CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

Fresno Office
1685 "E" Street
Fresno, CA 93706-2007

Sacramento Office (Main)
11020 Sun Center Drive #200
Rancho Cordova, CA 95670-6114

Redding Office
364 Knollcrest Drive #205
Redding, CA 96002

Regional Board Website (https://www.waterboards.ca.gov/centralvalley)

[TENTATIVE] WASTE DISCHARGE REQUIREMENTS

ORDER R5-2025-XXXX

ORDER INFORMATION

Order Type(s):	Waste Discharge Requirements (WDRs)
Status:	TENTATIVE
Program:	Title 27 Discharges to Land
Region 5 Office:	Sacramento (Rancho Cordova)
Discharger(s):	County of Yolo, Department of Community Services
Facility:	Yolo County Central Landfill
Address:	44090 County Road 28H, Woodland, California 95776
County:	Yolo County
Parcel Nos.:	042-140-001, 042-140-002, 042-140-006; 042-100-017; 042-100-018
GeoTracker ID:	L10001819539
WDID:	5A570306001
Prior Order(s):	R5-2016-0094; R5-2007-0180; R5-2004-134; R5-2002-118; R5-2000-134; R5-1996-223; R5-1995-048; R5-1994-196; R5-1993-119; R5-1989-173; R5-1980-022; R5-1974-287
Related Order(s):	R5-2002-0078; NOA 2020-0012-DWQ-R5S001

CERTIFICATION

I, PATRICK PULUPA, Executive Officer, hereby certify that the following is a full, true, and correct copy of the order adopted by the California Regional Water Quality Control Board, Central Valley Region, on XX June 2025.

_____

PATRICK PULUPA,
Executive Officer

REGIONAL BOARD INFORMATION

Sacramento Office (Main)
Rancho Cordova, CA 95670-6114
11020 Sun Center Drive #200
Telephone: (916) 464-3291

Fresno Office
1685 "E" Street
Fresno, CA 93706-2007
Telephone: (559) 445-5116

Redding Office
364 Knollcrest Drive #205
Redding, CA 96002
Telephone: (530) 224-4845

Regional Board Website
(https://www.waterboards.ca.gov/centralvalley)

TABLE OF CONTENTS

TABLE INDEX

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 the Sacramento and San Joaquin River Basins*

bgs.....Below Ground Surface

BOD .....Biological Oxygen Demand

C&D .....Construction and Demotion Materials

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

CAP.....Corrective Action Program

CAMP.....Corrective Action Monitoring Program

CEQA.....California Environmental Quality Act

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

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

COCs .....Constituents of Concern

CPMP.....Closure and Post-Closure Maintenance Plan

CQA .....Construction Quality Assurance

CUP.....Conditional use Permit

Designated Waste .....(a) Hazardous Waste subject to variance from management requirements per Health and Safety Code section 25143; and (b) Nonhazardous Waste containing pollutants that, under ambient conditions, could be released in concentrations exceeding applicable WQOs, or that could reasonably be expected to affect beneficial uses of water. (Wat. Code, § 13173.)

DMP .....Detection Monitoring Program

GLOSSARY

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

DWR.....California Department of Water Resources

EC .....Electrical Conductivity

EIR .....Environmental Impact Report

EMP .....Evaluation Monitoring Plan

FEMA .....Federal Emergency Management Agency

GCL.....Geosynthetic Clay Liner

Hazardous Waste .....Wastes which, pursuant to Title 22, section 66261.3 et seq., are required to be managed in accordance with Division 4.5 of Title 22. (Title 27, § 20164; Title 23, § 2521(a).)

HDPE .....High-Density Polyethylene

JTD .....Joint Technical Document

LCRS .....Leachate Collection and Removal System

LEA.....Local Enforcement Agency

Leachate.....Liquid formed by the drainage of liquids from waste or by the percolation or flow of liquid through waste. Leachate includes any constituents extracted from the waste and dissolved or suspended in the fluid. (Title 27, § 20164.)

LFG.....Landfill Gas

MCE .....Maximum Credible Earthquake

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

MDL .....Method Detection Limit

µg/L.....Micrograms per Liter

mg/L.....Milligrams per Liter

MPE .....Maximum Probable Earthquake

msl.....Mean Sea Level

GLOSSARY

MRP .....Monitoring and Reporting Program

MSW .....Municipal Solid Waste regulated under 40 C.F.R. part 258

MSWLF .....Municipal Solid Waste Landfill

MW.....Monitoring Well

NAD27 .....Noth American Datum of 1927

NAVD88.....North American Vertical Datum of 1988

NGVD29.....National Geodetic Vertical Datum of 1929

SPRRs .....Standard Provisions and Reporting Requirements

Subtitle D .....USEPA-promulgated MSW regulations under RCRA (see 40 C.F.R. part 258)

RCRA.....Resource Conservation and Recovery Act

ROWD.....Report of Waste Discharge

SWIS.....Solid Waste Information System

SWFP.....Solid Waste Facility Permit

TDS.....Total Dissolved Solids

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

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

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

USEPA.....United States Environmental Protection Agency

VCP.....Vitrified Clay Pipe

VOCs .....Volatile Organic Compounds

WDRs.....Waste Discharge Requirements

WMU .....Waste Management Unit

WQOs .....Water Quality Objectives

WQPS .....Water Quality Protection Standard

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

[TENTATIVE] WASTE DISCHARGE REQUIREMENTS ORDER R5-20XX-XXXX
FOR
COUNTY OF YOLO, DEPARTMENT OF COMMUNITY SERVICES

YOLO COUNTY CENTRAL LANDFILL
Yolo County

FINDINGS

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

Introduction

1. The County of Yolo, Department of Community Services (Discharger) owns and operates the 1,048 acre Facility, which includes the 725-acre Yolo County Central Landfill and an adjacent 323-acre soil borrow site. The Facility's current address is 44090 County Road 28H, Woodland, California 95776, near the intersection of Roads 28H and 104 in Yolo County, approximately four (4) miles northeast of Davis and three (3) miles southeast of Woodland, in Yolo County, Sections 29 and 30, Township 9 North, Range 3 East, Mount Diablo Base and Meridian (MDB&M). The Facility's location is depicted on the Facility Location Map in **Attachment A**. The Facility comprises Yolo County Assessor's Parcel Numbers (APNs) 042-140-01, 042-140-02 and 042-140-06 for the 474-acre operational landfill portion of the Facility and APNs 042-100-017 and 042-100-018 for the adjacent soil borrow site.

2. The Discharger operates the Yolo County Central Landfill under Solid Waste Facility Permit (SWFP) 57-AA-0001, issued by CalRecycle. The Facility includes a 48-acre composting operation known as "Composting Facility #2" within the 725-acre Yolo Central Landfill property. The Discharger operates Compost Facility #2 under SWFP 57-AA-0001, issued by CalRecycle. Composting Facility #2 is currently operated by Northern Recycling, LLC, on the Discharger's behalf.

3. A "waste management unit" (WMU) means an area of land, or a portion of a waste management facility, at which waste is discharged. The term includes containment features and ancillary features for precipitation and drainage control and for monitoring (Cal. Code Regs., tit. 27 (Title 27), § 20164).

4. A "surface impoundment" is a waste management unit which is a natural topographic depression, excavation, or diked area, which is designed to contain liquid wastes or wastes containing free liquids, and which is not an injection well (Title 27, § 20164). Title 27 identifies the placement of designated liquids (including un-dewatered sludges) in surface impoundments as an authorized waste management strategy for discharges to land (Title 27, § 20120, Table 2.1).

5. An “Existing” WMU refers to a WMU which was operating or had received all permits necessary for construction and operation, on or before 27 November 1984, pursuant to California Code of Regulations, title 27 (Title 27), section 20080(d). (See Title 27, § 20164)

6. A “New” WMU (or portion thereof) means a WMU which began operating or had received all permits necessary for construction and operation, after 27 November 1984, pursuant to Title 27, section 20080(d). (see Title 27, § 20164)

7. As the Facility’s owner and operator, the Discharger is responsible for compliance with this Order, which prescribes Waste Discharge Requirements (WDRs) regulating the Facility’s landfill WMUs, surface impoundment WMUs, composting operations listed in **Table 1,** corrective action requirements, and related Facility activities.

Table 1—Summary of Waste Management Units (WMUs) Permitted Under Order

Unit	Type	Class	Year Constructed	Containment	Size (acres)	Status
WMU 1	Landfill, Existing	Class III	1975	Unlined	23.19	Closed
WMU 2	Landfill, Existing	Class III	1977	Unlined	39.99	Closed, 2015
WMU 3	Landfill, Existing	Class III	1981	Unlined	20.72	Closed, 2007
WMU 4	Landfill, Existing	Class III	1983	Unlined	8.73	Closed, 2020
WMU 5	Landfill	Class III	1988	Clay-Lined (Pre-Subtitle D)	30.87	Closed, 2020
WMU 6 – Module 6A	Landfill, New	Class III	1991		20.19	Active
WMU 6 – Module 6B	Landfill, New	Class III	1993		19.98	Active
WMU 6 – Module 6C	Landfill, New	Class II	1996		19.30	Active

Unit	Type	Class	Year Constructed	Containment	Size (acres)	Status
WMU 6 – Module 6D1	Landfill, New	Class II	1999		11.98	Active
WMU 6 – Module 6D2	Landfill, New	Class II	2002		12.69	Active
WMU 6 – Module 6E1	Landfill, New	Class II	--		11.30	Planned
WMU 6 – Module 6E2	Landfill, New	Class II	--		11.30	Planned
WMU 6 – Module 6F1	Landfill, New	Class II	2020	Composite Liner	11.20	Active
WMU 6 – Module 6F2	Landfill, New	Class II	2020		11.30	Active
WMU 6 – Module 6G1	Landfill, New	Class II	--	Composite Liner	10.80	Planned
WMU 6 – Module 6G2	Landfill, New	Class II	--		10.80	Planned
WMU 6 – Module 6H	Landfill, New	Class II	2022		22.00	Active
WMU 7 – Module 7I	Landfill, New	Class II	--	Composite Liner	22.40	Planned
WMU 7 – Module 7J	Landfill, New	Class II	--	Composite Liner	21.90	Planned
WMU 7 – Module 7K	Landfill, New	Class II	--	Composite Liner	22.30	Planned
WMU 7 – Module 7L	Landfill, New	Class II	--	Composite Liner	21.90	Planned
WMU 7 – Module 7M	Landfill, New	Class II	--	Composite Liner	22.20	Planned

Unit	Type	Class	Year Constructed	Containment	Size (acres)	Status
WMU 7 – Module 7N	Landfill, New	Class II	--	Composite Liner	22.00	Planned
WMU 7 – Module 7O	Landfill, New	Class II	--	Composite Liner	22.10	Planned
WMU 7 – Module 7P	Landfill, New	Class II	--	Composite Liner	22.00	Planned
WMU F	Surface Impoundment, New	Class II	1988	Single Liner	2.5	Closed, 1994
WMU G	Surface Impoundment, New	Class II	1999	Composite Liner	2.5	Operating
WMU H1	Surface Impoundment, New	Class II	1999	Composite Liner	1.84	Operating
WMU H2	Surface Impoundment, New	Class II	1999	Composite Liner, In-Vessel Digester	1.84	Operating
WMU H3	Surface Impoundment, New	Class II	1999	Composite Liner	5.53	Operating
WMU H4	Surface Impoundment, New	Class II	--	Composite Liner	10.0	Proposed
Composting Facility #2, Phase 1	---	Class III	2021	Low-Permeability Surfaces	25.9	Operating
Composting Facility #2, Phase 2	---	Class III	2024	Low-Permeability Surface	2.3	Under Construction

Unit	Type	Class	Year Constructed	Containment	Size (acres)	Status
Compost Pond 1	Surface Impoundment	Class III	2022	Single Composite Liner	1.5 Million Gallons	Operating
Compost Pond 2	Surface Impoundment	Class III	2022	Single Composite Liner	2.6 Million Gallons	Operating
Compost Pond 3	Surface Impoundment	Class III	2023	Single Composite Liner	9.4 Million Gallons	Operating

See Glossary for definitions of terms and abbreviations in table.

Materials Accompanying Order

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

ATTACHMENT A—FACILITY LOCATION MAP
ATTACHMENT B—FACILITY MAP
ATTACHMENT C—BORROW SITE
ATTACHMENT D—GETS AND MONITORING WELL LOCATION
ATTACHMENT E—FACILITY LEACHATE COLLECTION AND REMOVAL SYSTEM MAP
ATTACHMENT F—COMPOST FACILITY #2 MAP
ATTACHMENT G—AREA WELLS
ATTACHMENT H—FACILITY STORMWATER DRAINAGE
ATTACHMENT I—LANDFILL FLOOR CONTAINEMNT SYSTEM
ATTACHMENT J—SURFACE IMPOUNDMENT CONTAINMENT SYSTEM
ATTACHMENT K–LANDFILL FINAL COVER SYSTEM

Standard Provisions & Reporting Requirements for Non-Hazardous Discharges of Waste Regulated under Subtitle D and/or Title 27, December 2015 Edition (SPRRs)

Information Sheet for [TENTATIVE] Waste Discharge Requirements Order (Information Sheet)

9. This Order is also accompanied by the concurrently adopted **Monitoring & Reporting Program Order R5-20XX-XXXX (operative MRP)**, the provisions of which are incorporated as part of this Order. Each time the operative MRP is

modified by the Central Valley Water Board, the revised version shall become the operative MRP (superseding the prior version) and be incorporated as part of this Order (i.e., in lieu of the prior version).

10. To the extent there are any material inconsistencies between the provisions of this Order, the operative MRP, and the SPRRs, the provisions of this Order shall be controlling. However, to the extent a revised MRP contains new or different factual findings reflecting changed conditions or circumstances at the Facility, the revised MRP findings shall be controlling.

11. Additional information about the Facility is set forth in the **Information Sheet**, which is incorporated as part of these findings. (See Finding 9)

Facility

12. The Facility is a Class III non-hazardous municipal solid waste (MSW) facility with multiple landfill WMUs, Class II surface impoundments, two (2) composting facilities, and ancillary operations related to waste management and resource recovery activities. The Facility began operation in 1975. The Discharger's parcels comprise approximately 1,048 acres of land, of which the Facility occupies 725 acres, and an adjacent soil borrow site occupies 323 acres. Approximately 225 acres have received some waste to date. There are approximately 265.5 acres available for additional development. Primary sources of waste include the cities of Davis, Woodland, Winters, and West Sacramento, as well as the unincorporated areas of Yolo County. Out-of-county waste, primarily from the City of Sacramento, as well as unincorporated Sacramento County, comprises approximately 24 percent of the waste stream accepted at the Facility. The Facility also accepts source-separated recyclables, inert waste such as soil, concrete, and asphalt rubble, grits and rags, dewatered sewage, liquid waste, organics, metal and white goods, and household hazardous waste at scheduled collection events. The Facility includes the following onsite features, systems, and structures, as depicted on the Facility Map in **Attachment B**:

    a. Class II and Class III non-hazardous MSW landfill operations;

    b. A landfill gas (LFG)-to-energy facility owned by Yolo County and operated by a contracted third-party;

    c. A Materials Recovery Facility consisting of a 4.25-acre construction and demolition recycling facility (CDI Diversion Facility), operated by a third party, Northern Recycling, LLC. All operations occur on a concrete pad to minimize dust generation with the exception of debris storage on an

operations pad, which consists of compacted aggregate base rock over a compacted clay liner;

d. An area where the Discharger directs broken concrete, asphalt, tile, brick, toilets, sinks and other porcelain or ceramic fixtures, etc. for near-future use in site operations, and a storage area located north of Compost Facility #2;

e. Two (2) unlined basins where the Discharger accepts hydrovac excavation and horizontal boring mud waste for drying and later excavation and use in Facility operations (Inert Recycling Facility);

f. An 0.5-acre anaerobic composite-lined compost cell used for composting food and green waste materials, which the Discharger built on top of a composite lined landfill WMU (Compost Facility #1);

g. An organic waste processing and composting Facility, currently operated by Northern Recycling, LLC through 30 June 2047 (Compost Facility #2);

h. An anaerobic lagoon digester operated in WMU H2, covered with a geomembrane (In-Vessel Digester);

i. A 45,100 square foot Food Waste Processing Area with a 30,000-gallon equalization tank and paved surfaces sloped to capture fluids associated with liquid and food waste unloading. The Discharger conveys fluids and liquids to the adjacent anaerobic lagoon digester consisting of a covered class II surface impoundment (WMU H2).

j. A groundwater extraction and treatment system to support corrective action for reduction of groundwater beneath closed unlined landfill WMUs;

k. A 40-acre combined Groundwater / Stormwater Storage Reservoir with approximately 75 million gallons of storage capacity;

l. A Land Application Area (LAA) for discharge and reuse of liquids stored in the Groundwater / Stormwater Storage Reservoir; and

m. Two (2) industrial wastewater discharge lines and permits to the adjacent City of Davis wastewater treatment plant (WWTP).

13. The Discharger also owns and operates a 323-acre offsite soil borrow site (Borrow Site), adjacent to and west of the Facility (as depicted in **Attachment C)** where the Discharger excavates soils to support the ongoing landfill operations. The total quantity of soils excavated ranges from 50,000 to 100,000 cubic yards per year (approximately 8 to 10 acres). The Yolo County-issued Conditional Use Permit for the Borrow Site authorizes the Discharger to excavate the Borrow Site

to a maximum depth of approximately 12 to 20 feet above mean sea level (MSL) (NAVD88). The Borrow Site property was previously used as spray irrigation fields for liquid waste disposal from the Hunt-Wesson tomato cannery until the cannery closed in October 1999. Thereafter, the field was used for cattle grazing and disposal of stormwater. The property has a zoning designation of "Public, and Quasi-public."

14. The Discharger maintains an Industrial Wastewater Discharge Permit with the City of Davis to periodically discharge up to 576,000 gallons per day (gpd) of wastewater from WMU H to the adjacent City of Davis Wastewater Treatment Plant (WWTP). The Industrial Wastewater Discharge Permit specifies acceptable wastes, including septic tanks, grease interceptors, concrete grinding slurry wastes, leachate / gas condensate, and onsite domestic wastewater.

15. Northern Recycling, LLC maintains a second Industrial Wastewater Discharge Permit with the City of Davis to periodically discharge up to up to 432,000 gallons per day of contact stormwater and curing/finished stormwater from Compost Facility #2 to the City of Davis WWTP via a second dedicated discharge pipeline.

Waste Classification & Permitting

16. The Facility's landfill WMUs are subject to federal MSW regulations promulgated under the Resource Conservation and Recovery Act (RCRA) (42 U.S.C. § 6901 et seq.). Typically referred to as "Subtitle D," these regulations are codified at 40 Code of Federal Regulations part 258 and implemented, in part, through the provisions of the Water Code and Title 27, and in accordance with State Water Resources Control Board (State Water Board) Resolution 93-62.

17. Water Code section 13173 defines "Designated Waste" as either of the following:

    a. Hazardous waste that has been granted a variance from hazardous waste management requirements pursuant to Health and Safety Code section 25143.

    b. Nonhazardous waste that consists of, or contains, pollutants that, under ambient environmental conditions at a waste management unit, could be released in concentrations exceeding applicable water quality objectives or that could reasonably be expected to affect beneficial uses of the waters of the state as contained in the appropriate state water quality control plan.

18. Designated waste can be discharged only at Class I WMUs, or at Class II WMUs which comply with Title 27 and have been approved by the Central Valley Water Board for containment of the particular waste to be discharged.

19. Title 27 requires full containment of liquid designated wastes in Class II surface impoundment WMUs that are double lined, with a leachate collection and removal system (LCRS), and which were designed with consideration of specific siting and geologic conditions (see Title 27, § 20210).

20. On 6 December 2016, the Central Valley Water Board adopted WDRs Order R5-2016-0094, classifying the Facility's WMUs as either Class II or Class III units for the discharge of non-hazardous solid waste, MSW, and designated waste (see Wat. Code, § 13173). This Order continues such classifications, as set forth above in **Table 1**.

21. On 7 April 2020, the State Water Board adopted Water Quality Order 2020-0012-DWQ, *General Waste Discharge Requirements for Commercial Composting Operations* (2020 General Order) which includes requirements to protect water quality from composting activities. The 2020 General Order applies to facilities that aerobically compost materials such as green waste, manure, anaerobic digestate, biosolids, food scraps, and scrap paper products. The 2020 General Order establishes prohibitions, specifications, and requirements for design, construction, operation, monitoring, maintenance, closure, and reporting for enrolled composting operations.

22. The 2020 General Order also establishes compost operation classification categories and requirements for compost operations based on the volume, type, and quality of feedstocks, additives, and amendments used at a compost facility. The 2020 General Order refers to the respective compost operation classification categories as "Tier 1" and "Tier 2," where the respective requirements are more rigorous for "Tier 1" compost operations than "Tier 2" compost operations.

23. On 9 March 2022, the Central Valley Water Board issued Notice of Applicability (NOA) 2020-0012-DWQ-R5S001 identifying Compost Facility #2 as a Tier 2 compost operation and authorizing the Discharger's Compost Facility #2 operations pursuant to the 2020 General Order. The NOA identifies Northern Recycling, LLC as owner and operator of Compost Facility #2, and in the cause of default, Yolo County, as landowner, as the parties responsible for compliance with the requirements of the 2020 General Order and NOA 2020-0012-DWQ-R5S001.

24. The 2020 General Order sets forth that the Central Valley Water Board may issue site specific waste discharge requirements for a composting operation if the composting operation is co-located at a facility with individual waste discharge requirements provided the facility's WDRs include requirements for the composting activities that are protective of water quality as determined by the Central Valley Water Board. (2020 General Order, Finding 13.)

25. These WDRs establish requirements consistent with the 2020 General Order for Compost Facility #2, therefore Compost Facility #2 no longer requires separate regulatory coverage under the 2020 General Order.

26. On 26 April 2002, the Central Valley Water Board adopted WDRs Order R5-2002-0078 for the discharge of treated groundwater from the Facility's groundwater extraction and treatment system (GETS), Groundwater / Stormwater Storage Reservoir, and the LAA in the eastern portion of the Facility.

27. The Discharger submitted an updated Report of Waste Discharge (ROWD) as part of its Joint Technical Document (JTD) for the Facility, dated 31 October 2023. Information in the JTD was used in the development of this Order. The Discharger's JTD/ROWD makes the following significant proposals:

    a. Proposing an alternate groundwater separation requirement for WMUs 1-5.

    b. Construction and operation of a new dual-purpose Class II surface impoundment (WMU H4) for containment of liquid wastes suitable for use as an additive to compost feedstock, including for moisture level control at Compost Facility #1 or Compost Facility #2 or for use as dust control on lined Facility WMUs, and for emergency use to contain liquid wastes unsuitable for reuse, such as leachate or LFG condensate.

    c. Reduction in the size and capacity of the unlined 40-acre combined Groundwater / Stormwater Storage Reservoir.

    d. Revisions to the Preliminary Closure and Post-Closure Maintenance Plan to include an engineered alternative cover design for WMUs 6-7.

28. On 19 August 2024, the Discharger submitted a complete signed Form 200 and a request for recission of WDRs Orders R5-2016-0094 and R5-2002-0078, and termination of NOA 2020-0012-DWQ-R5S001, to support consolidation of the respective orders into this single, Facility-wide WDRs Order. The submission also clarified that the Yolo County Community Services Department was previously known as the "Yolo County Planning and Public Works Department," as described in WDRs Order R5-2002-0078.

29. The 19 August 2024 submission also included a 12 August 2024 letter from Northern Recycling, LLC, requesting termination of NOA 2020-0012-DWQ-R5S001.

30. On 27 November 2024, the Discharger submitted a water balance for the Facility. The Discharger submitted a revised water balance on 14 March 2025.

31. On 6 April 2022, the Discharger submitted a Portfolio of Technical and Construction Documents for the Compost Facility #2, which included a 29 October 2021 Notice of Intent and Technical Report relating to the proposed expansion of Compost Facility #2. The Discharger later submitted the following additional documents relating to the proposed expansion of Compost Facility #2:

    a. A revised Notice of Intent, dated 23 April 2024;

    b. Proposed Design details and technical specifications dated 3 June 2024; and

    c. A Construction Quality Assurance Plan dated 7 May 2024.

32. The JTD, Form 200, water balance, and Portfolio of Technical and Construction Documents for the Compost Facility #2, including the 23 April 2024 NOI, are all elements of the ROWD considered by the Central Valley Water Board in development of this Order.

33. On 30 June 2017, the Discharger submitted a Sample Collection and Analysis Plan (SCAP) that, in part, establishes sampling and analysis procedures to be followed when performing environmental collection and monitoring of groundwater, surface water, stormwater, leachate and seeps, vadose zone (soil-water), and soil pore gas at the Facility, including GETS activities regulated by WDRs Order R5-2002-0078.

34. On 20 July 2023, a representative of Northern Recycling, LLC submitted a SCAP establishing soil and groundwater sampling and analysis procedures at Compost Facility #2.

35. The Inert Recycling Facility is within the footprint of the planned landfill WMU 6E2 (see **Attachment B**). The Inert Recycling Facility accepts hydrovac excavation and horizontal boring mud waste material, which it classifies as “inert” pursuant to the its waste acceptability review process. The Inert Recycling Facility consists of two (2) unlined sumps. The Discharger alternately uses one sump to receive wastes while the Discharger allows the second sump to dry. The Discharger excavates dried material for use as landfill cover and/or Alternative Daily Cover (ADC).

36. Hydrovac excavation and horizontal boring mud waste materials consist of removed water and soil from hydrovac excavation operations. Hydrovac excavation techniques are used for “daylighting” underground piping, conduits, etc., for inspection, repair, or replacement. Hydrovac excavation uses high-pressure water and an air vacuum to cut through the soil and break it apart in a controlled manner. Once the soil is disturbed, the air vacuum evacuates the soil

into a truck-mounted debris-holding tank. Directional drilling wastes, also known as 'horizontal drilling' or 'horizontal boring mud' wastes, are produced from rotary drill methods where water is mixed with soil during the drilling process. Directional drilling is typically performed near the ground surface and resultant wastes are typically considered non-hazardous or inert. Notwithstanding, both hydrovac excavation and directional drilling activities may occur in areas of known or unknown contamination, which may result in production of hazardous, designated, or otherwise non-inert wastes. The Discharger's Waste Acceptability Procedures, dated April 2023, describe a process for verification of waste classification via analytical testing, prior to acceptance of hydrovac wastes.

37. "Inert waste" is solid waste that does not contain hazardous waste or soluble pollutants at concentrations in excess of applicable water quality objectives and does not contain significant quantities of decomposable waste (Title 27, § 20230(a)). Inert waste does not include "liquid waste."

38. "Liquid waste" refers to any waste materials which are not spadable (Title 27, § 20164). For the purposes of these WDRs, separated hydrovac excavation and horizontal boring liquids or associated free liquids are considered a "liquid waste," and the remaining associated materials are considered "spadable" solids. In the event of a dispute as to whether a substance is a "liquid" within the meaning of these WDRs, resolution may be determined by performance of the "Paint Filter Liquids Test" (USEPA Method 9095B).

39. Title 27 identifies certain "drilling waste" activities as being exempt from Title 27 requirements (see Title 27, § 20090(g)), provided that the drilling mud discharges are "to on-site sumps and do not contain halogenated solvents" and that, "at the end of drilling operations" the Discharger takes measures to remove drilling muds and liquids from the on-site sumps.

40. The Discharger's Inert Recycling Facility functions as a drilling mud processing facility, not a drilling operation "on-site sump." Moreover, the Discharger's Inert Recycling Facility is not monitored pursuant to a Detection Monitoring Plan, is not designed, constructed, operated, and maintained to prevent inundation or washout due to floods, or to minimize leachate generation, and is not currently operated in accordance with a Central Valley Water Board-approved Operations and Maintenance Plan.

41. The Discharger has not demonstrated that the discharge of liquid wastes to the Inert Recycling Facility is an activity eligible for exemption from Title 27 regulations pursuant to Title 27 section 20090(g). Accordingly, these WDRs prohibit the discharge of liquid wastes to the Inert Recycling Facility. Authorization can only be granted after the Discharger submits a complete

ROWD for the construction and operation of a Class II surface impoundment(s) for drilling mud wastes pursuant to Title 27 section 21710 and the Central Valley Water Board authorizes the discharge of liquid wastes to the Class II surface impoundment(s) via modification of these WDRs or issuance of a separate WDRs Order. However, these WDRs do authorize the Discharger to submit a workplan for closure of the Inert Recycling Facility pursuant to Title 27 closure requirements for surface impoundments (Title 27, § 21400).

42. The Discharger operates a 45,100 square foot Food Waste Processing Area with a 30,000-gallon equalization tank and paved surfaces sloped to capture fluids associated with liquid and food waste unloading to flow to a 160-foot concrete trench drain terminating at a 5-foot deep by 4-foot diameter HDPE manhole sump. The Discharger conveys sump liquids to the adjacent anaerobic lagoon digester operated in WMU H2.

43. The Discharger accepts Treated Wood Waste (see Cal. Code Regs., tit. 22 (Title 22), § 67386.4) at the Facility, but does not discharge Treated Wood Waste to Facility WMUs. Treated Wood Waste may contain chemicals such as chromated copper arsenate (CCA), pentachlorophenol, creosote, acid copper chromate (ACC), ammoniacal copper arsenate (ACA), ammoniacal copper zinc arsenate (ACZA), or chromated zinc chloride (CZC). The Discharger transfers Treated Wood Waste to the Hay Road Landfill (Solid Waste Information System (SWIS) # 48-AA-0002), Kiefer Landfill (SWIS # 34-AA-0001), and/or Potrero Hills Landfill (SWIS # 48-AA-0075). These WDRs prohibit the discharge of Treated Wood Waste to Facility WMUs.

44. The Discharger proposes to discharge other Designated Wastes, including:

    a. Contaminated soils: Prior to accepting commercial soil loads, customers must complete a waste acceptability form which is then evaluated by Discharger personnel to determine the load's potential risk for contamination. Based on this evaluation, sampling and analysis may be required prior to acceptance of the load. This Order authorizes the discharge of such wastes to the landfill WMUs specified in **Section B.1** and **Table 19**.

    b. Hydroexcavated / Horizontal Boring Soils: Spoils from water and mud-based excavation processes are accepted in a manner similar to clean or contaminated soil. Prior to accepting any hydroexcavation waste load, customers must complete a waste acceptability form which is then evaluated by Discharger personnel to determine the load's potential risk for contamination. Based on this evaluation, sampling and analysis may be required prior to acceptance of the load. This Order limits the

authorized discharge of such wastes to the surface impoundment WMUs specified in **Section B.1** and **Table 20**.

45. The Discharger proposes to discharge other liquid Designated Wastes, including:

    a. landfill leachate;

    b. LFG condensate;

    c. cooling water from the Landfill Gas Collection Facility;

    d. private septage;

    e. chemical toilet waste;

    f. concrete slurry;

    g. water treatment lime sludge; and

    h. and other liquid waste compatible with surface impoundments WMUs.

    This Order authorizes the discharge of such liquid wastes or wastes containing free liquids to the surface impoundment WMUs specified in **Section B.1** and **Table 20**.

46. The Discharger proposes to return leachate and LFG condensate to the continuous composite-lined landfill WMUs from which they came. Title 27 section 20340(g) requires that leachate be returned to the unit from which it came or be discharged in a manner approved by the appropriate regional water quality control board. Section 20340(g) also references State Water Board Resolution 93-62 regarding liquids restrictions for MSW landfills in 40 Code of Federal Regulations part 258.28. Part 258.28 states that liquid waste may not be placed into MSW landfill WMUs unless the waste is leachate or gas condensate derived from the landfill WMU in which it will be placed and the receiving WMU(s) is designed with a composite liner and an LCRS. This Order (including the SPRRs attached hereto) includes requirements for returning leachate and LFG condensate back to continuous composite-lined units such that the liquid waste is not exposed to surface water runoff, will not cause instability of the landfill, and will not seep from the edges of the units.

47. The Discharger proposes to discharge leachate and LFG condensate extracted from various landfill WMUs to WMU G or WMU H, in lieu of returning such waste to the WMU from which it originated, as is ordinarily required. (See Title 27, § 20340.). WMUs 1, 2, 3, 4, and 5 are not composite lined and not suitable to receive leachate or LFG condensate extracted from other WMUs. The WMUs to which the Discharger proposes to discharge Leachate and LFG condensate do have a functioning leachate collection and removal system (LCRS), and already

contain waste similar in classification and characteristics to the WMUs of origin. This Order requires that these discharges not result in the WMUs exceeding their moisture-holding capacity. Further the receiving WMUs will continue to comply with Title 27 section 20200.

Alternative Daily Cover / Intermediate Cover
(Operating Landfill Units)

48. In lieu of the daily cover required per Title 27 section 20680, the Discharger proposes to use an approved ADC (see Title 27, §§ 20690, 20705), which consists of temporary geosynthetic tarps, post-composting screened overs, sludge and sludge-derived materials, processed construction and demolition (C&D) waste, dewatered concrete grindings, and spray applied product. In accordance with Title 27 section 20705, the Discharger has demonstrated that these materials will minimize percolation of liquids through waste, that they meet the unit classification where they will be discharged, and that the constituents and breakdown products are included in the water quality protection standard.

49. The proposed ADC has already been approved by the Local Enforcement Agency (LEA) and is hereby also approved by the Central Valley Water Board for use at the Facility. The materials approved for use as ADC are as follows:

    a. Geosynthetic blankets (tarps) –Tarps are either the hand-pull type or machine deployed.

    b. Compost overs – Following composting activities at Composting Facilities #1 or #2, the material is screened, with the fine fraction becoming finished compost and the larger “overs” fraction being suitable for use as ADC.

    c. Sludge and sludge-derived materials – sources of this material may include, but not be limited to, digested sludge (biosolids) from the City of Davis and City of Woodland wastewater treatment plants and water treatment sludge from the City of Sacramento water treatment plants. Staging, processing, tipping, and cover placement of sludge will be in areas inaccessible to the public.

    d. Processed C&D waste – C&D waste is ground, shredded, and/or screened at the CDI Diversion Facility or received from off-site facilities; processed to meet the grain size specifications of Title 27 section 20690(b)(9)(C).

    e. Use of spray applied product used in accordance with Title 27 section 20690(b)(11).

