410(a)].

28. The groundwater monitoring system shall include a sufficient number of monitoring points, installed at appropriate locations, to yield groundwater samples from the uppermost aquifer that represent the quality of groundwater that has not been affected by a release from the waste management unit [Title 27, § 20415(b)(1)(A)].

29. The Detection Monitoring Program shall include a sufficient number of monitoring points, installed at appropriate locations and depths to yield groundwater samples from the uppermost aquifer that represent the quality of

groundwater passing the point of compliance to allow the detection of a release from the waste management unit [Title 27, § 20415(b)(1)(B)1.].

30. Additional monitoring points shall be added as necessary to provide the best assurance of the **earliest possible detection** of a release from the waste management unit [Title 27, § 20415(b)(1)(B)2.].

31. The Detection Monitoring Program shall also include a sufficient number of monitoring points installed at appropriate depths and locations to yield groundwater samples from other aquifers or perched zones not already monitored to provide the **earliest possible detection** of a release from the waste management unit [Title 27, § 20415(b)(1)(B)3. and 4., and §20420(b)].

32. A surface water monitoring system shall be established to monitor each surface water body that could be affected by a release from the waste management unit [Title 27, § 20415(c)].

33. An unsaturated zone monitoring system shall be established for each waste management unit [Title 27, § 20415(d)].

34. The Discharger shall notify Central Valley Water Board staff within **seven days** if fluid is detected in a previously dry LCRS, unsaturated zone monitoring system, or if a progressive increase is detected in the volume of fluid in a LCRS [Title 27, § 21710(c)(3)].

35. Driller's logs for all monitoring wells shall to be submitted to the Central Valley Water Board and the Department of Water Resources [Wat. Code, § 13751 and Title 27, § 20415(b)(3)].

36. Groundwater elevation, temperature, electrical conductivity, turbidity, and pH are to be accurately measured at each well each time groundwater is sampled [Title 27, § 21415(e)(13)].

37. The groundwater flow rate and direction in the uppermost aquifer and in any zones of perched water and in any additional portions of the zone of saturation being monitored shall be determined at least quarterly [Title 27, § 20415(e)(15)].

38. The Discharger shall graph all analytical data from each monitoring point and background monitoring point and shall submit the graphs to the Central Valley Water Board annually [Title 27, § 20415(e)(14)].

39. For each waste management unit, the Discharger shall collect all data necessary for selecting appropriate data analysis methods for establishing background values for each constituent of concern and for each monitoring parameter [Title 27, § 20420(c)]. The Discharger shall propose a data analysis method that includes a detailed description of the criteria to be used for

determining "measurably significant" (as defined in Title 27, section 20164) evidence of a release from the waste management unit and determining compliance with the water quality protection standard [Title 27, § 20415(e)(6) and (7)].

40. For statistical analysis of data, the Discharger shall use one of the methods described in Title 27, section 20415(e)(8)(A)-(E). A non-statistical data analysis method can be used if the method can achieve the goal of the particular monitoring program at least as well as the most appropriate statistical method [Title 27, § 20415(e)(8)]. The Discharger shall use a statistical or nonstatistical data analysis method that complies with Title 27, section 20415(e)(7, 8, 9, and 10), to compare the concentration of each constituent of concern or monitoring parameter with its respective background concentration to determine whether there has been a measurably significant evidence of a release from the waste management unit. For any given monitoring point at which a given constituent has already exhibited a measurably significant indication of a release at that monitoring point, the Discharger may propose to monitor the constituent, at that well, using a concentration-versus-time plot.

41. The Discharger may propose an alternate statistical method [to the methods listed under Title 27, section 20415(e)(8)(A-D)] in accordance with Title 27, section 20415(e)(8)(E), for review and approval.

42. The statistical method shall account for data below the practical quantitation limit (PQL) with one or more statistical procedures that are protective of human health and the environment. Any PQL validated pursuant to Title 27, section 20415(e)(7) that is used in the statistical method shall be **the lowest concentration (or value) that can be reliably achieved** within limits of precision and accuracy specified in the WDRs or an approved Sample Collection and Analysis Plan for routine laboratory operating conditions that are available to the facility. The Discharger's technical report (Sample Collection and Analysis Plan and/or Water Quality Protection Standard Report), pursuant to Title 27, section 20415(e)(7), shall consider the PQLs listed in Appendix IX to Chapter 14 of Division 4.5 of Title 22, CCR, for guidance when specifying limits of precision and accuracy. For any given constituent monitored at a background or downgradient monitoring point, an indication that falls between the MDL and the PQL for that constituent (hereinafter called a "trace" detection) shall be identified and used in appropriate statistical or non-statistical tests. Nevertheless, for a statistical method that is compatible with the proportion of censored data (trace and ND indications) in the data set, the Discharger can use the laboratory's concentration estimates in the trace range (if available) for statistical analysis, in order to increase the statistical power by decreasing the number of "ties".

