

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN DIEGO REGION**

**TENTATIVE ORDER NO. R9-2018-0069**

**WASTE DISCHARGE REQUIREMENTS FOR SYCAMORE LANDFILL  
SAN DIEGO COUNTY**

Discharges of wastes by Sycamore Landfill Inc. at the Sycamore Landfill are subject to the waste discharge and other requirements set forth in this Order.

**Table 1. Discharger Information**

WDID	9 000000252
Discharger	Sycamore Landfill Inc., a subsidiary of Republic Services Inc. and Allied Waste Industries
Name of Facility	Sycamore Landfill
Facility Contact, Title, and Phone	Mr. Neil Mohr General Manager Republic Services Inc. (619) 449-9026
Mailing and Billing Address	Mr. Neil Mohr General Manager Sycamore Landfill Inc. 8514 Mast Boulevard Santee, CA 92071

**Table 2. Discharge Location**

Discharge Point	Discharge Description	Discharge Point (Latitude)	Discharge Point (Longitude)	Receiving Water
Sycamore Landfill	Non-hazardous municipal solid waste	32.858104207174	-117.0291566848	Tributary to San Diego River and groundwater

**Table 3. Effective Date**

This Order was adopted by the California Regional Water Quality Control Board, San Diego Region and is effective on:	<del>November 14</del> <u>December 12,</u> 2018
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I, David W. Gibson, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on ~~November 14~~December 12, 2018.

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**David W. Gibson,**  
Executive Officer

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## A. FINDINGS

The California Regional Water Quality Control Board, San Diego Region (hereinafter **San Diego Water Board**), finds that:

### 1. DISCHARGER.

The Sycamore Landfill (Landfill) is owned and operated by Sycamore Landfill Inc., a subsidiary of Republic Services Inc. and Allied Waste Industries.

### 2. LEGAL AUTHORITY.

This Order is issued pursuant to the Water Code (commencing with section 13000) and implements (1) the federal Resource Conservation and Recovery Act (RCRA), including regulations found in the Code of Federal Regulations (CFR), title 40, part 258 (hereinafter 40 CFR 40 part 258 or 40 CFR), adopted by the U.S. Environmental Protection Agency (USEPA) implementing requirements of RCRA Subtitle D; (2) regulations and policies adopted by the State Water Resources Control Board (State Water Board) in titles 23 and 27 of the California Code of Regulations,<sup>1</sup> and (3) applicable provisions of the California Health and Safety Code Division 20, chapter 6.5 (Hazardous Waste Control). Monitoring and Reporting Program (M&RP) No. R9-2018-0069 (Attachment B to this Order) is issued pursuant to Water Code section 13267 which authorizes the San Diego Water Board to require the Discharger to furnish technical and monitoring program reports.

### 3. RATIONALE FOR REQUIREMENTS.

The San Diego Water Board developed the requirements in this Order based on information submitted as part of the Final Joint Technical Document (JTD) (August 31, 2017), groundwater monitoring reports, water quality control plans and policies, and other available information. An Information Sheet (Attachment C) was prepared for this Order, which contains the background information and rationale for the requirements of this Order. The Information Sheet is hereby incorporated into and constitutes findings for this Order.

### 4. WATER QUALITY CONTROL PLAN.

The *Water Quality Control Plan for the San Diego Basin (9)* (Basin Plan) designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. This Order implements the Basin Plan by prescribing waste discharge requirements (WDRs) for the design and construction of containment structures, the disposal of wastes, maintenance, and monitoring of the Landfill. The WDRs ensure

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<sup>1</sup> Hereinafter, all references made to titles 23 and 27 within these WDRs will be from the California Code of Regulations.

that wastes contained within the Landfill do not impair the beneficial uses of surface water and groundwater or result in violations of water quality objectives.

5. **CALIFORNIA ENVIRONMENTAL QUALITY ACT.**

Issuance of this Order and M&RP by the San Diego Water Board is a project under the California Environmental Quality Act (CEQA). A final Environmental Impact Report (EIR) for the Master Planned Expansion of the Sycamore Landfill was certified by the City of San Diego on September 20, 2012 pursuant to requirements of CEQA. Detailed findings regarding compliance with CEQA are set forth in the Information Sheet (Attachment C).

6. **ANTIDegradation.**

The San Diego Water Board has considered State Water Resources Control Board (State Water Board) Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality Waters in California*, (Resolution No. 68-16) in adopting this Order. The Order requires the Discharger to design, construct, and maintain waste containment systems that prevent discharges of waste and waste constituents to waters of the State. The groundwater monitoring results indicate that legacy releases of landfill gas and leachate from buried wastes in unlined portions of the Sycamore Landfill have impaired beneficial uses of groundwater. As explained in the Information Sheet to this Order, (Attachment C), this Order is consistent with Resolution No. 68-16 because it requires the Discharger to manage waste and waste disposal to prevent degradation of groundwater and to minimize odors and prohibit nuisance conditions.

7. **PUBLIC PARTICIPATION.**

The San Diego Water Board has notified interested agencies, and all interested persons known to the San Diego Water Board, of its intent to prescribe WDRs and a Monitoring and Reporting Program for the Landfill.

8. **APPLICABILITY.**

Order No. R9-2018-0069 supersedes Order No. 99-74, as amended.

**IT IS HEREBY ORDERED**, that this Order supersedes Order No. 99-74, as amended upon the effective date of this Order. In order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and applicable regulations, it is further ordered that the Dischargers comply with the requirements of this Order. This action does not prevent the San Diego Water Board from taking enforcement actions for past violations of Order No. 99-74. In order to meet the provisions contained in division 7 of the Water Code, and regulations adopted thereunder, the Discharger must comply with the following:

## B. PROHIBITIONS

The following types of discharges are prohibited.

1. The discharge of waste to waters of the State in a manner causing, or threatening to cause a condition of pollution, contamination or nuisance as defined in Water Code section 13050.
2. The discharge of waste to land, except as authorized by WDRs or the terms described in Water Code section 13264.
3. The discharge of treated or untreated solid or liquid waste to waters of the United States except as authorized by a National Pollution Discharge Elimination System permit issued by the San Diego Water Board.
4. The discharge of waste to inland surface waters, except in cases where the quality of the discharge complies with applicable receiving water quality objectives and as authorized by the San Diego Water Board.
5. The dumping, deposition, or discharge of waste directly into waters of the State, or adjacent to such waters in any manner which may permit it being transported in the waters, unless authorized by the San Diego Water Board.
6. Any discharge to a storm water conveyance system that is not composed entirely of "storm water,"<sup>2</sup> unless authorized by the San Diego Water Board.
7. The discharge of waste into a natural or excavated site below historic water levels, unless the discharge is authorized by the San Diego Water Board.
8. The discharge of dewatering-derived effluent, except as authorized by waste discharge requirements.
9. The discharge of dewatered sludges that does not meet the discharge specifications of section C.5 of this order,<sup>3</sup> including: primary sludge wastes not containing at least 20 percent solids (by weight), secondary sludge wastes not containing at least 15 percent solids, and all other sludge wastes containing a solids-to-liquids ratio less than 5:1 by weight. Co-disposal of all sludge wastes shall not exceed the initial moisture-holding capacity of the nonhazardous solid waste.

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<sup>2</sup> As defined in title 40 CFR 122.26(b)(13) and 122.26(b)(2).

<sup>3</sup> Sludge wastes include dewatered sludges (defined in section 20164, CCR title 27), dewatered sewage or water treatment sludge; including primary sludge, secondary sludge, mixtures of primary and secondary sludges, or water treatment sludge (CCR title 27, section 20220(c)), grit and bar screen wastes.

9.10. The discharge of liquids or semi-solid waste (i.e., waste containing less than 50 percent solids, by weight), shall not be discharged at the Landfill.

~~10.11.~~ Any composting operation on any portion of the landfill, unless authorized by the San Diego Water Board.

## C. DISCHARGE SPECIFICATIONS FOR ALLOWABLE WASTES

The following section contains the specifications for allowable waste streams to be disposed of at the Landfill.

### 1. DESIGNATED DISPOSAL AREAS.

The discharge of wastes shall be confined to the designated disposal areas, including the legacy area and the areas underlain by the liner system prescribed by *Landfill Construction Specifications E.5* of this Order.

### 2. CHARACTERIZATION OF WASTES.

The Discharger is responsible for the accurate characterization of wastes in compliance with CCR title 27, section 20200(c). Characterization shall include the determination of whether or not wastes will be compatible with containment features and other wastes, and whether or not wastes are required to be managed as designated wastes defined in Water Code section 13173, or hazardous wastes pursuant to CCR title 22, division 4.5, section 66300 *et seq.*

### 3. NON-HAZARDOUS WASTES.

Only non-hazardous and inert solid wastes, as defined in CCR title 27, sections 20220 and 20230, may be discharged into the Landfill.

### 4. TREATED WOOD.

Treated wood shall be managed and disposed of in accordance with all the requirements of California Health and Safety Code sections 25143.1.5 and 25150.7.<sup>4</sup>

### 5. DEWATERED SLUDGE WASTES.

The Discharger must ensure all sludge wastes accepted for disposal at the Landfill meet the minimum moisture content and solids-to-liquids ratio requirements of CCR title 27, section 20220(c). Primary sludge disposed of in the Landfill shall contain at least 20 percent solids (by weight). Secondary sludge, mixtures of primary and secondary sludge, or water treatment sludge disposed of in the Landfill shall contain at least 15 percent solids (by weight). A minimum solids-to-liquid ratio of 5:1 by

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<sup>4</sup> This statute of the California Health and Safety code is repealed as of January 1, 2021. The requirements of this statute are suspended upon repeal of the statute, unless extended by a new statute.

weight shall be maintained in sewage sludge to ensure that the co-disposal of sludge and municipal solid wastes will not exceed the initial moisture holding capacity of the non-hazardous solid waste in accordance with CCR title 27, section 20220(c).

The acceptance of primary sludge waste determined to be a hazardous waste by California Department of Toxic Substances Control (DTSC) is prohibited.

Upon receipt of sludge wastes, the Discharger shall either (1) conduct confirmation sampling for all sludge wastes to determine the moisture content and solids-to-liquids ratio, or (2) retain documentation from the facility generating the sludge wastes that provides a demonstration that the sludge wastes accepted met the Discharge Prohibitions and Specifications of this Order prior to disposal of sludge wastes. The Discharger shall implement a monitoring program for the disposal of sludge, grit and bar screen wastes. The Discharger shall provide the San Diego Water Board with a summary of information about the source(s) of wastewater treatment plant sludge wastes;<sup>5</sup> the results of analyses to demonstrate compliance with dewatered sludge acceptance requirements in section 20220(c) of CCR title 27, and the weight and types of sludge wastes received from each source for disposal at the Landfill. This information shall be tabulated and reported in the semi-annual monitoring reports required by Monitoring and Reporting Program No. R9-2018-0069.

## **6. DREDGED SEDIMENTS.**

The Discharger must ensure that all wastes accepted for disposal at the Landfill meet the requirements for disposal at a non-hazardous, Class III Landfill. In accordance with CCR title 27, section 20200(d)(3), the Discharger must demonstrate that the acceptance of dredged sediments will not exceed the moisture holding capacity of the Landfill, either initially or as a result of waste management operations, compaction, or settlement.