The approved ADC material constituents and breakdown products are also included as part of the WQPS set forth in the MRP.

50. Landfills regularly seek approval to use new materials as ADC and Alternate Intermediate Cover (AIC) in order to preserve landfill air space and to beneficially reuse available waste materials. Title 27 section 20686 prescribes requirements for beneficial reuse of waste, including use as ADC or AIC. Approvals of ADC and AIC materials are primarily handled by the LEA and CalRecycle pursuant to Title 27 sections 20690 and 20700, respectively. To ensure timely approval of newly proposed ADC and AIC materials, this Order authorizes the use of any ADC or AIC materials that have been demonstrated to meet the requirements of Title 27 section 20705. This Order also includes a requirement that approved ADC and AIC materials only be used in internal areas of the landfill; however, certain ADC materials may be permitted in other areas if the Discharger demonstrates that runoff from those materials is not a threat to surface water quality. The demonstration can take sedimentation basins into account.

Waste Management Units, Landfill

51. WMU 1: The Discharger constructed WMU 1 in 1975. The 23.19-acre WMU is an unlined Class III landfill with a subgrade sloped to drain leachate to a perimeter trench. WMU 1 is an existing MSW landfill WMU constructed prior to the 18 July 1997 promulgation of Title 27. The Discharger closed WMU 1 in 2015. WMU 1 may not accept additional wastes.

52. WMU 2: The Discharger constructed WMU 2 in 1977. The 39.99-acre WMU is an unlined Class III landfill with a subgrade sloped to drain leachate to a perimeter trench. WMU 2 is an existing MSW landfill WMU constructed prior to the 18 July 1997 promulgation of the Title 27 regulations. The Discharger closed WMU 2 in 2015. WMU 2 may not accept additional wastes.

53. WMU 3: The Discharger constructed WMU 3 in 1981. The 20.72-acre WMU is an unlined Class III landfill with a subgrade sloped to drain leachate to a perimeter trench. WMU 3 is an existing MSW landfill WMU constructed prior to the 18 July 1997 promulgation of the Title 27 regulations. The Discharger closed WMU 3 in 2020. WMU 3 may not accept additional wastes.

54. WMU 4: The Discharger constructed WMU 4 in 1983. The 8.73-acre WMU is an unlined Class III landfill with a subgrade sloped to drain leachate to a perimeter trench. WMU 4 is an existing MSW landfill WMU constructed prior to the 18 July 1997 promulgation of the Title 27 regulations. The Discharger closed WMU 4 in 2020. WMU 4 may not accept additional wastes.

55. WMU 5: The Discharger constructed WMU 5 in 1988. The 30.87-acre WMU containment system consists of a one (1) foot operations layer, a dendritic LCRS with lateral trenches containing gravel & perforated pipe draining via longitudinal trenches and a trunk line to a pump station, and two (2) feet of compacted clay (1x10E-06). WMU 5 is an existing MSW landfill WMU constructed prior to the 18 July 1997 promulgation of the Title 27 regulations. The Discharger closed WMU 5 in 2020. WMU 5 may not accept additional wastes.

56. WMU 6A: The Discharger constructed WMU 6A in 1991. The 20.19-acre WMU containment system consists of a one (1) foot operations layer, a blanket LCRS geonet draining via longitudinal trenches to perimeter trunk line, and 60-mil HDPE liner, and two (2) feet of compacted clay (1x10E-07). WMU 6A is an existing MSW landfill WMU constructed prior to the 18 July 1997 promulgation of the Title 27 regulations. WMU 6A is an active WMU.

57. WMU 6B: The Discharger constructed WMU 6B in 1993. The 19.98-acre WMU containment system consists of a one (1) foot operations layer; a geotextile cushion; a blanket LCRS geonet draining via longitudinal trenches to perimeter trunk line; and 60-mil HDPE liner; and 1.7 to 2.5 feet of compacted clay (1x10E-08). WMU 6B is an existing MSW landfill WMU constructed prior to the 18 July 1997 promulgation of the Title 27 regulations. WMU 6B is an active WMU.

58. WMU 6C: The Discharger constructed WMU 6C in 1996. The 19.30-acre WMU containment system consists of a one (1) foot operations layer; a geotextile cushion; a blanket LCRS geonet draining via longitudinal trenches to perimeter trunk line; 60-mil HDPE liner; two (2) feet of compacted clay (1x10E-07); three (3) feet of earthfill; and 40-mil HDPE for capillary break. WMU 6C is an existing MSW landfill WMU constructed prior to the 18 July 1997 promulgation of the Title 27 regulations. WMU 6C is an active WMU.

59. WMU 6D, Phase 1: The Discharger constructed WMU 6D, Phase 1 in 1999. The 11.98-acre WMU containment system consists of a three (3) feet shredded tire operations layer; geotextile filter layer; six inch pea gravel cushion layer; a 60-mil HDPE geomembrane; two (2) feet of a compacted clay blanket LCRS geotextile bonded to both sides of geonet, drains via longitudinal trenches to interior sumps; 60-mil HDPE liner; two (2) feet of compacted clay (1x10E-07); three (3) feet of earthfill; and 40-mil HDPE for capillary break. WMU 6D, Phase 1 is an active WMU.

60. WMU 6D, Phase 2: The Discharger constructed WMU 6D, Phase 2 in 2002. The 12.69-acre WMU containment system consists of a three (3) feet shredded tire (or one (1) foot of soil) operations layer; geotextile filter layer; six inch pea gravel LCRS; a 60-mil HDPE liner; two (2) feet of compacted clay (1x10E-07); three (3)

feet of compacted earthfill; leak detection geocomposite drainage layer; and 40-mil HDPE for capillary break. WMU 6D, Phase 2 is an active WMU.

61. WMU 6E, Phase 1: The Discharger anticipates future construction of WMU 6E, Phase 1. The planned 11.30-acre WMU containment system consists of an Operations layer – one foot of soil, or three feet of shredded tires, or two feet of 6-inch minus ground wood; geotextile filter layer; one (1) foot pea gravel LCRS; a 60-mil HDPE liner; two (2) feet of compacted clay (1x10E-07); three (3) feet of compacted earthfill; leak detection geocomposite drainage layer (or EAD); and 40-mil HDPE for capillary break. WMU 6E, Phase 1 is a planned WMU.

62. WMU 6E, Phase 2: The Discharger plans future construction of WMU 6E, Phase 2. The planned 11.30-acre WMU containment system consists of an Operations layer – one foot of soil, or three feet of shredded tires, or two feet of 6-inch minus ground wood; geotextile filter layer; one (1) foot pea gravel LCRS; a 60-mil HDPE liner; two (2) feet of compacted clay (1x10E-07); three (3) feet of compacted earthfill; leak detection geocomposite drainage layer (or EAD); and 40-mil HDPE for capillary break. WMU 6E, Phase 2 is a planned WMU.

63. WMU 6F, Phase 1: The Discharger constructed WMU 6F, Phase 1 in 2020. The 11.20-acre WMU containment system consists of a Operations layer – one foot of soil, or three feet of shredded tires, or two feet of 6-inch minus ground wood; geotextile filter layer; one (1) foot pea gravel LCRS; a 60-mil HDPE liner; two (2) feet of compacted clay (1x10E-07); three (3) feet of compacted earthfill; leak detection geocomposite drainage layer (or EAD); and 40-mil HDPE for capillary break. WMU 6F, Phase 1 is an active WMU.

64. WMU 6F, Phase 2: The Discharger constructed WMU 6F, Phase 2 in 2020. The 11.30-acre WMU containment system consists of an Operations layer – one foot of soil, or three feet of shredded tires, or two feet of 6-inch minus ground wood; geotextile filter layer; one (1) foot pea gravel LCRS; a 60-mil HDPE liner; two (2) feet of compacted clay (x10E-07); three (3) feet of compacted earthfill; leak detection geocomposite drainage layer (or EAD); and 40-mil HDPE for capillary break. WMU 6F, Phase 2 is an active WMU.

65. WMU 6G, Phase 1: The Discharger constructed WMU 6G, Phase 1 in 2020. The 10.80-acre WMU containment system consists of a Operations layer – one foot of soil, or three feet of shredded tires, or two feet of 6-inch minus ground wood; geotextile filter layer; one (1) foot pea gravel LCRS; a 60-mil HDPE liner; two (2) feet of compacted clay (1x10E-07); three (3) feet of compacted earthfill; leak detection geocomposite drainage layer (or EAD); and 40-mil HDPE for capillary break. WMU 6G, Phase 1 is an active WMU.

66. WMU 6G, Phase 2: The Discharger plans future construction of WMU 6G, Phase 2. The planned 10.80-acre WMU containment system consists of an Operations layer – one foot of soil, or three feet of shredded tires, or two feet of 6-inch minus ground wood; geotextile filter layer; one (1) foot pea gravel LCRS; a 60-mil HDPE liner; two (2) feet of compacted clay (1x10E-07); three (3) feet of compacted earthfill; leak detection geocomposite drainage layer (or EAD); and 40-mil HDPE for capillary break. WMU 6G, Phase 2 is a planned WMU.

67. WMU 6H: The Discharger constructed WMU 6H in 2022. The 22.00-acre WMU containment system consists of an Operations layer – one foot of soil, or three feet of shredded tires, or two feet of 6-inch minus ground wood; geotextile filter layer; one (1) foot pea gravel LCRS; a 60-mil HDPE liner; two (2) feet of compacted clay (1x10E-07); three (3) feet of compacted earthfill; leak detection geocomposite drainage layer (or EAD); and 60-mil HDPE for capillary break. WMU 6H is an active WMU.

68. WMU 7I – 7P: The Discharger plans future construction of WMUs 7I, 7J, 7K, 7L, 7M, 7N, 7O, and 7P. The planned WMUs would cover a total of 176.8 acres at the Facility.

69. Portions of WMUs 6F, 6H, 7J, 7L, 7N, and 7P occupy the same space identified as the “Land Application Area” described herein for the discharge of treated groundwater from the Facility’s GETS (see **Attachment B and Attachment D**).

70. The 28-acre Stormwater Pond 2 in the LAA in the northeastern portion of the Facility occupies portions of the same area as the planned landfill WMUs 7M, 7N, 7O, and 7P (see **Attachment B and Attachment D**).

71. The 45-acre “West Parcel Land Application Area” used to land apply treated GETS water occupies portions of the same area as the planned landfill WMUs 7I, 7J, 7K, and 7L (see **Attachment B and Attachment D**).

72. The 45-acre “East Parcel Land Application Area” used to land apply treated GETS water occupies portions of the same area as the planned landfill WMUs 7L, 7N, and 7P (see **Attachment B and Attachment D**).

73. These WDRs prohibit the construction of landfill WMUs 7I, 7J, 7K, 7L, 7M, 7N, 7O, and 7P until the Discharger demonstrates, to the written satisfaction of the Central Valley Water Board, alternative wastewater management strategies to the activities described in Finding 69, 70,71, and 72,which do not interfere with the construction, operation, and post-closure requirements for landfill WMUs.

Waste Management Units, Class II Surface Impoundments

74. WMU F, also known as, the "Clean Water Storage Pond": The Discharger constructed the former "WMU F" in 1988. The 2.5-acre WMU F was an unlined Class II surface impoundment with a subgrade sloped to drain leachate to a perimeter trench. The Discharger clean closed WMU F in 1994. In 1999, the Discharger reconfigured the area to serve as a clean water storage pond. In the JTD, the Discharger seeks to reserve the ability to reconstruct WMU F as a Class II surface impoundment. These WDRs prohibit the discharge of waste to the Clean Water Storage Pond, formerly known as "WMU F," without written authorization from the Central Valley Water Board.

75. WMU G: The Discharger constructed WMU G in 1991 as an unlined surface impoundment. In 1995, the Discharger installed a composite liner system in WMU G. In 2022, the Discharger reconstructed 2.0-acre WMU Class II surface impoundment to consist of the following containment elements: concrete operations layer; 60-mil HDPE geomembrane (primary liner); Blanket LCRS – geonet, drains via longitudinal trenches to interior sumps; a 60-mil HDPE geomembrane (secondary liner); two (2) feet of compacted clay (k 1x10E-07 cm/sec); One to three feet earthfill; and 40-mil HDPE geomembrane (capillary break). A concrete masonry unit wall separates the east and west half of WMU G. WMU G has 3.0 million gallons of storage capacity. The Discharger accepts grits and rags and dewatered sewage sludge (sludge) from various wastewater treatment plants within the County, as well as the Cache Creek Casino operated by the Yocha Dehe Wintun Nation Tribe. Following verification testing, the Discharger disposes accumulated solids from WMU G in authorized landfill WMUs. These WDRs require load tracking of waste discharged to WMU G.

76. WMU H: The Discharger divides WMU H into four (4) adjacent WMUs, including a proposed new WMU, connected by weirs at the 2-foot freeboard level or via pipes and pumps. The total capacity of WMU H, including the proposed WMU H4, is approximately 33 million gallons:

    a. WMU H1: The Discharger constructed WMU H1 in 1999 as Class II surface impoundment. The 2.5-acre surface impoundment is hydraulically connected to WMU H3 by overflow weirs and pipes which allow pumping of liquids between the WMUs. WMU H1 consists of the following containment elements: Operations layer; 60-mil HDPE geomembrane (primary liner); Blanket LCRS – geonet, drains via longitudinal trenches to interior sumps; a 40-mil HDPE geomembrane (secondary liner); two (2) feet of compacted clay (k 1x10E-07 cm/sec); One to three feet earthfill; and 40-mil HDPE geomembrane (capillary break). WMU H1 has 2.5 million gallons

of storage capacity. Following verification testing, the Discharger disposes accumulated solids from WMU H1 in authorized landfill WMUs.

b. WMU H2: The Discharger constructed WMU H2 in 1999 as Class II surface impoundment consists of the following containment elements: Operations layer; 60-mil HDPE geomembrane (primary liner); Blanket LCRS – geonet, drains via longitudinal trenches to interior sumps; a 40-mil HDPE geomembrane (secondary liner); two (2) feet of compacted clay (k 1x10E-07 cm/sec); One to three feet earthfill; and 40-mil HDPE geomembrane as a capillary break. Beginning in June 2019, the Discharger covered WMU H2 with a 60-mil HDPE geomembrane to create an anaerobic lagoon in-vessel digester and installed the adjacent organic waste processing facility. The Discharger sealed the 60-mil HDPE geomembrane cover to the liner system to facilitate methane gas collection for power generation. WMU H2 has 2.5 million gallons of storage capacity. WMU H2 is hydraulically isolated from WMU H1 and WMU H3. Following verification testing, the Discharger disposes accumulated solids from WMU H2 in authorized landfill WMUs.

c. WMU H3: The Discharger constructed WMU H3 in 1999 as a Class II surface impoundment. The 5-acre surface impoundment is hydraulically connected to WMU H3 by overflow weirs and pipes which allow pumping of liquids between the WMUs. WMU H3 consists of the following containment elements: Operations layer; 60-mil HDPE geomembrane (primary liner); Blanket LCRS – geonet, drains via longitudinal trenches to interior sumps; a 40-mil HDPE geomembrane (secondary liner); two (2) feet of compacted clay (k 1x10E-07 cm/sec); One to three feet earthfill; and 40-mil HDPE geomembrane (capillary break). WMU H3 has 10.7 million gallons of storage capacity. Following verification testing, the Discharger disposes accumulated solids from WMU H3 in authorized landfill WMUs.

d. WMU H4: The Discharger proposes construction of WMU H4 as a 10-acre Class II surface impoundment to contain leachate generated at the Facility, discharges from Compost Facility #2, and liquids discharged directly into WMU H4 from tanker vehicles. WMU H4 is planned to consist of the following containment elements: 60-mil HDPE geomembrane (primary liner); Blanket LCRS – geonet, drains via longitudinal trenches to interior sumps; a 60-mil HDPE geomembrane (secondary liner); two (2) feet of compacted clay (k 1x10E-07 cm/sec); one to three feet earthfill; a vadose zone drainage layer; and a 60-mil HDPE geomembrane (capillary break). WMU H4 is planned to have 17.3 million gallons of storage capacity. The preliminary H4 design also incorporates a “tanker offload

ramp" to facilitate the discharge from tanker vehicles. Following verification testing, the Discharger proposes to dispose accumulated solids from WMU H4 in authorized landfill WMUs. The proposed WMU H4 design provides for a "tanker off load ramp" where, according to the water balance, the Discharger expects to discharge 200,000 gallons per month of "trucked liquid waste suitable for compost addition." The Discharger intends to hydraulically connect WMU H4 to WMU H2 via a dedicated pumped discharge line equipped with a backflow valve to prevent flow from WMU H3 to WMU H4. The Discharger does not intend to hydraulically connect WMU H4 to WMU H1 or WMU H3.

77. The proposed WMU H4 occupies a portion of the same space of the Groundwater / Stormwater Storage Reservoir (see **Attachment C**).

78. Under normal operation, the Discharger proposes to limit discharges to WMU H4 to liquid wastes suitable for use as an additive to compost feedstock, including for moisture level control, at Compost Facilities #1 or #2, for use as dust control on lined Facility landfill WMUs, or for discharge to the City of Davis WWTP for treatment.

79. In emergency situations, the Discharger proposes to discharge wastes that are unsuitable for use at Compost Facilities #1 or #2 or for use as dust control (Unsuitable Wastes), such as leachate and condensate wastes, into WMU H4. The Discharger anticipates potential "emergency situations" resulting in discharge of Unsuitable Wastes to WMU H4 may include, but not be limited to, the following scenarios:

    a. A wet winter that leads to an excessive amount of landfill leachate;

    b. A failure of one of the other surface impoundments at the landfill that results in temporary removal from service; or

    c. An upset or breakdown that occurs at the adjacent City of Davis WWTP that restricts or limits the ability to discharge wastewater to the WWTP.

80. The Discharger proposes the following Emergency Use and Return to Normal Operation (EURNO) procedures for emergency use of WMU H4 and subsequent return to normal operations:

    a. Prior to discharge of Unsuitable Wastes to WMU H4, the Discharger shall immediately cease discharge of water from WMU H4 to Compost Facilities #1 and #2.

    b. Methods and procedures for removal of Unsuitable Wastes and accumulated sediment from WMU H4, and additional cleaning of WMUH4,

will be added as an appendix to the WMU H4 Operations Plan and implemented when necessary.

c. Prior to resuming normal operation, the Discharger will prepare and submit a report summarizing the cleaning of WMU H4 and certify that WMU H4 is clean and ready to resume normal operation.

81. Central Valley Water Board staff are conducting engineering and geologic technical review of the details of preliminary design drawings provided by the Discharger for WMU H4. Unit Construction Specification D.18 of these WDRs requires written Central Valley Water Board authorization of Final Construction Details prior to the Discharger commencing WMU H4 construction related activities.

82. The discharge pipeline from the Facility to the City of Davis WWTP (Discharge Outfall -001) and sample point for the purposes of compliance with the Industrial Wastewater Discharge Permit with the City of Davis is adjacent to WMU H.

83. The discharge pipeline from Compost Facility #2 to the City of Davis WWTP (Discharge Outfall -002) and sample point for the purposes of compliance with the Industrial Wastewater Discharge Permit with the City of Davis is a sample port adjacent to Compost Pond #3, installed prior to the 4-inch diameter force main discharge line to the City of Davis WWTP.

Composting Ponds

84. Composting Pond 1 consists of a geosynthetic liner underlain by a compacted clay layer (with permeability less than 1 x 10E-06 centimeters per second) and is designed to contain an average annual precipitation of 17.55 inches from the composting areas, plus the runoff from a 25-year, 24-hour (4.05 inches) storm event. The volume of Compost Pond 1 is approximately 1,523,434 gallons. The bottom elevation of Composting Pond 1 (21 feet MSL NAVD88) is above the highest recorded groundwater elevation (~18 feet MSL NAVD88) and are located within the perimeter berm at elevation 33.5 feet MSL, which is above the 100-year base flood elevation (~32.8 feet MSL NAVD88). Composting Pond 1 has a pan lysimeter monitoring device under the lowest point of the pond. Composting Pond 1 is not designed to receive landfill liquid wastes, including but not limited to leachate or LFG condensate.

85. Composting Pond 2 consists of a geosynthetic liner underlain by a compacted clay layer (with permeability less than 1 x 10E-06 centimeters per second) and is designed to contain the runoff from the composting area resulting from a 100-year, 24-hour storm pursuant to Title 27 section 20365. The volume of Compost Pond 2 is approximately 2,623,814 gallons. The bottom elevation of Composting

Pond 2 (21 feet MSL NAVD88) is above the highest recorded groundwater elevation (~18 feet MSL) and are located within the perimeter berm at elevation 33.5 feet MSL NAVD88 which is above the 100-year base flood elevation (~32.8 feet MSL NAVD88). Composting Pond 2 has a pan lysimeter monitoring device under the lowest point of the pond. Composting Pond 2 is not designed to receive landfill liquid wastes, including but not limited to leachate or LFG condensate.

86. The Discharger initially constructed Composting Pond 3 as an unlined WMU with low permeability compacted clay soils for temporary storage of stormwater runoff from Compost Facility #2. In the 2022/2023 wet season, the Discharger used the unlined Composting Pond 3 for emergency storage of contact stormwater runoff from Compost Facility #2. In a 5 June 2024 Report of Findings, Northern Recycling, LLC concluded "that the soil at or near the capillary fringe may have been affected by the temporary storage of leachate in the [unlined Composting Pond 3]." The Report of Findings describes observations of apparent "elevated concentrations of vanadium, sodium and TDS."

87. Beginning in August 2023, the Discharger removed the upper two feet of clay soil at the bottom and along the side slopes of the original Composting Pond 3 and replaced it with a larger lined unit (See Finding 88).

88. The updated Compost Pond 3, as completed in October 2023, consists of a geosynthetic liner underlain by a compacted clay layer (with permeability less than 1 x 10E-06 centimeters per second) and is designed to contain the runoff from the composting area resulting from a 100-year, 24-hour storm pursuant to Title 27 section 20365. The volume of Compost Pond 3 is approximately 9,404,678 gallons. The bottom elevation of Composting Pond 3 (21 feet MSL NAVD88) is above the highest recorded groundwater elevation (~18 feet MSL) and is located within the perimeter berm at elevation 33.5 feet MSL NAVD88 which is above the 100-year base flood elevation (~32.8 feet MSL NAVD88). Composting Pond 3 has a pan lysimeter monitoring device under the lowest point of the pond. Composting Pond 3 is not designed to receive landfill liquid wastes such as leachate or LFG condensate.

89. The waste containment systems for Composting Ponds 1, 2, and 3 are single composite liner systems with an upper geomembrane barrier layer susceptible to damage during maintenance, including removal of sediments. Composting Ponds 1, 2, and 3 are not equipped with leak detection systems. Composting Ponds 1, 2, and 3 do not meet the minimum criteria for Class II surface impoundments for designated wastes, as set forth in Title 27 sections 20250 and

20320. These WDRs prohibit the discharge of designated wastes to Composting Ponds 1, 2, and/or 3.

Leachate Management and Action Leakage Rates

90. The LCRSs at the Facility include WMU-specific components and the main conveyance pipeline system, including manholes and pump stations, which routes the leachate to one of two class II surface impoundments, WMU G and WMU H, as depicted in **Attachment E**.

91. The Discharger manages leachate generated in the respective landfill WMUs as follows:

a. WMUs 1-4: Leachate is conveyed via trunk line to Pump Station No. 1 and pumped to WMU G or WMU H. The LCRSs consist of perforated vitrified clay pipes (VCP) installed in perimeter trenches below the base of each WMU. The Discharger backfilled the installed VCP with gravel and used compacted clay to backfill the top one (1) foot of the LCRS trench. The perforated VCPs gravity drain to the edge of the WMUs, then transition to solid VCPs that drain to manholes outside the WMUs, and finally to leachate pump station 1 (LPS1) prior to pumping to either WMU G or WMU H. The Discharger reports that in the winter months, the LCRS drainage trenches become inundated with groundwater. Performance of the WMUs 1-4 LCRS is evaluated based on leachate observed and collected at LPS1.

b. WMU 5: The base of the WMU is graded in a ridge and swale configuration where, within each swale, a perforated pipe in a gravel envelope collects the leachate and drains to the east to a common main collection pipe. The main collection line then drains by gravity to the south, to LPS1, where the Discharger pumps leachate to either WMU G or WMU H. Performance of the WMU 5 LCRS is evaluated based on leachate observed and collected at LPS1.

c. WMUs 6A, 6B, and 6C: The Discharger incorporated a blanket drainage layer to convey leachate via perforated HDPE collection pipes to collection ditches, which then convey collected leachate trunk line at the perimeter, where it flows to LPS2 and is pumped to either WMU G or WMU H. Performance of the WMUs 6A-6C LCRS is evaluated based on leachate observed and collected through LPS2. The Discharger anticipates constructing new gravity trunk lines to carry leachate collected from WMUs 6A-6C to a sump at the northern and/or southern boundaries of

WMU 6, which would tie into a planned new perimeter leachate collection trunk line. The Discharger further anticipates that the new perimeter leachate collection trunk line will also service the future undeveloped modules. The Discharger would then disconnect and abandon the existing trunk line that collects leachate from WMUs 6A, B, and C.

d. WMUs 6D1 and 6D2: Leachate is conveyed to collection ditches, which drain via gravity to the south to one (1) of four (4) leachate sumps at the base of the WMUs. From these sumps, accumulated leachate is pumped into a main pipeline which discharges into WMU G or WMU H. Performance of the LCRS in WMUs 6D1 and 6D2 is evaluated based on leachate collected the leachate sumps in each WMU.

e. WMU 6F and 6H: The Discharger incorporated a blanket drainage layer with five (5) 4-inch diameter perforated collection pipes, which transitions into solid 4-inch diameter HDPE pipes that penetrate the base liner system at the inside toe of the perimeter control levee. These connect to two different trunk lines, one aligned North-South and the other aligned East-West. Both trunk lines convey leachate to Leachate Pump Station 4, located Southwest of WMU 6F. The leachate is then pumped into the WMU 6D liquid trunkline, which discharges to WMU G or WMU H. The Discharger performs annual testing of the WMU 6F LCRS by injecting water into the LCRS test injection lines that run in each of the drainage zones. The injected water is allowed to flow through the area for about 48 hours and measurements are taken at LPS4

f. For future WMUs 6E, 6G, 7I, and 7H, the Discharger proposes to construct a similar configuration to that employed for WMU 6H, with gravity drainage systems similar to WMUs 6A through 6C. The Discharger proposes to drain collected leachate by gravity to one of several common trunk lines, which would drain the leachate to various sumps located at the perimeter of the WMUs for pumping to either WMU G or WMU H. The Discharger further proposes that the grading of these LCRSs would be designed to handle the anticipated settlement and flow capacity due to future landfill operations. The Discharger anticipates that future trunk lines may need to be installed deeper than WMU containment systems due to the relatively flat topography of the area. These WDRs require dual containment conveyance of LCRS- and sump-derived liquids.

92. The Discharger manages leachate generated in the surface impoundment WMUs as follows:

a. WMU G leachate and condensate are disposed of through evaporation, used as dust control on composite lined units, or sent to the City of Davis WWTP;

b. WMU H leachate and condensate are disposed of through evaporation, used as dust control on composite lined units, or sent to the City of Davis WWTP where leachate in the respective WMUs is managed as follows:

i. WMU H1 and H3 leachate are returned to either WMU H1 or H3;

ii. WMU H2 (In-Vessel Digester) leachate from the anaerobic compost cells and is pumped between the two systems for further digestion or pumped to WMU H1 or H3; and

iii. WMU H4 leachate is proposed to be discharged to WMU H3.

93. The Discharger utilizes four (4) leachate pump stations equipped with flow meters and pump adjustments to measure and control liquid flows at the Facility, as follows:

a. Leachate Pump Station 1 (LPS1) with clean out access points at the upgradient end of the main collection lines. LPS1 serves WMU 1, 2, 3, 4, and 5;

b. Leachate Pump Station 2 (LPS2) with clean out access points at the west end of the main collection line (upgradient). LPS2 serves WMU 6A, 6B and 6C;

c. Leachate Pump Station 3 (LPS3) drains Composting Facility #1's anaerobic composter cells andthe In-Vessel Digester, and can pump either to Class II WMU H1 or LPS2; and

d. Leachate Pump Station 4 (LPS4) serves WMU 6F and 6H.

94. These WDRs include Action Leakage Rates (ALRs) for the Class II surface impoundments. An ALR is the maximum flow rate through the primary liner to the LCRS beyond which the Discharger is required to take actions such as inspection and repair of the primary liner system. The ALR determination is based on recommendations, considerations, and factors in the 1992 USEPA guidance document *Action Leakage Rate for Leak Detection Systems*, including, but not limited to the following:

a. ALRs shall not exceed the maximum flow rate capacity of the leak detection system to ensure that a response action is triggered for significant leaks. ALRs based on a maximum of one (1) foot of head on

the primary liner system assure that significant pressures on the secondary liner will not be experienced, thereby decreasing the potential for migration of constituents through the secondary liner;

b. Flow rates in excess of the ALR can indicate localized failure of the primary liner, which requires actions such as investigation and/or corrective action, including repair and/or replacement of failed liner components;

c. For lined surface impoundments, the ALR shall not exceed 1,000 gallons per acre per day;

d. Site-specific factors affect the maximum flow capacity of a leak detection system, and owners and operators may want to propose alternative action leakage rates. Site-specific factors further include the ease of determining the source of a leak and repairing that leak.

95. In an Operation and Maintenance Plan for Class II Surface Impoundments, dated 29 November 2022, the Discharger utilized an alternative method (i.e., Giroud and Bonaparte, 1989) to calculate leakage rates based on calculated flow through an assumed one (1) hole of 1 square centimeter (0.16 square inch) per acre for each surface impoundment filled with up to seven (7) feet of liquid waste above the primary liner. The Discharger also provided hydraulic capacity information for Facility surface impoundment WMU leak detection systems.

96. The ALRs summarized below represent the Discharger's alternative theoretical calculated leakage rates for the surface impoundment WMUs, or fifty percent (50%) of the LCRS hydraulic capacity, whichever is less.

Table 2—Action Leakage Rates

Evaluation Point	WMUs	Calculated Theoretical Leakage Rate (gpd)	LCRS Hydraulic Capacity (gpd)	ALR (gpd)
G-LD	WMU G	18,297	43,200	18,297
H1-LD	WMU H1	17,125	43,200	17,125
H2-LD	WMU H2	17,125	43,200	17,125
H3-E-LD	WMU H3 (east)	51,469	21,600	21,600

Evaluation Point	WMUs	Calculated Theoretical Leakage Rate (gpd)	LCRS Hydraulic Capacity (gpd)	ALR (gpd)
H3-W-LD	WMU H3 (west)	18,297	21,600	21,600
H4-E-LD	WMU H4	Not Provided	37,243	18,621
H4-W-LD	WMU H4	Not Provided	28,566	14,283

See Glossary for definitions of terms and abbreviations in table.

97. Title 27 requires the Discharger to notify the Central Valley Water Board within seven (7) days if fluid is detected in a previously dry leachate collection and removal system or unsaturated zone monitoring system, or if a progressive increase is detected in the volume of fluid in a leachate collection and removal system. (Title 27, § 21710(c)(3)).

98. These WDRs require the Discharger to notify the Central Valley Water Board, investigate, evaluate, and report the observations and circumstances when leachate rates exceed the ALR or if a progressive increase is detected in the volume of fluid in an LCRS. (Title 27, § 21710(c)(3)). The investigation and evaluation must consider all available information to identify the source of(s) of leachate, potential leaks, and recommend proposed corrective action(s).

99. For future WMUs, these WDRs establish ALRs for Class II surface impoundments, which address the factors described in Finding 94 and require dedicated evaluation and compliance points.

Compost Facility #1

100. Compost Facility #1 consists of seven (7) anaerobic compost cells, as listed in **Table 3,** and related Facility activities, and is constructed atop of active landfill WMU 6D2 and a portion of active landfill WMU 6C. Each anaerobic compost cell is graded internally to promote drainage to secondary lined base cell areas of varying sizes.

Table 3—Compost Facility #1 Cells

Anaerobic Compost Cell	Total Cell Area (acre)	Base Cell Area (acre)
1-1	0.485	0.060

Anaerobic Compost Cell	Total Cell Area (acre)	Base Cell Area (acre)
1-2	0.517	0.097
2-1	0.517	0.131
2-2	0.517	0.133
3-1	0.517	0.109
3-2	0.517	0.126
4	1.033	0.278

See Glossary for definitions of terms and abbreviations in table.

101. Feedstocks for the anaerobic compost cells include agricultural material, green material, food material, vegetative food material, liquid food material, and non-hazardous digestate from the on-site in-vessel digester. During the anaerobic digestion phase, the Discharger collects biogas for energy production. During the aerobic phase, the Discharger monitors each cell for time and temperature in accordance with the "Process To Further Reduce Pathogens" detailed in California Code of Regulations, title 14, section 17868.3. Following decomposition, the Discharger excavates the cells and screens and cures the compost materials prior to distribution to the market.

102. Each anaerobic compost cell includes a containment system consisting of the following elements in the base areas (from top to bottom):

    a. One (1) foot of woodchip with gas collection and LCRS system

    b. 60-mil HDPE Geomembrane

    c. Geocomposite

    d. 60-mil HDPE Geomembrane

    e. One (1) foot of base soil

    f. Landfill WMU 6D installed interim cover

103. The Discharger constructed the anaerobic composter cell geomembrane containment layers and geocomposite drainage layer elements in June 2018. The Discharge installed the woodchip protection layers in October 2018.