43. The water quality protection standard for organic compounds which are not naturally occurring and not detected in background groundwater samples shall

be taken as the detection limit of the analytical method used (e.g., USEPA methods 8260 and 8270).

44. Alternate statistical procedures may be used for determining the significance of analytical results for common laboratory contaminants (i.e., methylene chloride, acetone, diethylhexyl phthalate, and di-n-octyl phthalate) if part of an approved water quality protection standard. Nevertheless, analytical results involving detection of these analytes in any background or downgradient sample shall be reported and flagged for easy reference by Central Valley Water Board staff.

45. **Confirmation of Measurably Significant Evidence of a Release.** Whenever a constituent is detected at a detection monitoring point at a concentration that exceeds the concentration limit from the water quality protection standard, the Discharger shall conduct verification sampling to confirm if the exceedance is due to a release or if it is a false-positive (unless previous monitoring has already confirmed a release for that constituent at that monitoring point). An exceedance of the concentration limit from the water quality protection standard is considered measurably significant evidence of a release that must be either confirmed or denied. There are two separate verification testing procedures:

    a. Standard Monitoring Specification I.46 provides the procedure for analytes that are detected in less than 10% of the background samples such as non-naturally occurring constituents like volatile organic compounds; and

    b. Standard Monitoring Specification I.47 provides the procedure for analytes that are detected in 10% or greater of the background samples such as naturally occurring constituents like chloride.

46. **Verification Procedure for Analytes Detected in Less than 10% of Background Samples**. The Discharger shall use the following non-statistical method for all analytes that are detected in less than 10% of the background samples. The non-statistical method shall be implemented as follows:

    a. **Initial Determination of Measurably Significant Evidence of a Release**. Identify each analyte in the **current** detection monitoring point sample that exceeds either its respective MDL or PQL, and for which a release has not been previously confirmed. The Discharger shall conclude that the exceedance provides a preliminary indication of a release or a change in the nature or extent of the release, at that monitoring point, if ***either:***

        1) The data contains two or more analytes that equal or exceed their respective MDLs; or

        2) The data contains one or more analyte that equals or exceeds its PQL.

b. **Discrete Retest** [Title 27, § 20415(e)(8)(E) and § 20420(j)(1-3)]:

1) In the event that the Discharger or Central Valley Water Board staff concludes (pursuant to paragraph I.46.a., above) that there is a preliminary indication of a release, then the Discharger shall **immediately** notify Central Valley Water Board staff by phone or e-mail and, within **30 days** of such indication, shall collect two new (retest) samples from the monitoring point where the release is preliminarily indicated and analyze them for the constituents that caused the need for the retest.

2) **Confirmation of a Release**. As soon as the retest data are available, the Discharger shall conclude that measurably significant evidence of a release is confirmed if (not including the original sample) two or more analytes equal or exceed their respective MDLs or if one or more analyte equals or exceeds its PQL. The Discharger shall then:

a) **Immediately** verbally notify the Central Valley Water Board whether or not the retest confirmed measurably significant evidence of a release for the analyte at the monitoring point, and follow up with written notification submitted by certified mail **within seven days** of the verbal notification; and

b) Carry out the requirements of Section J, **RESPONSE TO A RELEASE** if a release has been confirmed.

c) Add any five-year analyte that is confirmed per this method to the monitoring parameter list such that it is monitored during each regular monitoring event.

47. **Verification Procedure for Analytes Detected in 10% or Greater of the Background Samples.** The Discharger shall use either a statistical or non-statistical method pursuant to Title 27, section 20415(e)(8)(E) for all analytes that are detected in 10% or greater of the background samples. The Discharger shall use one of the statistical methods required in Title 27, section 20415(e)(8)(E) unless another method has been proposed by the Discharger in a Water Quality Protection Standard Report (or equivalent report) and approved by the Central Valley Water Board in a Monitoring and Reporting Program pursuant to Title 27, section 20415(e)(8)(A-D)] or section 20415(e)(8)(E). The method shall be implemented as follows:

a. **Initial Determination of Measurably Significant Evidence of a Release**. The Discharger shall compare the value reported by the laboratory for each analyte to the statistically-derived concentration limit from the most recent report (Annual Monitoring Report or Water Quality Protection Standard Report) that uses the approved statistical procedure. If the value exceeds the concentration limit for that constituent, the Discharger shall conclude that there in measurably significant evidence of a release [Title 27, § 20420(i)].

b. **Retest Method** [Title 27, § 20415(e)(8)(E) and § 20420(j)(1-3)].