Upon receipt of dredged sediments, the Discharger shall either (1) conduct confirmation testing to determine the moisture content, or (2) acquire documentation from the source of the dredged sediments that demonstrates that the wastes accepted for disposal meet the Discharge Prohibitions and Specifications of this Order prior to disposal. The Discharger shall implement a monitoring program for the disposal of dredged sediments and provide the San Diego Water Board with a summary of information about the source(s) of dredged sediments,<sup>6</sup> the results of

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<sup>5</sup> Sludge wastes include dewatered sludges (defined in section 20164, CCR title 27), dewatered sewage or water treatment sludge; including primary sludge, secondary sludge, mixtures of primary and secondary sludges, or water treatment sludge (CCR title 27, section 20220(c)), grit and bar screen wastes. [https://www3.epa.gov/npdes/pubs/final\\_sgrit\\_removal.pdf](https://www3.epa.gov/npdes/pubs/final_sgrit_removal.pdf)

<sup>6</sup>Dredged sediments must meet the criteria for classification as a non-hazardous waste in accordance with CCR title 27, section 20200(c), and the moisture holding capacity as required by CCR title 27, section 20200(d)(3).



analyses undertaken to demonstrate compliance with waste acceptance criteria applicable to the Landfill, and the weight of dredged sediments received from each source for disposal at the Landfill. The Discharger shall retain the results of waste characterization, onsite, for a minimum of five years. These records shall be made available to the San Diego Water Board upon request. This information shall be tabulated and reported in the semi-annual monitoring reports required by Monitoring and Reporting Program No. R9-2018-0069.

#### 6.7. **LANDFILL LEACHATE AND CONDENSATE.**

The discharge of leachate or landfill gas condensate must comply with CCR title 27, section 20340(g), CFR title 40, section 258.28, and the following conditions:

- a. The landfill gas condensate or leachate is returned to the Landfill which produced it; and
- b. Any discharge of leachate or landfill condensate wastes must be into a Landfill cell that is equipped with a prepared foundation or subgrade, and waste containment system including a leachate collection and removal system (LCRS) meeting the requirements ***Landfill Operation Specifications D.9.*** of this Order.

#### 7.8. **CONTAMINATED SOILS.**

The discharge of contaminated soils at the Landfill shall comply with the following:

- a. Samples of waste soils shall be collected in accordance with sampling guidelines set forth in the most recent edition of *“Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846* USEPA. At a minimum, for quantities of soil less than or equal to 500 cubic yards, four samples shall be collected per 100 cubic yards of waste soil. For quantities of soil between 500 and 5,000 cubic yards, an additional sample shall be collected for every 500 cubic yards.
- b. Waste soils may be utilized for daily landfill cover if approved for such use by the San Diego Water Board and either the Solid Waste Local Enforcement Agency (LEA), or CalRecycle.
- c. All soil wastes received for disposal at the Landfill must be certified as California non-hazardous wastes pursuant to the criteria found in title 22, Division 4.5.
- d. The Landfill may accept soil wastes containing the following waste constituents: petroleum hydrocarbons, organic and inorganic compounds, metals, and pesticides which could pose a threat to water quality if discharged

in an uncontrolled manner. In addition, those waste soils must also meet all of the following criteria for disposal at the Landfill:

- i. Soil wastes may not contain metals and pesticides, organic and inorganic compounds, in excess of the applicable California hazardous waste concentration limits, as determined using the waste extraction test (WET) per title 22, section 66261.24, as amended.
- ii. Soil wastes may not contain concentrations of metals, pesticides, organic and inorganic compounds in excess of the maximum concentrations of contaminants using the Toxicity Characteristic Leaching procedure (TCLP) analysis per title 22, section 66261.24, as amended.
- iii. State listed hazardous wastes identified in title 22, division 4.5 and federal listed RCRA hazardous wastes identified in CFR title 40, sections 261.31, 261.32, or 261.33 may not be discharged into the Landfill.
- iv. The maximum concentration levels for waste soils containing non-hazardous concentrations of pesticides, organic, and inorganic compounds are contained in **Attachments D and E** to this Order, and shall be used to determine whether waste soils containing the above-referenced constituents are acceptable for disposal.
- v. The following maximum concentration limits shall be used to determine if waste soils containing petroleum hydrocarbons are acceptable for disposal into the Landfill:

<b>Petroleum Hydrocarbon Contaminant</b>	<b>Maximum Concentration Limits</b>	
Gasoline and lighter-end Hydrocarbons (C <sub>4</sub> -C <sub>12</sub> )	1,000 ppm TPH	1,000 – 5,000 ppm TPH w/RCI and 96-hour bioassay
Diesel Fuel, Kerosene Oil, Jet Fuel, and heavy-end Hydrocarbons (C <sub>8</sub> -C <sub>22</sub> )	3,000 ppm TPH	3,000 – 15,000 ppm TPH w/RCI and 96-hour bioassay
Hydraulic Oil, Cutting and Grinding Oil, Virgin Motor Oil, Waste Oil and heavy-end Hydrocarbons (C <sub>8</sub> -C <sub>40</sub> )	3,000 ppm TRPH	3,000 – 15,000 ppm TPH w/RCI and 96-hour bioassay

ppm - parts per million in units of mg/kg

TPH – Total Petroleum Hydrocarbons

TRPH – Total Recoverable Petroleum Hydrocarbons

RCI – Hazardous Waste Criteria for Reactivity, Corrosivity, Ignitability, and 96-hour Acute Bioassay as established by title 22.

### 8.9. **SPECIAL WASTES.**

The JTD defines the following special wastes that may be accepted at the Landfill in accordance with the site-specific Operations Plan,<sup>7</sup> any applicable regulatory requirements, and if the wastes meet the demonstration for classification as a non-hazardous waste:

- a. Dead Animals.
- b. Large Bulky Wastes.
- c. Shredded Tires.
- d. Non-friable Asbestos.
- e. Treated Medical Wastes.
- f. Sandblast grit and other powdery or highly dusty materials.
- g. Auto Shredder wastes
- h. Clean, empty drums or containers that previously contained hazardous materials.

## **D. CHIPPING AND GRINDING OPERATIONS**

The JTD describes chipping and grinding operations<sup>8</sup> at the Landfill used to divert source separated (at curb-side) green wastes from the municipal solid waste stream. The Discharger proposes to implement its chipping and grinding operations to comply with CalRecycle's Mandatory Commercial Organic Recycling requirements. The requirements for the diversion of reusable wastes are found in Public Resources Code section 41780.02 and are implemented by the LEA through the issuance of the Solid Waste Facility Permit.<sup>9</sup> The San Diego Water Board supports the Discharger's waste diversion efforts, provided chipping and grinding operations at the Landfill are conducted in accordance with CCR title 14, section 17862.1 et seq. and are protective of water

<sup>7</sup> Final Joint Technical Document for Sycamore Landfill, August 31, 2017.

<sup>8</sup> CCR Title 14, section 17852(a) defines a chip and grind operation as an operation or facility that does not produce compost, but mechanically reduces the size of compostable materials.

<sup>9</sup> A solid waste facility permit is issued by CalRecycle and enforced by the LEA for daily operations of the Landfill and includes requirements for acceptable waste streams, load checking, daily tonnage, landfill gas monitoring, and vector controls.

quality and the beneficial uses of the waters of the State. The Discharger shall comply with the following:

1. **DESIGNATED AREA.**

The Discharger shall designate an area for its chipping and grinding operation. The chipping and grinding operations area shall be located outside of the active waste disposal area and clearly identified on site maps included in the Annual Summary Report. The designated area shall be designed to prevent, to the maximum extent practicable, ponding, infiltration, inundation, erosion, and meet the following minimum criteria:

- a. If the designated chipping and grinding area is located on native soils within the Landfill footprint, the Discharger shall demonstrate in advance of undertaking operations that the underlying soils have sufficient hydraulic conductivity to act as a barrier between the chipping and grinding operation and groundwater.
- b. If the designated chipping and grinding area is located on a lined waste management unit within the Landfill footprint, the Discharger shall ensure that the area has a minimum of 18 inches of interim cover in place to prevent infiltration of chipping and grinding operation liquids and potential leachate comingling with the underlying waste prism.

2. **WATER USE.**

Water used in the chipping and grinding operation shall not exceed the amount necessary to reduce immediate dust hazards, produce leachate, or produce runoff from the designated area.

3. **INSPECTION AND MAINTENANCE.**

The Discharger shall regularly inspect and maintain the designated chipping and grinding area, and provide copies of the inspection reports as an appendix to the Annual Summary Report. Inspections shall be conducted at a frequency that will ensure the chipping and grinding operation does not create or threaten to create a condition of contamination, pollution, or nuisance. If the chipping and grinding operation is located within the Landfill footprint, the operation shall be managed in a manner that maintains the integrity of the existing cover system. The Discharger shall indicate the location of the chipping and grinding operation on a map included in the Annual Summary Report.

4. **STORM WATER MANAGEMENT.**

The Discharger shall also ensure the chipping and grinding operation is adequately protected from erosion or washout by storm water. The Discharger shall install appropriate BMPs to: (a) prevent storm water run-on from contacting green wastes at the chipping and grinding operation, and (b) to prevent run-off from leaving the

chipping and grinding operations area. BMPs shall be installed prior to the state of the rainy season, **but no later than October 1<sup>st</sup>** of each year.

5. **MANAGEMENT OF CHIPPING AND GRINDING MATERIALS.**

The Discharger shall comply with CCR title 14<sup>10</sup> and remove green wastes from the site within 48-hours of receipt. The LEA has the discretion to extend the green waste removal timeframe requirement for up to seven days. Should the LEA grant an extension, the Discharger shall notify the San Diego Water Board **within seven days**.

6. **RECYCLED WATER USE.**

All discharges of recycled water at the Landfill must comply with the applicable "Rules and Regulations" that are prescribed by the recycled water producer or purveyor in compliance with the applicable Master Recycling Permit or Water Reclamation Requirements.

**E. LANDFILL OPERATION SPECIFICATIONS**

The following section provides operating specifications for the Landfill.

1. **METHANE AND OTHER LANDFILL GASES.**

Methane and other landfill gases shall be adequately vented, removed from the Landfill, or otherwise controlled to prevent the danger of explosion, adverse health effects, nuisance conditions, or the impairment of beneficial uses of water due to migration of waste constituents through the vadose (unsaturated) zone.

2. **LOAD CHECK PROGRAM.**

The Discharger shall implement an approved load checking program in compliance with CCR title 27, section 20870 and the Landfill's Solid Waste Facility Permit (SWFP), issued by CalRecycle.

3. **WATER USE.**

Water used for facility maintenance shall be limited to the minimum volume of water necessary for dust control and shall only be applied (a) by spraying; (b) on covered areas and not on trash; and (c) in quantities not to exceed those necessary to reduce immediate dust hazards.

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<sup>10</sup> CCR title 14, section 17852(a)(10)(A)(2)

#### 4. **VERTICAL SEPARATION.**

The Discharger shall ensure that the liner systems within the waste management units are at least 5 feet above the highest anticipated elevation of the underlying groundwater.<sup>11</sup>

#### 5. **SURPLUS SOILS.**

The discharge or placement of “surplus soils” (*i.e.*, stockpiled soils associated with landfill construction projects, used in landfill operations, or closure) shall not cause or contribute to the failure of engineered slopes on cut or fill material, or natural ground, or create adverse impacts upon the integrity or performance of the Landfill’s foundation, liner system, waste containment structures, or the structures which control leachate, surface drainage, erosion, or gas.