104. The Compost Facility #1 LCRS is separate from the underlying landfill WMU 6D LCRS. The LCRSs and leak detection systems for each cell are conveyed to LPS-3. Each cell is equipped with an individual flow meter. The Discharger recirculates/injects leachate collected in LPS-3 back into the cells.

105. Operation and maintenance of Compost Facility #1 could affect the integrity of the underlying landfill WMUs, which could affect water quality. These WDRs require the Discharger to prepare and submit an annual Operations Plan for Compost Facility #1 pursuant to Title 27 section 21760(b).

Compost Facility #2

106. Compost Facility #2 operates within the Facility, as shown in **Attachment B, Attachment D, Attachment E, and Attachment F**. The Discharger constructed Compost Facility #2 as Phase 1 (34.6-acre) in 2022 and intends to complete construction of Phase 2 (13.4-acres) in 2025.

107. The Discharger accepts a variety of source-separated materials at Compost Facility #2, including yard waste, food waste, agricultural material, digestate from Compost Facility #1, vegetative food waste, wood waste, and manure. Compost Facility #2 does not accept biosolids or mixed MSWs.

108. The total area of Compost Facility #2 is approximately 48 acres, including the following operational areas:

    a. Receiving Area: Phase 1: The Discharger's mixing and tipping/receiving and processing area is a 60,000 square foot (1.5-acre) concrete slab covered by a corrugated metal canopy to prevent stormwater contact with feedstock. The area is covered and designed/graded to prevent run-on of stormwater and runoff of wastewater. The Discharger anticipates mixing stormwater run-on and runoff wastewater into the compost feedstock.

    b. Receiving Area: Phase 2: The Discharger's mixing, tipping/receiving, and processing area is approximately 17,500 square feet (0.4-acres), including a concrete slab and a covered "tipping and mixing" building. The Discharger anticipates mixing stormwater run-on or runoff wastewater into the compost feedstock.

    c. Active Composting Area, Phase 1: The Discharger's active composting occurs in 3.9-acres of covered aerated static piles (CASP), a 15.0-acre curing area, and other ancillary areas. The actual area used for storage and curing varies based on operational needs. The orientation of the Facility allows for 15.6 acres of curing and final product storage area. The Compost Facility #2, Phase 1 working surfaces are designed with ridges

and swales/channels in which stormwater runoff is collected in and directed into catch basins for pumping into Compost Ponds 1, 2, or 3.

d. Active Composting Area, Phase 2: The Discharger proposes to conduct active composting activities on two (2) 24,450 square foot CASPs (48,900 total square feet) separated by a 6,000 square foot concrete pad for mixing of materials (1.3 acres). The Compost Facility #2, Phase 1 working surfaces are designed with ridges and swales/channels in which stormwater runoff is collected and directed into catch basins for pumping into Compost Ponds 1, 2, or 3, or WMU H4.

e. Final Product Storage Area, Phase 1: The final product storage includes 2.2 acres of long-term storage, not otherwise described in Finding 101.d.

f. Final Product Storage Area, Phase 2: The final product storage includes 2.3 acres of long-term storage with a 20,160 square foot screening/ trash removal building, not otherwise described in Finding 108.d; and

g. Compost Ponds 1, 2, and 3, described in Finding 84-89.

109. The Central Valley Water Board reviewed and approved all required design and construction plans and reports for the Compost Facility #2 Operational Areas described in Finding 108 and hereby authorizes their use.

110. Compost Contact Water: Undiverted precipitation runoff generated in areas used for receiving and storing feedstocks, active composting, and curing is considered “Compost Contact Water.” Compost Contact Water may have characteristics which, if the Contact Water discharged from the Facility, could result in a condition of nuisance, pollution, or contamination, as defined by Water Code section 13050.

111. The Discharger conveys Contact Compost Water from Compost Facility #2, Phase 1, through an underground Contact Compost Water drain network, to Compost Ponds 1, 2, and 3.

112. The Discharger proposes to convey Contact Compost Water from Compost Facility #2, Phase 2, through an underground Contact Compost Water drain network for either direct discharge to WMU H4 or pumped discharge to WMU H4 via a Contact Compost Water pump station.

113. The Discharger designed the contact compost water drainage system for peak flow of the 25-year, 24-hour storm.

Groundwater Extraction, Treatment, Storage, and Land Application Areas

114. In January 1989, the Discharger constructed a soil/bentonite slurry cutoff wall near the northwestern boundary of the Facility to retard groundwater flow onsite from the north. The Discharger constructed the three (3) foot wide cutoff wall along portions of the northern and western boundaries of the Facility to a maximum depth of 44 feet with the total length of approximately 3,680 feet (2,880 feet along the north boundary, and 800 feet along the western boundary).

115. In 1989, the Discharger also installed 16 groundwater extraction wells south of the cutoff wall to lower the water table south and east of the slurry wall, with the goal of depressing the water table to provide vertical separation between the base of the waste in WMU 5 and groundwater. In 2020 and 2021, the Discharger installed an additional 11 new extraction wells.

116. The extracted groundwater is impacted with volatile organic compounds (VOCs), including 1,4-dichlorobenzene, benzene, cis-1,2-dichloroethene, and historic detections of 1,2-dichloroethene (up to 30 μg/L), 1,1-dichlorethane (up to 2.2 μg/L), tetrachloroethene (up to 3.9 μg/L), trichloroethene (up to 2.9 μg/L), and vinyl chloride (up to 3.0 μg/L).

117. The Discharger utilizes an air stripper treatment system (AST) to remove VOCs from extracted groundwater. The Discharger has operated the GETS since 1993. For the most recent 10 years, the Discharger has reported an average annual extraction rate of 40 million gallons of groundwater and 120 grams of VOCs per year.

118. In December 2002, the Discharger submitted final documentation regarding the 2002 construction and completion of the 40-acre unlined Groundwater / Stormwater Storage Reservoir. The Discharger constructed the Groundwater / Stormwater Storage Reservoir in a former soil borrow area south of WMU H3. The base of the Groundwater / Stormwater Storage Reservoir is approximately 12 feet MSL (NAVD88) and graded to drain to the northeast toward a collection sump and outlet. The Discharger represents that soils consist of “typically high quality clay with maximum permeabilities of 1x10E-05 centimeters per second.” The Groundwater / Stormwater Storage Reservoir outlet is near the northeast corner of the Facility and consists of a 60-inch diameter corrugate metal pipe protected by a trash rack. The perimeter berm of the Groundwater / Stormwater Storage Reservoir is about 23 feet MSL (NAVD88), slightly above existing ground surface elevation. The Discharger’s 2024 water balance estimates the Groundwater / Stormwater Storage Reservoir has 93.6 million gallons of storage capacity, following construction of the proposed WMU H4.

119. In its 30 April 2024 Annual Monitoring Report for the GETS, the Discharger reported inorganic constituent concentrations in extracted groundwater as measured at the AST effluent, as described in **Table 4** below:

Table 4—Extracted Groundwater Inorganic Concentrations

Parameter	Unit	Observed Values	Trend
Total Dissolved Solids	mg/L	1315-1477	Decreasing
Electrical Conductivity	μmhos/cm	1890-2031	Decreasing
Chloride	mg/L	180-190	Stable
Nitrate (as N)	mg/L	2.9	Decreasing
Sulfate	mg/L	270	Stable
Boron	mg/L	4.1-5.4	Increasing
Selenium	mg/L	0.007-0.024	Increasing

120. The Discharger conveys the treated groundwater from the AST to the Groundwater / Stormwater Storage Reservoir and/or the LAA in the eastern portion of the Facility.

121. A summary of the annual average groundwater concentration of selected constituents in the upgradient wells for the Groundwater / Stormwater Storage Reservoir, which include monitoring wells OW17 and OW22, is described in **Table 5** below. Available data collected from these wells range between 2005 and 2022. The potential water quality standards described in the tables are used for comparison purposes only.

Table 5—Average Groundwater Concentrations, Groundwater / Stormwater Storage Reservoir, Upgradient

Parameter	Unit	Average Observed Values	Trend	Water Quality Standard	WQS, Basis
Total Dissolved Solids	mg/L	750-1,400	Decreasing	450	Agricultural Goal
Chloride	mg/L	130-300	Increasing	106	Agricultural Goal
Nitrate (as N)	mg/L	1.2-4.8	Increasing	10	Primary MCL
Sulfate	mg/L	140-260	Increasing	250	Agricultural Goal
Boron	mg/L	2.0-3.8	Decreasing	0.7	Agricultural Goal
Selenium	mg/L	0.001-0.038	Increasing	0.020	Agricultural Goal

122. A summary of the annual average groundwater concentration of selected constituents in the downgradient wells for the Groundwater / Stormwater Storage Reservoir, which include monitoring wells OW23 and SIMW5, is described in **Table 6** below. Available data collected from these wells range between 2005 and 2022. The potential Water quality standards described in the tables are used for comparison purposes only

Table 6—Average Groundwater Concentrations, Groundwater / Stormwater Storage Reservoir, Downgradient

Parameter	Unit	Average Observed Values	Trend	Water Quality Standard	WQS, Basis
Total Dissolved Solids	mg/L	570-2,600	Decreasing	450	Agricultural Goal

Parameter	Unit	Average Observed Values	Trend	Water Quality Standard	WQS, Basis
Chloride	mg/L	79-490	Decreasing	106	Agricultural Goal
Nitrate (as N)	mg/L	0.4-11	Increasing	10	Primary MCL
Sulfate	mg/L	180-670	Decreasing	250	Agricultural Goal
Boron	mg/L	3.0-7.5	Increasing	0.7	Agricultural Goal
Selenium	mg/L	0.002-0.040	Decreasing	0.020	Agricultural Goal

123. A summary of the annual average groundwater concentration of selected constituents in the upgradient wells for the Land Application Area, which include monitoring wells OW11, OW20, and OW25, is described in **Table 7** below. Available data collected from these wells range between 2005 and 2022. The potential Water quality standards described in the tables are used for comparison purposes only.

Table 7—Average Groundwater Concentrations, Land Application Area, Upgradient

Parameter	Unit	Average Observed Values	Trend	Water Quality Standard	WQS, Basis
Total Dissolved Solids	mg/L	470-2,400	Decreasing	450	Agricultural Goal
Chloride	mg/L	Not Analyzed[1]	Not Analyzed	106	Agricultural Goal
Nitrate (as N)	mg/L	Not Analyzed[1]	Not Analyzed	10	Primary MCL

Parameter	Unit	Average Observed Values	Trend	Water Quality Standard	WQS, Basis
Sulfate	mg/L	Not Analyzed[1]	Not Analyzed	250	Agricultural Goal
Boron	mg/L	1.6-5.0	Decreasing	0.7	Agricultural Goal
Selenium	mg/L	0.009-0.031	Increasing	0.020	Agricultural Goal

[1] MRP R5-2002-0078 does not require monitoring for the parameter.

124. A summary of the annual average groundwater concentration of selected constituents in the downgradient wells for the Land Application Area, which includes monitoring wells OW15, OW16, OW19, and OW23, is described in **Table 8** below. Available data collected from these wells range between 2005 and 2022. The potential Water quality standards described in the tables are used for comparison purposes only.

Table 8—Average Groundwater Concentrations, Land Application Area, Downgradient

Parameter	Unit	Average Observed Values	Trend	Water Quality Standard	WQS, Basis
Total Dissolved Solids	mg/L	1,342	Stable	450	Agricultural Goal
Chloride	mg/L	177	Decreasing	106	Agricultural Goal
Nitrate (as N)	mg/L	5.4	Increasing	10	Primary MCL
Sulfate	mg/L	212	Decreasing	250	Agricultural Goal
Boron	mg/L	3.0	Decreasing	0.7	Agricultural Goal

Parameter	Unit	Average Observed Values	Trend	Water Quality Standard	WQS, Basis
Selenium	mg/L	0.013	Increasing	0.020	Agricultural Goal

125. The Discharger utilizes boron and selenium accumulator plant species to phytoremediate extracted groundwater discharged to the LAA. The Discharger uses the harvested crops as ADC in lined Facility landfill WMUs, disposes of the harvested crops in landfill WMUs, or transports the harvested crops off-site for use as animal feed.

126. The Discharger participates in the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) Salt Control Program. The Discharger opted for the 'alternative approach', which involves joining the Prioritization and Optimization (P&O) study to yield strategies to manage salinity in the Central Valley.

127. The Discharger participates in the CV-SALTS Nitrate Control Program, under the 'individual approach'. The Discharger opted for the 'individual approach' since the discharge is based on ambient groundwater conditions and the Discharger has sufficient data to make required demonstrations regarding nitrate disposal activities and potential affects to groundwater quality, if any. Yolo County is a priority 2 basin for purposes of the Nitrate Control Program. A notice to comply was sent to the Discharger at the end of 2023.

Recycled Water Use

128. The City of Davis maintains a recycled water pump station pipeline that the City of Davis seeks to utilize to convey recycled water from reclamation ponds at the City of Davis WWTP for potential use at the Facility, including at Compost Facility #2. These WDRs support recycle water use at the Facility including at Compost Facility #2, provided recycled water use occurs pursuant to and in compliance with regulatory coverage under the State Water Board adopted Water Quality Order 2016-0068-DDW, *Water Reclamation Requirements for Recycled Water Use* or applicable Waste Discharge Requirements, and any revisions made thereto.

Site Conditions

129. Original aerial mapping data for the Facility was based on a reference to the Noth American Datum of 1927 (NAD27) and National Geodetic Vertical Datum of 1929

(NGVD29). In 2001, the Discharger updated the horizontal and vertical datum for the Facility to the North American Vertical Datum of 1988 (NAVD88), which resulted in the following site-specific correction factors to for converting NAD27 and NGVD29 data to the NAVD88 data:

a. Northing: 1640481.88 feet

b. Easting: 4561670.49 feet

c. Elevations: +1.38 feet

130. The update to the vertical datum reference resulted in a vertical shift of 1.38 feet. The maximum fill height described in the Environmental Impact Report is 140 feet MSL (NGVD29) which corresponds to 141.1 feet MSL (NAVD88).

131. The area topography is generally flat with a natural grade of approximately one (1) foot of fall from north to south and six (6) feet of fall from west to east. The natural elevation of the site is approximately 21 to 25 feet MSL. The maximum final landfill elevation of WMUs 1 through 5 and 6A through 6D will be 81.4 feet MSL (NAVD88). The maximum final landfill elevation of WMUs 6E through 6H and 7I through 7P will be 141.4 feet MSL (NAVD88).

132. The soils underlying the Facility predominantly consist of low-permeability silty clays (90 to 100 percent passing the number 200 sieve). Test borings also show an interval of laterally discontinuous silty fine sands up to 12 feet thick between six (6) and 35 feet below ground surface (bgs). This interval is known as the Upper Sand. Materials below 35 feet bgs are mostly clays, interspersed with minor amounts of inter-bedded sand and gravel, to a depth of about 80 feet bgs. More abundant coarse-grained material is encountered below 80 feet bgs. Due to the discontinuities, neither the Upper nor Lower Sands have been reliably correlated from well to well.

133. The measured hydraulic conductivity of the native soils underlying the landfill WMUs range between 2.7x10E-07 and 5.3x10E-08 centimeters per second (cm/s).

134. Land uses within one (1) mile of the Landfill are zoned as “Agricultural Preserve” or “Agricultural General.” Agricultural crops grown adjacent to the Facility include rice, which is typically grown using annual permanent flooding techniques, with flooding beginning in advance of rice planting and persisting throughout most of the growing season. The Landfill is zoned as “Public, and Quasi-public.” The City of Davis WWTP is adjacent to the southeastern corner of the Facility, and is bordered on the north by the Conaway Conservancy farmlands. The property

immediately west of the Facility, on the opposite side of County Road 104, is the Facility Borrow Site.

135. Nearby surface waters include Willow Slough Bypass, on the southern property boundary; Willow Slough, about 2 miles to the north; Putah Creek, approximately 4 miles to the south; Cache Creek, approximately 6 miles to the north; and the Yolo Bypass (an overflow conveyance of the Sacramento River), 3 miles to the east. The Willow Slough Bypass drains the southern part of the Facility, and an unnamed canal drains the northern part of the site. The Willow Slough Bypass and the unnamed canal empty into the Yolo Bypass to the east, which drains to the Sacramento San Joaquin Delta.

136. Surface water from the Facility drains to Sacramento San Joaquin Delta, as described in Finding 135. According to the Central Valley Water Board's *Water Quality Control Plan for the Sacramento and San Joaquin River Basins* (Basin Plan), the beneficial uses of Sacramento San Joaquin Delta include: municipal and domestic use (MUN); agricultural supply (AGR); industrial service supply (IND); industrial process supply (PROC); water contact recreation (REC-1); non-water contact recreation (REC-2); warm freshwater habitat (WARM); cold freshwater habitat (COLD); wildlife habitat (WILD); migration of aquatic organisms (MIGR); spawning, reproduction and/or early development (SPAWN); and Navigation (NAV).

137. Groundwater underneath the Facility is first encountered between approximately three (3) and 15 feet bgs. Groundwater elevations range between eight (8) and 20 feet MSL (NAVD88).

138. Regional groundwater flows generally southeasterly towards the Sacramento Valley axis. Groundwater levels beneath the Facility fluctuate eight (8) to 10 feet during the year, rising from the lowest elevations in September to the highest elevations in April each year, depending on climatic conditions. Water level data indicate that groundwater is typically 3 to 10 feet bgs during winter and spring months and 5 to 15 feet bgs during summer and fall months.

139. Groundwater elevations beneath the Facility may increase 1 to 3 feet due to capillary forces. The area(s) in which groundwater is elevated due to capillary forces is referred to as the "Capillary Fringe".

140. WMUs 6C, 6D, and 6F's containment system designs incorporate a capillary fringe break geomembrane to mitigate effects relating to the capillary rise of groundwater. WMU 6H and future liner designs incorporate a 60-mil secondary liner as part of the containment system, which functions as a capillary fringe break.

141. According to the Basin Plan, the designated beneficial uses of groundwater at the Facility are municipal and beneficial use (MUN), agricultural supply (AGR), industrial service supply (IND), and industrial process supply (PRO).

142. There are 43 private wells within one mile of the site, including six for domestic supply, 17 for irrigation, two for livestock, one for industrial supply, eleven for monitoring, and seven with unknown designations. The general locations of these wells are mapped in **Attachment G**.

143. Class II WMUs must withstand a maximum credible earthquake (MCE). (Title 27, § 20370.) There are no known active faults traversing or projected through the Facility. The principal seismic impact would be strong ground shaking generated by movement on one or more of the faults in the western Sierra foothill fault system, the San Andreas Fault system, and the blind thrust faults of the Sierran Block/Coast Range boundary, including the Vacaville/Winters seismic region, and the Dunnigan fault. The Discharger's site-specific seismic analysis indicates that an earthquake occurring along the Dunnigan Fault, at a closest rupture distance of 11 miles, would result in the events summarized in **Table 9**.

Table 9—Seismic Analysis

Earthquake	Magnitude	Peak Ground Acceleration
Max Credible (MCE)	6.25	0.32 g

See Glossary for definitions of terms and abbreviations in table.

144. The Facility receives an average of 17.55 inches of precipitation per year as measured at Davis 2 WSW Station between the years 1893 and 2016. About 96 percent of annual precipitation occurs between the months of October and April.

145. The mean pan evaporation for this facility is 81.7 inches per year, as measured at Davis 1 WSW Station between the years 1917 and 2005. Assuming a pan coefficient of 0.75, the site evaporation is 61.3 inches per year. Based on these data, average annual net evaporation at the facility is 41.5 inches.

146. Title 27 requires that WMUs be constructed to accommodate stormwater runoff from 24-hour precipitation events with a return period of 100 years for Class III WMUs, and 1,000 years for Class II WMUs. (See Title 27, § 20320.) According to National Oceanic and Atmospheric Administration’s (NOAA) Precipitation Frequency Atlas 14, Volume 6 (rev. 2014), the Facility’s 100-year and 1,000-year, 24-hour rainfall events are estimated to result in 5.17 and 7.17 inches of

precipitation, respectively (based on data from NOAA Hydrometeorological Design Studies Center for the landfills location (Latitude: 38.59028 Longitude: -121.69222) NOAA Precipitation Frequency Data Server (https://hdsc.nws.noaa.gov/hdsc/pfds)).

147. Stormwater Pond 1 is a 7-acre, unlined detention pond. Stormwater Pond 1 has a gate valve connected to a culvert outlet, which has the potential to discharge to Willow Slough Bypass (SW-2). The Discharger keeps the gate valve in the closed position during normal operation. Typically, Stormwater Pond 1 drains to the Groundwater/Stormwater Reservoir.

148. Stormwater Pond 2 is an unlined, 28-acre detention pond. The Discharger further describes a 3.9-acre "low lying area" north of Stormwater Pond 2 as "not a pond, but does collect water and contribute to evaporation."

149. Stormwater Pond 3 is a 0.15-acre, unlined detention pond. When Stormwater Pond 3 is full, the Discharger pumps its liquid contents to the drainage channel along the perimeter of WMU 2, which discharges to the Groundwater/Stormwater Reservoir.

150. The Discharger manages four (4) stormwater drainage areas at the Facility, with the goal of retaining stormwater onsite. If offsite discharge is necessary, any such discharge is intended to flow from Stormwater Pond 1 and the adjacent Borrow Site to Willow Slough Bypass. The four (4) stormwater drainage areas are described below and depicted in **Attachment H**:

    a. **Drainage Area 1** includes the Borrow Site and the surrounding area to the west and north. The Discharger pumps overflow from the Borrow Site, via a pump station, to Willow Slough Bypass (SW-1).

    b. **Drainage Area 2** includes WMU 1, the tributary areas to Stormwater Pond 1, and the central areas of the Facility where runoff is generally conveyed to vegetated drainage channels at the perimeter of the landfill WMUs and then to Stormwater Pond 3.

    c. **Drainage Area 3** includes stormwater collected in the eastern portion of the Facility which generally flows east to Stormwater Pond 2 in the northeast corner of the Facility. The Discharger asserts that no offsite discharge occurs from Drainage Area 3.

    d. **Drainage Area 4** includes Compost Facility # 2 non-contact stormwater which is discharged to either WMU H4, a sedimentation basin, and/or the Compost Ponds.

151. Surface water run-on from adjacent properties to the Facility occurs along the southern Facility boundary, from County Road 28H. All other sides of the Facility have infrastructure to prevent surface water run-on (i.e., agricultural ditches (north), roadside ditches (west), drainage ditches and natural grading of topography (east)).

152. In October 2012, the Discharger modified Facility stormwater drainage features to eliminate stormwater discharge from the Facility and submitted a Notice of Termination of coverage under the State Water Board General Permit for Storm Water Discharges Associated with Industrial Activities (Industrial General Permit), Order WQ-2014-0057-DWQ (NPDES No. CAS000001). In July 2015, the Discharger filed a Notice of Non-Applicability in response to the State Water Board's adoption of a revised Industrial General Permit (See Order WQ-2015-0122-DWQ).

153. In January 2021, the Discharger obtained coverage under the State Water Board's operative Industrial General Permit (see Order WQ 2018-0028-DWQ; NPDES Permit No. CAS000001) and submitted an updated the Storm Water Pollution Prevention Plan relating to the expansion of landfill modules and revised estimated stormwater runoff volumes. The January 2021 coverage under the Industrial General Permit includes the Borrow Site and planned development of a future stormwater treatment area.

154. According to the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (https://msc.fema.gov/portal), Facility WMUs listed in in **Table 1** are located within a 100-year floodplain. This designation relates to federal decertification of the Willow-Slough Bypass levee.

155. On 10 July 2017, the discharger submitted a report documenting an expected 100-year flood elevation of 32.77 feet msl (NAVD88), as well as the following 2017 WMU perimeter levee elevations, with indication that several of the WMUs required elevation increases, as follows:

    a. WMU 1: Levee with elevations ranging from 34.45 to 35.39 feet msl (NAVD88).

    b. WMU 2: Geomembrane and geocomposite are anchored in a trench located in the perimeter levee with elevations ranging from 32.38 to 32.94 feet msl (NAVD88). The Discharger completed work to raise the perimeter levee for this WMU to meet the 100-year flood elevation.

    c. WMU 3: Geomembrane and geocomposite are anchored in a trench located in the perimeter levee. On the north side of the unit, the anchor trench is located at the toe of the slope. The elevation of the levees varies

between 25.78 to 28.24 feet msl along the northern side (NAVD88), and between 32.34 to 34.13 feet msl (NAVD88) on the south, east, and west sides of WMU 3. The Discharger completed work to raise the perimeter levee for this WMU to meet the 100-year flood elevation.

d. WMU 4 and WMU 5: Levee elevations vary between 32.17 to 32.97 feet msl (NAVD88). The Discharger completed work to raise the perimeter levee for this WMU to meet the 100-year flood elevation.

e. WMU 6A: The existing levee elevations average about 26.2 feet msl (NAVD88). In Spring 2020, the Discharger incorporated work to raise the levee meet the 100-year flood elevation into the Module 6F construction project.

f. WMU 6B, 6C, 6D1, and 6D2: Geomembrane anchor trench in the perimeter levees with existing levee top elevations ranging between 30.16 to 30.88 feet msl (NAVD88). As an interim measure, the Discharger placed compacted soil on these levees to raise the minimum elevation to 33.4 feet (NAVD88). During final closure, the Discharger proposes to remove and replace some levee soils to facilitate welding the cover geomembrane to the base geomembrane, followed by rebuilding the levee to a minimum elevation of 33.4 feet msl (NAVD88). The Discharger completed work to raise the perimeter levee to meet the 100-year flood elevation for all four WMUs.

g. WMU G: Existing levee top elevation ranges from 32.08 to 32.91 feet msl (NAVD88). The Discharger completed interim work to raise the perimeter levee for WMU 6D1 meet the 100-year flood elevation.

h. WMU H: Existing levee top elevation ranges from 33.70 to 36.12 feet msl (NAVD88).

i. Compost Facility #2, Phase 1: The approximate finished grade elevation the CASP working surface for Compost Facility #2, Phase 1 ranges from 20 to 26 feet msl (NAVD88). A perimeter flood control berm with an approximate top elevation of 33.20 feet msl (NAVD88) surrounds Compost Facility #2, Phase 1.

j. Compost Facility #2, Phase 2: The Discharger placed approximately 220,000 cubic yards of soil, obtained from the Borrow Site, as engineered fill to increase the elevation of the working surface 10 to 15 feet above grade. The finished grade of Compost Facility #2, Phase 2 ranges from 33.70 to 36.12 feet msl (NAVD88).

k. Compost Ponds: The finished grade of the berms surrounding Compost Ponds 1, 2, and 3 ranges from 33 to 34 feet msl (NAVD88).

l. Groundwater / Stormwater Storage Reservoir: The finished grade of the berms surrounding the Groundwater / Stormwater Storage Reservoir is 24.00 feet msl (NAVD88).

156. Each WMU and Compost Facility #2 are elevated above the 100-year flood elevation of 32.77 feet msl (NAVD88) or protected by a system of soil levees from inundation of such floodwaters. These WDRs require the Discharger to monitor and maintain soil levees installed to protect WMUs and Compost Facility #2.

157. The Discharger has demonstrated that its WMUs will not: (a) restrict the flow of a 100-year flood; (b) reduce the floodplain's temporary water storage capacity; or (c) result in a washout that poses a hazard to human health and/or the environment. (See 40 C.F.R. § 258.11(a); State Water Board Resolution No. 93-62, p. 6.).

Water Balance, Surface Impoundment and Pond Freeboard

158. Title 27 section 20164 defines "freeboard" as the vertical distance between the lowest point along the top of a surface impoundment dike, berm, levee, or other similar feature and the surface of the liquid contained therein.

159. Title 27 section 20375(a) requires that Class II surface impoundments have capacity for seasonal precipitation and a 1,000-year 24-hour design storm event and maintain at least two feet of freeboard at all times. The 1,000-year, 24-hour storm event for the Facility is referred to hereafter as the "design storm." The Central Valley Water Board can grant an exemption to this design storm requirement for surface impoundments if the Discharger can demonstrate that the integrity of facilities will not be jeopardized if the design storm criterion is not met (Title 27, § 20320(e), table 4.1, fn. 12).

160. Maintenance of minimum freeboard in stormwater, storage, and compost ponds is a safety mechanism intended to ensure reasonable containment structure integrity by providing a measure of protection from overtopping of stored liquids due to overfilling, during periods of heavy precipitation, or overtopping due to wave action or other similar circumstances. These WDRs require all stormwater, storage, and compost ponds to maintain minimum freeboard of two (2) feet.

161. The Discharger's water balance considers eight (8) watersheds within the Facility, as listed below. The water balance includes a description and quantification of water entering, leaving, and remaining on-site at the Facility and within each WMU, from all sources. The water balance includes analyses of four

(4) of the Facility's watersheds, WMU H4 and Compost Facility #2. The water balance does not include analyses for two (2) Facility watersheds which will discharge all stormwater to the Willow Slough Bypass.

a. Watershed 1: All areas draining to the Groundwater/Stormwater Reservoir.

b. Watershed 2: All areas draining to the Borrow Site. The Borrow Site drains to Willow Slough Bypass.

c. Watershed 3: All areas draining to Stormwater Pond 1.

d. Watershed 4: All leachate and liquid waste, under existing conditions based on data from the past 2.5 years of operation. Note that once WMU H4 is constructed, some of the flows previously diverted to WMU H1 and H3 will be diverted to WMU H4.

e. Watershed 5: Northeastern portion of the Facility, including Stormwater Pond 2 and the Land Application Area.

f. Watershed 6: Compost Facility #1, Liquid food Processing Area, and In-Vessel Digester (WMU H2) using data collected from the previous two (2) years.

g. Watershed 7: Areas draining to WMU H4.

h. Watershed 8: Compost Facility #2 discharges wastewater to Compost Ponds #1, #2, and #3. The revised water balance considers utilization of the Northern Recycling's Industrial Wastewater Discharge Permit with the City of Davis to periodically discharge up to up to 432,000 gallons per day of contact storm water and curing/finished stormwater from Compost Facility #2 (Finding 15) to provide additional flexibility for off-site discharge during the design storm.

162. For WMU H4, the Discharger's initial water balance considers the anticipated volume of water from the wettest year on record combined with the 1,000 year, 24-hour design storm and concludes that, if the 1,000-year storm were to occur during the wettest year on record, water levels in WMU H4 would increase by approximately one (1) foot, resulting in full containment of wastewater but less than two (2) feet of freeboard. The revised water balance indicates an additional 2,569,268 gallons of storage is required to maintain minimum freeboard elevation for the 1000-year design storm. The revised water balance considers utilization of the Discharger's Industrial Wastewater Discharge Permit with the City of Davis to periodically discharge up to up to 576,000 gallons per day of wastewater (Finding 14) to the Davis WWTP. The Discharger proposes an 'action level' of 30.7 feet MSL (NAVD88) during the month of February annually, which would

require the Discharger to commence discharge to the City of Davis WWTP to ensure maintenance of minimum freeboard in WMU H4. These WDRs implement this proposal as a requirement.

163. Based on the water balance, the Discharger reports that the Class II surface impoundments, stormwater ponds (except Stormwater Pond 2), storage pond, and compost ponds will have sufficient capacity to maintain two (2) feet of freeboard and accommodate the required additional volume for the design storm event during the height of the 100-year wet season.

164. For Stormwater Pond 2, the water balance represents that "…the volume of water remaining at the end of the wettest year on record does not amount to a significant problem as it is very unlikely that multiple wettest years on record would occur in a row and lead to a stormwater release." To eliminate the risk, these WDRs require the Discharger to remove all stored water remaining in Stormwater Pond 1 and 2 by the end of the water year.

165. The water balance concluded that, under the wettest year on record conditions, water from the Groundwater/Stormwater Reservoir will back up into the drainage swale along the eastern site boundary, which separates the landfill and the Davis WWTP, and reach the Watershed 5. These WDRs require the Discharger to install a gate or valve at this location to prevent this condition from occurring.

166. The water balance proposes diverting runoff from closed areas of the landfill, which currently flows to the Groundwater/Stormwater Reservoir, to the Borrow Site. These WDRs require the Discharger to implement the proposed diversion project.

167. The elevations summarized in **Table 10** below satisfy the minimum storage requirements for surface impoundments and other liquid storage ponds.

Table 10—Maximum Surface Impoundment WMU / Pond Elevations

WMU / Pond	Top of Berm, Elevation	Liner Crest, Elevation	Minimum Freeboard Elevation
WMU F	27.0	26.0	24.0
WMU G	36.0	34.0	32.0
WMU H1	35.6	34.4	32.4
WMU H2	35.6	34.4	32.4

WMU / Pond	Top of Berm, Elevation	Liner Crest, Elevation	Minimum Freeboard Elevation
WMU H3	35.6	34.4	32.4
WMU H4	35.7	34.4	32.4
Groundwater / Stormwater Storage Reservoir	23.0	---	16.0-22.0[1]
Stormwater Pond 1	23.0	---	21.0
Stormwater Pond 2	24.0	---	22.0
Stormwater Pond 3	24.0	---	22.0
Compost Pond 1	33.5	32.9	30.9
Compost Pond 2	33.5	32.9	30.9
Compost Pond 3	33.5	32.9	30.9

[1] See Groundwater / Stormwater Storage Reservoir Specification G.8
All values in units of feet.
See Glossary for definitions of terms and abbreviations in table.

168. Title 27 section 20375(b) requires the Discharger to submit an operations plan for Class II surface impoundments to the Central Valley Water Board providing operation levels and waste input quantities permitted each month based on anticipated precipitation and past precipitation conditions for the year. The Discharger submitted an Operations and Maintenance Plan for Class II Surface Impoundments, dated 22 November 2022 (2022 SI Ops Plan), which, in part, describes procedures for maintaining liquid levels in Facility surface impoundments. The 2022 SI Ops Plan indicates the Discharger maintains dedicated pumping systems to move liquids between WMU H1 and WMU H3 and that the Discharger can also employ non-dedicated pumps as necessary to move liquids between Class II surface impoundments. These WDRs require the Discharger to update the Operations and Maintenance Plan for Class II surface Impoundments.