1) In the event that the Discharger or Central Valley Water Board staff concludes (pursuant to paragraph I.47.a., above) that there is a preliminary indication of a release, then the Discharger shall **immediately** notify Central Valley Water Board staff by phone or e-mail and, within **30 days** [Title 27, § 20415(e)(3)] of such indication, the Discharger shall implement a verification procedure/retest option, in accordance with Title 27, sections 20415(e)(8)(E) and 20420(j)(2). The verification procedure shall include either a single "composite" retest (i.e., a statistical analysis that augments and reanalyzes the data from the monitoring point that indicated a release) or shall consist of at least two "discrete" retests (i.e., statistical analyses each of which analyzes only newly-acquired data from the monitoring point that indicated a release) [Title 27, § 20415(e)(8)(E)]. The Discharger may use an alternate method previously approved by the Central Valley Water Board and included in the Monitoring and Reporting Program. The verification procedure shall comply with the requirements of Title 27, section 20415(e)(8)(E) in addition to the performance standards of Title 27, section 20415(e)(9). The retest samples shall be collected from the monitoring point where the release is preliminarily indicated and shall be analyzed for the constituents that caused the need for the retest. For any indicated monitoring parameter or constituent of concern, if the retest results of one or more of the retest data suites confirm the original indication, the Discharger shall conclude that measurably significant evidence of a release has been confirmed.

2) **Confirmation of a Release**. As soon as the retest data are available, the Discharger shall evaluate the results pursuant to paragraph I.47.b.1, above and shall:

a) **Immediately** verbally notify the Central Valley Water Board whether or not the retest confirmed measurably significant evidence of a release for the analyte at the monitoring point, and follow up with written notification submitted by certified mail **within seven days** of the verbal notification; and

b) Carry out the requirements of Section J, **RESPONSE TO A RELEASE** if a release has been confirmed.

c) Add any five-year analyte that is confirmed per this method to the monitoring parameter list such that it is monitored during each regular monitoring event.

48. **Physical Evidence of a Release**. If the Discharger determines that there is a significant **physical** evidence of a release, the Discharger shall immediately

verbally notify Central Valley Water Board staff and provide written notification **by certified mail within 7 days** of such determination, and within **90 days** shall submit an amended report of waste discharge to establish an Evaluation Monitoring Program [Title 27, § 20385(a)(3) and § 20420(l)(1) & (2)].

J. RESPONSE TO A RELEASE

1. Measurably Significant Evidence of a Release Has Been Confirmed. If the Discharger has confirmed that there is measurably significant evidence of a release from a waste management unit pursuant to Standard Monitoring Specification I.46 or I.47, then the Discharger shall:

   a. **Immediately** sample all monitoring points in the affected medium at that waste management unit and determine the concentration of all monitoring parameters and constituents of concern for comparison with established concentration limits. Because this constituent of concern scan does not involve statistical testing, the Discharger will need to collect and analyze only a single water sample from each monitoring point in the affected medium [Title 27, § 20420(k)(1)].

   b. **Within 14 days** of confirming measurably significant evidence of a release, the Discharger shall (for releases from MSW landfill units) notify all persons who own the land or reside on the land that directly overlies any portion of the plume of contamination if contaminants have migrated off-site if indicated by sampling of detection monitoring wells [40 C.F.R. § 258.55(g)(1)(iii)].

   c. **Within 90 days** of confirming measurably significant evidence of a release, the Discharger shall submit an amended report of waste discharge to establish an Evaluation Monitoring Program meeting the requirements of Title 27, sections 20420(k)(5)(A-D), including but not limited to the results of sampling pursuant to paragraph J.1.a, above. The Evaluation Monitoring Program shall be designed for the collection and analysis of all data necessary to assess the nature and extent of the release and to determine the spatial distribution and concentration of each constituent throughout the zone affected by the release [Title 27, § 20420(k)(5) and § 20425(b)]. For releases from MSW landfill units, the Evaluation Monitoring Program shall also include any additional proposals necessary to comply with 40 C.F.R. § 258.55, particularly the additional monitoring well required by 40 C.F.R. § 258.55(g)(1)(ii).