#### 6. **INDUSTRIAL STORM WATER MANAGEMENT.**

The Landfill shall be adequately protected from any washout or erosion of wastes or cover materials (including daily and interim covers) to maintain the integrity of the containment system and protect receiving water quality and beneficial uses. In addition to the following performance standards, the Discharger must enroll the Landfill in the Statewide Industrial General Permit for Storm Water. The Discharger shall implement a storm water management system designed to control Landfill related runoff from a 100-year, 24-hour storm event.<sup>12</sup> The Discharger shall re-evaluate the definition of a “100-year, 24-hour storm event” every 5 years, and adjust the design and construction of storm water conveyance/containment systems as necessary for new stages/units at the Sycamore Landfill as they are developed. At a minimum, the following measures shall be implemented to manage storm water runoff at the Landfill:

- a. During the rainy season, the Landfill shall be operated and graded to minimize infiltration of precipitation/surface drainage into the Landfill, by implementing measures including, but not limited to, limiting the working face of the Landfill to one day of operation at a time. Any precipitation that falls on the working face of the Landfill and comes into contact with the waste (contact water) shall be treated as leachate and discharged in accordance ***Discharge Specifications for Allowable Wastes C.6.***
- b. Storm water runoff resulting from precipitation that falls within the boundary of the Landfill but does not come into contact with wastes, shall be collected by a system of berms, ditches, downchutes, swales, and drainage channels, and

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<sup>11</sup> CCR title 27, section 20240(c)

<sup>12</sup> The size of a rain event identified as a “100-year storm event” (recurrence interval) changes with time. The Discharger should re-evaluate the size of a “100-year storm event” every 5 years or as part of the analysis provided in the Design Report for each new cell. USGS:  
<https://water.usgs.gov/edu/100yearflood.html>

- shall be diverted off the Landfill into the desiltation basins without coming into contact with any waste.
- c. Annually, prior to the anticipated rainy season, but no later than **October 1<sup>st</sup>**, the Discharger shall implement any necessary erosion control measures, and shall complete any necessary construction, maintenance, or repairs of precipitation and drainage control facilities to prevent erosion, ponding, flooding, or to prevent surface drainage from contacting or percolating through wastes at the Landfill. This specification shall not preclude the Discharger from performing maintenance and repairs necessitated by changing site conditions at any time during the rainy season. An annual report describing measures taken to comply with this specification shall be received by the San Diego Water Board office no later than **5:00 pm on January 30<sup>th</sup>** of the following year.
  - d. The desiltation basins shall be designed and constructed according to the findings presented in the Hydrology Study of the Final JTD<sup>13</sup> or in an update included in a Design Report for each new stage/unit, as approved by the San Diego Water Board. At a minimum, basins shall be designed to contain peak surface water flows associated with a 100-year, 24-hour storm event, as defined by the most recent evaluation of the recurrence interval and severity of a “100-year, 24-hour” storm event.
  - e. Sediment from the desiltation basins shall be removed whenever the volume of the basin has been reduced by 25 percent of the basin’s design capacity.
  - f. Surface water drainage from tributary areas and internal site drainage from surface and subsurface sources shall not contact or percolate through any waste, and shall either be contained onsite or be discharged in compliance with applicable storm water regulations.
  - g. Storm water management facilities shall be constructed and maintained to effectively divert sheet flow runoff laterally, or via the shortest distance, into the drainage and collection facilities.
  - h. The Discharger shall not allow the accumulation of storm water (i.e., ponding) or accumulation of groundwater, to cause or contribute to adverse impacts upon the integrity of the Landfill’s foundation, liner system, or the structures which control leachate, storm water drainage, erosion, or landfill gas.
  - i. Where storm water flows result in erosive flow velocities, erosion control materials shall be used for protection of drainage conveyance features.

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<sup>13</sup> Final Joint Technical Document for Sycamore Landfill, August 31, 2017.

- Effective erosion control BMPs shall be implemented on side slopes and interim bench ditches to control erosion when necessary.
- j. Where high storm water flow velocities occur at terminal ends or downchutes, or where downchutes cross access roads, effective erosion control BMPs shall be implemented.
  - k. The Landfill cover shall be maintained to minimize percolation of liquids through wastes.

#### 9.10. **LEACHATE COLLECTION AND REMOVAL SYSTEM.**

The following measures shall be implemented for the Leachate Collection and Removal System (LCRS) at the Landfill.

- a. The LCRS shall function without clogging throughout the life of the Landfill, including the post-closure maintenance period. The Discharger shall perform annual test of the LCRS to demonstrate proper operation. Results of the annual testing shall be compared with earlier tests, made under comparable conditions in accordance with CCR title 27, section 20340(d), and reported in the annual groundwater monitoring report.
- b. Leachate production from the LCRS shall not exceed 85 percent of the design capacity of the LCRS. If leachate generation exceeds this value, then the Discharger shall immediately cease the discharge of sludge and other high-moisture wastes to the Landfill, and notify the San Diego Water Board in writing ***within seven days***. Notification shall include a timetable for a corrective action necessary to reduce leachate production.
- c. The depth of fluid in any LCRS sump shall be kept at or below six inches, the minimum needed to ensure efficient pump operation.
- d. Landfill leachate shall be discharged to an appropriate onsite or offsite liquid waste management facility in compliance with all applicable federal, State, and local requirements.
- e. The Discharger shall note, in each semi-annual monitoring report, the total volume of leachate collected each month since that previous semi-annual monitoring report, in compliance with CCR title 27, section 20340(h). The leachate collection data shall be tabulated and reported in each semi-annual monitoring report.

#### 10.11. **PROTECTIVE COVER SOIL PLACEMENT.**

The protective cover soil (PCS) shall be placed up the side slopes incrementally during operation of the Landfill. The two-foot thick layer must be placed to maintain



interim stability conditions. Placement of the PCS on sideslopes shall not compromise the integrity of any components of the composite liner system.

## F. LANDFILL CONSTRUCTION SPECIFICATIONS

The following section provides design and construction specifications for the lateral and vertical Landfill expansion areas, (Stages V – XIV), authorized by this Order.

### 1. LANDFILL EXPANSION.

This Order establishes the requirements for a 28.6-acre lateral expansion increases the footprint from 324 acres to 352.6 acres, and incorporates the former SDG&E powerline corridor. The 28.6-acre expansion area fills in the Landfill footprint, allowing for additional lateral expansion areas to be developed within the 352.6 footprint authorized by this Order. The expansion of the Landfill shall be completed in ten stages (Stages V – XIV), based upon information presented in the August 2017 JTD or subsequent revisions (See Attachment A2).

### 2. DESIGN AND CONSTRUCTION OF PRECIPITATION AND DRAINAGE CONTROLS.

At a minimum, the precipitation and drainage control system shall be constructed to accommodate peak flows from surface water runoff from a 24-hour storm event, with a 100-year return frequency in accordance with CCR title 27, section 20260(c), and Table 4.1.<sup>14</sup> The Discharger shall use the most recent evaluation of the recurrence interval and severity of a “100-year, 24-hour” storm event to develop the design of the precipitation and drainage control system. All diversion and drainage facilities shall be designed, constructed, and maintained to meet the required performance standards of CCR title 27,<sup>15</sup> and consider the following:

- a. The expected final contours for closed portions of the Landfill, including the planned drainage pattern.
- b. The drainage pattern for operating portions of the Landfill at any given time.
- c. The possible effects of the Landfill’s drainage pattern on the regional watershed, and the possible effects of the regional watershed’s drainage patterns on the Landfill.
- d. The design capacity of the drainage systems of downstream and adjacent properties by providing for the gradual release of retained storm water downstream in a manner that does not exceed the expected peak flow rate at the point of discharge as if the Landfill were not constructed.

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<sup>14</sup> Table 4.1 “Construction Standards for Units” found in CCR title 27.

<sup>15</sup> See CCR title 27, section 20365(c) – “Performance Standards.”

3. **LINER MATERIALS.**

Materials used to construct liners shall have appropriate physical and chemical properties to ensure containment of discharged wastes over the operating life, closure, and post-closure maintenance period of the Landfill

4. **FOUNDATION/SUBGRADE.**

The following measures shall be implemented to maintain the integrity of the foundation or subgrade of the Landfill:

- a. The Landfill shall have a foundation or base layer capable of providing support for the structures and capable of withstanding hydraulic pressure gradients to prevent failure or settlement, compression or uplift, and all effects of ground motions resulting from the Maximum Credible Earthquake (MCE); as certified by either a California licensed civil engineer or a certified engineering geologist in accordance with CCR title 27, section 20420(d).
- b. The subgrade shall be rolled to a smooth and level surface. The surface of the subgrade shall be free of stones greater than 3-inches in diameter, organics, and other deleterious materials.

5. **LINER SYSTEM.**

The liner system described below shall be constructed for all future stages of development at the Landfill.

- a. Basal Liner Design (from bottom to top):
  - i. Prepared subgrade consisting of six inches of soil materials rolled to a smooth and uniform surface.
  - ii. Double-sided textured, 40-mil high density polyethylene (HDPE) flexible membrane.
  - iii. Geosynthetic clay layer (GCL).
  - iv. Double-sided textured, 60-mil HDPE flexible membrane.
  - v. 16-ounce nonwoven geotextile.
  - vi. 12-inch leachate collection and removal system (LCRS) gravel layer.
  - vii. 8-ounce nonwoven geotextile.
  - viii. Two feet of protective cover soil.
- b. Side Slope Liner Design (from bottom to top):

- i. Prepared subgrade consisting of six inches of yellow fill soil materials rolled to a smooth and uniform surface.
  - ii. Double-sided textured, 40-mil HDPE flexible membrane.
  - iii. GCL.
  - iv. Single-sided (textured side down) 60-mil HDPE flexible membrane with a fuse layer to armor the side-slope liner system. The fuse layer will consist of a high-strength geotextile placed along the crest of each bench, ballasted in place until anchored by waste.
  - v. 8-ounce nonwoven geotextile.
  - vi. Two feet of protective cover soil.
- c. The Discharger shall ensure that the required liner system covers all native geologic materials that are likely to be in contact with waste (including landfill gas or leachate) in accordance with CCR title 27, section 20330(d).
- d. The Discharger shall ensure that the junction(s) between the bottom liner system components and side slope liner components (at the base of the slopes), the junction between the side slope liner system and the anchor trenches/tie-downs (at the top of the slopes), and the junctions between adjacent panels of geosynthetic materials are constructed in a manner that do not:
- i. Provide a pathway for the migration and release of wastes, waste constituents, or degradation products (leachate, landfill gas, etc.).
  - ii. Cause, threaten to cause, or contribute to adverse impacts upon the Landfill's ability to contain waste constituents; or the integrity and performance of the Landfill's foundation, liner system, or the structures which control leachate, storm water drainage, erosion, or gas.
- e. Geomembranes used in the liner system shall meet the following minimum performance requirements:
- i. Be designed and constructed to contain the fluid, including landfill gas, waste, and leachate as required by CCR title 27, sections 20240 and 20310, and limit infiltration of liquid to the greatest extent possible.
  - ii. Control landfill gas emissions.
  - iii. Be stable under the range of stresses and ambient environmental conditions at the site.

- iv. Have a service life that extends throughout the post-closure maintenance period and for as long as the wastes pose a potential threat to water quality.

**6. SIDE SLOPE ARMORING.**

To counteract the effects of down-drag from the potential slumping of wastes on steep side slopes, the Discharger shall armor the side slope liner system with a fuse layer. The fuse layer shall consist of a high-strength geotextile placed along the crest of each bench, ballasted in place until anchored by waste.