Monitoring Networks

169. As of the date of this Order, the Discharger maintains a groundwater network for monitoring of Facility activities, where some wells are used for multiple programs and/or WMUs, as listed in **Table 11.**

Table 11—Groundwater Monitoring Well Network

Well[1]	WMU / Area	Water-Bearing Zone
DW6	WMU 3	Deep
DW7	WMU 4, 5	Deep
DW8	WMU 1, 2	Deep
DW9[2]	WMU 1, 2, WMU G	Deep
EW1	WMU 1, 2, 3, 4, 5	Shallow
EW2	WMU 1, 2, 3, 4, 5	Shallow
EW3	WMU 1, 2, 3, 4, 5	Shallow
EW4	WMU 1, 2, 3, 4, 5	Shallow
EW5	WMU 1, 2, 3, 4, 5	Shallow
EW6	WMU 1, 2, 3, 4, 5	Shallow
EW7	WMU 1, 2, 3, 4, 5	Shallow
EW9	WMU 6	Shallow
EW10	WMU 6	Shallow
EW11	WMU 6	Shallow
EW12	WMU 6	Shallow
EW13	WMU 6	Shallow
EW14	WMU 6	Shallow
EW15	WMU 6	Shallow
EW16	WMU 6	Shallow
EW23	WMU 3	Shallow
EW24	WMU 3	Shallow
EW25	WMU 3	Shallow
EW26	WMU 3	Shallow
EW27	WMU 3	Shallow
EW28	WMU 1, 2	Shallow
EW29	WMU 1, 2	Shallow
EW30	WMU 1, 2	Shallow
EW31	WMU 1, 2	Shallow
EW32	WMU 1, 2	Shallow
EW33	WMU 1, 2	Shallow
LTPZA	WMU 6A	Shallow
LTPZB	WMU 6B	Shallow
OW1	WMU 1, 2	Shallow
OW3	WMU 1, 2	Shallow

Well[1]	WMU / Area	Water-Bearing Zone
OW4A[3]	WMU 1, 2	Shallow
OW5	WMU 1, 2, 3	Shallow
OW6	WMU 3	Shallow
OW7	WMU 4, 5	Shallow
OW8	WMU 4, 5	Shallow
OW9	WMU 6A, 6B, 6C, 6D	Shallow
OW10	WMU 6A, 6B	Shallow
OW11	Land Application Area	Shallow
OW14	WMU 6D, 6F, 6H, H	Shallow
OW15	WMU 6C, 6F, 6H	Shallow
OW16	Land Application Area	Shallow
OW17	WMU 1, 2, WMU H	Shallow
OW18	WMU 1, 2, WMU G	Shallow
OW19	Land Application Area	Shallow
OW20	Land Application Area	Shallow
OW22	Groundwater / Stormwater Storage Reservoir	Shallow
OW23	WMU 6D, WMU H	Shallow
OW24	WMU 4, 5	Shallow
OW25	Land Application Area	Shallow
OW26	WMU 3	Shallow
OW27	WMU 3	Shallow
OW30[4]	WMU G	Shallow
OW31	WMU 6F	Shallow
OW32	WMU 6F	Shallow
OW33	WMU 6H	Shallow
OW34	WMU H4	Shallow
OW35	WMU H4	Shallow
OW36	WMU H4	Shallow
SIMW4	WMU G, WMU H	Shallow
SIMW5	WMU H	Shallow
MW-1	CF2, Composting Pond 3	Shallow
MW-2	CF2, Composting Pond 3	Shallow
MW-3	CF2, Composting Pond 3	Shallow
MW-4	CF2, Composting Pond 3	Shallow
MW-5	CF2, Composting Pond 3	Shallow

See Glossary for definitions of terms and abbreviations in table.

1 Some wells are used for multiple programs and/or WMUs.
2 Replaces DW2 (abandoned in 2020)
3 Replaces OW4 (abandoned in 2020)
4 Replaces SIMW1 (abandoned in 2017)

5 EW 8 disconnected in 1992 due to low yield
6 LTPZC and LTPZD abandoned in 2019 during construction of WMU 6F

170. The Discharger maintains 26 extraction wells, as described in **Table 12,** for lowering groundwater levels beneath WMU 1, WMU, 2, WMU 3, WMU 4, and WMU 5.

Table 12—Groundwater Corrective Action Extraction, Groundwater Elevation Control Well Network

Well	WMU / Area	Water-Bearing Zone
EW1	WMU 1, 2, 3, 4, 5	Shallow
EW2	WMU 1, 2, 3, 4, 5	Shallow
EW3	WMU 1, 2, 3, 4, 5	Shallow
EW4	WMU 1, 2, 3, 4, 5	Shallow
EW5	WMU 1, 2, 3, 4, 5	Shallow
EW6	WMU 1, 2, 3, 4, 5	Shallow
EW7	WMU 1, 2, 3, 4, 5	Shallow
EW8	Abandoned 2019	Shallow
EW9	WMU 6	Shallow
EW10	WMU 6	Shallow
EW11	WMU 6	Shallow
EW12	WMU 6	Shallow
EW13	WMU 6	Shallow
EW14	WMU 6	Shallow
EW15	WMU 6	Shallow
EW16	WMU 6	Shallow
EW23	WMU 3	Shallow
EW24	WMU 3	Shallow
EW25	WMU 3	Shallow
EW26	WMU 3	Shallow
EW27	WMU 3	Shallow
EW28	WMU 1, 2	Shallow
EW29	WMU 1, 2	Shallow
EW30	WMU 1, 2	Shallow
EW31	WMU 1, 2	Shallow
EW32	WMU 1, 2	Shallow
EW33	WMU 1, 2	Shallow

171. As of the date of this Order, the Facility's **unsaturated zone** monitoring network consists of the existing and proposed monitoring points listed in **Table 13**.

Table 13—Unsaturated Zone Monitoring Network

Monitoring Point	Unit	Device Type	Access	Status
6B-N-LYS	WMU 6B	Pan Lysimeter	Sampling access at manhole located along the eastern perimeter of WMU 6B	Operational
6B-S-LYS	WMU 6B	Pan Lysimeter	Sampling access at manholes located along the eastern perimeter of WMU 6B	Operational
6C-N-LYS	WMU 6C	Suction Lysimeter	Eastern end of the LCRS collection trenches for WMU 6C	Inactive since 2003
6C-S-LYS	WMU 6C	Suction Lysimeter	Eastern end of the LCRS collection trenches for WMU 6C	Operational
6D1-E-LYS	WMU 6D1	Pan Lysimeter	Under the LCRS sumps at the southern end of WMU 6D1	Operational
6D1-W-LYS	WMU 6D1	Pan Lysimeter	Under the LCRS sumps at the southern end of WMU 6D1	Operational
6D2-E-LYS	WMU 6D2	Pan Lysimeter	Under the LCRS sumps at the southern end of WMU 6D2	Operational
6D2-W-LYS	WMU 6D2	Pan Lysimeter	Under the LCRS sumps at the southern end of WMU 6D2	Operational
6F-1-LYS	WMU 6F	Pan Lysimeter	Under the LCRS collection trenches with sampling access located along the eastern a perimeter of WMU 6F	Operational
6F-2-LYS	WMU 6F	Pan Lysimeter	Under the LCRS collection trenches with sampling access located along the eastern a perimeter of WMU 6F	Operational
6F-3-LYS	WMU 6F	Pan Lysimeter	Under the LCRS collection trenches with sampling access located along the eastern a perimeter of WMU 6F	Operational
6F-4-LYS	WMU 6F	Pan Lysimeter	Under the LCRS collection trenches with sampling access located along the southern perimeter of WMU 6F	Operational
6F-5-LYS	WMU 6F	Pan Lysimeter	Under the LCRS collection trenches with sampling access located along the southern perimeter of WMU 6F	Operational

Monitoring Point	Unit	Device Type	Access	Status
6H-1-LYS	WMU 6H	Pan Lysimeter	Under the LCRS collection trenches with sampling access located along the southern perimeter of WMU 6H	Operational
G-LYS-1	WMU G	Suction Lysimeter	Under the Leak Detection Sump	Operational
G-LYS-2	WMU G	Suction Lysimeter	Under the trench	Operational
G-LYS-3	WMU G	Suction Lysimeter	Under the trench	Operational
H1-LYS	WMU H1	Suction Lysimeter	Under Leak Detection Sump	Operational
H2-LYS	WMU H2	Suction Lysimeter	Under Leak Detection Sump	Operational
H3-E-LYS	WMU H3	Suction Lysimeter	Under Leak Detection Sump	Operational
H3-W-LYS	WMU H3	Suction Lysimeter	Under Leak Detection Sump	Operational
H4-W-LYS	WMU H4	Pan Lysimeter	Under Leak Detection Sump	Planned
H4-E-LYS	WMU H4	Pan Lysimeter	Under Leak Detection Sump	Planned
Pond 1-A-LYS	Compost Pond 1	Pan Lysimeter	South side at the middle of the Pond	Operational
Pond 1-B-LYS	Compost Pond 1	Pan Lysimeter	North side at the middle of the Pond	Operational
Pond 2-A-LYS	Compost Pond 2	Pan Lysimeter	North side behind Pump House 1	Operational
Pond 2-B-LYS	Compost Pond 2	Pan Lysimeter	South side of the Pond	Operational
Pond 3-A-LYS	Compost Pond 3	Pan Lysimeter	South side of the Pond, east of centerline	Operational
Pond 3-B-LYS	Compost Pond 3	Pan Lysimeter	South side of the Pond, west of centerline	Operational

See Glossary for definitions of terms and abbreviations in table.

172. The Discharger does not conduct unsaturated zone monitoring beneath landfill WMUs 1, 2, 3, 4, 5, and 6A because these WMUs were fully permitted and operating as of 1 July 1991, prior to requirements to implement unsaturated zone monitoring. Additionally, the Discharger has demonstrated to the satisfaction of the Central Valley Water Board that installation of unsaturated zone monitoring

devices beneath these WMUs would require unreasonable dismantling or relocating of permanent structures at the Facility. Accordingly, WMUs 1, 2, 3, 4, 5, and 6A are exempt from Title 27 **unsaturated zone** monitoring requirements. (See Title 27, § 20415(d)(5).)

173. As of the date of this Order, the Facility's **Leak Detection and Secondary Containment** monitoring network consists of the existing and proposed monitoring points listed in **Table 14**.

Table 14—Leak Detection and Secondary Containment Network

Monitoring Point	Unit
G-LD	WMU G
H1-LD	WMU H
H2-LD	WMU H
H3-E-LD	WMU H
H3-W-LD	WMU H
6F-1-LD	WMU 6F
6F-2-LD	WMU 6F
6F-3-LD	WMU 6F
6F-4-LD	WMU 6F
6F-5-LD	WMU 6F
6H-1-LD	WMU 6H

See Glossary for definitions of terms and abbreviations in table.

174. As of the date of this Order, the Facility's **surface water** monitoring network consists of the existing and proposed monitoring points listed in **Table 15**.

Table 15—Surface Water Monitoring Network

Monitoring Point	Location	Program	Drainage Area
SW-1	SE Corner of Borrow Site	Detection	1
SW-2	South of Stormwater Pond 1	Detection	2
SW-3	Borrow Site	Detection	Borrow Site

Monitoring Point	Location	Program	Drainage Area
SW-4	Adjacent to WMU H4	Detection	Compost Facility #2
SW-5	Adjacent to WMU H4	Detection	Compost Facility #2

See Glossary for definitions of terms and abbreviations in table.

175. As of the date of this Order, the above-described networks comply with the monitoring requirements of Title 27. (See Title 27, §§ 20415–20435.) Any subsequent changes to these networks will be reflected in a revised operative MRP and/or revised WDRs.

Water Quality Protection Standard

176. A Water Quality Protection Standard (WQPS) is the analytical framework through which WMUs are individually monitored for releases and impacts to water quality. (Title 27, § 20390(a).) Under Title 27, a WQPS is separately established for each WMU in WDRs. (*Id*.)

177. For each WMU, the Central Valley Water Board shall specify in the WDRs the Point of Compliance at which the WQPS applies (Title 27, § 20390). The Point of Compliance is a vertical surface located at the hydraulically downgradient limit of the WMU that extends through the uppermost aquifer underlying the WMU. For each WMU, the Central Valley Water Board shall specify Monitoring Points (as defined in Title 27 section 20164) along the Point of Compliance and shall specify additional Monitoring Points at locations determined pursuant to Title 27 section 20415(b)-(d), at which the WQPS applies and at which monitoring shall be conducted.

178. The groundwater monitoring system may include background monitoring points that are not hydraulically upgradient of a WMU if the Discharger demonstrates to the satisfaction of the Central Valley Water Board that sampling at other background monitoring points will provide samples that are representative of the background quality of groundwater or are more representative than those provided by the upgradient background monitoring points (Title 27, § 20415(b)(2)).

179. For each WMU, the Central Valley Water Board shall specify in the WDRs the Constituents of Concern (COCs) to which the WQPS applies. The COC list shall

include all waste constituents, reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the WMU. (Title 27, § 20395(a).)

180. The Discharger proposed methods for calculating Concentration Limits in a 30 June 2017 WQPS Report, with the most recent values described in the Second Semester and Annual Monitoring Report for 2023, dated 15 February 2024. The methods do not provide for 1) individually monitored WMUs or 2) a WQPS established for each WMU. The Discharger's 30 June 2017 WQPS Report does not establish WQPS for each WMU and does not provide for individual monitoring of Facility WMUs monitored for releases and impacts to water quality. These WDRs require the Discharger to prepare a revised WQPS report for Central Valley Water Board review and approval which: 1) proposes WQPS and concentration limits, for each WMU, that provide for monitoring of Facility WMUs for releases and impacts to water quality; 2) identifies points of compliance for each WMU; 3) considers eligible contiguous WMUs; and 4) may consider alternate background locations if supported by the evidence. If necessary, the statistical methods proposed in the WQPS shall include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data. The WQPS should also identify unsaturated zone monitoring devices used to further support the earliest possible detection and measurement of a release from each WMU.

181. If a facility contains contiguous WMUs and monitoring along a shared boundary would impair the integrity of a containment or structural feature of any of the WMUs, the Point of Compliance may be located at the hydraulically downgradient limit of an area described by an imaginary line along the outer boundary of the contiguous WMUs. This provision only applies to contiguous WMUs that have operated or have received all permits necessary for construction and operation before 1991 July 1 (Title 27, § 20405(b)).

182. If a facility contains contiguous WMUs, separate groundwater monitoring systems are not required for each such WMU if the discharger demonstrates to the satisfaction of the Central Valley Water Board that the water quality monitoring program for each WMU will enable the earliest possible detection and measurement of a release from that WMUs (Title 27, § 20415(e)(3)).

183. In accordance with Title 27, this Order, by virtue of its incorporation of **the** operative MRP and subsequent revisions thereto, establishes requirements and a process for establishing WQPS for each WMU at the Facility.

Corrective Action- WMUs 1-5

184. Groundwater on the western part of the Facility has been impacted VOCs and inorganic compounds from one or more of the unlined or clay lined landfill units, WMUs 1 through 5. Following installation of the initial groundwater extraction system and AST in 1993, the Discharger extracted and treated VOC impacted groundwater.

185. Since 2016, VOCs detected in a source area observation well OW27 include cis-1,2 dichloroethene (up to 0.5 µg/L), tetrachloroethene (up to 0.24 µg/L), and trichloroethane (up to 0.2 µg/L). VOCs have not been detected in OW27 since April 2019 (trichloroethane, 0.09 µg/L). VOCs have been detected in other source area wells, including OW8, EW2, and DW9.

186. Since 2002, the Discharger reports removal of 3,924 grams of VOCs via the GETS, as reported in the 2022-2023 Annual Monitoring Report, with 29 grams of VOCs removed between 1 July 2022 and 30 June 2023.

187. WMUs 1 through 5 remain in a Corrective Action Monitoring Program, as specified in the operative MRP.

Corrective Action- WMUs 6B, 6C, and G

188. Following review of the 2001 Annual Monitoring Report, which reported detection of several COCs above the concentration limits in unsaturated zone monitoring devices for WMUs 6B, 6C, and G, Central Valley Water Board staff issued a 10 April 2002 letter to the Discharger requiring preparation of an Evaluation Monitoring Program (EMP) for WMUs 6B, 6C, and G. The Discharger submitted a proposed EMP in July 2002, and a revised EMP in August 2002 responsive to Central Valley Water Board staff comments on the July proposal. On 10 September 2003, the Central Valley Water Board approved the revised EMP, which is further described below:

    a. The approved EMP for WMU 6B included additional sampling of pan lysimeters 6B-S-LYS and 6B- N-LYS. This sampling confirmed the presence of three (3) VOCs in 6B-S-LYS and six (6) VOCs in 6B-N-LYS. The sampling also confirmed the presence of elevated levels of various inorganic constituents in the lysimeters. As a corrective action measure, the Discharger had already been pumping the liquid from these lysimeters and collecting samples. The liquid in the lysimeters drains through a pipe into a manhole located outside of the WMU. Therefore, liquid would not back up into the pan lysimeter so long as the level in the manhole is kept below the invert elevation of the pipe that goes into the manhole.

Approximately 2,900 gallons were pumped from 6B-N-LYS in June 2002, and approximately 7,300 gallons were pumped from 6B-S-LYS in July/August 2002. Following this pumping, relatively little additional liquid has accumulated in or has been pumped from these lysimeters. The Discharger proposed to continue this practice as a corrective action measure in the future. During the first half of 2023, the Discharger pumped no liquid from 6B-S-LYS and 6B-N- LYS. These WDRs require the Discharger to continue sampling and to remove any liquid above the invert pipe elevation for corresponding manhole.

b. The approved EMP for WMU 6C included additional sampling of suction lysimeter 6C-S-LYS. This sampling confirmed the presence of four (4) VOCs at low levels and elevated levels of nine (9) inorganic constituents. The analyses indicate that concentrations of inorganic constituents in the samples were higher than in leachate samples from the 6C sumps, and that there were two (2) VOCs in the samples that were not present in the leachate. The Discharger concluded that the source of the liquid in the lysimeters was construction water being squeezed from the clay layer. However, as a corrective action measure, the Discharger proposed to install additional LFG extraction wells in WMU 6C. The Discharger installed the LFG system in 2005 and is currently operating. Lysimeter 6C-S-LYS was moved from Detection Monitoring to Corrective Action Monitoring in 2004.

c. The EMP for WMU G included additional monitoring of suction lysimeter G-LYS-1 and analysis of historical data from the lysimeter, the overlying leak detection sump, and adjacent WMUs. The analysis confirmed the presence of six (6) VOCs in G-LYS-1; however, none of these VOCs were detected in the leak detection sump above the lysimeter. The Discharger concluded that the source of the VOCs is not the liquid in the surface impoundment and that the source of the contamination in the suction lysimeter may be residual contamination left in the underlying native soils following the removal of the former clay-only liner system for this surface impoundment. These WDRs require the Discharger to monitor the G-LYS-1 lysimeter. WMU G remains in a Corrective Action Monitoring Program, as specified in the operative MRP.

d. The EMP for the former bioreactor pilot cell demonstration unit inside of WMU 6B included additional sampling of pan lysimeter CEC-LYS. The bioreactor pilot cell demonstration project is complete, the equipment for recirculating leachate, injection of liquids, project specific LFG collection, and the cover system has been removed, and the area has been filled

with waste closer to the final design elevation of WMU 6B. The bioreactor pilot cell demonstration unit is no longer in Corrective Action.

189. On 29 March 2004, the Discharger submitted a ROWD proposing a Corrective Action Program (CAP) for WMUs 6B, 6C, and G based on the results of the EMP, and where applicable, proposed a Corrective Action Program (CAP) for WMUs 6B, 6C and G.

190. The LFG control system includes a gas flaring facility, a LFG-to-energy plant, and vertical and horizontal extraction wells. The LFG control system is part of the CAP at the landfill to prevent VOCs present in LFG from impacting groundwater. Offsite LFG migration is monitored by 14 perimeter LFG probes, each to a depth of 10 feet and spaced approximately 1,000 feet apart. The Discharger did not install gas probes along the northern boundary of the facility and in the vicinity of the slurry wall.

191. According to the Gas Collection and Control System Design Plan, dated 8 April 2022, included in the JTD/ROWD, the Facility LFG control and recovery system consists of 167 (157 Active and 10 Inactive) gas collection wells. In addition, approximately 90 wells have been abandoned and permanently removed from the gas collection system. Some of these wells were found to be damaged and were abandoned and replaced (32 wells). Low producing wells in WMUs during final closure were also abandoned (58 wells). Other abandoned wells were in areas found to have low-to-no gas production, which could be handled by a different nearby wells. The Discharger intends to continue to install gas extraction wells as part of day-to-day operations in all existing and future landfill WMUs, with the goal of providing early control on all landfill WMUs, which will then be supplemented, as necessary, with drilled vertical wells once the module nears capacity.

Corrective Action- Groundwater Elevation Control

192. On 30 December 2018, the Central Valley Water Board issued a Notice of Violation to the Discharger relating, in part, to the Discharger's inability to maintain five (5) feet of separation between groundwater and the bottom of waste in WMUs 1-5 during the first quarter of 2018.

193. On 11 January 2019, the Discharger proposed a CAP that included evaluation of expansion of the existing groundwater extraction system including additional groundwater modeling to evaluate changes in on-site surface water storage, additional groundwater removal near western boundary of the Facility, extension of the slurry cutoff wall, and other proposed actions.

194. On 19 July 2019, the Discharger submitted an Engineering Feasibility Study For Groundwater Separation Control (EFS), which presented various modeled alternatives the Discharger evaluated to present potential solutions to achieve and maintain five (5) feet of separation between groundwater and the bottom of waste in WMUs 1, 2, and 3. Modeled alternatives in the EFS included varying the length of the slurry cutoff wall, adding new extraction wells, effects of the depth of water in the Borrow Site, and infiltration through the Groundwater / Stormwater Storage Reservoir. The EFS determined that "the depth of water in the [Borrow Site] has a significant impact on the model" and that "[a]nother strong driver of groundwater elevations at the landfill is the effect of vertical migration or vertical pressure from deeper water bearing zones." The EFS further concluded that "[t]he existing extraction system keeps groundwater flow towards the extraction wells, not off-site." The EFS proposed a work plan to evaluate the expansion of the groundwater extraction and treatment system including installing additional extraction wells and extending the slurry wall.

195. On 15 November 2019, the Discharger submitted a workplan related to the EFS, which proposed groundwater investigation activities, including enhanced groundwater elevation monitoring, conducting aquifer testing, updating the groundwater model, and installing 10 additional groundwater extraction wells. The workplan described the "largest feasibility challenge" as the disposition of extracted groundwater, noting that "the current groundwater disposal system has a maximum capacity that is far below the volume identified in the EFS to achieve compliance." The Workplan further proposed the following actions:

    a. Develop a recommendation to update and expand the capacity of the groundwater disposal system;

    b. Apply for authorized discharge from the Borrow Site to keep water elevation in the excavations below 15 feet MSL (NAVD88);

    c. Utilize Storm Water Pond 2 as a holding area to keep water elevation in the Groundwater / Stormwater Storage Reservoir below 16 feet MSL (NAVD88);

    d. Evaluate the hydrogeological impact of the use of unlined storage ponds at the adjacent City of Davis WWTP;

    e. Evaluate the amount of liquid coming out of the LCRS for WMU 3 when groundwater elevations are high; and

    f. Evaluate the power and other utility needs for additional groundwater extraction.

196. On 31 August 2020, the Discharger updated the EFS to present results of investigations, updated groundwater modelling, an updated Facility water balance, and findings and recommendations based on the results of the investigations and analyses. The updated EFS represented that an estimated 39 wells, with a maximum combined pumping rate of up to 750 gpm, is necessary to achieve the required five (5) feet of groundwater separation.

197. The Discharger completed the first two phases of additional groundwater extraction in 2021 and 2022 with a total of 11 new extraction wells. The new extraction wells pumped between 26-27 million gallons of groundwater each year (July to June). Refer to **Table 11** for the list of installed groundwater extraction wells.

198. In a 3 April 2024 update to the CAP, the Discharger represented that full build-out of GETS "would be economically burdensome," as an updated engineer's estimate for the next phase of groundwater well installation anticipated costs of approximately $1.6 million (2024 dollars). As an alternative, the Discharger proposed developing a "proscriptive separation requirement for WMU 1 to 5" in lieu of the thirty-nine extraction wells envisioned by the EFS. The Discharger proposed preparation of a demonstration report to support an Engineered Alternative Design (EAD) for groundwater separation beneath WMUs 1 to 5.

199. The Groundwater / Stormwater Storage Reservoir is a critical structure for managing the often-competing functions of storing extracted groundwater, managing onsite precipitation, and influencing separation distances between groundwater and the bottom of unlined landfill WMUs via limitation of infiltration of stored water. These WDRs establish requirements for the Groundwater / Stormwater Storage Reservoir that are intended to balance these core functions based on the available information.

Unit Construction, General

200. Liners for **new Class II WMUs** (landfills and surface impoundments) must be designed and constructed to contain fluids (e.g., leachate, waste, and LFG condensate) to prevent the migration of waste to adjacent geologic materials, groundwater, and surface water. (See Title 27, §§ 20310(a), 20330(a).)

201. All new landfills, waste piles, and surface impoundments shall be sited, designed, constructed, and operated to ensure that wastes will be a minimum of five (5) feet above the highest anticipated elevation of underlying groundwater. Existing landfills, waste piles, and surface impoundments shall be operated to ensure that wastes will be a minimum of five (5) feet above the highest anticipated elevation of underlying ground water. (See Title 27, §§ 20240(c).)

202. The Central Valley Water Board is authorized to approve an **engineered alternative** to Title 27 prescriptive standards (see, e.g., Title 27, § 20330(c)), provided that the discharger demonstrates that compliance with the prescriptive standard would be unreasonably and unnecessarily burdensome in comparison to the proposed alternative and the proposed alternative will afford equivalent protection against water quality impairment. (Title 27, § 20080(b)-(c); State Water Board Resolution 93-62).

203. For WMU 6D, Phase 2 and future WMU construction, the Discharger submitted a January 2002 liner performance demonstration as an Engineered Alternative Design for the containment system (Containment System EAD) (See JTD, Appendix K). The Containment System EAD recognized the composite liner design, slurry wall, and de-watering system, as "engineered structures" for the purpose of ensuring that there is adequate separation of groundwater from wastes and that an upward hydraulic head does not occur on the bottom of the liner. The Containment System EAD included required installation of a capillary break or groundwater barrier layer in return for reduced minimum required separation distance between the base of waste and groundwater.

204. The Central Valley Water Board in previous WDRs orders found that the Containment System EAD demonstrated that the containment system affords equivalent protection of water quality to a system designed in accordance with Title 27 performance standards because it combines a Subtitle D composite liner with additional containment components in critical hydraulic areas, such as sumps and trenches, by providing for both containment and leak detection under an entire landfill WMU. Accordingly, in previous WDRs, the Central Valley Water Board approved the Containment System EAD for WMU 6A and 6B containment systems and required future modules for WMU 6 & 7 to be constructed with the EAD composite liner system approved for WMU 6D, Phase 2. The Central Valley Water Board authorized the following minimum required groundwater separation distances for WMUs constructed with the Containment System EAD:

a. For landfill WMUs, 5-feet groundwater separation with a reduction to 3 feet below the LCRS trenches and sumps.

b. For surface impoundment WMUs, 5-feet groundwater separation with a reduction to 2 feet below the LCRS trenches and sumps.

Unit Construction, Landfill WMUs

205. Liners for **new Class III landfill WMUs** must be designed and constructed to contain fluids (e.g., leachate, waste, and LFG condensate), so as to be capable

of preventing degradation of groundwater and surface water, even with inadequate site characteristics. (See Title 27, §§ 20310(c), 20330(a).)

206. The JTD proposes construction of new landfill WMUs at the Facility, specifically WMUs 6E, 6G, and 7I through 7P, all of which will incorporate a revised EAD containment system based on containment designs approved subsequent to WMU 6D, Phase 2, including those for WMUs 6F and 6H. As outlined in **Attachment I**, the revised EAD containment system consists of the following elements, from top to bottom:

    a. Operations layer consisting of either: one (1) foot layer of soil, pea gravel, and/or shredded tires, or two (2) feet of ground wood;

    b. Geotextile filter;

    c. LCRS: One (1) foot of gravel (floor) or geocomposite (side slopes);

    d. Primary Liner: 60-mil high density polyethylene (HDPE) geomembrane;

    e. Two (2) feet of compacted clay with a hydraulic conductivity (k) less than 1.0x10E-07 cm/sec.;

    f. Foundation Layer: Three (3) feet of compacted soil, final graded to drain to main leachate collection trenches and containing a perforated pipe surrounded with gravel to convey leachate to a main collection line;

    g. A geonet/geotextile/geotextile leak detection and collection system with pan lysimeters; and

    h. 60-mil HDPE liner installed as a capillary fringe break.

207. The JTD proposes an EAD containment system, based on containment designs approved subsequent to WMU 6D, Phase 2, including those for WMUs 6F and 6H, where the minimum foundation layer beneath trenches and sumps is one (1) foot of compacted soil.

208. The Discharger has adequately demonstrated that construction of a landfill WMU liner in accordance with the Title 27 prescriptive standard would be unreasonably and unnecessarily burdensome in comparison to the proposed engineered alternative. The Discharger has further demonstrated that the proposed engineered alternative(s), as described in **Attachment I**, are consistent with the performance goals of the prescriptive standard, as described above, and will afford at least equivalent water quality protections.

209. New landfill WMUs will incorporate the LCRS design described in further detail in **Attachment I**. The proposed LCRS design complies with Title 27 prescriptive standards. (See Title 27, § 20340.)

210. According to the submitted seismic analysis, the proposed new landfill WMUs will be able to withstand MCE seismic events described in Finding 143. (Title 27, § 20370.)

Unit Construction, Surface Impoundments

211. The Discharger submitted Construction Plans for the construction of a new surface impoundment WMU at the Facility, WMU H, which incorporate an EAD containment system outlined in **Attachment J**. The proposed EAD containment system provides for an "Option A" and "Option B" where the drainage layer in Option A is a proprietary product and the drainage layer in Option B provides for a generic geonet-based drainage layer. The proposed EAD containment system establishes minimum performance criteria for the drainage layer regardless of the "Option" chosen for installation.

212. The Discharger has adequately demonstrated that construction of a surface impoundment liner containment system in accordance with the Title 27 prescriptive standard would be unreasonably and unnecessarily burdensome in comparison to the proposed engineered alternative. The Discharger has further demonstrated that the proposed engineered alternative(s), as described **Attachment J**, is consistent with the performance goals of the prescriptive standard, as described above, and will afford at least equivalent water quality protections.

213. The new surface impoundment WMU will incorporate the LCRS described in detail in **Attachment J**. The proposed LCRS complies with Title 27 prescriptive standards. (See Title 27, § 20340.)

214. The unsaturated zone monitoring system for future modules shall be implemented in accordance with the operative MRP.

215. The Discharger submitted a 15 January 2025 slope stability evaluation for the proposed WMU H4 configuration which considered the ability of WMU H4 to withstand MCE seismic events described in Finding 143 for the following scenarios:

    a. The critical temporary condition of the north embankment of WMU H4, where the adjacent WMU H3 is assumed to be full of liquid up to freeboard level and a live load traffic surcharge of 200 pounds per square foot (psf) is assumed to act over the roadway at the crest of the north embankment – under static conditions;

b. The permanent condition of the north embankment of WMU H4, where the adjacent WMU H3 is assumed to be full of liquid up to freeboard level, while WMU H4 is assumed to be empty and a live load traffic surcharge of 200 psf acts over the roadway at the crest of the north embankment;

c. The temporary condition of the south embankment of WMU H4, where the construction of WMU H4 has been completed and the impoundment is filled to freeboard limit for the first time with the shear strength of the native soils is modeled as the undrained strength in consideration of excess pore pressures in the underlying native soils. The analysis further assumes a live load traffic surcharge of 200 psf acts over the roadway at the crest of the embankment – under static conditions;

d. The permanent condition of the south embankment of WMU H4, which is identical to the temporary condition except that the shear strength of the native soil is modeled using the drained strength and seismic loading conditions are also considered;

e. The temporary condition of the east embankment of WMU H4, with native soils modeled using undrained shear strength to account for excess pore pressures in the native soils not having time to fully dissipate. The analysis further assumes a live load surcharge of 200 psf acts over the roadway at the top of the embankment and over the entire adjacent Compost Facility #2 area – under static conditions.

f. The critical permanent condition of the east embankment of WMU H4, which is identical to the temporary conditions except that the shear strength of the native soil is modeled using the drained strength (rather than undrained) and seismic loading conditions are also considered.

216. The 15 January 2025 slope stability evaluation concludes that the slope stability and seismic displacement analyses indicate that the proposed WMU H4 slopes are expected to be adequately stable under long-term conditions for both static and seismic loading. The 15 January 2025 slope stability evaluation further concludes that the results of the slope stability analyses indicate that the stability of the temporary slope configurations is also expected to be adequate.

217. The 15 January 2025 slope stability evaluation recommends that, for the construction of the north embankment of WMU H4, "…the temporary configuration of the slope should be closely monitored during earthworks to confirm that there are no signs of slope distress or excessive movements. This close level of monitoring is recommended until all of the subgrade fill is placed to final design elevations along the toe of the north slope."

218. According to the submitted seismic analysis, the proposed new surface impoundment WMUs will be able to withstand MCE seismic events described in Finding 143. (Title 27, § 20370.)