   d. **Within 180 days** of confirming measurably significant evidence of a release, the Discharger shall submit to the Central Valley Water Board an <u>initial</u> engineering feasibility study for a Corrective Action Program necessary to meet the requirements of Title 27, section 20430. At a minimum, the initial engineering feasibility study shall contain a detailed

description of the corrective action measures that could be taken to achieve background concentrations for all constituents of concern [Title 27, § 20420(k)(6)].

e. If the Discharger confirms that there is measurably significant evidence of a release from the waste management unit at any monitoring point, the Discharger may attempt to demonstrate that a source other than the waste management unit caused the evidence of a release or that the evidence is an artifact caused by an error in sampling, analysis, or statistical evaluation or by natural variation in groundwater, surface water, or the unsaturated zone. The Discharger may make a demonstration pursuant to Title 27, section 20420(k)(7) in addition to or in lieu of submitting both an amended report of waste discharge or an engineering feasibility study; however, the Discharger is not relieved of the requirements and due dates of Title 27, sections 20420(k)(6) & (7) unless Central Valley Water Board staff agree that the demonstration successfully shows that a source other than the waste management unit caused the evidence of a release or that the evidence resulted from error in sampling, analysis, or statistical evaluation or from natural variation in groundwater, surface water, or the unsaturated zone. In order to make this demonstration, the Discharger shall notify the Central Valley Water Board by certified mail of the intent to make the demonstration **within seven days** of determining measurably significant evidence of a release, and shall submit a report **within 90 days** of determining measurably significant evidence of a release [Title 27, § 20420(k)(7)].

f. **Within 90 days** of the date that the Evaluation Monitoring Program from paragraph J.1.c is approved (the date is it established), the Discharger shall complete and submit the following:

i) **Results and Assessment for the Evaluation Monitoring Program.** A report with the results and assessment based on the approved Evaluation Monitoring Program [Title 27, § 20425(b)].

ii) **Updated Engineering Feasibility Study.** An updated engineering feasibility study for corrective action based on the data collected to delineate the release and data from the ongoing monitoring program required under Title 27, section 20425(e) [Title 27, § 20425(c)].

iii) **Amended ROWD for a Corrective Action Program.** An amended report of waste discharge to establish a Corrective Action Program meeting the requirements of Title 27, section 20430 based on the data collected to delineate the release and based on the updated engineering feasibility study [Title 27, § 20425(d)].

g. The Discharger shall (for releases from MSW landfill units) discuss the results of the updated engineering feasibility study, prior to the final selection of a remedy, in a public meeting with interested and affected parties [40 C.F.R. § 258.56(d)].

K. GENERAL PROVISIONS

1. In the event the Discharger does not comply or will be unable to comply with any prohibition or limitation of this Order for any reason, the Discharger shall notify the appropriate Central Valley Water Board office by telephone **as soon as** it or its agents have knowledge of such noncompliance or potential for noncompliance, and shall confirm this notification in writing **within two weeks**. The written notification shall state the nature, time, and cause of noncompliance, and shall describe the measures being taken to prevent recurrences and shall include a timetable for corrective actions.

2. All reports and transmittal letters shall be signed by persons identified below:

   a. For a corporation: by a principal executive officer of at least the level of senior vice-president.

   b. For a partnership or sole proprietorship: by a general partner or the proprietor.

   c. For a municipality, state, federal or other public agency: by either a principal executive officer or ranking elected or appointed official.

   d. A duly authorized representative of a person designated in a, b or c above if:

      1) The authorization is made in writing by a person described in a, b, or c of this provision;

      2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a Unit, superintendent, or position of equivalent responsibility (a duly authorized representative may thus be either a named individual or any individual occupying a named position); and

      3) The written authorization is submitted to the Central Valley Water Board.

e. Any person signing a document under this Section 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 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."

3. The Discharger shall take all reasonable steps to minimize any adverse impact to the waters of the State resulting from noncompliance with this Order. Such steps shall include accelerated or additional monitoring as necessary to determine the nature, extent, and impact of the noncompliance.

4. 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.

5. The fact that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this Order shall not be regarded as a defense for the Discharger's violations of this Order.

6. The Discharger shall notify the Central Valley Water Board of a material change in; the types, quantity, or concentrations of wastes discharged; site operations and features; or proposed closure procedures, including changes in cost estimates. This notification shall be given a reasonable time before the changes are made or become effective. No changes shall be made without Central Valley Water Board approval following authorization for closure pursuant to the site Notification of Closure [Title 27, § 21710(a)(4)].