**7. LINER MATERIALS CONFORMANCE TESTING.**

Prior to the start of construction, the Discharger shall perform conformance testing on all the synthetic materials to be used in the liner system of all future expansion areas. The results of conformance testing of synthetic materials shall be evaluated as follows:

- a. If the material strengths are greater than or equal to the strength parameters used in the design and slope stability analysis of the expansion Unit, then the synthetic materials are deemed to be consistent with the value of strength parameters used in the design and slope stability analysis.
- b. If the material strength parameters measured during conformance testing are less than the strength parameters used in the design and slope stability analysis, the Discharger shall postpone construction activities and re-run the slope stability analysis using the measured strength parameters from the conformance testing. The revised slope stability analysis(es), including all tabulated revised strength parameters, shall be provided to the San Diego Water Board in a final Report for review and comment prior to the commencement of any further construction activities.

**8. CONSTRUCTION QUALITY ASSURANCE/QUALITY CONTROL.**

The following measures shall be implemented to ensure that the construction quality assurance/quality control requirements found in State<sup>16</sup> and federal<sup>17</sup> regulations are achieved:

- a. The Landfill containment structures shall be designed and constructed under the direct supervision of a California licensed civil engineer or a certified engineering geologist in accordance with CCR title 27, sections 20324(b)(1) and 20310(e), and shall be certified by that individual as meeting the prescriptive standards (except where exempt or approved as an engineered alternative design herein) and the applicable performance goals of CCR title 27. In the case of an engineered alternative to a prescriptive construction standard, the licensed civil engineer or certified engineering geologist must

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<sup>16</sup>CCR Title 27, section 20320, 20323, 20324, 20330, 20340, 20365, 20370

<sup>17</sup> 40 CFR, part 258.40 *et seq.* (Subtitle D)

- certify that the Landfill has been constructed in accordance with approved plans and specifications. All design documents shall include a Construction Quality Assurance Plan (CQA Plan), for the purpose of:
- i. Providing a demonstration that the Landfill has been constructed according to the specifications and plans approved by the San Diego Water Board.
  - ii. Providing quality control on the material and construction practices used to construct the Landfill and preventing the use of inferior products and/or materials that do not meet the approved design plans and specifications.
- b. Hydraulic conductivity of soils used in containment structures, as determined through laboratory methods (CCR title 27, section 20320), shall be confirmed using applicable field-testing methods (CCR title 27, section 20324 *et seq.*) and the results shall be submitted to the San Diego Water Board in the final CQA Report, prior to the placement of waste in the Landfill.
- c. After completing installation of the LCRS gravel, and prior to deployment of subsequent liner components, the Discharger shall:
- i. Complete an electrical leak location survey (ELLS), to check the integrity of all bottom liner areas covered by the geosynthetic membrane component.
  - ii. Take necessary steps to identify and repair all defects located in the geosynthetic membrane component.
  - iii. Include the results from the ELLS and any repairs to the geosynthetic membrane in the relevant CQA Report including: text discussion of filed activities; daily logs of defect repairs; results from all testing performed to assess the integrity of patches/repairs made to the geosynthetic membrane; supporting photographs of all defective areas and repairs made to the geosynthetic membrane component; and a separate site plot plan indicating the location(s) of all defects/repairs performed for each geosynthetic membrane layer. These site plot plans shall be made to the same scale to facilitate comparison between geosynthetic membrane layers.
- d. The Discharger shall provide the San Diego Water Board with an acceptable Final Design Report, including a technical demonstration that the proposed sideslope liner design can be constructed and remain stable and functional on: (1) the interior cut slopes of the Landfill, and (2) in areas where the composite liner overlaps wastes in the legacy area of the landfill, where applicable.

- e. A technically qualified third party, independent of both the Discharger and the construction contractor, shall perform all the construction quality assurance monitoring and testing during the construction of the liner system. The third party shall certify that the liner system was constructed in compliance with all applicable plans and engineering specifications.
- f. The Discharger shall perform visual post-construction CQA for the placement of PCS on side slopes once construction of the underlying liner components is complete, as well as each subsequent placement of PCS during the operational life of the lined unit/cell at the Landfill.
- g. The Final Construction CQA Report shall be submitted to the San Diego Water Board for review and comment prior to the Board's final construction certification inspection of the expansion area.

9. **LEACHATE COLLECTION AND REMOVAL SYSTEM.**

The following measures shall be implemented to ensure proper construction of the LCRS for the Landfill:

- a. All containment systems shall include a LCRS that will effectively convey all leachate that reaches the liner, to a lined sump or other lined collection area.
- b. Materials used to construct the LCRS shall have appropriate physical and chemical properties to ensure the required transmission of leachate/liquid over the operational life of the Landfill and throughout the post-closure maintenance period.
- c. The LCRS shall be design, constructed, and maintained to collect twice the anticipated daily volume of leachate generated by the Landfill, and to ensure there is no build-up of hydraulic head on the underlying liner in accordance with CCR title 27, section 20340(c).
- d. The LCRS gravel shall be overlain by an 8-ounce/square yard nonwoven geotextile fabric layer to prevent clogging of the LCRS by the PCS.

10. **PROTECTIVE COVER SOIL.**

The PCS shall meet the following minimum requirements:

- a. Provide protection to the underlying liner components during initial waste placement into the lined expansion area, and allow the percolation of liquid (*i.e.* leachate and storm water) into the underlying LCRS. The PCS shall prevent the build-up of hydraulic head on top of this layer in excess of 12-inches, and shall not cause a discharge of leachate or storm water in the form of a seep on exposed faces, or into unlined areas of the Landfill.

- b. Be free of debris, roots, scrap material, asphalt, concrete, vegetation, untreated refuse, and other deleterious or objectionable material.
- c. Be comprised of soils materials that are considered suitable for use as follows:
  - i. For use with a 16-ounce/square yard geotextile, the PCS shall have a minimum laboratory permeability of  $2 \times 10^{-3}$  centimeters per second (cm/sec) or greater.
  - ii. For use with a geocomposite (side slope only), the PCS shall have an average laboratory permeability of  $1 \times 10^{-4}$  cm/sec or greater.
  - iii. For an equivalent engineered alternative design, the PCS shall have a minimum laboratory permeability greater than a barrier layer (no less than  $1 \times 10^{-5}$  cm/sec) as defined in 40 CFR part 258.60. Any engineered alternative design must be approved by the San Diego Water Board prior to construction.
- d. Be free of asphalt, concrete, limestone, or other material that could adversely react with landfill leachate.

#### 11. **LANDFILL INTERMEDIATE COVER.**

Landfills with intermediate covers<sup>18</sup> which have been or will be exposed for longer than two years from the time the intermediate cover was installed, shall have a minimum of two-feet of soil cover maintained over the Landfill unit or cell. All intermediate cover(s) shall be designed and constructed to minimize percolation of liquids through wastes in accordance with CCR title 27, section 20705.

### G. **CLOSURE AND POST-CLOSURE SPECIFICATIONS**

#### 1. **CLOSURE AND POST-CLOSURE MAINTENANCE.**

The Discharger shall comply with all applicable requirements of CCR title 27, Subchapter 5, article 2 for the Closure and Post-Closure Maintenance of the Sycamore Landfill.

#### 2. **USE OF LICENSED PROFESSIONALS.**

The closure of the Sycamore Landfill shall be in accordance with CCR title 27, section 21710(d), and conducted by, or under the direct supervision of, a California licensed civil engineer or certified engineering geologist.

#### 3. **FINAL COVER.**

At closure, the Sycamore Landfill shall receive a final cover, which shall be designed and constructed to function with minimum maintenance, and shall consist of, at a

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<sup>18</sup> As defined in CCR title 27, section 20700

minimum, a two-foot thick foundation layer (which may incorporate the interim soil cover), a two-foot thick compacted soil layer having a minimum permeability of  $1 \times 10^{-5}$  cm/sec or less with a relative compaction of approximately 90 percent, and not less than a one-foot thick vegetation layer or an engineered equivalent final cover approved by the San Diego Water Board pursuant to CCR title 27, sections 20800(b) and (c).

4. **FINAL COVER GRADING.**

At closure, all portions of the final cover shall have a slope of at least three percent and the cover shall be graded to promote sheet flow, and maintained to prevent ponding and infiltration of surface water.

5. **PRECIPITATION AND DRAINAGE CONTROLS.**

Cover materials shall be graded to divert precipitation from the Landfill, to prevent ponding of surface water over wastes, and to resist erosion as a result of precipitation events with a return frequency for a 24-hour, 100-year storm event. Any drainage layer in the final cover shall be designed and constructed to intersect with the final drainage system for the Landfill in a manner resisting erosion from the design storm event and promoting free drainage from all portions of the cover in accordance with CCR title 27, sections 20365(c), 20365(d) and 20365(f).

6. **POST-CLOSURE MAINTENANCE PERIOD.**

The post-closure maintenance period shall continue until the San Diego Water Board determines that the remaining wastes in the Landfill no longer have the potential to threaten water quality pursuant to CCR title 27, section 20950(a)(2)(A)(2).

7. **COVER VEGETATION.**

Vegetation used at the Landfill shall be selected to require minimum irrigation and maintenance, and shall not impair the integrity of the Landfill cover or containment structures, and shall meet the requirements of CCR title 27, section 21090(a)(3)(A)(1).

H. **PROVISIONS**

1. **GENERAL PROVISION.**

The discharge of wastes shall at all times be in conformance with applicable State and federal regulations, water quality standards, including but not limited to, all applicable provisions and prohibitions contained in the Basin Plan, including beneficial uses, water quality objectives, and implementation plans. This Order does not preempt or supersede the authority of municipalities, flood control agencies, or other State or local agencies to prohibit, restrict, or control discharges of waste subject to their jurisdictions.



**2. DUTY TO COMPLY.**

Any noncompliance with this Order constitutes a violation of the Water Code and is grounds for: (a) enforcement action; and (b) termination, revocation and re-issuance or modification of this Order.

**3. CORRECTIVE ACTION.**

The Discharger shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncompliance.

**4. FINANCIAL ASSURANCES FOR CLOSURE, POST-CLOSURE MAINTENANCE, AND CORRECTIVE ACTION.**

The Discharger shall update the financial assurances, every five years, to ensure that adequate funds are available, to cover the cost of closure, post-closure monitoring and maintenance, and corrective actions in response to a reasonably foreseeable release from the Landfill.

The Discharger shall ensure that the selected financial assurances instrument(s) meet the following minimum criteria:

- a. If the Discharger is not required, or does not maintain current and adequate financial assurance mechanisms with CalRecycle as the beneficiary, in accordance with CCR title 27,<sup>19</sup> then the Discharger is required to comply with applicable financial assurance requirements of CCR title 27, section 22212(a) by ensuring that the financial assurance mechanisms name the San Diego Water Board as beneficiary and the funds can be made directly available to the San Diego Water Board when it finds that the Discharger is unwilling or unable to implement closure, post-closure monitoring and maintenance, or corrective actions in response to a reasonably foreseeable release from the Landfill. Financial assurance instruments that do not provide the San Diego Water Board direct access to funds are unacceptable.
- b. The funds in the financial assurances mechanism is regularly updated, at least every five (5) years, to ensure that adequate funds are available for implementation of closure, post-closure monitoring and maintenance, or corrective action.

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<sup>19</sup> Financial assurance requirements for CalRecycle are found in the following sections of California Code of Regulations, CCR title 27: for Closure, Sections 22205 & 22206; for Post-Closure Maintenance, Sections CCR title 27, sections 22210 – 22212; for operating liability, sections 22215, 22216; for Corrective Action, sections 22220, 22221, 22222.