Unit Construction, Compost Facility #2

219. The 2020 General Order establishes minimum construction standards for compost areas receiving, processing, or storing feedstocks, additives, amendments, or compost (active, curing, or final product); working surfaces; detention ponds; and related compost facility elements. These WDRs implement compost unit construction requirements consistent with construction standards described in the 2020 General Order.

Unit Closures & Post Closure Maintenance

220. The Discharger has submitted the following operative Closure and Post Closure Maintenance Plans (collectively referred to as the "Closure Plan") for the entire post-closure maintenance period of at least 30 years and until it is demonstrated that the Facility no longer poses a threat to the public health and safety and the environment (see Title 27, §§ 20950(a)(1), 21180(a)):

    a. *Final Closure and Post Closure Maintenance Plan*, originally submitted in 1996 and updated multiple times since, most recently on 18 December 2023; includes a cost estimate for post-closure maintenance of landfill WMUs 1 - 5 (WMU 1-5 Post Closure Maintenance Plan).

    b. *Preliminary Closure and Post-Closure Maintenance Plan Waste Management Units 6 and 7 G & H, Yolo County Central Landfill* in conjunction with a 2007 version of the JTD, and an updated preliminary closure and post-closure maintenance plan submitted in November of 2014, as updated December 2023.

    c. *Preliminary Closure and Post-Closure Maintenance Plan, Waste Management Units 6 and 7, Yolo County Central Landfill,* of April 2023; includes proposed updates to: the final cover liner section, corresponding capacity calculations, surface water hydrology analyses, and closure cost estimate (WMU 6 and 7 Closure Plan).

221. The Discharger's 2023 *Preliminary Closure and Post Closure Maintenance Plan* was updated with a revised cost estimate for landfill closure for landfill WMUs 6 and 7, and surface impoundment WMUs G, H1, H2, and H3, for the entire post-closure maintenance period of at least 30 years, and until it is demonstrated that the Facility no longer poses a threat to the public health and safety and the environment. (See Title 27, §§ 20950(a)(1), 21180(a).) The Discharger

submitted a 12 December 2024 cost estimate for clean closure of WMU H4 in the amount of $273,064.

222. The Closure Plan indicates that the Facility's active and planned WMUs are scheduled to be closed on the dates described in **Table 16**.

Table 16—Unit Closure Schedule[1]

Unit Module	Anticipated Closure Date
6A-6B	2040
6C-6D	2041
6E-6F	2050
6G-6H	2060
71-7J	2080
7K-7L	2100
7M-7P	2112
WMU G	+ 30-year post-closure WMU 6 and WMU 7
WMU H	+ 30-year post-closure WMU 6 and WMU 7

223. Per the Closure Plan, the Discharger proposes closure of WMU 6 and 7 with an engineered alternative final cover, as described below (in order, from top to bottom) and further specified in **Attachment K**:

a. 1-foot vegetative layer of soil or other materials capable of supporting vegetation;

b. A double-sided drainage geocomposite with a transmissivity value equal to 1x10–4 m2/s;

c. A 60-mil LLDPE geomembrane barrier layer;

d. 1-foot foundation layer, consisting of low-permeability on-site clay with a permeability of 1x10-6 cm/s or less;

e. A 1-foot intermediate cover soil layer

224. In previous WDRs the Central Valley Water Board required the final cover design to include a low permeability geosynthetic clay liner (GCL) with a permeability

[1] Closure dates are estimates, which may be affected by several factors (e.g., fluctuating waste receipts).

equal to or less than 1x10E-08 centimeters per second between the geomembrane and foundation layers. In the Closure Plan, the Discharger cites the results of a 2006 demonstration, which showed “no significant difference of infiltration between the two cover sections” over a monitoring period of approximately 15 years. The Discharger further proposes in the Closure Plan to increase the geomembrane thickness from 40-mil to 60-mil. Both alternative final cover designs are depicted in as specified in **Attachment K.**

225. In the long term, the Discharger is considering installation of a photovoltaic system on closed landfill WMUs to address current and future energy usage and demand. The proposed system design would include ground-mounted PV panels on closed landfill WMUs 1-5. These WDRs require the Discharger to submit all proposed post-closure land uses on closed or closing landfill WMUs, other than non-irrigated open space, to the Central Valley Water Board for review and approval to ensure the proposed land use maintains the integrity of the final cover, drainage and erosion control systems, and gas monitoring and control systems. (See Title 27, § 21190(c)-(d)).

226. The Discharger has adequately demonstrated that construction of a final cover in accordance with the applicable Title 27 prescriptive standard would be unreasonably and unnecessarily burdensome in comparison to the proposed engineered alternative. The Discharger has further demonstrated that the proposed engineered alternatives described in in **Attachment K** are consistent with the performance goals of the prescriptive standard, as described above.

227. The proposed final cover slopes specified in **Attachment K** are within Title 27 limits (i.e., 1¾ horizontal feet for every 1 foot of vertical gain) and supported by a static and dynamic slope stability analysis demonstrating that side slopes will remain stable, both under stable and dynamic conditions, throughout the life of the unit. (See Title 27, § 21750(f)(5).) The final cover will include a 15-foot wide bench at minimum for every 50 feet of vertical gain. (See Title 27, § 21090(a).)

228. The Discharger's proposed final cover designs, together with any modifications set forth in in **Attachment K**, are hereby approved for closure of landfill WMUs.

Financial Assurances

229. Title 27 requires Dischargers applying for regulatory coverage to provide cost estimates, supported by sufficient detail to validate the plausibility of the estimate, for closure, post closure maintenance, and corrective action costs due to known or reasonably foreseeable release (Title 27, §§ 21750(i), 21770, 22100(a)-(b), 22101(a), 20380(b)).

230. For any proposed WMU and for any WMU not yet required to undergo final closure, the ROWD shall contain a preliminary closure and post-closure maintenance plan containing a reasonable estimate of the of the maximum expected cost that would be incurred at any time during the WMU's projected life for a third party both to close the WMU and to carry out the first thirty years of post-closure maintenance (Title 27, § 21769(b)(1)).

    a. For WMUs regulated by the Central Valley Water Board and not CalRecycle, such as surface impoundment WMUs, the Final Closure and Post-Closure Maintenance Plan (Final CPMP) shall include a cost analysis consisting of a detailed, itemized listing of all actions, and their associated costs, necessary to close each WMU and to carry out the first thirty years of post-closure maintenance if not clean-closed, pursuant to all applicable SWRCB-promulgated requirements of Title 27 section 20950 et seq. The itemized cost analysis shall be included as an integrated or separable (i.e., separately bound) part of the ROWD pursuant to Title 27 section 21710.

    b. For WMUs jointly regulated by both the Central Valley Water Board and CalRecycle, such as landfill WMUs, the itemized cost analysis shall be included as an integral or separable part of the JTD pursuant to Title 27 section 21585. (Title 27 § 21769(c)(2).)

231. For closure, the cost estimate shall "[p]rovide a third party with specific tasks and cost estimates for the closure and postclosure of a solid waste landfill in the event that a third party must assume the responsibility for closure and/or postclosure maintenance" (Title 27, § 21770(d)(3)).

232. For surface impoundment closure, the Discharger shall make a mandatory attempt at clean-closure, in accordance with Title 27 sections 21400 and 20950(c)(2), which requires removal of all free liquid and treatment of any residual liquid at the time of closure unless the Discharger demonstrates to the Central Valley Water Board that it is infeasible to attempt clean-closure of a surface impoundment (Title 27, § 21400(b)(1)).

233. For post-closure maintenance, the operator of each solid waste landfill shall provide a written estimate, in current dollars, of the cost of hiring a third party to maintain, monitor, and inspect the closed landfill in accordance with the postclosure maintenance plan requirements (Title 27, § 21840(a)) and include a detailed estimate of the annual costs for postclosure monitoring and maintenance which considers certain factors (Title 27, § 21840(b)).

234. Previous WDRs required that, for new landfill WMUs constructed with base elevations of 22 feet msl (NAVD 88) or less, the Discharger must implement

additional operations and maintenance activities to pump groundwater and maintain groundwater separation until the waste no longer posed a threat to water quality. The previous WDRs also required the Discharger to maintain financial assurances sufficient to fund these additional operations and maintenance for a minimum of 450 years, instead of 30 years, or until the waste within those WMUs no longer posed a threat to water quality. The 450-year time period was chosen based on evaluation of the usable-life estimate for non-exposed, high density polyethylene geomembrane liner at 20 degrees Celsius (*GRI White Paper #6, Geomembrane Lifetime Predictions*, by Robert M. Koerner, Y. Grace Hsuan, and George R. Koerner (7 June 2005; updated 8 February 2011.)) To support these extended post-closure maintenance and financing requirements, the previous WDRs authorized the Discharger to establish a perpetual fund, where only earned interest is, or will be, applied for costs arising from post-closure maintenance costs. The Discharger has not constructed, and does not propose to construct, new landfill WMUs with base elevations of 22 feet msl (NAVD 88) or less. These WDRs require that any new landfill WMUs be constructed with base elevations greater than 22.0 feet msl (NAVD 88).

235. Title 27 requires the Discharger to prepare cost estimates for initiating and completing corrective action(s) for all known or reasonably foreseeable water release and non-water release scenarios (Title 27, § 22101). All such cost estimates must be provided to the Central Valley Water Board, CalRecycle, and Local Enforcement Agency for review and approval. (*Ibid*.) Title 27 further requires the Discharger to demonstrate financial responsibility for implementing corrective action in at least the amount of the greater cost estimate for either water or non-water release scenarios. (Title 27, §§ 22221, 22101). Additionally, the Discharger is required to annually submit a report calculating the increase in the cost estimates for closure, post-closure maintenance, and/or corrective action due to the inflation factor for the previous calendar year (Title 27, § 22236).

236. The Discharger included updated cost estimates for the following WMUs in the following respective operative closure documents, included as appendices to the JTD:

    a. WMU 1-5; *Final Closure and Post Closure Maintenance Plan* (See Finding 20a);

    b. WMU G, H1, H2, and H3; *Preliminary Closure and Post-Closure Maintenance Plan Waste Management Units 6 and 7 G & H* (See Finding 220.b); and

    c. WMU 6-7; *Preliminary Closure and Post-Closure Maintenance Plan, Waste Management Units 6 and 7* (See Finding 220.c).

237. In a 9 January 2024 letter, CalRecycle determined that the cost estimates in the Discharger's Closure Plan (including the updated cost estimates for WMUs 1-5, 6, and 7, and clean closure of WMUs G and H – i.e., $79,467,636 for Closure and $999,365 for Annual Postclosure Maintenance, both in 2023 dollars) were sufficient in accordance with the requirements of Title 27.

238. In a 12 December 2024 letter (JTD, Exhibit O), the Discharger submitted a cost estimate for the clean closure of WMU H4 as an addendum to the previously submitted *Preliminary Closure and Post-Closure Maintenance Plan, Waste Management Units 6 and 7*. Exhibit O estimates the cost to clean-close WMU H4 is $273,064 (2024 dollars).

239. The Discharger's Non-Water Release Corrective Action Plan and Financial Assurance Cost Estimate, dated 15 December 2023, addresses known or infrequent and relatively unusual corrective actions that are not currently addressed by a landfill's Post-Closure Maintenance Plan, such as earthquake ($0), high precipitation storm event ($353,650), flood ($205,402), tsunami ($0), seiche ($0), or fire ($942,682).[2] Because it is unreasonable to assume that a fire event and high-precipitation storm event would occur at the same time, the non-water release corrective action plan cost estimate for the Facility is $942,682.

240. The Discharger's Water Release Corrective Action Plan cost estimate is based on a plan the Discharger completed in March 1994 and the Central Valley Water Board approved on 18 January 1996. The Water Release Corrective Action Plan cost estimate in 1994 was $1,400,000 which corresponds to $2,627,119 adjusted for inflation (2024 dollars). The March 1994 Water Release Corrective Action cost estimate considers a diesel release detected in the GWE system in April 1992 of uncertain origin but generally attributable to any of WMUs 1-5. The March 1994 Water Release Corrective Action cost estimate assumes the following:

> "…worst-case scenario that contamination in the area of the diesel release needs to [be] mitigated, and that the release of volatile organics is occurring throughout the entire WMU 1-5 area, the likely response scenario would be to continue operation of the extraction/treatment system and to extend the influence of this system by adding additional extraction points along the western

[2] Listed dollar amounts reflect December 2023 cost estimates for foreseeable non-water release corrective action scenarios.

> boundary of the facility to effectively control the migration of contaminants."

In the intervening thirty years since development of the March 1994 Water Release Corrective Action cost estimate, the Discharger operated and expanded the GETS and developed a substantial data set for evaluation of the potential for contamination release and required subsequent corrective action needs. The March 1994 Water Release Corrective Action cost estimate does not consider the expanded the GETS or additional data.

241. As described in the preceding Findings, the greatest cost estimate for corrective action in response to a release is $2,627,119 (2024 dollars), pending update of the March 1994 Water Release Corrective Action cost estimate. Pursuant to Title 27 section 22221, the Discharger must demonstrate financial responsibility for implementing corrective action in at least this amount. The Discharger's current corrective action cost estimate does not satisfy the requirements of Title 27 because the March 1994 estimate has not been updated as described above. Accordingly, these WDRs require the Discharger to update the March 1994 Water Release Corrective Action Plan cost estimate.

242. The total cost estimate for closure ($79,740,700), post-closure maintenance ($29,980,933), and corrective action ($2,627,119) for the Facility is $112,124,370 (2023 Dollars), as summarized in **Table 17**.

Table 17—Cost Estimate Summary (2023 Dollars)

Item	Closure Amount	Post-Closure Maintenance	Corrective Action, Non-Water Release	Corrective Action, Water Release
WMU 1 - WMU 5	----	$8,562,055		
WMU 6 – WMU 7	$79,133,436	$21,418,878		
WMU G, H1, H2, & H3	$334,200	---	---	---
WMU H4	$273,064	---	---	---
Facility, Total	**$79,740,700**	**$29,980,933**	**$942,682**	**$2,627,119**[1]

[1] 2024 Dollars

243. For closure funding, pursuant to Title 27 section 22207(a), the Central Valley Water Board requires operators of WMUs not regulated by CalRecycle, such as Class II surface impoundments, to "establish an irrevocable closure fund (or to provide other means) pursuant to [Chapter 6 of Title 27, i.e., sections 22240-22254] … to ensure closure … in accordance with an approved plan meeting all

applicable SWRCB-promulgated requirements of [Title 27]." Allowable financial assurance mechanisms are described in section 22228. Formulas for calculating minimum fund balances are included in sections 22225 and 22226.

244. For post-closure maintenance, pursuant to Title 27 section 22212(a), the Central Valley Water Board requires operators of Class II surface impoundments to "establish an irrevocable closure fund (or to provide other means) pursuant to [Chapter 6 of Title 27, i.e., sections 22240-22254] … to ensure post-closure maintenance… in accordance with an approved plan meeting all applicable SWRCB-promulgated requirements of [Title 27]." Allowable financial assurance mechanisms are described in section 22228. Formulas for calculating minimum fund balances are included in sections 22225 and 22226.

245. For corrective action, pursuant to Title 27, section 22222, the Central Valley Water Board also requires operators of Class II surface impoundments to "establish an irrevocable fund (or to provide other means) pursuant to [Chapter 6 of Title 27, i.e., sections 22240-22254] … to ensure funds are available to address a known or reasonably foreseeable release[s]…." Allowable financial assurance mechanisms are described in section 22228. Formulas for calculating minimum fund balances are included in sections 22225 and 22226.

246. A "Pledge of Revenue" is a financial assurance mechanism meeting the requirements of Title 27 section 22245, by which a government unit promises to make specific, identified future revenue available to pay future postclosure maintenance costs and demonstrate financial responsibility for postclosure maintenance and/or corrective actions. (Title 27, §§ 22200(jj), 22228(e).) The Discharger provided a certification, dated 30 August 2022, that it uses a "Pledge of Revenue" for postclosure maintenance costs as a financial assurance mechanism to satisfy Title 27 section 22245.

247. The minimum annual deposit into the Postclosure Fund and Corrective Action Trust Fund shall be in accordance with Title 27 section 22225(a)(2)(B), such that each closure phase is fully funded by the time the last shipment of waste has been discharged to a WMU to receive partial final closure, plus inflation adjustments for WMU closure, post closure maintenance, and corrective action costs.

248. The Discharger included in the ROWD a summary of calculations made after inflation for two (2) funds: "Waste management Unit 6 and 7 Closure Fund" (5026) and a "Corrective Action Fund" (5025). The summary depicts minimum deposit calculations for 2022 based on cost estimates of $65,007,490 for closure and post closure and $2,402,737 for corrective action. The closure and post closure fund calculation does not consider costs for post-closure maintenance of

landfill WMUs 1-5 or WMU H4. The Corrective Action Fund does not consider an update to the March 1994 Water Release Corrective Action Plan cost estimate required by these WDRs. As of the date of this Order, the closure fund, post-closure maintenance fund and corrective action fund balances are specified in **Table 18.**

Table 18—Current Fund Balances (Financial Assurances)

Fund Name	Current Balance	Date	Fund Number
Closure / Postclosure – WMU 6/7/G&H	$13,759,607.87	6/30/2022	5026
Corrective Action Trust Fund	$ 1,133,274.84	6/30/2022	5025

249. Both of the Discharger's funds supporting the Pledge of Revenue are short of the minimum amounts required for the respective cost estimates (Finding 242) and the required minimum annual deposits to the funds are insufficient (Finding 248).

250. This Order requires the Discharger to update cost estimates and maintain financial assurances with CalRecycle in at least the amounts required by minimum fund balances calculated pursuant to Title 27 section 22225(a)(2)(B) for the Estimated Cost amounts specified in **Table 17**, adjusted for inflation annually.

251. Potential liabilities and administrative remedies for financial assurances related violations include, but are not limited to, an order to cease and desist operations (see Title 27, § 22190; see also Wat. Code, § 13301) and/or imposition of civil liability (i.e., monetary penalties) (see Wat. Code, §§ 13268, 13350). Potential liability amounts take into consideration the economic benefit an operator receives from noncompliance with the regulations, based on applicable factors described in Title 27 and the penalty calculation methodology described in the State Water Board's operative Water Quality Enforcement Policy.

252. Filing of a false instrument with the Central Valley Water Board, a public office within the State of California, carries significant potential administrative, civil, and criminal sanctions (Wat. Code, §§ 13261, 13268; Pen. Code, § 115). In such cases, each filing of a false instrument is considered a separate violation.

California Environmental Quality Act

253. Yolo County has adopted several environmental impact reports (EIRs) and other environmental review documents, pursuant to the California Environmental Quality

Act (CEQA), evaluating potential impacts associated with the development and operation of the Facility. These include, but are not limited to:

a. A 1992 EIR (SCH No. 1991123015) evaluating the construction and operation of WMUs G, 6, and 7;

b. A 1992 EIR (SCH No. 1991073040) for development and operation of Composting Facility #2, as modified by a 2005 Subsequent EIR, and 2018 and 2020 Addendums to the 2005 Subsequent EIR;

c. A 1999 negative declaration (ND) (SCH No. 1991073040) for the three surface impoundments comprising WMU H;

d. A 2000 ND (SCH No. 1991073040) for the full-scale bioreactor project for WMU 6D;

e. A 2002 ND for the GETS, Groundwater / Stormwater Storage Reservoir, and LAA;

f. A 2005 EIR (SCH No. 1991073040) evaluating various proposed changes at the landfill, including expansion of bioreactor operations, increasing the final height of the landfill by 60 feet, landfill mining, addition of a material recovery facility, expansion of salvaging operations, expansion of LFG management and utilization options, development and operation of the Soil Borrow Area, and expansion of Compost Facility #1;

g. A 2015 EIR (SCH No. 2014102015) evaluating ongoing development and operation of the Soil Borrow Site; and

h. A 2021 EIR (SCH No. 2020080465), as modified by two 2023 Addendums, for a proposed increase in daily permitted tonnage, construction of an additional Class II surface impoundment, installation of solar photovoltaics on the closed landfill units, expansion of Composting Facility #2, and other items not relevant to these WDRs.

In developing this Order, the Central Valley Water Board, as a responsible agency for purposes of CEQA, considered these documents and incorporated applicable mitigation measures identified therein.

254. The issuance of this Order, which prescribes requirements and monitoring of waste discharges at an **existing facility**, with negligible or no expansion of its existing use, is exempt from the procedural requirements of CEQA pursuant to California Code of Regulations, title 14, section 15301. The discharges authorized under this Order are substantially within parameters established

under prior WDRs, particularly with respect to character and volume of discharges.

Other Regulatory Matters

255. This Order is issued in part pursuant to Water Code section 13263(a), which provides as follows:

> The regional board, after any necessary hearing, shall prescribe requirements as to the nature of any proposed discharge, existing discharge, or material change in an existing discharge…, with relation to the conditions existing in the disposal area … into which, the discharge is made or proposed. The requirements shall implement any relevant water quality control plans that have been adopted, and shall take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of [Water Code] Section 13241.

256. This Order implements the Central Valley Water Board's Basin Plan, which designates beneficial uses for surface water and groundwater and establishes water quality objectives (WQOs) necessary to preserve such beneficial uses.[3] (Wat. Code, § 13241 et seq.)

257. The State Water Board's *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 (BPTC).

258. For the discharge of extracted groundwater to the Groundwater / Stormwater Storage Reservoir, consideration of effluent quality (**Table 4**) compared to upgradient groundwater quality (**Table 5**), and downgradient groundwater quality (**Table 6**) is summarized as follows.

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[3] Designated beneficial uses surface water and groundwater are discussed in Finding 0 and Finding 0, respectively.

a. **Salinity (TDS):** The best measure for total salinity in groundwater is TDS, as TDS is representative of overall salinity. TDS in the effluent has the potential to degrade groundwater quality. For the electronically available data, the average TDS concentration in the effluent is 1,414 mg/L. TDS concentrations in downgradient well, SIMW5 displayed an increasing pattern before 2015 but have been decreasing steadily since then. TDS concentrations in the other downgradient well, OW23, appear to be stable. TDS concentrations in upgradient wells average up to 1,400 mg/L. Effluent discharge to the Groundwater / Stormwater Storage Reservoir with respect to TDS does not appear to be degrading groundwater beyond existing conditions at this time and is not expected to unreasonably affect beneficial uses of groundwater.

b. **Chloride:** Chloride in the effluent has the potential to degrade groundwater quality. For the electronically available data the chloride concentration in the effluent is 185 mg/L. The average concentration for chloride in the upgradient wells is increasing and trending towards 290 mg/L. Downgradient wells show a decreasing trend in chloride concentration, trending towards 189 mg/L since 2020. Comparatively, the chloride concentration is higher in the upgradient than the downgradient monitoring wells. Thus, the discharge does not appear to be causing degradation with respect to chloride.

c. **Sulfate:** Sulfate in the effluent has the potential to degrade groundwater quality. For the electronically available data, the sulfate concentration in the effluent is 270 mg/L. Upgradient well OW17 shows an increasing sulfate concentration trend towards 250 mg/L. Downgradient wells OW23 and SIMW5 show decreasing trends in sulfate concentrations towards 250 mg/L and 430 mg/L, respectively. The overall average of sulfate concentration in the downgradient wells since 2020 is 330 mg/L. Comparatively, the sulfate concentration is higher in downgradient wells than those upgradient, therefore, degradation is anticipated to occur with respect to sulfate.

a. **Nitrate as N:** For nutrients such as nitrate, the potential for groundwater degradation depends on wastewater quality and the ability of the vadose zone below the Groundwater / Stormwater Storage Reservoir to support denitrification to convert nitrogen to nitrate or nitrogen gas (ammonia) before it reaches groundwater. For the electronically available data, the nitrate concentration levels in the effluent average 2.9 mg/L, well below the downgradient and upgradient nitrate concentrations and the primary MCL of 10 mg/L for nitrate (as N). Therefore, effluent discharge with

respect to nitrate as N does not appear to be degrading groundwater beyond existing conditions at this time and will not unreasonably affect beneficial uses of groundwater.

d. **Boron:** Boron in the effluent has the potential to degrade groundwater quality. For the electronically available data, the average boron concentration in effluent is 4.75 mg/L. Boron concentrations in upgradient wells OW17 and OW22 appear to be stable, averaging between 2.0-3.8 mg/L. Boron concentrations in downgradient well SIMW5 appear to have increased in 2011, but have since stabilized near 6.0 mg/l. Concentrations in the other downgradient well, OW23, appear stable, at approximately 3.8 mg/L. Therefore, the discharge will likely result in degradation with respect to boron.

e. **Selenium:** Selenium in effluent has the potential to degrade groundwater quality. For the electronically available data, the average selenium concentration in the effluent is 0.014 mg/L. Selenium concentrations in upgradient well OW17 appear to be stable at approximately 0.025 mg/L. Concentrations in downgradient well OW23 are stable at approximately 0.006 mg/L. Therefore, the discharge of selenium is not anticipated to degrade groundwater or unreasonably affect beneficial uses of groundwater.

259. For the discharge of extracted groundwater to the Land Application Area, consideration of effluent quality (**Table 4**) compared to upgradient groundwater quality (**Table 7**), and downgradient groundwater quality, (**Table 8**) is summarized as follows:

a. **Salinity (TDS):** TDS in the effluent has the potential to degrade groundwater quality. The TDS concentration in the effluent is 1,414 mg/L. TDS concentrations in the upgradient wells average up to 1,830 mg/L, exceeding the Short Term WQO of 1,500 mg/L (see Cal. Code Regs., tit. 14, § 64449). Because receiving water is not high quality with respect to TDS, the Antidegradation Policy is not applicable to that constituent.

b. **Chloride:** Chloride in the effluent has the potential to degrade groundwater quality. The chloride concentration in effluent is 185 mg/L. The average concentration for chloride in the upgradient wells is increasing and trending towards 290 mg/L. Downgradient wells show a decreasing trend in chloride concentration trending towards 185 mg/L. Comparatively, the chloride concentration is higher in the upgradient than the downgradient monitoring wells; therefore, degradation with respect to chloride is not anticipated.

c. **Sulfate:** Sulfate in the effluent has the potential to degrade groundwater quality. The sulfate concentration in effluent is 270 mg/L. Upgradient well OW17 shows an increasing sulfate concentration trend towards 250 mg/L. Downgradient wells OW23 and SIMW5 show decreasing trends in sulfate concentrations towards 250 mg/L and 430 mg/L. The overall average of sulfate concentration in the downgradient wells since 2020 is 330 mg/L. Comparatively, the sulfate concentration is higher in the downgradient than the upgradient; therefore, degradation is anticipated to occur with respect to sulfate.

b. **Nitrate as N:** For nutrients such as nitrate, the potential for groundwater degradation depends on wastewater quality and the ability of the vadose zone below the Groundwater / Stormwater Storage Reservoir to support denitrification to convert nitrogen to nitrate or nitrogen gas (ammonia) before it reaches groundwater. Nitrate concentration levels in the effluent range average 2.9 mg/L, well below the downgradient and upgradient nitrate concentrations and the primary MCL of 10 mg/L for nitrate (as N). Therefore, effluent discharge with respect to nitrate as N does not appear to be degrading groundwater beyond existing conditions at this time and will not unreasonably affect beneficial uses of groundwater.

d. **Boron:** Boron in effluent has the potential to degrade groundwater quality. The average boron concentration in the effluent is 4.75 mg/L. Boron concentrations in upgradient wells OW17 and OW22 average between 2.0-3.8 mg/L. Concentrations in downgradient well SIMW5 appear stable at approximately 6.0 mg/l, while concentrations in the other downgradient well, OW23, appear stable at approximately 3.8 mg/L. Therefore, degradation is anticipated with respect to boron.

e. **Selenium:** Selenium in effluent has the potential to degrade groundwater quality. The average selenium concentration in the effluent is 0.014 mg/L. Selenium concentrations in upgradient well OW17 appear to be stable at approximately 0.025 mg/L. Concentrations in downgradient well OW23 are stable at approximately 0.006 mg/L. Therefore, the discharge of selenium is not anticipated to degrade groundwater or unreasonably affect beneficial uses of groundwater.

260. As described in the preceding Findings, this Order may authorize degradation of high quality receiving waters with respect to selenium and boron. The Central Valley Water Board has determined that such degradation is consistent with the maximum benefit to the people of the state because: 1) centralized waste disposal is more environmentally protective than other, more dispersed

alternatives; 2) removal of VOCs from groundwater is imperative for protection of human health and safety and the environment; 3) the activities giving rise to these potentially-degrading discharges both lowers groundwater at the Facility, reducing the likelihood that groundwater will contact waste in Facility WMUs, and maintaining groundwater flow towards Facility extraction wells, rather than in off-site directions; 4.) the groundwater extraction system keeps groundwater flow towards the extraction wells, not off-site effectively recirculating the existing poor quality groundwater via an extraction / discharge cycle; and 5) these discharges are the most practicable approach for disposing of and/or reusing the Facility's treated groundwater while maintaining affordable and accessible waste disposal facilities and the jobs created thereby.

261. This Order requires the Discharger to implement BPTC to minimize water quality degradation, including but not limited to: implementation of the CV-SALTS Salt and Nitrate Control Programs, storage and land application of treated groundwater at agronomic rates, and phytoremediation/reuse for irrigation of treated groundwater.

262. Excluding the storage and land application of treated groundwater discussed above, this Order requires the Discharger to maintain the Facility to contain waste within WMUs, thereby preventing degradation of water quality. To the extent that there are releases from Facility WMUs, the Discharger is required to address such releases through a CAP. (See Title 27, §§ 20385, 20415, 20430.) Because this Order does not authorize any degradation in water quality via release from a WMU, it complies with the *Antidegradation Policy*.

263. For the purposes of California Code of Regulations, title 23 (Title 23), section 2200, the Facility has a threat-complexity rating of **1**-**B**, where:

a. Threat Category "1" reflects waste discharges that can cause long-term loss of receiving water beneficial uses (e.g., drinking water supply loss, water-contact recreation area closures, or posting of areas used for spawning/growth of shellfish or migratory fish); and

b. Complexity Category "B" reflects any discharger not included in Category A, with either (1) physical, chemical or biological treatment systems (except for septic systems with subsurface disposal), or (2) any Class II or Class III WMUs.

Reporting Requirements

264. This Order is also issued in part pursuant to Water Code section 13267(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.

265. 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. § 258) and State Water Board Resolution 93-62. The burdens associated with such reports are reasonable relative to the need for their submission.

266. Failure to comply with the reporting requirements under this Order and the operative MRP may result in enforcement action pursuant to Water Code section 13268.

Procedural Matters

267. All local agencies with regulatory jurisdiction over land-use, solid waste disposal, air pollution, and public health protection have approved the use of the Facility's site for the discharge of waste to land as provided for herein.

268. The Discharger, interested agencies, and 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; Title 27, § 21730.)

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

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

REQUIREMENTS

IT IS HEREBY ORDERED that previous WDRs Order R5-2016-0094 and NOA 2020-0012-DWQ-R5S001 are rescinded, except for enforcement purposes; and, pursuant to Water Code sections 13263 and 13267, that the Discharger and their agents, employees, and successors shall comply with the following:

A. Discharge Prohibitions

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

1. "**Hazardous Waste**," as defined per Title 23 section 2601, shall not be discharged at the Facility. The Department of Toxic Substances Control (DTSC) shall be immediately notified of any such discharges in violation of this Order.

2. Except as specifically authorized in **Section B.1** and **Tables 19** and **20**, "Designated Waste," as defined per Water Code section 13173, shall not be discharged at the Facility.

3. Except as expressly authorized in **Section B.1 and Table 20**, leachate and LFG condensate shall not be discharged into Facility WMUs.

4. The Dischargers shall not accept or discharge waste with pH less than or equal to 2.5 or greater than or equal to 12.0 to surface impoundments.

5. The discharge of waste to any surface impoundments that does not meet minimum freeboard / maximum liquid level elevation requirements set forth in Facility Specifications C.3, is prohibited.

6. The discharge of solid or liquid waste to surface water, surface water drainage courses, or groundwater, except as authorized herein is prohibited.

7. The discharge of waste to closed landfill WMUs, including WMUs 1-5, is prohibited.

8. The discharge of leachate or LFG condensate to WMUs 1-5 is prohibited.

9. For Compost Facility #2, the discharge, storage, processing, or composting of feedstock, additive, amendment, or compost (active, curing, or final product) outside of designated composting operation areas is prohibited.

10. For Compost Facility #2, the discharge or storage of the following wastes, is prohibited:

    a. Animal carcasses (whole or in part);

    b. Liquid wastes other than those of food origin;

    c. Medical wastes as defined in the Health and Safety Code section 117690;

    d. Radioactive wastes;

    e. Septage;

    f. Sludge, including but not limited to sewage sludge, water treatment sludge, and industrial sludge; or

    g. TWW or wood containing lead-based paint, including ash derived thereof.

11. Where wastes discharged to WMU H4 are known, suspected, or reasonably expected to have characteristics unsuitable for compliant use at Compost Facility #2 (see **Section B.3, Table 21**), WMU H4 shall be considered to be in an "Emergency Use" Operational status and discharge from WMU H4 to Compost Facility #1 or Compost Facility #2 at the Yolo County Central Landfill is prohibited.

12. Except as expressly authorized in **Section B.2, Table 20 and Section B.3, Table 21,** the discharge of Contact Compost Water from Compost Facility #2 at the Yolo County Central Landfill is prohibited.

B. Discharge Specifications

Except as otherwise expressly directed below, the Discharger shall comply with all Standard Discharge Specifications (SPRRs, § D), which are incorporated herein, as well as the following.

1. The Discharger shall only discharge waste to Facility Landfill WMUs as specified in **Table 19**, subject to the table-specific definitions provided below.