7. The Discharger shall maintain legible records of the volume and type of each waste discharged at each waste management unit or portion of a unit, and the manner and location of discharge. Such records shall be maintained by the Discharger until the beginning of the post-closure maintenance period. These records shall be on forms approved by the State Water Board or Central Valley Water Board and shall be maintained at the waste management facility until the beginning of the post-closure maintenance period. These records shall be available for review by representatives of the State Water Board or Central Valley Water Board at any time during normal business hours. At the beginning of the post-closure maintenance period, copies of these records shall be sent to the Central Valley Water Board [Title 27, § 21720(f)].

8. In the event of any change in landowner or the operator of the waste management facility, the Discharger shall notify the succeeding owner or

operator in writing of the existence of this Order. A copy of that notification shall be sent to the Central Valley Water Board.

9. In the event of any change of ownership or responsibility for construction, operation, closure, or post-closure maintenance of the waste discharge facilities described in this Order, the Discharger shall notify the Central Valley Water Board prior to the effective date of the change and shall include a statement by the new Discharger that construction, operation, closure, or post-closure maintenance will be in compliance with this Order and any revisions thereof [Title 27, § 21710(c)(1)].

10. To assume ownership or operation under this Order, the succeeding owner or operator must apply in writing to the Central Valley Water Board requesting transfer of the Order within **14 days** of assuming ownership or operation of this facility. The request must contain the requesting entity's full legal name, the State of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Central Valley Water Board, and a statement. The statement shall comply with the signatory requirements contained in General Provision K.2 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the Water Code. Transfer of this Order shall be approved or disapproved by the Central Valley Water Board.

L. STORM WATER PROVISIONS

1. New and existing Class III landfills shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return period [Title 27, § 20260(c)].

2. New and existing Class II landfills shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return period [Title 27, § 20250(c)].

3. The Discharger shall design storm water conveyance systems for Class III units for a 100-year, 24-hour storm event, and shall design storm water conveyance systems for Class II units for a 1,000-year, 24-hour storm event [Title 27, § 21750(e)(3)].

4. MSW landfills located in a 100-year floodplain shall demonstrate that the landfill unit will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human health or the environment [40 C.F.R. § 258.11(a)].

5. Waste management units and their respective containment structures shall be designed and constructed to limit, to the greatest extent possible, ponding,

infiltration, inundation, erosion, slope failure, washout, and overtopping under the precipitation conditions for the unit [Title 27, § 20365(a)].

6. Precipitation on landfills or waste piles which is not diverted by covers or drainage control systems shall be collected and managed through the LCRS, which shall be designed and constructed to accommodate the precipitation conditions for each class unit [Title 27, § 20365(b)].

7. Diversion and drainage facilities shall be designed, constructed, and maintained to [Title 27, § 20365(c)]:

    a. accommodate the anticipated volume of precipitation and peak flows from surface runoff and under the precipitation conditions for the waste management unit:

    b. effectively divert sheet flow runoff laterally, via the shortest distance, into the drainage and collection facilities;

    c. prevent surface erosion;

    d. control and intercept run-on, in order to isolate uncontaminated surface waters from water that might have come into contact with waste;

    e. take into account:

        i) for closed waste management units and for closed portions of units, the expected final contours of the closed unit, including its planned drainage pattern;

        ii) for operating portions of waste management units other than surface impoundments, the unit's drainage pattern at any given time;

        iii) the possible effects of the waste management unit's drainage pattern on and by the regional watershed;

        iv) the design capacity of drainage systems of downstream and adjacent properties by providing for the gradual release of retained water downstream in a manner which does not exceed the expected peak flow rate at the point of discharge if there were no waste management facility; and

    f. preserve the system's function. The Discharger shall periodically remove accumulated sediment from the sedimentation or detention basins as needed to preserve the design capacity of the system.

8. Collection and holding facilities associated with precipitation and drainage control systems shall be emptied immediately following each storm or otherwise managed to maintain the design capacity of the system [Title 27, § 20365(d)].

9. Surface and subsurface drainage from outside of a waste management unit shall be diverted from the unit [Title 27, § 20365(e)].

10. Cover materials shall be graded to divert precipitation from the waste management unit, to prevent ponding of surface water over wastes, and to resist erosion as a result of precipitation [Title 27, § 20365(f)].

11. Any drainage layer in the final cover shall be designed and constructed to intersect with the final drainage system for the waste management unit in a manner promoting free drainage from all portions of the drainage layer [Title 27, §20365(f)].