5. **PROPER OPERATION AND MAINTENANCE.**

The Discharger shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Dischargers to achieve compliance with the specifications of this Order. Proper maintenance includes effective performance of the Landfill cover system, appropriate Best Management Practices (BMPs) for the control of erosion and runoff, and operation of the dewatering system, as needed, for stability of the Landfill.

6. **REVISION OF WASTE DISCHARGE REQUIREMENTS.**

This Order may be modified, revoked and reissued, or terminated for cause including, by not limited to, the following:

- a. Violation of any term or condition of this Order.
- b. Obtaining this Order by misrepresentation or failure to fully disclose all relevant facts.
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
- d. A material change in the discharge of wastes into the Landfill.

The filing of a request by the Discharger for the modification, revocation and reissuance, or termination of this Order, or notification of planned changes or anticipated noncompliance does not stay any condition of this Order.

7. **CHANGE IN OWNERSHIP.**

This Order is not transferable to any person except after notice to the San Diego Water Board. The San Diego Water board may require modification or revocation and reissuance of this Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the Water Code. The Discharger shall submit notice of any proposed transfer of this Order's responsibility and coverage under **Reporting Requirement I.16**. The Discharger shall also inform the transferee of the status of the Discharger's annual fee account. When the Discharger notifies the San Diego Water Board of a transfer of ownership, the notification shall include a proposed schedule for the succeeding owner to provide evidence of acceptable financial assurance responsibility to the San Diego Water Board.

8. **PROPERTY RIGHTS.**

This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, nor protect the Discharger from liability

under federal, State, or local laws, nor create a vested right for owner and operator to continue the regulated activity.

**9. ENTRY AND INSPECTION.**

Under the authority of Water Code section 13267(c), the Discharger shall allow the San Diego Water Board, or an authorized representative upon the presentation of credentials and other documents as may be required by law, to:

- a. Enter upon the Discharger premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Order.
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order.
- c. Inspect at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order.
- d. Sample or monitor at reasonable times, for the purposes of assuring compliance with this Order, or as otherwise authorized by the Water Code, any substances or parameters at any location.
- e. Photograph or videotape any structures, facilities, activities, or other conditions that could result in adverse impacts to water quality and that are pertinent to compliance with this Order.

**10. REPOSITORY FOR WASTE DISCHARGE REQUIREMENTS.**

A complete and correct copy of this Order will be maintained at the local offices of the Discharger, and shall be available to monitoring and maintenance personnel at all times.

**11. DISCHARGE OF DECOMMISSIONED MATERIALS.**

A moratorium on the disposal of material from decommissioned sites into Class III and unclassified waste management units is established under Executive Order D-62-02.<sup>20</sup> This moratorium shall remain in effect until both of the following conditions are satisfied:

- a. Department of Public Health completes its assessment of the public health and environmental safety risks associated with the disposal of

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<sup>20</sup> Executive Order No. D-62-02, issued by the Governor, directs the SWRCB and the Regional Boards to impose a moratorium on the disposal of decommissioned materials into Class III and unclassified waste management units, which will remain in effect until the Department of Health Services (DHS) completes its assessment of the public health and environmental safety risks associated with the disposal of decommissioned materials and its regulations setting dose standards for decommissioning take effect.

decommissioned materials, and its regulations setting dose standards for decommissioning take effect.

- b. The San Diego Water Board rescinds Cleanup and Abatement Order No. R9-2002-0330.<sup>21</sup>

**12. HAZARDOUS SUBSTANCES.**

Except for a discharge which is in compliance with these waste discharge requirements, any person who, without regard to intent or negligence, causes or permits any hazardous substance, or sewage, to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, shall, as soon as (a) that person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, notify the Office of Emergency Services, the State Water Board, or the San Diego Water Board. This provision does not require reporting of any discharge of less than a reportable quantity as provided under section 13271 subdivisions (f) and (g) of the Water Code, unless the Discharger is in violation of a prohibition in the applicable Water Quality Control Plan.<sup>22</sup> This provision does not authorize a violation of the federal Clean Water Act section 301 or Water Code section 13260.

**13. HAZARDOUS WASTE EXCLUSION PROGRAM.**

The Discharger shall implement a hazardous waste exclusion program pursuant to CCR title 27, section 20870, and 40 CFR section 258.20, and shall comply with any additional load inspection requirements imposed by the LEA with jurisdiction over the facility.

**14. PETROLEUM RELEASES.**

Except for a discharge which is in compliance with these waste discharge requirements, any person who, without regard to intent or negligence, causes or permits any petroleum product to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, shall as soon as (a) that person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, notify the Office of Emergency Services, the State Water Board, or the San Diego Water Board. This provision does not require reporting of any discharge of less than 42 gallons, unless the discharge must be reported pursuant to section 311 of the Clean Water Act, or the discharge is in violation of a prohibition in the applicable Water Quality Control

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<sup>21</sup> Cleanup and Abatement Order No. R9-2002-0330 for Moratorium on the Disposal Decommissioned Materials to Class III and Unclassified Waste Management Units, adopted by the San Diego Water Board on October 11, 2002.

<sup>22</sup> Water Code section 13271(a).

Plan.<sup>23</sup> This provision does not authorize a violation of the federal Clean Water Act section 301 or Water Code section 13260.

15. **DISCHARGES TO NAVIGABLE WATERS.**

Any person discharging or proposing to discharge to navigable waters from a point source (except for the discharge of dredged or fill materials subject to section 404 of the Clean Water Act and discharges subject to a general National Pollution Discharge Elimination System (NPDES) permit), must file an NPDES permit application with the San Diego Water Board.

16. **SEVERABILITY.**

The provisions of this Order are severable. If any provision of this Order, or the application of any provision of this Order to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this Order shall not be affected thereby.

17. **EFFECTIVE DATE.**

This Order becomes effective on the date of adoption by the San Diego Water Board. Upon adoption, this Order supersedes Order No. 99-74, as amended.

## I. **REPORTING REQUIREMENTS**

The Discharger shall furnish to the San Diego Water Board, within a reasonable time, any information which the San Diego Water Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The Discharger shall also furnish, upon request by the San Diego Water Board, copies of records required to be kept by this Order.

1. **REPORT OF WASTE DISCHARGE.**

The Discharger shall file a Report of Waste Discharger (ROWD) or amendment to the Joint Technical Document, at least **120 days** prior 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 the 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.
- d. The addition of a major industrial waste discharge to a discharge of essentially domestic waste, or the addition of a new process or product by an industrial facility resulting in a change in the character or type of waste being discharged.

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<sup>23</sup> Water Code section 13272.

- e. Any planned change in the regulated facility or activity, which may result in noncompliance with this Order.
- f. As required for implementation of an Evaluation Monitoring Program<sup>24</sup> or Corrective Action Monitoring Program.<sup>25</sup>

2. **PRELIMINARY DESIGN REPORT.**

At least **120 days** prior to the beginning of construction for each new construction stage, a preliminary Design Report shall be submitted to the San Diego Water Board and shall include, but not be limited to, the engineered design plans, engineering specifications, and descriptions for all liners and other containment structures, leachate collection and removal components, leak detection system components, precipitation and drainage control facilities, interim covers, and description of ancillary facilities, and all information required by CCR title 27, section 21760(a)(1).

3. **FINAL CONSTRUCTION PLAN.**

A final construction plan, including project specifications, shall be submitted to the San Diego Water Board at least **30 days** prior to the initiation of construction activities for each new stage of the Landfill. This report shall contain all material specifications and final grading and construction plans, and the results of any field or laboratory tests completed prior to initiation of construction activities.

4. **DAILY FIELD REPORTS.**

During construction of each stage of the Landfill, the Discharger shall submit Daily Field Reports to the San Diego Water Board, by noon of the following day. The Daily Field Reports shall include observations, photographs, a record of field tests, problems identified during construction, and actions taken to correct the problems, and shall be signed by the CQA officer.

5. **FINAL CONSTRUCTION REPORT.**

A Final Construction Report shall be submitted to the San Diego Water Board after completion of each stage of construction, and prior to the discharge of waste into the constructed cell. At a minimum, the final construction report shall include the following components:

- a. Final Engineering Report, including but not limited to, as-built plans, specifications, and descriptions for all liners and other containment structures, LCRS components, leak detection system components, precipitation and drainage control facilities, interim covers, and a description of ancillary facilities as required by CCR title 27, section 21760(a)(1).

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<sup>24</sup> Pursuant to the requirements found in CCR title 27, section 20425.

<sup>25</sup> Pursuant to the requirements found in CCR title 27, section 20430.

- b. Final Construction Quality Assurance (CQA) Report with a written summary of the CQA program and all test results, analyses, and copies of the inspector's original field notes, and a certification as described in CCR title 27, section 20324 *et seq.*

6. **SIGNIFICANT MAINTENANCE ACTIVITY WORKPLAN.**

The Discharger shall submit a workplan prior to any significant maintenance activities that could alter the existing surface drainage patterns or change existing slope configurations. These activities, the importation of fill material, the design and installation of soil borings, groundwater monitoring wells, and other devices for site investigation purposes constitute significant maintenance activities. Unless otherwise directed by the San Diego Water Board, the Discharger may initiate the activities proposed in the workplan after expiration of **30 days** since the San Diego Water Board received the workplan.

7. **ON-SITE RECORD KEEPING.**

The Discharger shall retain and have available for review by the San Diego Water Board during normal business hours, at a location at or near the Landfill, the following documents and records:

- a. Inspection records, training procedures, and notification procedures required by this Order and CFR title 40, section 258.20.
- b. Any Landfill design documentation for placement of leachate or gas condensate as authorized by this Order and CFR title 40, section 258.28(a)(2).
- c. Any demonstration, certification, finding, monitoring, testing, or analytical data as required by this Order, CCR title 27, and CFR title 40, subpart E, section 258.50, *et seq.*
- d. Closure and post-closure maintenance plans, and any monitoring, testing or analytical data as required by this Order, CCR title 27, and CFR title 40, sections 258.60 and 258.61.
- e. Any cost estimates and financial assurance documentation as required by this Order, CCR title 27, and CFR title 40, subpart G, section 258.70 *et seq.*
- f. Certifications from the generator that the analyses submitted are representative of the material to be disposed.
- g. Analytical data or Material Safety Data Sheets representative of the waste stream.
- h. The Chain-of-Custody form(s) showing the sample's integrity was not compromised.

- i. The approximate volume (in cubic yards) of the waste(s) and the transporter's information.
- j. Any information required by CFR title 40, section 258.29(a)(4) (placement of leachate or landfill gas condensate as allowed by CFR title 40, section 258.28(a)(2) and this Order), section 258.29(a)(6) (closure and post closure plans and monitoring, testing, or analytical data as required by CFR title 40, sections 258.60 and 258.61), and section 258.29(a)(7) (any cost estimates and financial assurance documentation required by CFR title 40, subpart G).
- k. Notifications from the Discharger required pursuant to CCR title 27, sections 21710(a)(4) and 21710(c), and this Order.
- l. Records required to be kept in compliance with CCR title 27, section 21720(f).
- m. The JTD and any amendments thereto prepared pursuant to CCR title 27, section 21585(a)(4) and any additional records and certifications required to be kept in compliance with this Order.