Table 19—Authorized Waste Discharges at Facility Landfill WMUs

Waste Category	WMU 1-5	WMU 6A-7
Hazardous Waste Wastes which, pursuant to Title 22, § 66261.3 et seq., must be managed in accordance with Division 4.5 of Title 22. (Title 27, § 20164; Title 23, § 2521(a).)	No	No
Municipal Solid Waste (MSW) Wastes subject to 40 C.F.R. part 258. (Title 27, § 20164.)	No	Yes
Designated Waste (1) Hazardous Wastes subject to a variance from management requirements per Health and Safety Code § 25143; and (2) Nonhazardous Waste containing constituents that, under ambient conditions, could be released in concentrations exceeding WQOs, or could reasonably be expected to affect beneficial uses. (Wat. Code, § 13173.)	No	Yes[1]
Inert Wastes Wastes that contain neither (i) hazardous wastes or soluble pollutants at concentrations in excess of WQOs, nor (ii) significant quantities of decomposable material. (Title 27, §§ 20164, 20230(a).)	No	Yes
Landfill Gas Condensate Liquid removed from a gas control system at a landfill and which are produced by the condensation of landfill gas being conveyed by that system. (Title 27, § 20164.)	No	Return Only
Leachate Liquid formed by the drainage of liquids from waste or by the percolation or flow of liquid through waste. Includes any constituents extracted from the waste and dissolved or suspended in the fluid. (Title 27, § 20164.)	No	Return Only

Waste Category	WMU 1-5	WMU 6A-7
Asbestos-Containing Waste (>1%) Wastes containing at least 1 percent of non-friable asbestos particles.	No	No
Treated Wood Waste Wood treated with chemical preservatives that are: (i) administered for protection against insects, microorganisms, fungi, and other conditions leading to decay; and (ii) registered under the Federal Insecticide, Fungicide and Rodenticide Act. (Title 22, § 67386.4.)	No	No

1. The Discharger is authorized to discharge "Contaminated Soils" and other associated wastes described in Finding 44, subject to the specific definitions provided above in **Table 19** to authorized to Facility WMUs.

2. The Discharger shall only discharge waste to Facility Surface Impoundment WMUs as specified in **Table 20**, subject to the table-specific definitions provided below.

Table 20—Authorized Waste Discharges at Facility Surface Impoundment WMUs

Waste Category	WMU F[1]	WMU G	WMU H
Hazardous Waste Wastes which, pursuant to Title 22, § 66261.3 et seq., must be managed in accordance with Division 4.5 of Title 22. (Title 27, § 20164; Title 23, § 2521(a).)	No	No	No
Municipal Solid Waste (MSW) Wastes subject to 40 C.F.R. part 258. (Title 27, § 20164.)	No	No	No

Waste Category	WMU F[1]	WMU G	WMU H
Designated Waste (1) Hazardous Wastes subject to a variance from management requirements per Health and Safety Code § 25143; and (2) Nonhazardous Waste containing constituents that, under ambient conditions, could be released in concentrations exceeding WQOs, or could reasonably be expected to affect beneficial uses. (Wat. Code, § 13173.)	Yes[1]	Yes[2]	Yes
Inert Wastes Wastes that contain neither (i) hazardous wastes or soluble pollutants at concentrations in excess of WQOs, nor (ii) significant quantities of decomposable material. (Title 27, §§ 20164, 20230(a).)	Yes[1]	Yes[2]	Yes
Landfill Gas Condensate Liquid removed from a gas control system at a landfill and which are produced by the condensation of landfill gas being conveyed by that system. (Title 27, § 20164.)	Yes[1]	Yes	Yes
Leachate Liquid formed by the drainage of liquids from waste or by the percolation or flow of liquid through waste. Includes any constituents extracted from the waste and dissolved or suspended in the fluid. (Title 27, § 20164.)	Yes[1]	Yes	Yes
Compost Contact Water Undiverted precipitation runoff generated in areas used for active composting and curing.	No	Yes	Yes

[1] The discharge of waste to the Clean Water Storage Pond, formerly known as “WMU F,” without written authorization from the Central Valley Water Board is prohibited. The authorizations described herein are effective only upon written Central Valley Water Board authorization to discharge waste to WMU F.

[2.] The Discharger is authorized to discharge “Hydroexcavated / Horizontal Boring Soils” and other associated wastes described in Findings 36 and 44, subject to the specific definitions provided above in **Table 20** to authorized to Facility WMUs.

3. The Discharger shall only discharge waste to Compost Facility #2 as specified in **Table 21**, subject to the table-specific definitions provided below.

Table 21—Authorized Waste Discharges at Compost Facility #2

Waste Category	Compost Facility #2	Compost Ponds 1-3
Hazardous Waste Wastes, including evapo-concentration of wastes, which, pursuant to Title 22, § 66261.3 et seq., must be managed in accordance with Division 4.5 of Title 22. (Title 27, § 20164; Title 23, § 2521(a).)	No	No
Municipal Solid Waste (MSW) Wastes subject to 40 C.F.R. part 258. (Title 27, § 20164.)	No	No
Designated Waste (1) Hazardous Wastes subject to a variance from management requirements per Health and Safety Code § 25143; and (2) Nonhazardous Waste containing constituents that, under ambient conditions, could be released in concentrations exceeding WQOs, or could reasonably be expected to affect beneficial uses. (Wat. Code, § 13173.)	No	No
Inert Wastes Wastes that contain neither (i) hazardous wastes or soluble pollutants at concentrations in excess of WQOs, nor (ii) significant quantities of decomposable material. (Title 27, §§ 20164, 20230(a).)	Yes	Yes
Landfill Gas Condensate Liquid removed from a gas control system at a landfill and which are produced by the condensation of landfill gas being conveyed by that system. (Title 27, § 20164.)	No	No

Waste Category	Compost Facility #2	Compost Ponds 1-3
Leachate Liquid formed by the drainage of liquids from waste or by the percolation or flow of liquid through waste. Includes any constituents extracted from the waste and dissolved or suspended in the fluid. (Title 27, § 20164.)	No	No
Compost Contact Water Undiverted precipitation runoff generated in areas used for active composting and curing.	Yes	Yes

4. The Discharger shall promptly remove and relocate all waste discharged at the Facility in violation of this Order. If unable to do so, the Discharger shall submit a report to the Central Valley Water Board explaining how the violative discharge(s) occurred and why the waste(s) cannot be feasibly removed and proposing waste acceptance program updates to prevent reoccurrences. If the infeasibility is economic, cost estimates shall be provided as part of the report.[4]

5. The Discharger shall only use the materials described in Finding 49 as an ADC for landfill WMUs, provided that other materials may be used if approved in writing by the Central Valley Water Board as meeting the standards of Title 27 section 20705.

6. The Discharger shall not apply ADC materials to areas with drainage beyond contiguous landfill WMUs unless:

    a. The Discharger demonstrates that resulting runoff will not pose a threat to surface water quality (accounting for sediment and suspended solids removal in a sedimentation basin); and

    b. The Central Valley Water Board approves the demonstration in writing.

7. Notwithstanding **Section B.1, Table 20**, **LFG Condensate** and **Leachate** from landfill WMUs shall not be discharged to other WMUs unless

[4] Submission of this letter does not constitute approval for discharge. The Central Valley Water Board may direct the removal of waste not authorized under this Order.

approved in writing by the Central Valley Water Board. (See Title 27, § 20340.)

8. Liquid wastes shall not be discharged to the Inert Recycling Facility unless approved in writing by the Central Valley Water Board.

C. Facility Specifications

1. The Discharger shall comply with all Standard Facility Specifications (SPRRs, § E).

2. The Discharger shall utilize and report all elevation data according to the vertical datum for the Facility to the North American Vertical Datum of 1988 (NAVD88). The Discharger shall describe and report any corrections made to elevation data to align with the NAVD 88 datum.

3. The Discharger shall maintain minimum freeboard of two (2) feet in all Facility surface impoundments, compost ponds, and other liquid storage ponds where liquids are not allowed to exceed the elevations summarized in **Table 10**, except as for described in **Facility Specification C.9 and C.10**.

4. Stormwater Pond 1 and 2 shall be empty on **30 September**, annually.

5. The Discharger shall record onsite rainfall to track the magnitude of storm events and shall record surface impoundment freeboard levels in each basin, as required by the operative MRP.

6. Except for as described in **Facility Specification C.7 and C.8**, all waste management units, including landfill WMUs 1-5 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.

7. Landfill WMUs constructed with Containment System EAD described in Finding 203 and 204.a shall be sited, designed, constructed, and operated to ensure that wastes will be a minimum of 5-feet groundwater separation above the highest anticipated elevation of underlying groundwater with a reduction to 3-feet below the LCRS trenches and sumps.

8. Surface Impoundment WMUs constructed with Containment System EAD described in Finding 203 and 204.b shall be sited, designed, constructed, and operated to ensure that wastes will be a minimum of 5-feet groundwater separation above the highest anticipated elevation of

underlying groundwater with a reduction to two (2) feet below the LCRS trenches and sumps.

9. The Dischargers shall return freeboard to minimum elevations described in **Table 10** within 14 days after the occurrence of a design storm event.

10. For WMU H4, when stored liquid levels reach 30.7 feet MSL (NAVD88) during the month of February, the Discharger shall commence pumping and authorized offsite discharge to ensure maintenance of minimum freeboard in WMU H4 (See Finding 162).

11. In the event that freeboard levels are not in compliance with minimum freeboard requirements described **Facility Specifications C.3 or C.9 or C.10,** the Discharger shall **immediately** notify Central Valley Water Board staff, by telephone and electronic mail, and **immediately** take measures to regain surface impoundment capacity.

12. Leachate volumes pumped from the LCRS sumps of all surface impoundments shall be measured, recorded, and reported.

13. The depth of the fluid in any LCRS sump shall be kept at the minimum needed for safe pump operation without excessive pump cycling that could damage the pump. Safe pump operation shall not result in depth of fluid exceeding 12 inches of depth on basin primary geomembrane liner. Leachate removed from a surface impoundment's primary LCRS shall be discharged to the surface impoundment from which it originated, or to a different surface impoundment authorized to receive leachate wastes and with available freeboard.

14. The Discharger shall notify the Central Valley Water Board within seven (7) days if fluid is detected in a previously dry LCRS or unsaturated zone monitoring system, or if a progressive increase is detected in the volume of fluid in a leachate collection and removal system. (Title 27, § 21710(c)(3).)

15. The Action Leakage Rate (ALR) for Class II landfill WMUs shall be calculated as their approximate area in acres times 100 gpd or fifty percent (50%) of the LCRS hydraulic capacity, whichever is less. Any new Class II landfill WMUs shall have a calculated ALR by this method as part of its design. The calculated ALR for existing landfill WMUs corresponds to the values described in **Table 2**.

16. The ALR for double-lined Class II surface impoundment WMUs shall be calculated as their approximate area in acres times 1,000 gpd or fifty percent (50%) of the LCRS hydraulic capacity, whichever is less. Any new Class II surface impoundment shall have a calculated ALR by this method

as part of its design. The calculated ALR for existing Class II surface impoundments for corresponds to the values described in **Table 2**.

17. If apparent leakage rates in the LCRS of a WMU exceeds its ALR, or indicate a progressive increase in the volume of fluid in the LCRS, or if monitoring of a lysimeter and/or gypsum moisture block unsaturated zone monitoring system for a WMU otherwise indicates a leak in the containment structure(s), the Discharger shall complete the following tasks:

    a. Immediately notify Central Valley Water Board staff by telephone and email;

    b. Submit written notification within seven (7) days that includes a time schedule to locate and repair the leak(s) in the containment system or take other actions to mitigate the exceedance;

    c. For WMUs with aggregate evaluation points, the time schedule for investigation and evaluation shall consider all available information to identify the likely source(s) of the potential leaks in the suspected WMU(s), and recommend proposed corrective action;

    d. If repairs or other actions do not result in a leakage rate less than the required ALR, the Discharger shall submit written notification within seven (7) days that includes a time schedule for replacement of the upper liner of the surface impoundment or other action necessary to reduce leachate production below the ALR; and

    e. Complete repairs, other actions, or liner replacement in accordance with the approved time schedule under “b,” “c,” or “d,” above.

18. All new WMUs shall be constructed with dedicated leakage and evaluation monitoring points.

19. WMU F: The discharge of waste to the Clean Water Storage Pond, formerly known as “WMU F” is prohibited without written authorization from the Central Valley Water Board (see Unit Construction Specification D.18). Any request by the Discharger to reconstruct WMU F as a Class II surface impoundment shall incorporate the containment system and LCRS described in **Attachment J** and demonstrate satisfaction of financial assurance requirements (see Unit Construction Specification D.19).

20. WMU G: Prior to accepting a load for discharge to WMU G with wastes suspected to have originated in areas of contamination, the Discharger shall characterize such load(s) for waste constituents. The Discharger shall collect representative samples from vehicles and analyze the

collected sample to verify the wastes are not hazardous wastes or otherwise prohibited under this Order. To comply with this requirement, the Discharger may provide documentation from waste generators who collect representative sample(s) and analyze the collected samples provide a laboratory analysis report on waste constituents. At a minimum, the required supporting documentation shall include all laboratory analytical reports (including quality assurance, quality control, and chain of custodies), a written record of the chain of custody from the time the waste leaves generator until it reaches the Facility, and a certification statement by a duly authorized representative of the waste generator that the waste is not a hazardous waste or otherwise prohibited under this Order. At all times, the Discharger is responsible for ensuring and demonstrating that the wastes the Discharger accepts for discharge to WMU G are not hazardous wastes or otherwise prohibited under this Order.

21. WMU H4: The primary purpose of WMU H4 is to support compliant water reuse at Compost Facilities #1 and/or #2, or for use as dust control on lined Facility WMUs. The secondary purpose of WMU H4 is to support emergency containment of authorized wastes described in **Section B.2, Table 20**. As such, the Discharger shall operate WMU H4 such that, under "Normal" operating conditions, wastes contained therein are suitable for compliant use at Compost Facility #1 or Compost Facility #2, or for use as dust control on lined Facility WMUs.

22. WMU H4: The Discharger shall install and maintain hydraulic pipe connections between WMU H3 and WMU H4, with backflow prevention device(s) to prevent uncontrolled flow of wastes from WMU H3 to WMU H4.

23. WMU H4: The Discharger shall install and maintain signage that is visible and discernable to employees, contractors, customers, and visitors to the Facility and that displays the current operational status of WMU H4 as "Normal," "Emergency Use," or "Out of Service."

24. WMU H4: Prior to accepting a load for discharge to WMU H4 in the "Normal" operating status, the Discharger shall take measures to ensure the wastes contained in the load are suitable for compliant use as an additive to compost feedstock, including moisture level control, at Compost Facilities #1 and/or 2, or for use as dust control on lined Facility WMUs (Refer to **Section B.3, Table 21**). The Discharger is responsible for waste characterization of all accepted load(s) and other liquids discharged to WMU H4. The Discharger shall collect representative samples from vehicles and analyze the collected sample to verify the wastes are suitable for compliant use as an additive to compost feedstock, including moisture

level control, at Compost Facility #1 or Compost Facility #2, or for use as dust control on lined Facility WMUs. To comply with this requirement, the Dischargers may provide documentation from waste generators who collect representative sample(s) and analyze the collected samples provide a laboratory analysis report on waste constituents. At a minimum, the required supporting documentation shall include all laboratory analytical reports (including quality assurance, quality control, and chain of custodies), a written record of the chain of custody from the time the waste leaves generator until it reaches the Facility, and a certification statement by a duly authorized representative of the waste generator that the waste is suitable for compliant use as an additive to compost feedstock, including moisture level control, at Compost Facility #1 or Compost Facility #2, or for use as dust control on lined Facility WMUs.

25. WMU H4: The following Emergency Use and Return to Normal Operation (EURNO) procedures are required to return WMU H4 to "Normal" operational status:

    a. NOTICE OF EMERGENCY USE: Prior to discharge of leachate, LFG condensate, or any other waste unsuitable for compliant use at Compost Facility #2 to WMU H4, the Discharger shall notify the Central Valley Water Board of emergency use and shall immediately cease discharge of water from WMU H4 to Compost Facilities #1 and 2. WMU H4 is in an "Emergency" operational status containing liquids wastes unsuitable for reuse.

    b. WASTE REMOVAL: Following removal of leachate or LFG condensate from WMU H4, the Discharger shall remove and dispose of accumulated sediment according to cleaning methods and procedures will be added as an appendix to the WMU H Operations Plan.

    c. REPORT AND CERTIFICATION: The Discharger shall prepare and submit a report to the Central Valley Water Board that summarizes cleaning and restoration activities performed on WMU H4. The report shall include a certification that WMU H4 has been cleaned to standards which support "Normal" operational status of WMU H4.

26. WMU H4: The Discharger shall allow 30 days for Central Valley Water Board review of the report and certification required by **Facility Specification C.25.c** prior to resuming Normal operation of WMU H4 and authorized discharge to Compost Facility #2.

27. WMU H4: If any waste, including waste discharged from the "tanker offload ramp," that is unsuitable for compliant use as an additive to compost

feedstock (including for moisture level control) at Compost Facilities #1 or 2, or for use as dust control on lined Facility WMUs (see **Section B.3, Table 21**), is discharged into WMU H4:

a. All liquids contained in WMU H4 shall be considered unsuitable for use as compost additive or dust control;

b. WMU H4 shall immediately be considered to be in the "Emergency" operational status; and

c. The Discharger shall immediately begin implementation of the EURNO procedures described in Facility Specification C.25.

28. WMU H4: For all discharges into WMU H4 when it is in "Emergency" operational status, including discharges from the "tanker offload ramp," the Discharger shall implement the waste characterization protocols set forth in Facility Specification C.20 for WMU G. At all times, the Discharger is responsible for ensuring and demonstrating that the wastes the Discharger accepts for discharge to WMU H4 are not hazardous wastes or otherwise prohibited under this Order.

29. The Discharger shall maintain at least two surveying monuments, installed by a Professional Land Surveyor for the purpose of locating wastes, containment structures, and monitoring facilities throughout the post-closure period. The Discharger shall provide protection for survey monuments throughout the post-closure period.

30. Release of waste constituents of the combined or individual waste streams from any treatment, storage, delivery system, or LAA associated with the Facility's discharges shall not cause or contribute to groundwater containing constituent concentrations in excess of the concentrations specified below or natural background groundwater quality, whichever is greater:

a. Constituents in concentrations that exceed either the Primary or Secondary MCLs established in Title 22, excluding salinity provided the Discharger complies with Provision N.8.

b. Contain taste or odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses, (e.g., by creating off-tastes and/or odor, producing detrimental physiological responses in human, plant, animal, or aquatic life [i.e., toxicity]).

31. For Compost Facility #1

a. The Discharger shall monitor and report the rates, volumes, and characteristics of liquid injected, liquid recirculated, and leachate generated in each anaerobic compost cell.

b. Allowable feedstocks include the materials listed in Facility Specifications C.27.

c. Within two (2) weeks of excavation of composted materials, the Discharger shall inspect the exposed portions of the anaerobic compost cell composite base liner system for damages and complete repairs prior to the discharge of additional waste materials into the anaerobic compost cells. The results for the inspections and associated repairs shall be included in semi-annual monitoring report.

d. The Discharger shall submit an annual operations and maintenance plan.

32. For Compost Facility # 2, allowable feedstocks include the following materials:

a. Vegetative agricultural materials;

b. Green materials;

c. Paper materials;

d. Vegetative food materials,;

e. Residentially co-collected food and green materials;

f. Non-vegetative food materials;

g. Biosolids (Class A, B, and/or “Exceptional Quality”) as defined by 40 CFR part 503;

h. Manure;

i. Anaerobic digestate derived from materials a.-h.; and

j. Support “Normal” operational status of WMU H4 (Facility Specification C.24).

24. For Compost Facility #2, additives may comprise no more than 30 percent combined (other than liquid food material), on a total volume basis, of the total feedstocks for any given batch of compost.

25. For Compost Facility #2, fertilizing material shall be applied at rates that will be consumed or fixed/immobilized during active composting.

26. For Composting Facility #2, authorized liquid materials shall be applied at a rate that prevents conditions leading to pollution or nuisance, as defined in Water Code section 13050.

27. For Compost Facility #2, additives and amendments shall be handled, stored, and processed in the manner specified in the technical report for Compost Facility #2 submitted 6 April 2022 (see Finding 31) or revisions thereto subject to the written approval of the Central Valley Water Board.

28. Technical Report For Compost Facility #2, all feedstocks, additives, amendments, and compost (active, curing, or final product) must not cause, threaten to cause, or contribute to conditions of pollution, contamination, or nuisance.

29. For Compost Facility #2, all feedstocks, additives, amendments, and compost (active, curing, or final product) must be located on containment structures designed and constructed to contain feedstocks, additives, amendments, and compost (active, curing, or final product).

30. For Compost Facility #2, areas used for receiving, processing, or storing feedstocks, additives, amendments, or compost (active, curing, or final product) must be designed to limit water quality degradation. Working surfaces and containment structures shall be designed, constructed, operated and maintained to:

    a. Facilitate drainage and minimize ponding by sloping or crowning pads to reduce infiltration of liquids;

    b. Reliably transmit free liquid present during storage, treatment, and processing of materials to a containment structure to minimize the potential for waste constituents to enter groundwater or surface water; and

    c. Prevent conditions that could contribute to, cause, or threaten to cause a condition of contamination, pollution, or nuisance.

31. For Compost Facility #2, all working surfaces shall be constructed to allow year-round equipment access to feedstocks, additives, amendments, and compost (active, curing, or final product) without damage to the working surfaces and containment structures. Working surface shall consist of at least one (1) of the following elements:

    a. Compacted soils, with a minimum thickness of one foot

    b. Asphaltic concrete or Portland cement concrete; or

c. An equivalent engineered alternative specified in the Compost Facility #2 Technical Report required herein (See Facility Specification C.44) approved by the Central Valley Water Board.

32. For Compost Facility #2, working surfaces shall be capable of resisting damage from the movement of equipment and weight of piles and have a hydraulic conductivity of 1.0 x 10-5 centimeters per second (cm/s) or less.

33. For Compost Facility #2, drainage ditches shall be designed, constructed, and maintained to convey all precipitation and runoff from a 25-year, 24-hour peak storm event at a minimum, have a hydraulic conductivity of 1.0 x 10-5 cm/s or less, and be lined with one of at least one (1) of the following:

    a. Compacted soils, with a minimum thickness of one foot;

    b. Asphaltic concrete or Portland cement concrete; or

    c. An equivalent engineered alternative specified in the Compost Facility #2 Technical Report required herein (See Facility Specification C.44) approved by the Central Valley Water Board.

34. For Compost Facility #2, the Discharger shall minimize the potential for piles of feedstocks, additives, amendments, or compost (active, curing, or final product) to become over-saturated and generate wastewater.

35. For compost Facility #2, areas used for receiving, processing, or storing feedstocks, additives, amendments, or compost (active, curing, or final product) shall be designed, constructed, and maintained to control and manage all run-on, runoff, and precipitation which falls onto or within the boundaries of these areas, from a 25-year, 24-hour peak storm event at a minimum.

36. For Compost Facility #2, compost ponds shall be designed, constructed, operated, and maintained to meet a hydraulic conductivity of 1.0x10-6 cm/s or less. Compost pond containment systems shall include at least one (1) of the following elements:

    a. A 40 thousandths of an inch (mil) synthetic geomembrane (60-mil if high-density polyethylene), underlain by either one foot of compacted clay or a geosynthetic clay liner installed over a prepared base;

    b. Portland cement concrete – designed to minimize cracking and infiltration – underlain by a 40-mil synthetic geomembrane (60-mil if high-density polyethylene); or

    c. An equivalent engineered alternative specified in the Compost Facility #2 Technical Report required herein (See Facility Specification C.44) approved by the Central Valley Water Board.

37. For Compost Facility #2, all compost ponds shall be designed and constructed with a pan lysimeter monitoring device under the lowest point of the compost pond, or an equivalent engineered alternative specified in the Compost Facility #2 Technical Report required herein (See Facility Specification C.44) approved by the Central Valley Water Board. The engineered alternative must provide equivalent assurance of the earliest possible detection or prevention of a release from the compost pond.

38. For Compost Facility #2, areas used for receiving, processing, or storing feedstocks, additives, amendments, or compost (active, curing, or final product) must be protected from inundation by surface flows associated with a 25-year, 24-hour peak storm event at a minimum.

39. For Compost Facility #2, the Compost Ponds shall be managed to minimize breeding mosquitoes including, but not limited to, the following measures:

    a. Implementation of an erosion control program to ensure that small coves and irregularities are not created around the perimeter of the water surface in the Compost Ponds;

    b. Minimization of the presence of weeds through control of water depth, a shoreline synthetic liner, harvesting, or herbicides;

    c. Regular removal of dead algae, vegetation, and debris from the water surface; and

    d. Coordination with the local mosquito abatement or vector control district to supplement the measures described above in cases where other methods are infeasible.

40. For Compost Facility #2, compost pond berms shall be designed, constructed, and maintained to prevent run-on and run-off from a 25-year, 24-hour peak storm event at a minimum. Berms must be adequately protected from erosion, and must not cause, threaten to cause, or contribute to conditions resulting in contamination, pollution, or nuisance.

41. For Compost Facility #2, compost ponds shall be designed, constructed, and maintained to prevent conditions contributing to, causing, or threatening to cause contamination, pollution, or nuisance, and must be capable of containing, without overflow or overtopping (taking into consideration the crest of wind-driven waves and water reused in the composting operation), all runoff from the working surfaces in addition to precipitation that falls into the detention pond from a 25-year, 24-hour peak storm event at a minimum, or equivalent alternative approved by the Central Valley Water Board.

42. For Compost Facility #2, the compost ponds shall be managed to maintain dissolved oxygen concentration in the upper zone (one foot) of at least 1.0 milligram per liter (mg/L).

43. For Compost Facility #2, drainage conveyance systems shall be designed, constructed, and maintained for conveyance of wastewater from the working surface in addition to direct precipitation from a 25-year, 24-hour peak storm event at a minimum. Ditches shall be properly sloped to minimize ponding and kept fee and clear of debris to allow for continuous flow of liquid. Ditches shall be adequately protected from erosion, and must not cause, threaten to cause, or contribute to conditions resulting in contamination, pollution, or nuisance. Ditches shall be inspected and cleaned out annually prior to the wet season.

44. For Compost Facility #2, the Discharger shall submit a technical report which describes general Compost Facility #2 information including, but not limited to, site conditions, design, the design of all working surfaces, berms, and conveyance ditches for the storage and/or treatment of feedstocks, additives, amendments, and compost (active, curing, or final product), along with information demonstrating that these containment structures comply with appropriate design specifications of these WDRs. For each operational area, the technical report shall include detailed as-built plan drawings, specifications, and descriptions for all working surfaces or other containment structures and drainage/conveyance systems. In addition, the technical report shall contain a description of, and location data for, ancillary facilities including roads, waste handling areas, detention ponds, buildings, and equipment cleaning facilities. The operative technical report for Compost Facility #2 was submitted on 6 April 2022 (see Finding 31); any revisions thereto are subject to the written approval of the Central Valley Water Board.

45. For Compost Facility #2, the Discharger shall submit for Central Valley Water Board review and approval a Water and Wastewater Management Plan describing how water and wastewaters will be managed and include a description of and/or plan illustrating all precipitation controls, containment structures, (i.e., conveyance systems for wastewater and detention ponds), best management practices, and contingency plan including:

    a. A wastewater conveyance system for controlling run-on and runoff from the working surfaces;

b. A description of how water and wastewater is obtained and used in the compost process;

c. A description of how the operation collects and manages wastewater. Information may include, but is not limited to, quantity that is reused back into the process, description of wastewater treatment systems, other water quality permits, and best management practices (i.e. covering materials) that reduce the production of wastewater;

d. A description of the operation and maintenance of the Compost Ponds; and

e. A water balance demonstrating compliance with the requirements in these WDRs for Compost Facility #2.

46. Compost Facility #2 shall be managed in accordance with the Water and Wastewater Management Plan.

47. For Compost Facility #2, the Discharger shall submit an Operations and Monitoring Plan which includes procedures for the following activities:

a. An annual survey of the operation prior to the rainy season to assure that the site has been graded and prepared for the rainy season to eliminate and minimize erosion and ponding.

b. An inspection and maintenance program undertaken regularly by the Discharger during composting operations, such as inspection of the containment structures for evidence of leachate, ponding, or surface failures such as cracking, spilling, or subsidence.

c. A description of the means by which the composting operation is conducted in a manner that does not cause, threaten to cause, or contribute to conditions of contamination, pollution, or nuisance.

d. A description of the operations during periods of wet weather to ensure integrity of the containment systems.

48. For Compost Facility #2, the Discharger shall maintain containment structures (e.g. berms, pads, detention ponds, tanks, run-on/run-off control structures, etc.) and monitoring systems (e.g. groundwater monitoring devices) in good working order.

49. The approved technical report (Facility Specification C.44), approved Water and Wastewater Management Plan (Facility Specification C.45), and approved Operations and Monitoring Plan (Facility Specification C.47) required herein are the operative documents for Compost Facility #2. At

all times, the Discharger shall follow the approved documents. For changes in facilities or operations at Compost Facility #2, the Discharger is responsible for preparation of updates to the respective documents and submission to the Central Valley Water Board for further review and approval.

50. For Compost Facility #2, at least 90 days prior to any new construction of any working surfaces, detention ponds, berms, ditches, or any other water quality protection containment structure, the Discharger shall submit a technical report with design information for review and written approval by the Central Valley Water Board. The design information shall include water balance calculations for detention ponds, design of wastewater conveyance features, liner materials and thicknesses, and rationale for liner system design. The technical report shall ensure testing and quality assurance of liner materials and compacted soils in accordance with commonly accepted engineering practices, American Society for Testing and Materials test methods, and/or other appropriate material standards.

51. For Compost Facility #2, the Discharger shall submit a post-construction report to the Central Valley Water Board within 60 days of completing all construction activities associated with all applicable containment and monitoring structures. The post-construction report shall contain as-built plans and specifications to document that containment and monitoring structures were properly constructed and tested.

52. For Compost Facility #2, at least 90 days prior to ceasing composting operations, the Discharger shall submit a Site Closure Plan to the Central Valley Water Board for review and written approval

53. For Compost Facility #2, the Discharger shall notify the Central Valley Water Board, CalRecycle, and the Local Enforcement Agency in writing at the conclusion of the site closure activities that describes closure in accordance with the Site Closure Plan and Central Valley Water Board requirements.

D. Landfill and Surface Impoundment, Unit Construction Specifications

Except as otherwise expressly directed below, the Discharger shall comply with all Standard Construction Specifications and Standard Storm Water Provisions (SPRRs, §§ D, L), as well as the following.

1. Construction of landfill WMUs 7I, 7J, 7K, 7L, 7M, 7N, 7O, and 7P is prohibited unless and until the Discharger initiates authorized alternatives

to the discharge of wastes relating to the activities described in Finding 69, 70, 71, and 72.

2. New landfill WMUs shall be constructed with base elevations greater than 22 feet msl (NAVD 88).

3. Containment structures and precipitation and drainage control systems shall be constructed and maintained to prevent, to the greatest extent possible, inundation, erosion, slope failure, and washout under 1,000-year, 24-hour precipitation conditions.

4. New and existing Class III landfill WMUs 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)].

5. All LCRS pumps shall be capable of removing design volumes of leachate and/or 150 percent of the Action Leakage Rate flow, whichever is greater.

6. The Discharger shall not commence liner construction (other than preparatory earthmoving and grading) until the Central Valley Water Board has approved in writing all necessary construction plans, specifications, and construction quality assurance (CQA) plans related to the new liner(s).

7. Base liners slope liners, trenches, and sumps for **new or retrofitted landfill WMUs** shall be constructed with the containment system and LCRS depicted in in **Finding 206 and Attachment I** and Operations layer described in **Unit Construction Specification D.8.**

8. Landfill WMUs shall incorporate an operations layer consisting of the following configurations:

    a. One (1) foot of soil; or

    b. Two (2) feet of ground wood with particle size of 6-inch minus; or

    c. Three (3) feet of shredded tires

9. Shredded tires used in Landfill WMU operation layers shall be placed in a manner to limit the potential for internal heating of fill materials and have characteristics consistent with tire-derived aggregates described in Standard Practice for Use of Scrap Tires in Civil Engineering Applications, ASTM D6270-20, including, but not limited to the following:

a. Be capable of being paced and compacted with conventional construction equipment;

b. Be free of foreign materials such as oil, grease, gasoline, diesel fuel, metals, and organic matter such as fragments of wood, woodchips, or top-soil, or any other materials, that could create a fire hazard. In no case shall tire-derived aggregates contain the remains of tires that have been subjected to a fire; and

c. Be free of materials which represent a risk of damage to containment system elements, including, but not limited to puncture, tear, or heat damage to installed containment system elements.

10. New or retrofitted Class II surface impoundment liner systems shall consist of a bottom liner system with the following minimum components, from the top down, as depicted in **Attachment J**;

    a. A primary 60-mil High Density Polyethylene (HDPE) geomembrane.

    b. A geonet blanket LCRS drainage layer.

    c. A secondary 60-mil HDPE geomembrane.

    d. A one-foot thick compacted soil layer with maximum hydraulic conductivity of 1.0x10E-07 cm/s.

11. New or retrofitted Class II surface impoundment liner systems shall consist of a side slope liner system as depicted in **Attachment J**.

12. New or retrofitted Class II surface impoundments shall have at least one downgradient groundwater monitoring well as part of their design. The well shall be installed and sampled prior to acceptance of waste in the impoundment and shall be monitored in accordance with groundwater detection monitoring requirements in the operative MRP and any subsequent revisions thereto.

13. Class II surface impoundments shall have an unsaturated zone monitoring system beneath the sump area of the impoundment.

14. The Discharger shall periodically remove accumulated solids from each Class II surface impoundments to maintain minimum freeboard requirements and to maintain sufficient capacity for surface impoundment leachate and for the discharge of wastes. Prior to removal of accumulated

solids, the Discharger shall collect samples for analysis, characterization, and classification pursuant to Title 27 sections 20200-20230. The rationale for the sampling protocol used, the results of the sampling, and the rationale for classification of the solids shall be submitted to Central Valley Water Board for review. Non-hazardous solids may be disposed of on-site. Solids meeting the definition of Dewatered Sludge may be disposed on-site in accordance with the requirements of Title 27 section 20220(c). Solids classified as designated waste must be disposed of at an authorized facility.