8. **METHANE AND OTHER LANDFILL GASES.**

The City of San Diego Local Enforcement Agency (City LEA) has prescribed a landfill gas (LFG) monitoring program for the Landfill. The Dischargers shall implement the requirements prescribed by the City LEA, and provide copies of all LFG monitoring data and reports to the San Diego Water Board.

9. **MONITORING AND REPORTING PROGRAM.**

Pursuant to Water Code section 13267, and CCR title 27, section 20385, the Discharger shall comply with **M&RP No. R9-2018-0069**. Failure to comply with M&RP No. R9-2018-0069 may subject the Discharger to civil liability pursuant to Water Code section 13268.

10. **MONITORING WELLS.**

The Discharger shall comply with all notice and reporting requirements of the California Department of Water Resources, and with any agency well-permitting requirements imposed by a local agency regarding the construction, alteration, destruction, maintenance, or abandonment of any monitoring wells used for compliance with this Order and **M&RP No. R9-2018-0069**, as required under Water Code sections 13750 and 13755, and local agency requirements.

11. **REPORTING OF ENDANGERMENT OF HEATH AND ENVIRONMENT.**

The Discharger shall report any noncompliance which may endanger human health or the environment. Any such information shall be provided orally to the San Diego Water Board **within 24-hours** from the time the Discharger becomes aware of the circumstances. A written report of the noncompliance shall also be provided within **5 days** of the time the Discharger becomes aware of the circumstances. The written



report shall contain a description of the noncompliance and its cause, the period of noncompliance, including exact dates and times, and whether or not the noncompliance has been corrected, the anticipated time the noncompliance is expected to continue (if not already corrected), and steps taken or planned to reduce, eliminate, or prevent recurrence of the noncompliance. The San Diego Water Board, or an authorized representative, may waive the written report on a case-by-case basis if the Board has deemed the oral report sufficient.

12. **REPORTING OF SLOPE FAILURE.**

The San Diego Water Board shall be *immediately* notified of, and the Discharger shall promptly repair, any failure that threatens the integrity of containment structures, or structures that control surface drainage or erosion, groundwater monitoring wells, or the landfill gas collection system. A written summary of the actions that were implemented to correct the slope failure shall be prepared and submitted with the next semi-annual groundwater monitoring report.

13. **REPORTING OF SEEPAGE FROM THE LANDFILL.**

The Discharger shall *immediately* report by telephone or e-mail, the discovery of any previously unreported seepage from the Landfill. A written report shall be filed with the San Diego Water Board within **7 days** of the discovery of the seepage, containing at least the following minimum information:

- a. A map showing the location(s) of the seepage.
- b. An estimate of the flow rate.
- c. A description of the nature of the discharge (e.g., all pertinent observations and analyses).
- d. Analytical data obtained from a sample of the seep if a sample can be obtained.
- e. The corrective measures proposed to eliminate the seep.

14. **REPORTING OF LEACHATE PRODUCTION OR CHANGE IN PRODUCTION.**

Pursuant to CCR title 27, section 21710(c)(3), the Discharger shall notify the San Diego Water Board within **7 days** if fluid is detected in any unsaturated zone monitoring system (i.e., landfill gas migration monitoring probes), or if a progressive increase is detected in the volume of fluid in any unsaturated zone monitoring system.

15. **INCOMPLETE REPORTS.**

Where the Discharger becomes aware that it failed to submit any relevant facts or submitted incorrect information in a ROWD or JTD, groundwater monitoring report, Design Report, CQA Report, or any other report submitted to the San Diego Water

Board, the Discharger shall promptly submit the additional facts or corrected information.

**16. CHANGE IN OWNERSHIP.**

The Discharger shall notify the San Diego Water Board in writing at least **30 days** in advance of any transfer of the property to a new owner. The notification shall include an acknowledgement that the current owner is liable for violations of the Order up to the date of transfer, and that the new owner is liable for any violations after the date the ownership of the property transfers. The notification shall include an acknowledgement signed by the new owner that the new owner accepts responsibility for compliance with this Order, including financial assurances as the State may require, for implementation of maintenance and monitoring of the Landfill.

**17. REPORTING DECLARATION.**

All applications, reports, or information submitted to the San Diego Water Board are part of the public record and shall be signed and certified as follows:

a. A Report of Waste Discharge and JTD shall be signed as follows:

- i. For a corporation – by a principal executive officer of at least the level of vice president.*
- ii. For a partnership or sole proprietorship – by a general partner or the proprietor, respectively.*
- iii. For a municipality, or State, federal, or other public agency – by either a principal executive officer or ranking elected official.*

b. All other reports required by this Order and any other information required by the San Diego Water Board shall be signed by a person designated in paragraph (a) of this section, or by a duly authorized representative of that person. An individual is a duly authorized representative only if:

- i. The authorization is made in writing by a person described in paragraph (a) 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.*
- iii. The written authorization is submitted to the San Diego Water Board.*

The authorization, in the form of a Signature Authority Statement, shall be submitted to the San Diego Water Board within **30 days** from either (1) adoption of this Order, or (2) a change in the duly authorized representative.

- c. Any person signing a document pursuant to this section shall make a certification statement regarding the accuracy and authenticity of the information provided in the document. The certification statement shall be included as part of the transmittal letter submitted with any document referenced herein. The certification statement shall read as follows:

*"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations."*

**18. DUTY TO USE LICENSED PROFESSIONALS.**

Pursuant to CCR title 27, sections 20950(b), 20324(b), and 20324(d), any report submitted in compliance with CCR title 27 and this Order, which documents design specifications for containment systems, monitoring systems, and storm water control systems, shall be approved by a professional civil engineer or a certified engineering geologist appropriately licensed by the State of California.

The Discharger shall provide documentation that plans and reports required under this Order are prepared by or under the direction of, appropriately qualified professionals. CCR title 27, sections 20324(b) and (d), 20950(b), and 21090(b)(1)(C); and the California Business and Professions Code sections 6735, 7835, and 7835.1 require that engineering and geologic evaluations and judgements be performed by or under the direction of licensed professionals. A statement of qualifications and license numbers of the responsible lead professionals shall be included in all plans and reports submitted by the Discharger. The lead professional shall sign and affix their license stamp to the report, plan, or document.

**19. REPORT SUBMISSION PROCEDURES.**

The Discharger shall submit all paper or electronic copies of reports and notifications required under this Order, including those required under **M&RP No. R9-2018-0069**, and any other information requested by the San Diego Water Board, via email to:

California Regional Water Quality Control Board, San Diego Region

[sandiego@waterboards.ca.gov](mailto:sandiego@waterboards.ca.gov)

Attn: Groundwater Protection Unit Supervisor

Larger documents shall be divided into separate files at logical places in the report to keep the file sizes under 150 megabytes. The Discharger shall continue to

provide a paper transmittal letter, a paper copy of all figures larger than 8.5 inches by 14 inches (legal size), and an electronic copy (on a CD or other appropriate media) of all reports to the San Diego Water Board. Unless directed otherwise by the Executive Officer, all correspondence and documents submitted to the San Diego Water Board shall include the reference code “**259845: Land Discharge Supervisor**” in the header or subject line.

The Discharger shall also upload all reports into the GeoTracker database in accordance with this Order, including those required by **M&RP No. R9-2018-0069** (*See M&RP No. R9-2018-0069, Part III.E.3 – Electronic Data Submittals*).

## J. **DECLARATIONS BY THE SAN DIEGO WATER BOARD**

### 1. **ENFORCEMENT ACTIONS.**

Pursuant to Water Code section 13350(a), any person who is in violation of any WDRs, or prohibition issued, reissued, or amended by the San Diego Water Board, or who discharges waste, or causes or permits waste to be deposited where it is discharged into the waters of the State, shall be liable civilly under Water Code section 13323, and remedies may be proposed, in accordance with Water Code sections 13350(d) and (e).

### 2. **ENFORCEMENT, INCLUDING PENALTIES, FOR VIOLATIONS.**

The San Diego Water Board reserves its right to take any enforcement action authorized by law for violations of the terms and conditions of this Order. Water Code section 13350 provides that any person who intentionally or negligently violates any WDR issued, or amended by the San Diego Water Board, is subject to administrative civil liability of up to 10 dollars per gallon of waste discharged, or if no discharge occurs, up to 100 dollars per day of the violations. Water Code section 13268 further provides that failure or refusal to submit technical or monitoring program reports required by this Order, is subject to administrative civil liability of up to 1,000 dollars per day of the violation. Higher monetary penalties are available through judicial enforcement of violations.

### 3. **OTHER REGULATIONS.**

The Discharger may be subject to additional federal, State, or local regulations.

### 4. **ADMINISTRATIVE REVIEW BY THE STATE WATER BOARD.**

Any person affected by this action of the San Diego Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320, and title 23, section 2050. The petition must be received by the State Water Board (Office of Chief Counsel, P.O. Box 100, Sacramento, CA 95812) **within 30 days** of the date of this Order. Copies of the law and regulations applicable to filing petitions will be provided upon request.

5. **DEFINITIONS.**

Definitions of terms used in this Order shall be as set forth in CCR title 27, section 20164, and in Water Code section 13050.

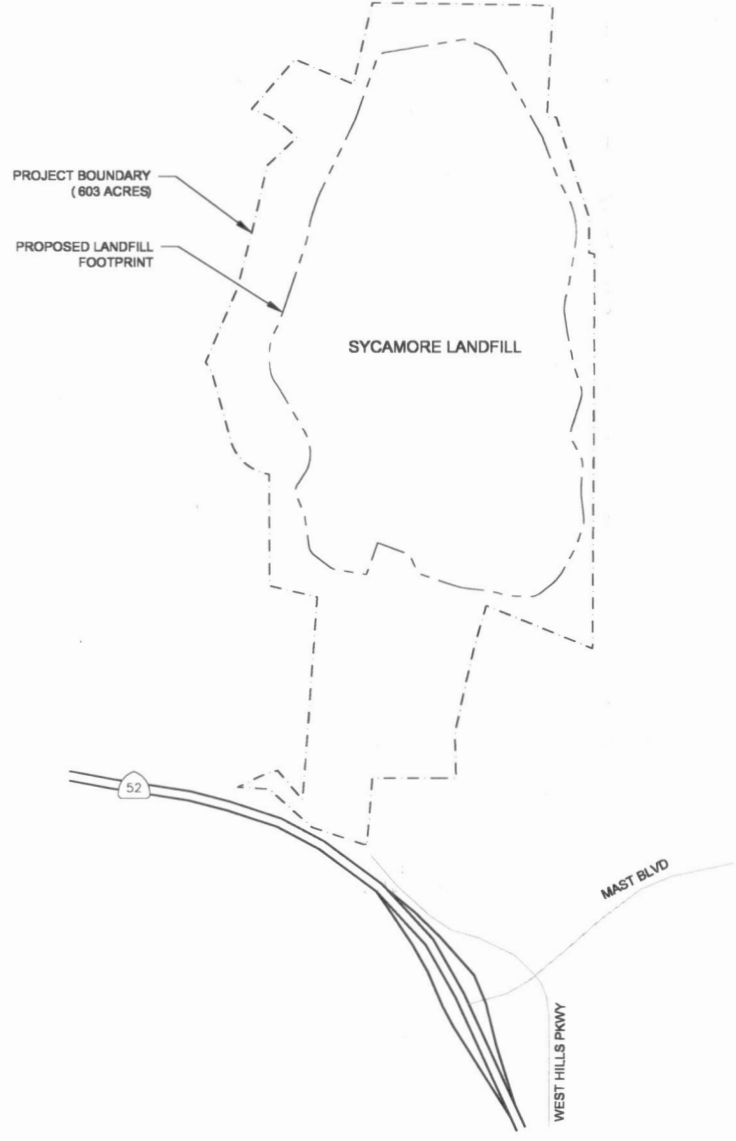
6. **DELEGATION OF AUTHORITY.**

The San Diego Water Board has delegated to the Executive Officer by resolution, all the powers and authority that may be delegated pursuant to Water Code section 13223. The San Diego Water Board intends for the Executive Officer to make modifications or revisions in appropriate cases, to **M&RP No. R9-2018-0069**.

LOCATION: P:\...al\Scamora\ITPA\Responses to Comments\2017\Drawn\General\Drawn\Figure 1-1 - Site Location Map.dwg DATE: 8/2/17 4:57 PM PLOT SCALE = 1:8 PLOTTED BY: GJA-USBR

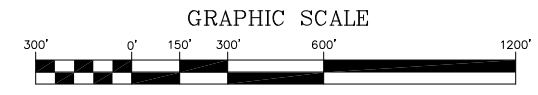


REGIONAL MAP  
NOT TO SCALE



LOCATION MAP  
NOT TO SCALE

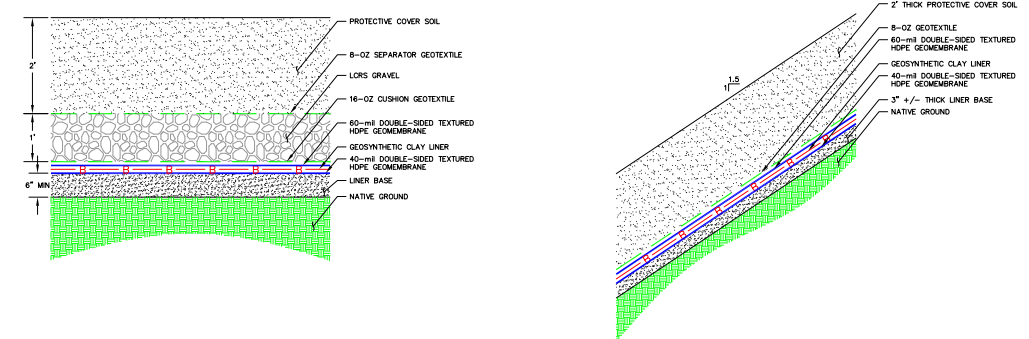
LOCATION: BA\_Proiects\Sycamore\JTD\2017\_JTD\Drawings - AllCAD\General Figures\Figure 1-5-6 - master plan.dwg DATE: 5/1/2018 12:19 PM PLOT SCALE = 1:2 PLOTTED BY: CALIB MILLER



**LEGEND**

- 500 EXISTING 10 FT CONTOUR
- LANDFILL WASTE FOOTPRINT
- CELL LIMIT (EXISTING AND PROPOSED)<sup>(2)</sup>
- COMPOSITE BASE LINER SYSTEM
- COMPOSITE SIDE SLOPE LINER SYSTEM

CELL SEQUENCING PLAN	
CELL	ACREAGE
5	8.1 AC
6	4.9 AC
7	12.0 AC
8	4.5 AC
9	23.6 AC
10	15.9 AC
11	6.9 AC
12	22.1 AC
13	19.4 AC
14	24.8 AC



**NOTES:**  
 1. EXISTING TOPOGRAPHY BASED ON AERIAL SURVEY BY COOPER AERIAL SURVEYS CO. ON FEBRUARY 13, 2017 COMBINED WITH FUTURE LANDFILL EXPANSION GRADES.  
 2. THE PROPOSED CELL BOUNDARIES ARE TENTATIVE.

		SYCAMORE LANDFILL JOINT TECHNICAL DOCUMENT	FIGURE NO. 1-7
		SANTEE, CALIFORNIA PROPOSED LINER SYSTEM, CELL SEQUENCING PLAN, AND SDG&E EASEMENT	PROJECT NO. AU17.1084

**ATTACHMENT B****MONITORING AND REPORTING PROGRAM NO. R9-2018-0069  
FOR SYCAMORE LANDFILL INC.  
SYCAMORE LANDFILL  
SAN DIEGO COUNTY****TABLE OF CONTENTS**

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**MONITORING AND REPORTING PROGRAM NO. R9-2018-0069  
FOR SYCAMORE LANDFILL INC.  
SYCAMORE LANDFILL  
SAN DIEGO COUNTY**

This Monitoring and Reporting Program No. R9-2018-0069 (M&RP) is issued to Sycamore Landfill Inc., pursuant to Water Code section 13267, which authorizes the California Regional Water Quality Control Board, San Diego Region (San Diego Water board) to require that dischargers furnish technical and monitoring program reports. The San Diego Water Board finds that:

**1. LEGAL AUTHORITY.**

M&RP No. R9-2018-0069 is issued pursuant to the Water Code commencing with section 13000, and implements the: (1) regulations and policies adopted by the State Water Resources Control Board (State water Board) in State Water Board Resolution No. 68-16 *Statement of Policy with Respect to Maintaining High Quality Waters in California*, and Resolution No. 93-62, *Policy for Regulations of Discharges of Municipal Solid Waste*, and Resolution No. 88-63, *Sources of Drinking Water*; (2) applicable State and federal regulations including title 27, California Code of Regulations (CCR), and title 40 Code of Federal Regulations (CFR) parts 257 and 258; (3) all applicable provisions of Statewide Water Quality Control Plans adopted by the State Water Board and the Water Quality Control Plan, San Diego Basin (Basin Plan) adopted by the San Diego Water Board, including beneficial uses, water quality objectives, and implementation plans; (4) applicable provisions of the California Health and Safety Code, division 20, chapter 6.5 (Hazardous Waste Control); and (5) relevant standards, criteria, and advisories adopted by other State and federal agencies.

**2. PURPOSE.**

Surface water, vadose zone, and groundwater monitoring are necessary for the San Diego Water Board to determine if the facility is in compliance with Order No. R9-2018-0069 – *Waste Discharge Requirement for Sycamore Landfill Inc., Sycamore Landfill, San Diego County*. This M&RP also prescribes requirements for a corrective action monitoring and continued detection monitoring programs in accordance with CCR title 27, sections 20415 et seq., 20420, and 20430. These monitoring programs will ensure early detection of any releases of waste constituents and waste degradation products from the Sycamore Landfill (Landfill), and monitor the natural attenuation of constituents already present in groundwater from a past release of waste constituents. This monitoring will enable the Dischargers to provide early response actions for the long-term protection of water

quality and beneficial uses of groundwater and surface waters within the Santee Hydrologic Subarea (7.12) of the Lower San Diego Hydrologic Area of the San Diego Hydrologic Unit.

**3. QUALIFIED PROFESSIONALS.**

Qualified professionals are necessary for preparing the technical and monitoring program reports required by this M&RP. Use of qualified professionals ensures that the collected data and interpretations are reliable and accurate. Professionals should be licensed where applicable, and competent and proficient in fields pertinent to the required activities. California Business and Professions Code section 6735, 7835, and 7835.1 require that engineering and geologic evaluations and judgements be performed by or under the direction of licensed professionals.

**4. CALIFORNIA ENVIRONMENTAL QUALITY ACT.**

The San Diego Water Board's adoption of this M&RP is exempt from the provisions of the California Environmental Quality Act (CEQA) in accordance with section 15061(b)(3) of chapter 3, title 14 of the California Code of Regulations because it can be seen with certainty that there is no possibility that the activities required by this M&RP will have a significant effect on the environment.

**5. APPLICABILITY.**

M&RP No. R9-2018-0069 supersedes M&RP No. 99-74, and shall be implemented immediately upon adoption by the San Diego Water Board.

**IT IS HEREBY ORDERED** that, pursuant to Water Code section 13267 and CCR title 27, and CFR title 40, parts 257 and 258; the Dischargers must comply with the following monitoring and reporting program requirements

## **PART I. SAMPLING AND ANALYSIS PLAN**

The Discharger shall furnish a Sampling and Analysis Plan that incorporates the standard monitoring provisions and describes the sampling and analysis protocols for groundwater corrective action and detection monitoring, leachate, surface water, and vadose zone monitoring for the Sycamore Landfill (Landfill). The Sampling and Analysis Plan must be received by the San Diego Water Board ***within 90 days*** of adoption of this M&RP.

### **A. STANDARD MONITORING PROVISIONS**

The Sampling and Analysis Plan shall incorporate the following standard provisions for all sampling and analyses conducted pursuant to this M&RP.

**1. Monitoring Systems.**

Site-Specific groundwater and surface water monitoring systems must comply with the corrective action monitoring requirements and associated performance standards included in CCR title 27<sup>1</sup>, sections 20385 et seq.

**2. Methods of Analysis.**

Specific methods of analysis shall be identified in the Sampling and Analysis Plan. If the Discharger proposes to use methods or test procedures other than those included in the most current version of the U.S. Environmental Protection Agency's (USEPA) SW-846<sup>2</sup> or title 40 of CFR, part 136<sup>3</sup>, the Sampling and Analysis Plan must explain the rationale for the change. The change must be approved by the San Diego Water Board prior to implementation.

**3. Sampling Frequency.**

If the Discharger monitors any sampling point or constituent of concern (COC)<sup>4</sup> more frequently than required by this M&RP, the results shall be included in the monitoring reports. The Discharger shall also report the increased frequency of monitoring and specific monitoring location(s) to the San Diego Water Board.

**4. Protocols.**

Sample collection, storage, and analysis shall be performed in accordance with protocols included in the USEPA's SW-846 and in accordance with a written Sampling and Analysis Plan, approved by the San Diego Water Board.

**5. Calibration.**

All monitoring instruments and equipment shall be properly calibrated and maintained as necessary to ensure accuracy of measurements.

**6. Record of Retention.**

The Discharger shall retain records of all monitoring information, including all calibration and maintenance records, and copies of all reports required by this M&RP. Records shall be maintained for a minimum of five years from the date of sample or measurements. This period may be extended during the course of any

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<sup>1</sup> Hereinafter, all references made to title 27 within this M&RP will be from the California Code of Regulations.

<sup>2</sup> USEPA guidance document SW-846, "Test Methods for Evaluations of Solid Waste, Physical/Chemical Methods."

<sup>3</sup> 40 CFR, part 136, "Guidelines Establishing Test Procedures for the Analysis of Pollutants: Procedures for Detection and Quantification."

<sup>4</sup> COCs are derived from 40 CFR part 257, Appendix I. Appendix I COCs are those constituents likely to be derived from landfill wastes and are therefore appropriate to use as monitoring parameters when the intent of monitoring is to determine whether a release from the landfill has occurred. The COCs from Appendix I also serve as the initial detection groundwater monitoring parameter for the Landfill.

unresolved litigation regarding this discharge or when requested by the San Diego Water Board.

**7. Sample Records.**

Records of monitoring information shall include:

- a. The date, identity of sample, monitoring point from which the sample was collected, and time of sampling or measurement.
- b. The name of the individual(s) who performed the sampling or measurement.
- c. The date and time that analyses were started and completed.
- d. The analytical techniques or method used, including method of preserving the sample and any other details requested by the San Diego Water Board, such as the identity and volumes of reagents used.
- e. The calculation of results.
- f. The results of analyses and the method detection limit (MDL) for each parameter.
- g. The laboratory quality assurance results (e.g., percent recovery, response factor, etc.).
- h. The chain of custody forms.