15. During WMU H4 construction, and until all WMU H4 subgrade fill is placed to final design elevations along the toe of the common berm, the Discharger shall monitor earthworks for signs of slope distress or movement.

16. During WMU H4 construction, and until all WMU H4 subgrade fill is placed to final design elevations along the toe of the common berm, the Discharger shall consider taking measures to minimize hydrostatic forces on the common berm between WMU H3 and WMU H4 due to liquids in WMU H3 by minimizing liquids stored in WMU H3.

17. The total live load, including live load surcharge due to vehicles and construction equipment, on the common berm between WMU H3 and WMU H4 shall not exceed 200 psf.

18. Central Valley Water Board written authorization is required before the Discharger may construct and discharge wastes to WMU F and WMU H4.

19. As part of any proposed design for a new or retrofitted landfill or surface impoundment WMU, the Discharger shall include a demonstration of satisfaction of financial assurance requirements for new or retrofitted WMUs, as described in Financial Assurance Specification J.2.

20. The Discharger shall not implement changes to approved liner designs in **Attachment I** or **Attachment J** until the Central Valley Water Board approves of the proposed changes in writing, provided that the proposed changes:

    a. Previously approved components are not eliminated;

    b. The engineering properties of previously approved components are not substantially reduced; and

c. The proposed liner system will result in water quality equal to or greater than the design(s) prescribed per Title 27 section 20310 et seq., and this Order.[5]

E. Compost Facility #2, Unit Construction Specifications

Except as otherwise expressly directed below, the Discharger shall comply with all Standard Construction Specifications and Standard Storm Water Provisions (SPRRs, §§ D, L), which are incorporated herein, as well as the following:

1. Areas used for receiving, processing, or storing feedstocks, additives, amendments, or compost (active, curing, or final product) shall be designed to limit water quality degradation. Working surfaces and containment structures shall be designed, constructed, operated and maintained to:

   a. Facilitate drainage and minimize ponding by sloping or crowning pads to reduce infiltration of liquids;

   b. Reliably transmit free liquid present during storage, treatment, and processing of materials to a containment structure to minimize the potential for waste constituents to enter groundwater or surface water; and

   c. Prevent conditions that could contribute to, cause, or threaten to cause a condition of contamination, pollution, or nuisance.

2. Working surfaces shall be constructed to allow year-round equipment access to feedstocks, additives, amendments, and compost (active, curing, or final product) without damage to the working surfaces and containment structures.

3. The Discharger shall minimize the potential for piles of feedstocks, additives, amendments, or compost (active, curing, or final product) to become over-saturated and generate wastewater.

4. Areas used for receiving, processing, or storing feedstocks, additives, amendments, or compost (active, curing, or final product) shall be designed, constructed, and maintained to control and manage all run-on,

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[5] Proposed changes that do not meet these criteria are considered “material,” and will require the revision of this Order.

runoff, and precipitation which falls onto or within the boundaries of these areas, from a 25-year, 24-hour peak storm event at a minimum.

5. Areas used for receiving, processing, or storing feedstocks, additives, amendments, or compost (active, curing, or final product) shall be protected from inundation by surface flows associated with a 25-year, 24-hour peak storm event at a minimum.

6. Working surfaces shall have a hydraulic conductivity of 1.0x10E -05 centimeters per second (cm/s) or less and consist of at least one of the following elements:

    a. Compacted soils, with a minimum thickness of one (1) foot;

    b. Asphaltic concrete or Portland cement concrete; or

    c. An equivalent engineered alternative specified in a technical report and approved by the Central Valley Water Board.

7. Drainage ditches shall be designed, constructed, and maintained to convey all precipitation and runoff from a 25-year, 24-hour peak storm event at a minimum, have a hydraulic conductivity of 1.0x10E -05 cm/s or less, lined with one of the following:

    a. Compacted soils, with a minimum thickness of one foot;

    b. Asphaltic concrete or Portland cement concrete; or

    c. An equivalent engineered alternative specified in a technical report and approved by the Central Valley Water Board.

8. Detention ponds containment systems shall be designed, constructed, operated, and maintained to such that the constructed hydraulic conductivity is 1.0x10E -06 cm/s or less.

9. Detention pond containment systems shall consist of at least one (1) of the following containment systems, described top to bottom:

    a. Geomembrane (minimum 60-mil thickness for HDPE or 40-mil thickness for other materials); underlain by one (1) foot of compacted clay or GCL; underlain by a prepared base; or

    b. Portland cement concrete – designed to minimize crack and infiltration; underlain by a geomembrane (minimum 60-mil thickness

for HDPE or 40-mil thickness for other materials); underlain by a prepared base.

c. An equivalent engineered alternative approved by the Central Valley Water Board.

10. Detention ponds shall be designed and constructed with a pan lysimeter monitoring device under the lowest point of the detention pond.

11. The precipitation that falls on the curing compost area is Contact Compost Water.

F. Groundwater Extraction Treatment System & LAA

1. The air stripper system shall be operated and maintained for maximum efficiency to remove all VOCs from groundwater prior to discharge.

2. Agronomic rates: Hydraulic loading of irrigation water on the active parcel shall be at reasonable agronomic rates so as to minimize the potential for percolation of irrigation water below the root zone (i.e. deep percolation)

G. Groundwater / Stormwater Storage Reservoir

1. The Discharge of contact stormwater, designated wastes, or any wastes other than as authorized by G.2 and G.3 below, is prohibited.

2. The Discharger is authorized to discharge treated GETS Water to the Groundwater / Stormwater Storage Reservoir.

3. The Discharger is authorized to discharge non-contact stormwater to the Groundwater / Stormwater Storage Reservoir.

4. The Groundwater / Stormwater Storage Reservoir, including associated facilities, shall be operated and maintained in accordance with the Operation & Maintenance Plan submitted pursuant to Provision N.3.

5. The Groundwater / Stormwater Storage Reservoir shall be operated to minimize vectors and odors.

6. Groundwater / Stormwater Storage Reservoir shall be designed and constructed to retain the total volume of precipitation from a wet season with a 100-year return period.

7. The Discharger shall install and maintain a staff gauge for measuring water levels in the Groundwater / Stormwater Storage Reservoir. The staff gauge shall depict water level in in both depth of water (feet) and

water elevation MSL (NAVD88). A Professional Land Surveyor shall tie the staff gauge to the Facility surveying monuments required by these WDRs.

8. Water levels in the Groundwater / Stormwater Storage Reservoir shall be maintained to limit liquid levels to less than 16.0 feet MSL (NAVD88). When liquid levels exceed 16.0 feet MSL (NAVD88), the Discharger shall implement measures to return liquid levels to 16.0 feet MSL (NAVD88). In no case shall the Discharger allow liquid levels in the Groundwater / Stormwater Storage Reservoir to exceed 22.0 feet MSL (NAVD88).

H. Soil Borrow Site

1. The Discharger shall install and maintain a staff gauge for measuring water levels in the Soil Borrow Site. The staff gauge shall depict water level in in both depth of water (feet) and water elevation MSL (NAVD88). A Professional Land Surveyor shall tie the staff gauge to the Facility surveying monuments required by these WDRs.

2. Accumulated stormwater in the Soil Borrow Site shall be maintained to limit liquid levels to less than (15) feet MSL (NAVD88).

I. Closure & Post-Closure Maintenance Specifications

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

1. The Discharger shall submit a Final or Partial Final Closure and Post Closure Maintenance Plan (CPMP), in accordance with section G of the SPRRs, at least two years prior to the proposed closure of any portion of any landfill.

2. The Discharger shall close landfills with the final cover components proposed in the operative Closure Plan, as approved per **Finding 2228** and **Attachment K**.

3. The Discharger shall obtain revised WDRs prior to closure of any landfill with a final cover other than the one(s) approved herein.

4. Postclosure land uses which may involve construction of fixed works, including structural improvements, on landfill cover systems, including installation of photovoltaic systems, shall meet the requirements and conditions set forth in Title 27, § 211190.

5. The Discharger shall submit proposed postclosure land uses changes which may involve construction of fixed works, including structural improvements, on landfill cover systems, including installation of photovoltaic systems to the Central Valley Water Board for review and approval.

6. During or after final cover installation the Discharger may perform minor modifications to problematic areas of the final cover, provided that: (a) the barrier layer of the final cover (e.g., geomembrane, GCL and/or compacted clay layer) remains intact; and (b) the Central Valley Water Board approves of such modifications.

7. If the final cover incorporates a geomembrane barrier, all edges of the final cover shall be sealed by connecting to the liner.

8. The Discharger shall apply a volume of seed, binder and nutrients to the vegetative/erosion-resistant layer sufficient to establish the vegetation proposed in the final closure plan. The Discharger shall also install any necessary erosion and sedimentation controls to protect vegetation while it is being established.

9. Critical interfaces of the final cover shall be laboratory-tested to ensure minimum design shear strength. The results of such testing shall be reported to the Central Valley Water Board as part of the Construction Quality Assurance (CQA) Report.

J. 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. **By 1 January 2026**, the Discharger shall prepare and submit a revised Water Release Corrective Action Plan cost estimate.

2. The Discharger shall maintain with CalRecycle assurances of financial responsibility for the amounts specified for closure, post closure maintenance, and the greater of the non-water or the water release corrective action plan cost estimates as summarized in **Finding 242,** adjusted annually for inflation.

3. **By 1 July 2026**, the Discharger shall make additional deposit(s) to financial assurance mechanisms necessary to ensure financial assurance mechanisms are funded for the cost estimates updated pursuant to Financial Assurances J.2, adjusted annually, in at least the minimum

amounts required pursuant to Subchapter 3, Article 1, §22225 and §22226.

4. 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 June**.

5. If CalRecycle determines that the submitted 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.

6. The operative Preliminary CPMP shall include all components required per Title 27, section 21769(c), and include a lump sum cost estimate for:

    a. Completion of all actions required for closure of each WMU;

    b. Preparation of detailed design specifications;

    c. Development of a Final CPMP; and

    d. Undertaking at least 30 years of post-closure maintenance.

7. Whenever changed conditions increase the estimated costs of closure and post-closure maintenance, the Discharger shall promptly submit an updated CPMP to the Central Valley Water Board, CalRecycle and the LEA.

K. Monitoring Requirements

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:

1. The Discharger shall comply with all provisions of the separately issued Monitoring R5-20XX-XXXX and any subsequent revisions thereto (operative MRP).

2. The Discharger shall implement the Water Quality Protection Standard (WQPS) set forth in the operative MRP (see also Title 27, § 20390); and

shall verify the compliance of each WMU with each subsequent monitoring event.

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

4. For each WMU subject to corrective action, the Discharger shall implement a corrective action monitoring program (CAMP) in accordance with Title 27, sections 20385, 20415 and 20430, and Section I of the SPRRs.

L. Reporting Requirements

In addition to those Standard Provisions pertaining to notification and reporting obligations (see, e.g., §§ K.1-2, K.6, K.8-10), the Discharger shall comply with the following provisions.

1. The Discharger shall comply with all MRP provisions pertaining to the submittal and formatting of reports and data.

2. **Reports for the Yolo County Central Landfill** shall be submitted electronically via the State Water Board's GeoTracker Database (https://geotracker.waterboards.ca.gov). After uploading, the Discharger shall notify Central Valley Water Board staff via email at CentralVallySacramento@WaterBoards.ca.gov. The following information shall be included in the body of the email:

Attention:	Title 27 Compliance & Enforcement Unit
Report Title:	[Report Title]
GeoTracker Upload ID:	L10001819539
Facility:	Yolo Central Landfill
County:	Yolo County
CIWQS Place ID:	213885

3. **Reports for Compost Facility #2** shall be submitted electronically via the State Water Board's GeoTracker Database (https://geotracker.waterboards.ca.gov). After uploading, the Discharger shall notify Central Valley Water Board staff via email at CentralVallySacramento@WaterBoards.ca.gov. The following information shall be included in the body of the email:

Attention:	Title 27 Compliance & Enforcement Unit
Report Title:	[Report Title]
GeoTracker Upload ID:	T10000017497

Facility: Yolo Central Landfill Compost Facility #2
County: Yolo County
CIWQS Place ID: 875733

4. All technical reports submitted under this Order shall be prepared by, or under the direct supervision of, a California-licensed civil engineer or engineering geologist or a Registered Geologist where allowed by law (See Business and Professions Code §§ 7800 – 7887). For the purposes of this section, a "technical report" is a report incorporating the application of scientific or engineering principles.

M. Time Schedule

The Discharger shall complete the following tasks in accordance with the specified deadlines:

Table 22—Time Schedule

Item No.	Category	Task	Deadline
1.	Construction	Submit construction and design plan(s) for review and approval in accordance with Section D of this Order, and Section F of the SPRRs.	90 Days Prior to Proposed Construction
2.	Construction	Submit construction report(s) for review and approval upon completion demonstrating construction was in accordance with approved construction plans and Section F.27 of the SPRRs.	60 Days Prior to Proposed Discharge to Unit(s)
3.	Final Closure	Submit final or partial final closure and post-closure maintenance plan (PCMP), design plans, and CQA plan for review and approval, in accordance with Section E of this Order and Section G of the SPRRs.	2 Years Prior to Closure
4.	Financial Assurances	Prepare and submit a revised Water Release Corrective Action Plan cost estimate	1 January 2026

Item No.	Category	Task	Deadline
5.	Financial Assurances	Additional deposit(s) to financial assurance mechanisms	1 July 2026
6.	Operations Plan	Annual Operations Plan, Surface Impoundments	1 October, Annually
7.	Operations Plan	Annual Operations Plan, Compost Facility #1	1 October, Annually
8.	Sample Collection and Analysis Plan	Submit an updated SCAP for all Facility activities	1 July 2026
9.	ROWD / Workplan	ROWD for operation of Inert Recycling Facility OR Workplan for clean closure of Inert Recycling Facility	26 April 2026
10.	Stormwater Improvements	Implement recommendations made in the March 2025 water balance	30 September 2025
11.	Corrective Action, Groundwater Elevation Control	Workplan for full buildout of the groundwater extraction and treatment system	31 December 2025
12.	Corrective Action, Groundwater Elevation Control	Workplan for establishing the elevation of the base of waste and elevation of first encountered groundwater beneath WMUs 1 -5	31 December 2025
13.	Corrective Action, Groundwater Elevation Control	Workplan to update the 2019 EFS	30 June 2026

Item No.	Category	Task	Deadline
14.	Installation Report / ROWD	Final construction report of installation and completion of the full build-out of the groundwater extraction and treatment system OR ROWD which requests the Central Valley Water Board to consider potential updates to these WDRs relating to groundwater elevation control	365 days after approval of Item 13
15.	Corrective Action, Groundwater Elevation Control	Submit an Operations / Contingency Plan for returning groundwater elevations to minimum authorized groundwater separation distance.	31 December 2026

N. Other Provisions

1. The Discharger shall maintain at the Facility copies of this Order (including all attachments), the operative Monitoring & Reporting Program (i.e., MRP R5-20XX-XXXX and any revisions thereto), and the SPRRs. These materials shall be made available to all operating personnel, who shall be familiar with the contents of such materials.

2. The Discharger shall comply with all applicable provisions of Title 27 (including those provisions not specifically referenced herein).

3. By **1 October** of each year, the Discharger shall submit an Annual Impoundments Operation Plan for operating the surface impoundments, compost ponds, stormwater ponds, and Groundwater / Stormwater Storage Reservoir over the upcoming 12-month period. The Annual Impoundments Operations Plan shall identify the available capacity of each surface impoundment listed in **Table 1** for the upcoming 12-month period. For each surface impoundment listed in **Table 1**, the Annual Impoundments Operations Plan shall specify operation levels and waste input quantities permitted each month based on anticipated precipitation and on past precipitation conditions for the year. If solids are planned to be moved around within or removed from a surface impoundment listed in **Table 1**, then this information shall be depicted in the Annual Impoundments Operations Plan. The Annual Impoundments Operations

Plan shall also describe specific procedures for removal and disposal of accumulated sediment and subsequent cleaning methods and procedures to support WMU H EURNO procedures described by these WDRs (see Facility Specification C.25.b). The Annual Impoundments Operations Plan shall also report all WMU H4 EURNO activities employed by the Discharger.

4. By **1 October of each year**, the Discharger shall submit an annual Operations Plan for Compost Facility #1 which considers and addresses the elements described in Title 27, § 21760(b).

5. By **1 July 2026** the Discharger shall submit a SCAP, as required by SPRR Standard monitoring Specification I.7, which updates, combines, and aligns the Landfill and GETS SCAP (Finding 32) and the Compost Facility #2 SCAP (Finding 33).

6. By **1 April 2026** the Discharger shall submit either of the following technical reports regarding the Inert Recycling Facility for Central Valley Water Board consideration:

    a. A Report of Waste Discharge for the construction and operation of Class II surface impoundment(s) for drilling mud wastes pursuant to Title 27, § 21710; or

    b. A workplan for closure of the Inert Recycling Facility pursuant to Title 27 closure requirements for surface impoundments (Title 27, § 221400).

7. By **30 September 2025**, the Discharger shall implement the following measures as recommended in the water balance:

    a. Install a gate, valve, or similar measure approved by a Registered Civil Engineer to prevent water from the Groundwater/Stormwater Reservoir from backing up into the drainage swale along the eastern Facility boundary that separates the Facility from the City of Davis WWTP.

    b. Install measure(s) to direct non-contact stormwater runoff from closed Landfill WMUs to the Borrow Site.

8. The Discharger shall comply with the applicable provisions of the Salt and Nitrate Control Programs adopted in Resolution R5-2018-0034 (as revised per Resolution R5-2020-0057) to address ongoing salt and nitrate accumulation in the Central Valley developed as part of the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) initiative.

9. By **31 December 2025**, submit a workplan for full buildout of the groundwater extraction and treatments system as presented in the 2019 EFS.

10. By **31 December 2025**, submit for Central Valley Water Board review and written approval a workplan for conducting and completing a file review and investigation to establish the elevation of the base of waste and elevation of first encountered groundwater beneath WMUs 1 -5. The review and investigation shall account for change in datum, subsidence, settlement, and any other relevant factors.

11. By **30 June 2026**, submit for Central Valley Water Board review and written approval a workplan to update to the 2019 EFS to consider WMUs 1, 2, 3, 4, and 5 and re-evaluation of the groundwater extraction system to operate in a manner which seeks to minimize the volume of groundwater extracted requiring storage in the Groundwater / Stormwater Storage Reservoir, considers the effect of infiltration through the Groundwater / Stormwater Storage Reservoir and influences relating to the depth of water in the Borrow Site , and all relevant additional data collected since completion of the 2019 EFS.

12. **Within 365 days of** Central Valley Water Board written approval of the workplan required by Provision N.11 and based on the result of Provision N.10, the Discharger shall either:

    a. Submit a final construction report of installation and completion of the full build-out of groundwater extraction and treatments system pursuant to an approved workplan submitted pursuant to Provision N.10; or

    b. Submit for Central Valley Water Board review and written approval, a completed application for updated WDRs and an accompanying ROWD pursuant to Water Code Section 13260 and Title 27 Section 21710(a) containing relevant update information for the Facility, including evidence developed pursuant to Provisions N.10 and N.11 and which requests the Central Valley Water Board to consider potential updates to these WDRs. The ROWD shall include the following elements:

        i. An alternative minimum numeric groundwater separation distance to the prescriptive standard, and which will afford at least equivalent water quality protection to the prescriptive 5’ minimum groundwater separation. The Discharger shall include a proposal for a specific means for evaluating the

separation distance between groundwater and the base of waste in WMU1, WMU 2, WMU 3, WMU 4, and WMU 5, each. The proposed alternative minimum numeric groundwater separation distance shall be supported by data and analyses of historic groundwater elevations with respect to the as-built elevations of the base of waste in WMUs 1-5 and shall consider capillary forces (Finding 139); and

ii. Evaluation and analysis of the available evidence and data, including information developed pursuant to Provision N.10 for any request for consideration of changes to requirements set forth in these WDRs relating to the Groundwater / Stormwater Storage Reservoir or the Borrow.

13. By **31 December 2026** submit for Central Valley Water Board review and written approval, an operations / contingency plan which the Discharger will implement when the separation distance between groundwater and the base of waste in any WMU is below minimum authorized groundwater separation distance.

LIST OF ATTACHMENTS

Attachment A—Facility Location Map
Attachment B—-Facility Map
Attachment C—Borrow Site
Attachment D---GETS and Monitoring Point
Attachment E—Facility Leachate Collection and Removal System
Attachment F—Compost Facility #2 Map
Attachment G—Area Wells
Attachment H—Facility Stormwater Drainage
Attachment I—Landfill Floor Containment System
Attachment J—Surface Impoundment Containment System
Attachment K—Landfill Final Cover System

Standard Provisions and Reporting Requirements for Non-Hazardous Discharges of Waste Regulated under Subtitle D and/or Title 27, December 2015 Edition (SPRRs or Standard Provisions)

Information Sheet

Monitoring and Reporting Program R5-20XX-XXXX (separate document)

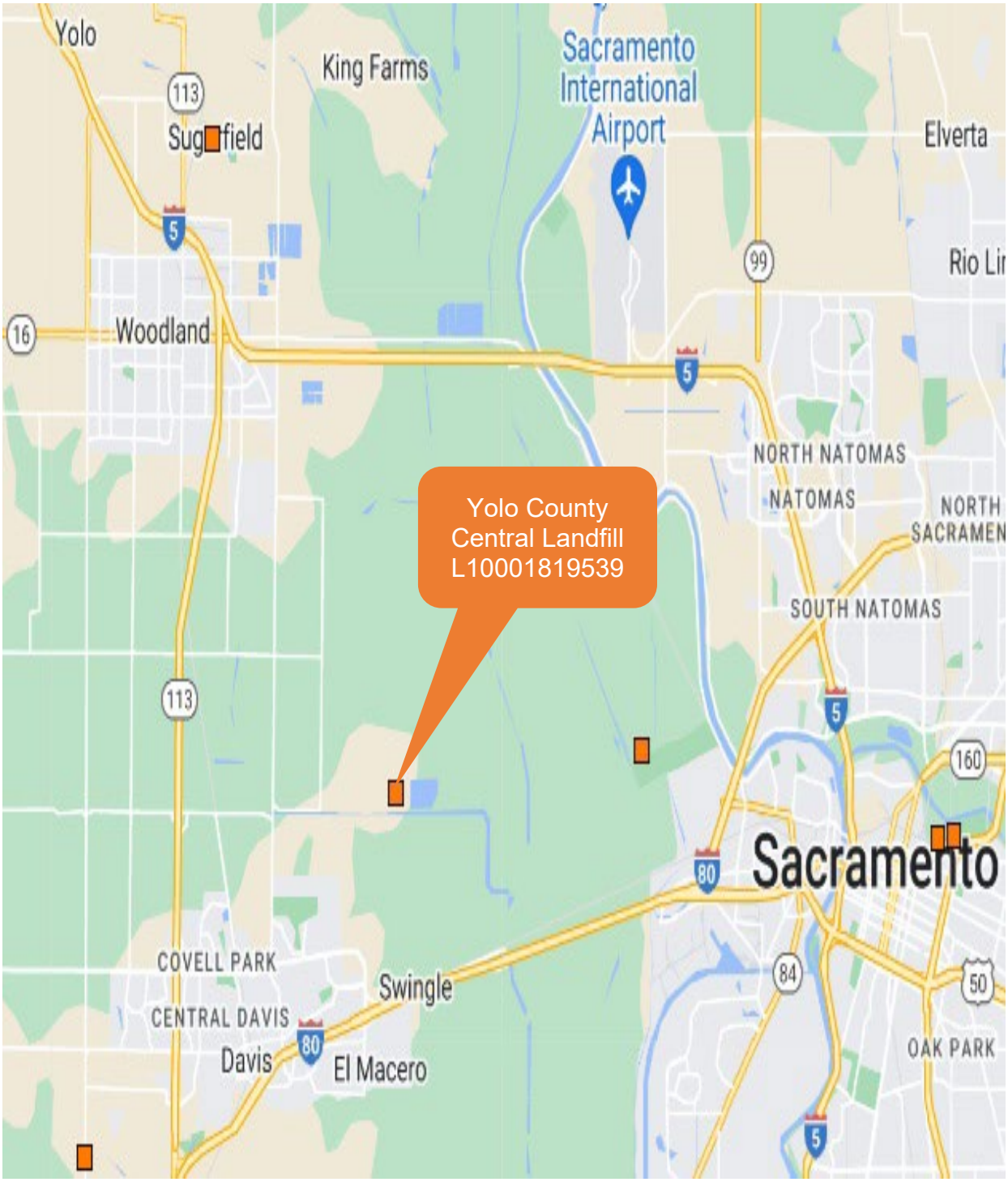
ENFORCEMENT

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

ADMINISTRATIVE REVIEW

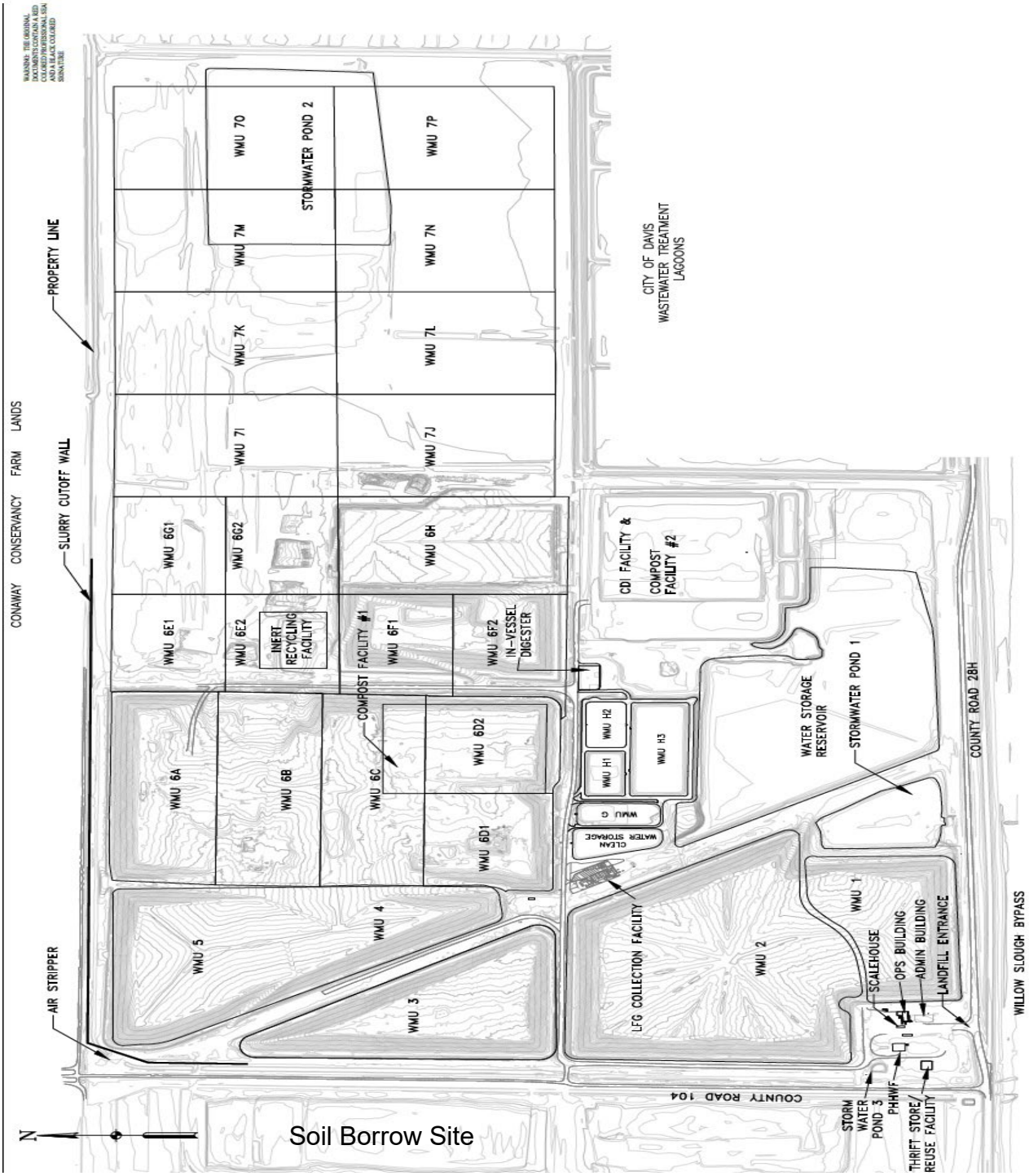
Any person aggrieved by this Central Valley Water Board action may petition the State Water Board for review in accordance with Water Code section 13320 and California Code of Regulations, title 23, section 2050 et seq. To be timely, the petition must be received by the State Water Board by 5:00 pm on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

ATTACHMENT A—FACILITY LOCATION MAP



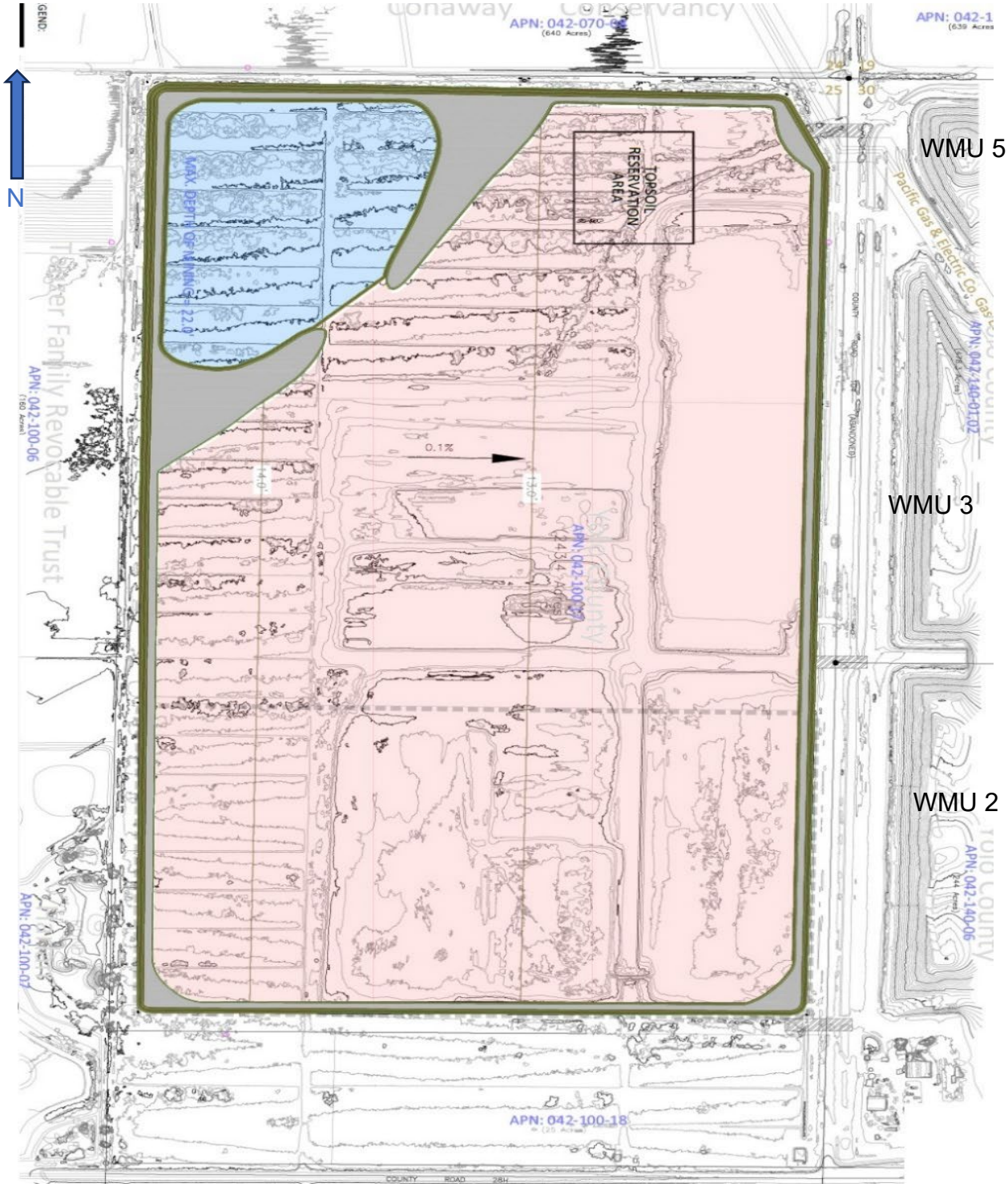
Yolo County Central Landfill Site Location Map, NTS.

ATTACHMENT B—FACILITY MAP



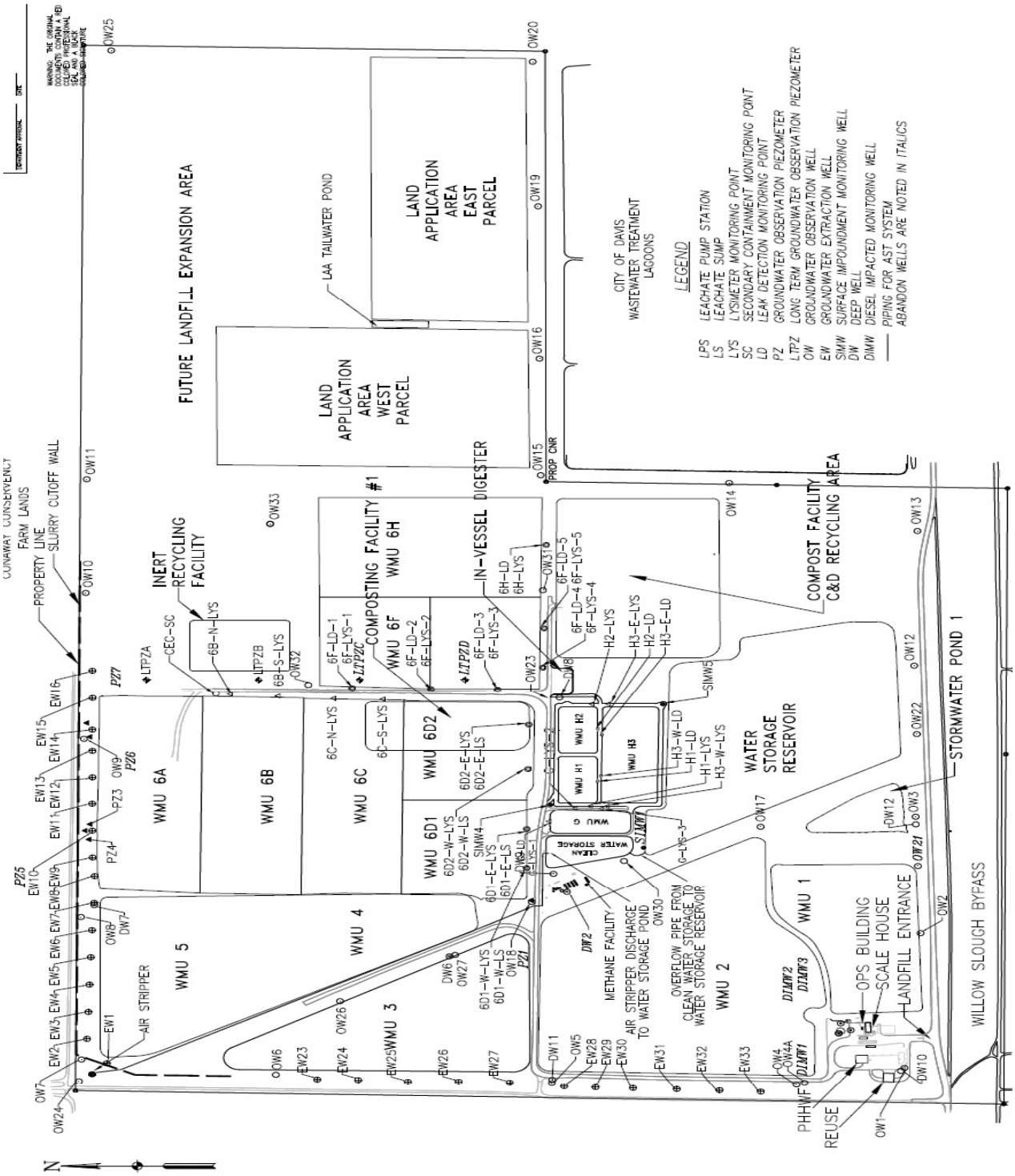
Yolo County Central Landfill Site Map, NTS.

ATTACHMENT C—BORROW SITE



Yolo County Central Borrow Site Map, NTS

ATTACHMENT D—GETS AND MONITORING POINTS



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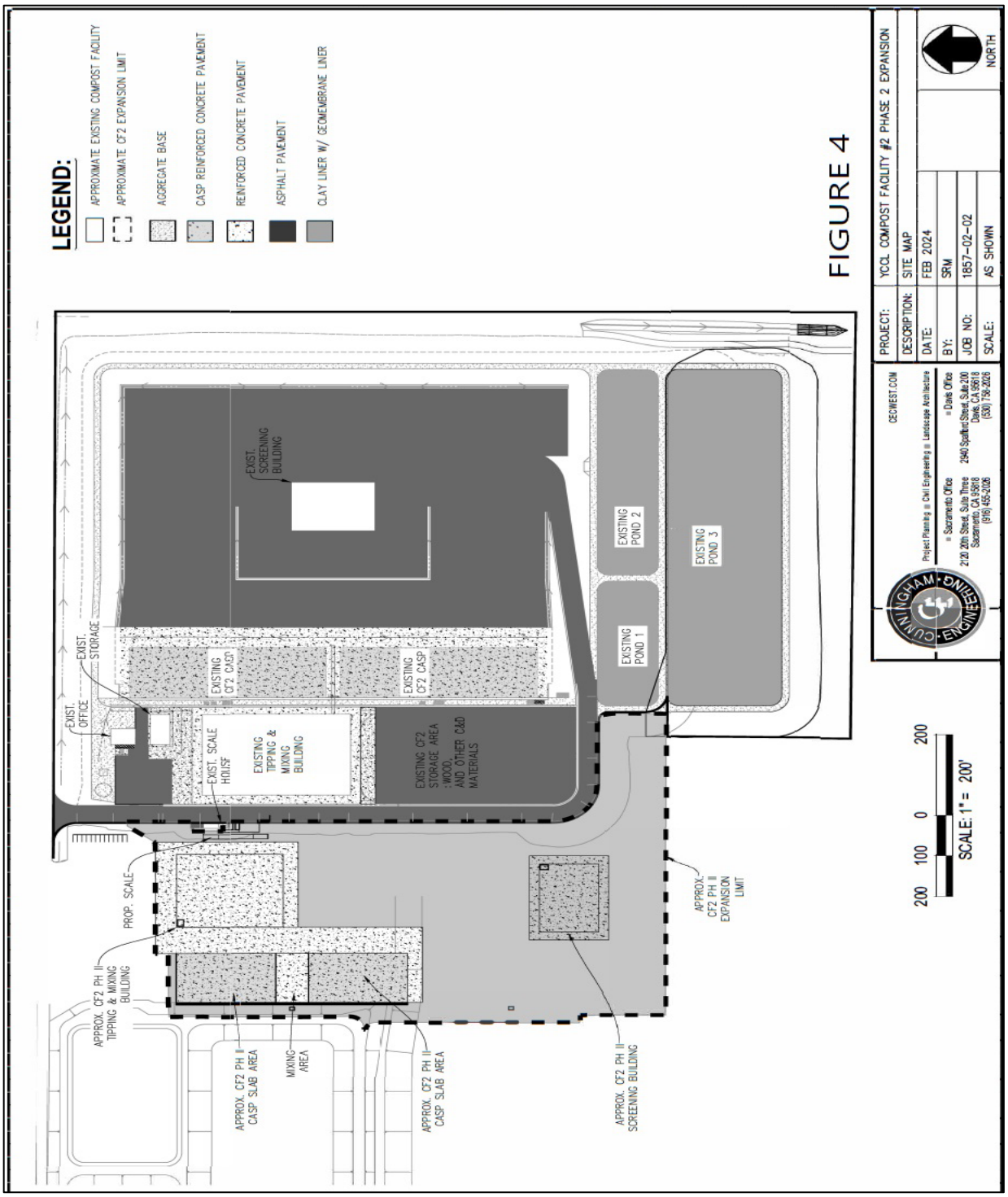
ATTACHMENT E—FACILITY LCRS MAP

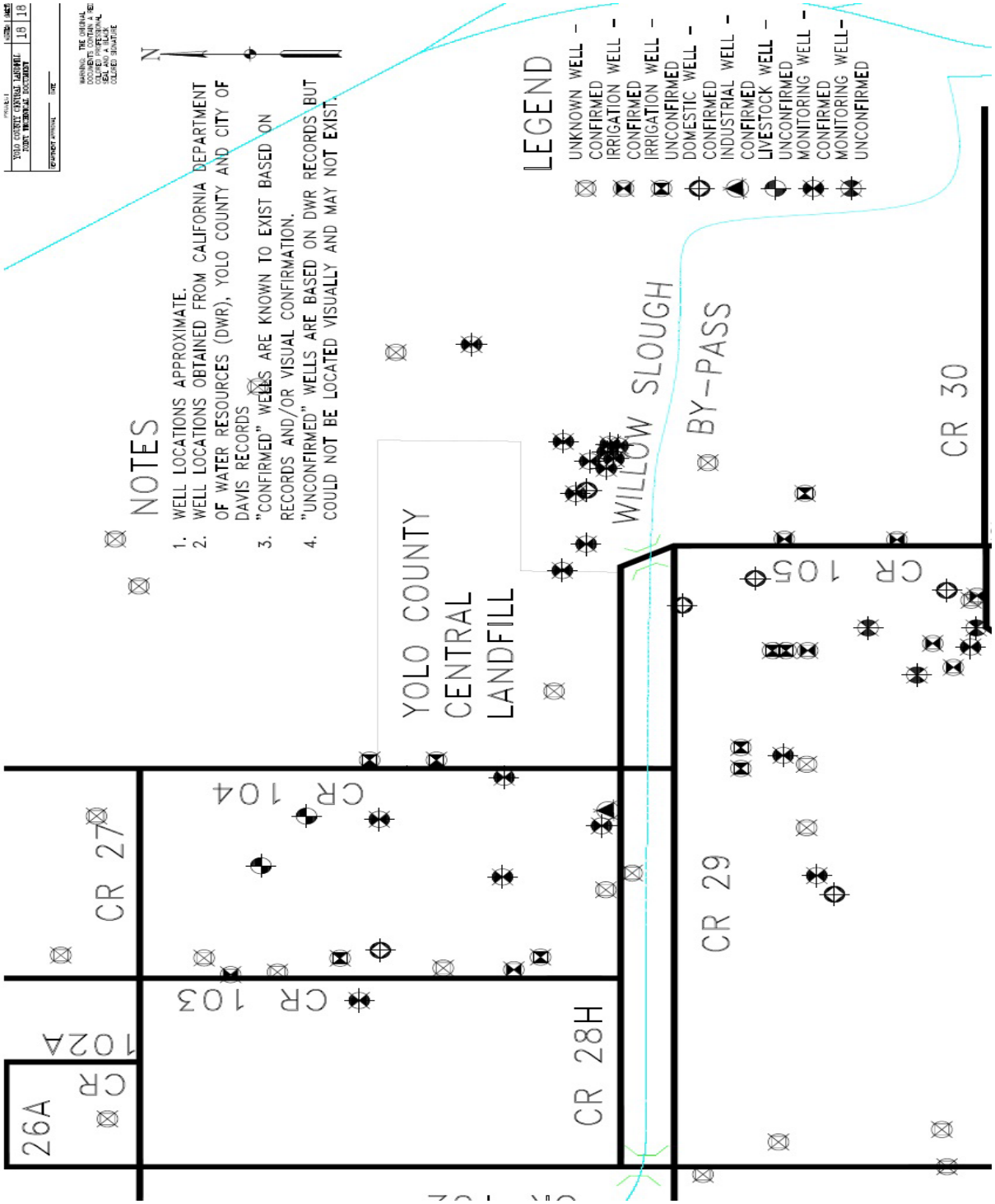
Facility Leachate Collection and Removal System Map, NTS

ATTACHMENT F—COMPOST FACILITY #2 MAP



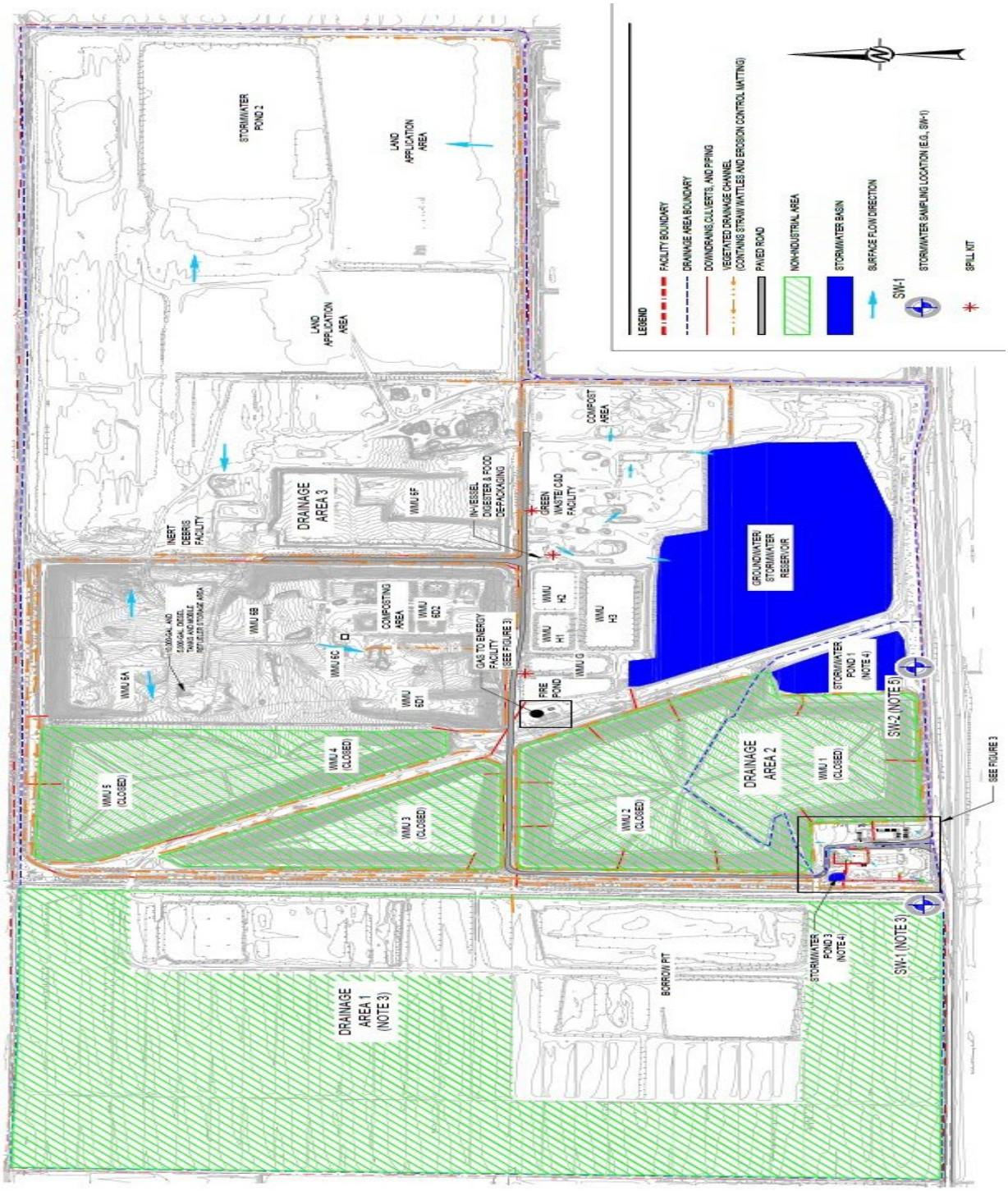
Compost Facility #2, NTS

ATTACHMENT G— AREA WELLS



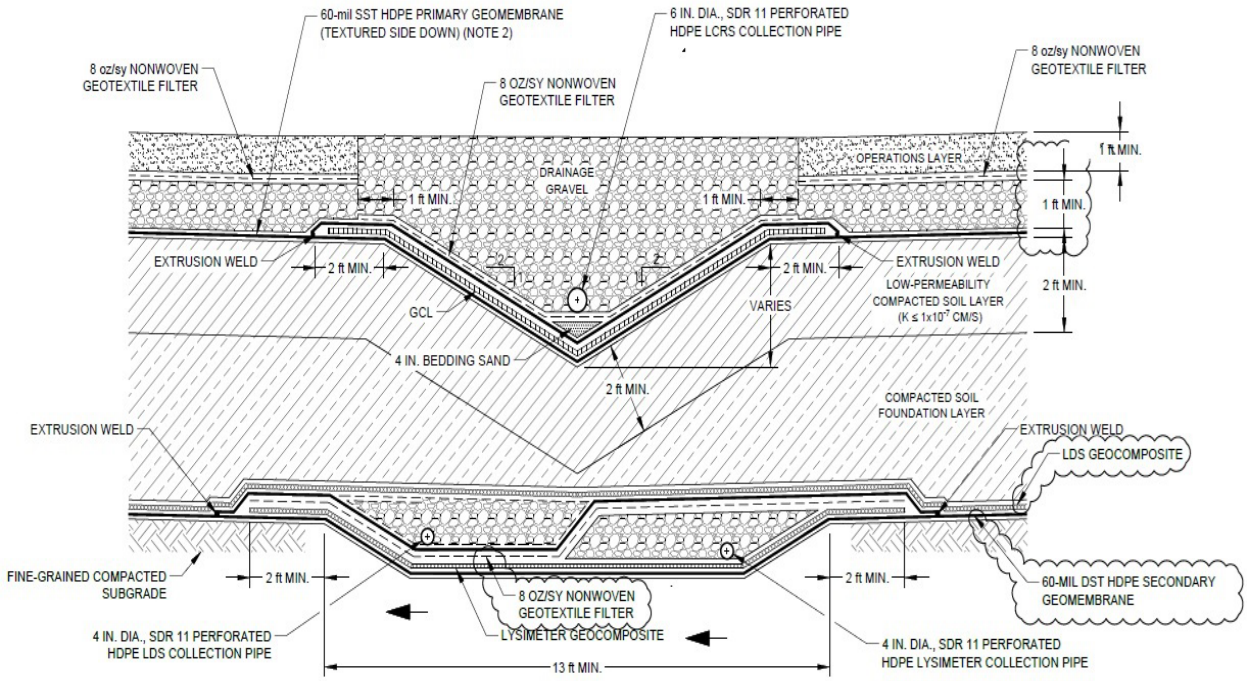
Wells near the Facility, NTS.

ATTACHMENT H—FACILITY STORMWATER DRAINAGE

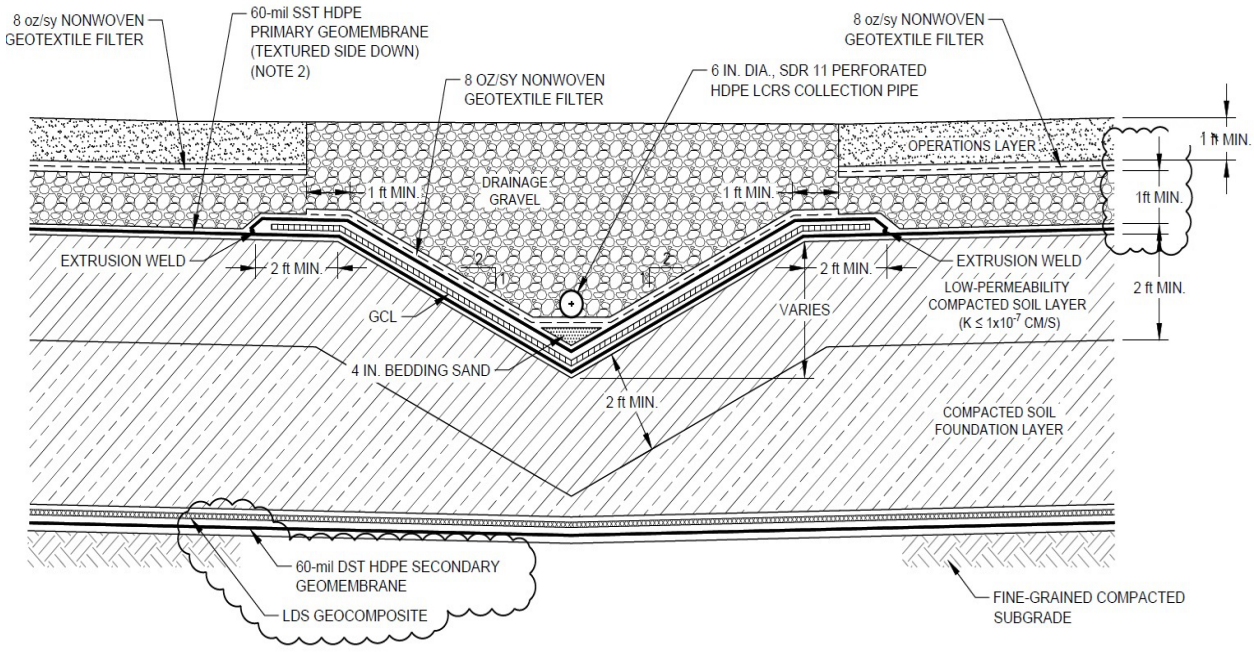


Facility Stormwater Drainage, NTS

ATTACHMENT I—LANDFILL FLOOR CONTAINEMNT SYSTEM

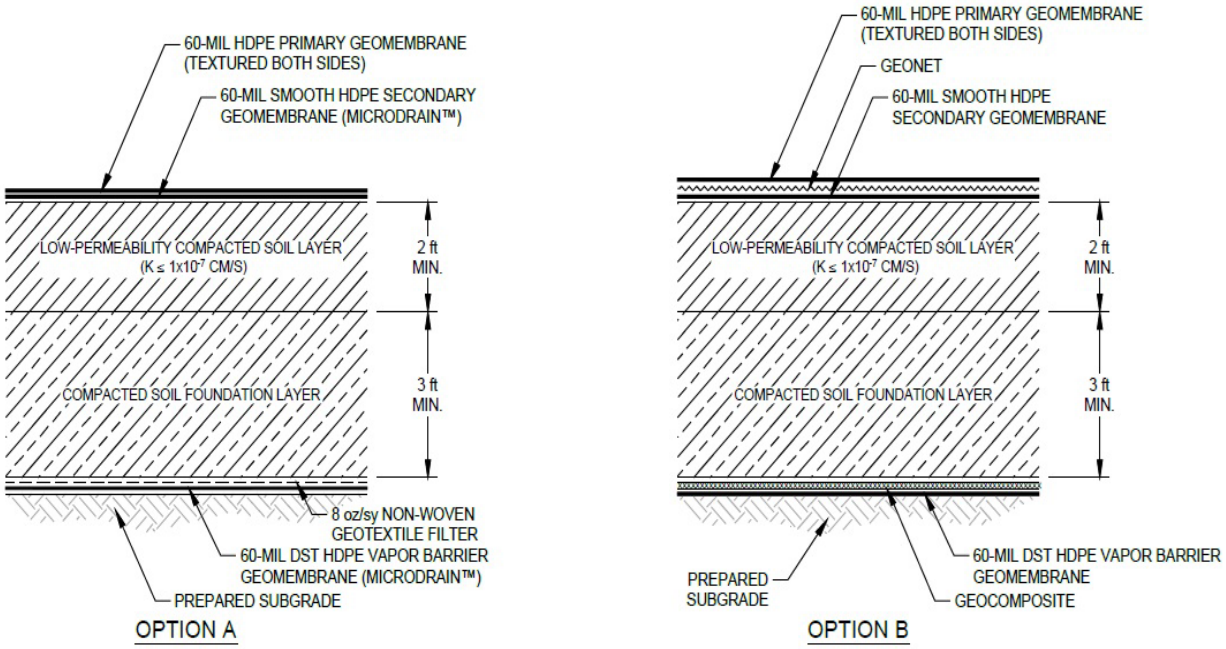


LCRS/LDS/Lysimeter containment system, for illustrative purposes only.

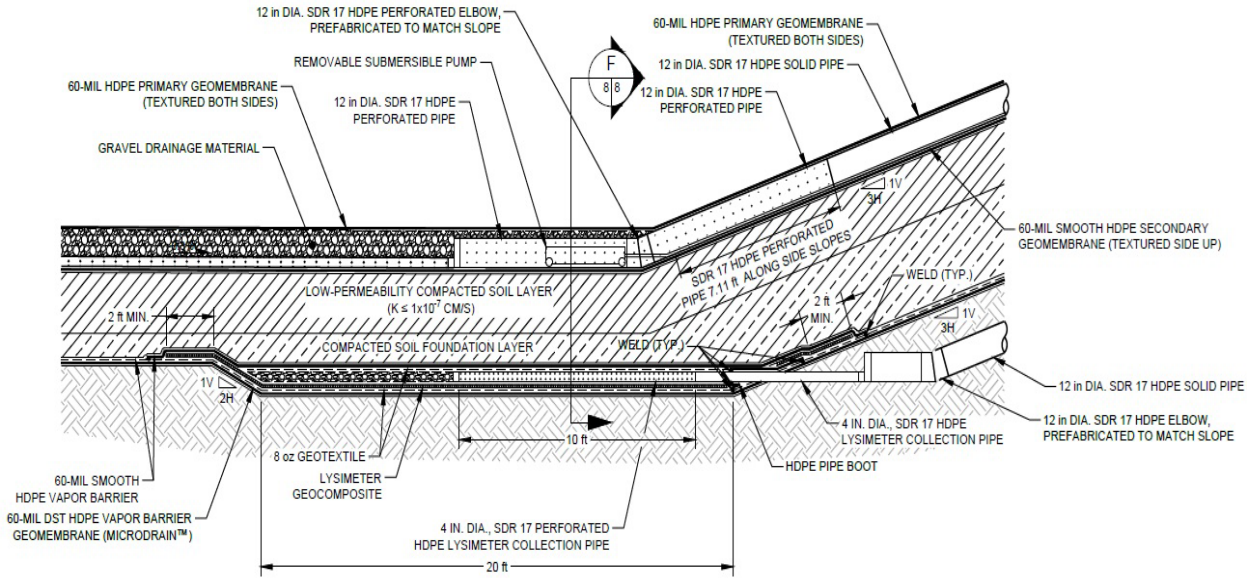


LCRS Collection Pipe, NTS, for illustrative purposes only.

ATTACHMENT J—SURFACE IMPOUNDMENT CONTAINMENT SYSTEM

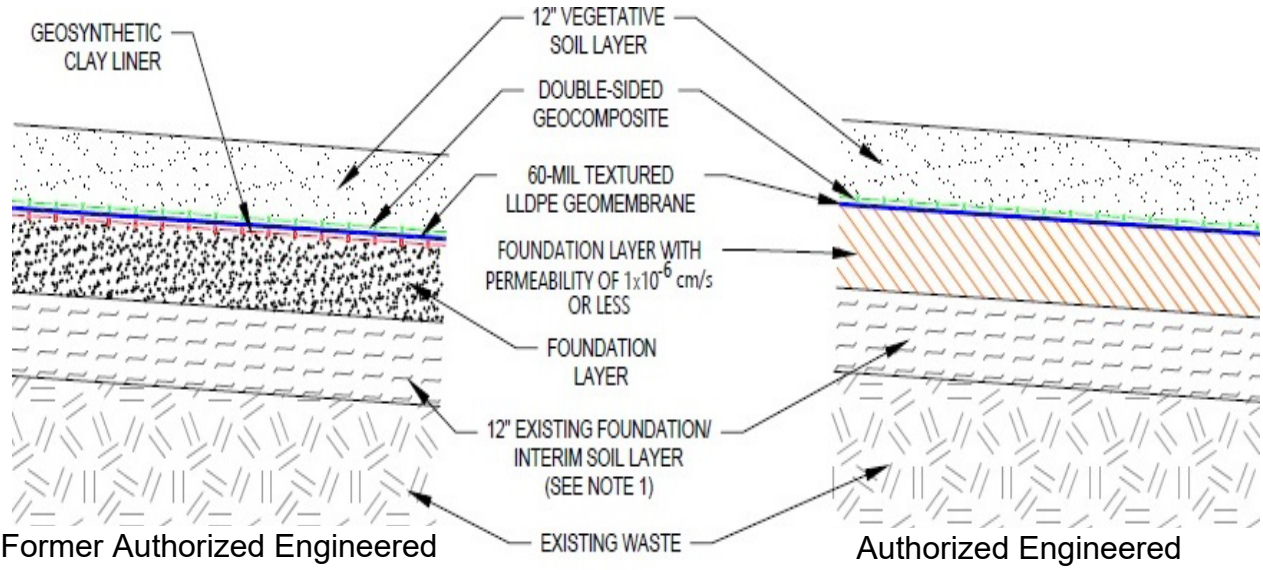


LCRS/LDS/Lysimeter containment system, for illustrative purposes only.



LCRS/LDS/Lysimeter containment system, for illustrative purposes only.

ATTACHMENT K—LANDFILL FINAL COVER SYSTEM



Former Authorized Engineered Alternative Final Cover Design

Authorized Engineered Alternative Final Cover Design

STANDARD PROVISIONS & REPORTING REQUIREMENTS

Non-Hazardous Discharges of Waste Regulated under Subtitle D and/or Title 27, December 2015 Edition

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 all 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***:

i. The data contains two or more analytes that equal or exceed their respective MDLs; or

ii. 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)]:

i. 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.

ii. **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)].

i. 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.

ii. **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 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 initial 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:

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

ii. 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

iii. 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 landfill WMUs 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 surface impoundment WMUs 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)].

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)]. [paste SPRRs here]

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

[TENTATIVE] WASTE DISCHARGE REQUIREMENTS ORDER R5-20XX-XXXX
FOR
COUNTY OF YOLO, DEPARTMENT OF COMMUNITY SERVICES

YOLO COUNTY CENTRAL LANDFILL
Yolo County

INFORMATION SHEET

Yolo County Department of Community Services (Discharger) owns and operates the Yolo Central Landfill (Facility) in Yolo County near the City of Davis. Waste disposal began at the Facility in 1975. Most landfill activities are permitted under Title 27 under Waste Discharge Requirements Order No. R5-2016-0094. The Discharger operates the Yolo County Central Landfill under Solid Waste Facility Permit (SWFP) 57- AA-0001, issued by CalRecycle. The 1,048-acre Facility has multiple significant onsite features and systems including a 725-acre area for landfill operations and an adjacent 323-acre soil borrow site. Permitted WMUs at the Facility include seven (7) solid waste management units totaling approximately 473 acres, three (3) existing and one (1) proposed surface impoundments totaling 27 acres, and composting facilities occupying 62 acres. The Discharger also owns a 48-acre composting operation known as "Composting Facility #2" within the 725-acre Yolo Central Landfill property. The Discharger operates Compost Facility #2 under SWFP 57- AA-0001, issued by CalRecycle. The Discharger contracts with a third-party to operate Composting Facility #2 on the Discharger's behalf. Northern Recycling, LLC is the current third-party contractor operating Composting Facility #2.

These waste discharge requirements (WDRs) represent a significant update to previous WDRs for the Facility, including implementing a Discharger request to combine three (3) existing WDRs relating to the Facility into one (1) facility-wide WDRs. Significant updates to the WDRs include, but are not limited to, the following:

1) Incorporation of an adjacent Discharger-owned Borrow Site into the WDRs;
2) Incorporation of requirements consistent with the State Water Resources Control Board Water Quality Order 2020-0012-DWQ, *General Waste Discharge Requirements for Commercial Composting Operations* which are protective of water quality for the Facility co-located compost facility; and
3) Establishes procedures for review and authorization of construction of a new "dual purpose" Class II surface impoundment for water re-use use at on-site compost facilities and elsewhere at the Facility during normal times and for leachate containment and storage during emergencies;

Compost Facility #2

On 9 March 2022, the Central Valley Water Board issued Notice of Applicability (NOA) 2020-0012-DWQ-R5S001 identifying Compost Facility #2 as a Teir 2 compost operation and authorizing the Discharger's Compost Facility #2 operations pursuant to the 2020

General Order. The NOA identifies Northern Recycling, LLC as Facility owner and operator, and in the case of default, the Yolo County, as landowner, responsible for compliance with the requirements of the 2020 General Order and NOA 2020-0012-DWQ-R5S001. The Discharger and Northern Recycling, LLC requested termination of NOA 2020-0012-DWQ-R5S001 to support consolidation of the respective orders into single Facility-wide WDRs. These WDRs terminate NOA 2020-0012-DWQ-R5S001.

Minimum Groundwater Separation From Waste in Unlined WMUs

Compliance with the requirement to maintain five (5) feet of separation between groundwater and the bottom of unlined landfill WMUs 1-5 has been a persistent challenge for the Discharger. Factors including the estimated but unknown elevation of the base of waste in WMUs 1-5, the lack of unsaturated zone monitoring beneath WMUs 1-5, (consideration of the change in datum, potential landfill settlement effects, and consideration of capillary fringe affect interpretation of the actual separation distance between the base of wastes and first encountered groundwater. Site conditions including topography, adjacent area land use such as rice farming, and shallow groundwater (further hinders the Discharger's ability to consistently satisfy Title 27 requirements to maintain separation of five (5) feet between wastes and the highest anticipated elevation of underlying groundwater beneath landfill WMUs 1-5 (Title 27, §§ 20240(c)). These WDRs require the Discharger to maintain five (5) feet of separation between groundwater and the bottom of unlined landfill WMUs 1-5. These WDRs establish liquid level management requirements for the Groundwater / Stormwater Storage Reservoir and Soli Borrow Site consistent with recommendations made in an Engineering Feasibility Study For Groundwater Separation Control, submitted by the Discharger on 19 July 2019. These WDRs further recognize that the Groundwater / Stormwater Storage Reservoir and adjacent Soil Borrow Sites as a structures critical for managing extracted groundwater, onsite precipitation, and influencing separation distances between groundwater and the bottom of unlined landfill WMUs. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law, including for violations relating to failure to maintain five (5) feet of separation between groundwater and the bottom of unlined landfill WMUs 1-5.

"Dual Purpose" WMU H4

These WDRs establish a process for the Discharger to design, construct, and operate a Class II surface impoundment for the dual purpose of containing leachate generated at the Facility and/or discharges from Compost Facility #2. The planned 10-acre, 17.3-million-gallon, surface impoundment known as "WMU H4" would be hydraulically connected to WMU H3 by piping equipped with a control valve. The proposed WMU H4

would occupy a portion of the Groundwater / Stormwater Storage Reservoir the Discharger utilizes for the discharge of treated GETS water.

Under normal operation, the Discharger proposes to limit discharges to WMU H4 to liquid wastes suitable for use as an additive to compost feedstock, including moisture level control, at Compost Facility #1 or Compost Facility #2, or for use as dust control on lined Facility landfill WMUs, or discharged to the City of Davis WWTP for treatment. In emergency situations, the Discharger proposes to discharge wastes to WMU H4 such as leachate and condensate wastes which are unsuitable for use at Compost Facility #1 or Compost Facility #2, or for use as dust control (Unsuitable Wastes).

These WDRs establish Emergency Use and Return to Normal Operation (EURNO) procedures for the “Dual Purpose” WMU H4.”