**8. Standard Sampling, Analysis, and Reporting Protocols.**

The Sampling and Analysis Plan shall incorporate the following standard protocols:

- a. The method of analysis shall be appropriate for the expected concentrations.
- b. Analytical results falling between the MDL and the practical quantitation limit (PQL) shall be reported as "trace" and shall be accompanied by documents reporting both the MDL and PQL values for that analytical run.
- c. MDLS and PQLs shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation procedures. In a relatively interference-free laboratory, derived MDLs and PQLs are expected to closely agree with published USEPA MDLs and PQLs.
- d. If the laboratory suspects that, due to a change in matrix or other effects, the MDL or PQL for a particular analytical run differs significantly from historic MDL or PQL values, the results shall be flagged and reported in the QA/QC report.

- e. The MDL shall always be calculated such that it represents a concentration associated with a 99 percent reliability of non-zero results.
- f. The PQL shall represent the lowest concentration at which a numerical value can be assigned with reasonable certainty.
- g. All QA/QC data shall be reported, along with the sample results to which they apply. The QA/QC information shall include the method, equipment, and analytical detection and quantitation limits, the recovery rates, an explanation for any recovery rate that is less than 80 percent, the results of equipment and method blanks, the results of spiked and surrogate samples, and the frequency of quality control analysis. Sample results shall be reported unadjusted for blank results or spike recovery. In cases where contaminants are detected in field, trip, or laboratory blank samples, the accompanying sample results shall be appropriately flagged in the tabulated data.
- h. Upon receiving written approval from the San Diego Water Board, a proposed alternative statistical or non-statistical procedure may be used for determining the significance of analytical results for a constituent that is a common laboratory contaminant (e.g., methylene chloride, acetone, diethylhexyl phthalate, and di-n-octyl phthalate) during any given Reporting Period in which QA/QC samples show evidence of laboratory contamination for that constituent. Nevertheless, analytical results involving detection of these analytes in any background or downgradient sample shall be reported and flagged for easy reference by the San Diego Water Board.

## **B. DETECTION GROUNDWATER MONITORING**

The Sampling and Analysis Plan shall include a Detection Groundwater Monitoring Program compliant with the specific requirements and performance standards found in CCR title 27, sections 20415 and 20420, and CFR parts 258.50 and 258.54.

### **1. Detection Groundwater Monitoring Program Requirements.**

The Detection Groundwater Monitoring Program (DMP) shall include:

- a. A sufficient number of background monitoring points installed at appropriate locations and depths to yield groundwater samples from the uppermost aquifer that represent the quality of groundwater that has not been affected by a release from the Landfill.<sup>5</sup>

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<sup>5</sup> Title 27, California Code of Regulations, section 20410(b)(1)(A).

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- b. A sufficient number of monitoring points and background 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 and allow for the detection of a release from the Landfill.<sup>6</sup>
- c. A sufficient number of monitoring points installed at additional locations and depths to yield groundwater samples from the uppermost aquifer to provide the best assurance of the earliest possible detection of a release from the Landfill.<sup>7</sup>
- d. A sufficient number of monitoring points and background monitoring points installed at appropriate locations and depths to yield groundwater samples from portions of the zone of saturation, including other aquifers not monitored pursuant to CCR title 27, section 207415 (b)(1)(B)(2), to provide the best assurance of the earliest possible detection of a release from the Landfill.<sup>8</sup>
- e. A sufficient number of monitoring points and background monitoring points installed at appropriate locations and depths to yield groundwater samples from zones of perched water to provide the best assurance of the earliest possible detection of a release from the Landfill.<sup>9</sup>
- f. Monitoring point locations and depths that include the zone(s) of highest hydraulic conductivity in each groundwater body monitored.<sup>10</sup>

2. **Detection Groundwater Monitoring Program Network.**

The groundwater monitoring network for the Landfill is comprised of a background well, compliance wells, downgradient monitoring points, and piezometers. The background monitoring well is SLMW-12. The compliance monitoring wells are: ITSY-6R (extraction well), and ITSY-10. The downgradient monitoring points are: ITSY-5, ITSY-7, ITSY-9, and ITSY-11. The piezometers for measuring groundwater elevations are: BRG-3 and BRG-10.

3. **Detection Monitoring Program Elements.**

The Detection Groundwater Monitoring Program shall implement all applicable State and federal requirements<sup>11</sup> and all applicable elements of a Detection Monitoring Program (DMP). The DMP shall include the following minimum elements:

- a. The Discharger shall use and maintain groundwater monitoring wells to conduct the detection groundwater monitoring program at the Landfill.

<sup>6</sup> Title 27, California Code of Regulations, section 20415(b)(1)(B)(1).

<sup>7</sup> Title 27, California Code of Regulations, section 20415(b)(1)(B)(2).

<sup>8</sup> Title 27, California Code of Regulations, section 20415(b)(1)(B)(3).

<sup>9</sup> Title 27, California Code of Regulations, section 20415(b)(1)(B)(4).

<sup>10</sup> Title 27, California Code of Regulations, section 20415(b)(1)(B)(5).

<sup>11</sup> Title 27, California Code of Regulations, section 20385 through 20430, and 40 CFR, Part 258.58.

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- b. The groundwater samples shall be collected, analyzed, and reported for the general chemistry parameters and COCs at the frequencies shown in **Table 1 of Part I.B**, and any additional parameters included in the approved Sampling and Analysis Plan.
- c. The static water elevation shall be measured to the nearest 0.01 foot in each well prior to purging the wells for sampling.
- d. Samples shall be collected for any given monitored medium, for all monitoring points and background monitoring points, to satisfy the data analysis requirements for a given Reporting Period.
- e. Samples shall be collected in a manner that ensures sample integrity.
- f. Samples shall be collected on a consistent schedule, with sampling events evenly spaced approximately six months apart.
- g. Prior to purging and sampling monitoring wells, the Dischargers shall assess the well for the presence of a floating immiscible layer. If an immiscible layer is found, the Discharger shall notify the San Diego Water board **within 24 hours** of the discovery.
- h. Groundwater elevations shall be monitored **at least quarterly**, including the times of expected highest and lowest elevations of the water level for the respective groundwater body.<sup>12</sup> Groundwater elevations shall be measured within a period of time short enough to avoid temporal variations in groundwater elevations.
- i. Groundwater sampling shall also include an accurate determination of field parameters of temperature, electrical conductivity, turbidity, and pH, pursuant to CCR title 27, section 20415(e)(13).

**Table 1 – Groundwater Monitoring Parameters**

<b>Monitoring Parameters</b>	<b>Units</b>	<b>Sampling Frequency<sup>1</sup></b>
pH <sup>2</sup>	pH	Semi-annual
Field Conductivity <sup>2</sup>	μS/cm	Semi-annual

<sup>12</sup> In accordance with Title 27, California Code of Regulations, section 20415(e)(15).



Turbidity <sup>2</sup>	NTU	Semi-annual
Total Dissolved Solids	mg/l	Semi-annual
Chloride	mg/l	Semi-annual
Sulfate	mg/l	Semi-annual
Nitrate as Nitrogen	mg/l	Semi-annual
Volatile Organic Compounds <sup>3</sup>	µg/l	Semi-annual
Metals <sup>3</sup>	mg/l	Semi-annual

<sup>1</sup>The San Diego Water Board Executive Officer may increase or decrease the monitoring frequency if determined to be necessary.

<sup>2</sup>These monitoring parameters are field parameters measured during sampling activities. Note: mg/l = milligram per liter; µg/l = micrograms per liter; NTU = Nephelometric turbidity units; µS/cm = microsiemens/centimeter.

<sup>3</sup>These monitoring parameters are derived from 40 CFR, Part 258, Appendix I – “Constituents for Detection Monitoring.” These constituents are generally expected to be in or derived from wastes associated with landfill.

#### 4. **Lab Accreditation.**

Unless otherwise approved by the San Diego Water Board, all analyses shall be conducted at a laboratory accredited for such analyses by the State Water Board Division of Drinking Water (DDW). Any report presenting new analytical data is required to include the complete Laboratory Analytical Report(s).

#### 5. **Laboratory Reporting Requirements.**

The Laboratory Analytical Report(s) shall contain the following minimum information:

- a. A complete sample analytical report.
- b. A complete laboratory Quality Assurance/Quality Control (QA/QC) report.
- c. A discussion of the sample and QA/QC data.
- d. A properly completed Chain of Custody form for the analyzed samples.
- e. A transmittal letter, signed by the laboratory director, certifying that:
  - i. The laboratory has been accredited by the Environmental Laboratory Accreditation Program (ELAP) and has demonstrated to DDW ELAP its capacity to analyze environmental samples using approved methods.

- ii. All analytical work performed by, or on behalf of the laboratory, was supervised by the laboratory director.
- iii. All analytical work performed by the laboratory used the most current methods for the analytes specified in this M&RP or Chain of Custody submitted by the Discharger.
- f. If requested by the San Diego Water Board, the Laboratory Analytical Report(s) shall be signed by the laboratory director.

The Detection Groundwater Monitoring Program shall specify either an inter-well or intra-well method, or a combination of the two as the method of analysis of the groundwater monitoring data, depending on which type of analysis is the best fit for site conditions (See Part II for a description of the two methods). Once implemented, the method of analysis cannot be changed without the written approval of the San Diego Water Board.

## C. CORRECTIVE ACTION GROUNDWATER MONITORING

The Sampling and Analysis Plan shall include a Corrective Action Groundwater Monitoring Program compliant with the specific requirements and performance standards found in CCR title 27, sections 20415 and 20430, and 40 CFR parts 258.50, 258.55, and 258.56.

### 1. Corrective Action Groundwater Monitoring Program Requirements.

The Corrective Action Groundwater Monitoring Program (CAP) shall include:

- a. A sufficient number of background monitoring points installed at appropriate locations and depths to yield groundwater samples from the uppermost aquifer that represent the quality of groundwater that has not been affected by a release from the Landfill.<sup>13</sup>
- b. A sufficient number of monitoring points and background 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 at other locations in the uppermost aquifer to provide the data needed to evaluate the effectiveness of the correction action program.<sup>14</sup>
- c. A sufficient number of monitoring points and background monitoring points installed at appropriate locations and depths to yield groundwater samples from

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<sup>13</sup> Title 27, California Code of Regulations, section 20415(b)(1)(A).

<sup>14</sup> Title 27, California Code of Regulations, section 20415(b)(1)(D)(1).

portions of the zone of saturation, including other aquifers, not monitored pursuant to CCR title 27, section (b)(1)(D)(1).<sup>15</sup>

- d. A sufficient number of monitoring points and background monitoring points installed at appropriate locations and depths to yield groundwater samples from portions of the zones of perched water to provide the data needed to evaluate the effectiveness of the corrective action program.<sup>16</sup>
- e. Water Quality monitoring shall be conducted semi-annually at all compliance wells in accordance with CCR title 27, section 20415(e)(12)(B).

## 2. **Corrective Action Program Groundwater Monitoring Network.**

The groundwater monitoring network for the Landfill is comprised of a background well, compliance wells, downgradient monitoring points, and piezometers. The background monitoring well is SLMW-12. The compliance monitoring wells are: ITSY-6R (extraction well), and ITSY-10. The downgradient monitoring points are: ITSY-5, ITSY-7, ITSY-9, and ITSY-11. The piezometers for measuring groundwater elevations are: BRG-3 and BRG-10.

## 3. **Evaluation of Corrective Action Program.**

Because the Landfill has had, and continues to have, measurably significant concentrations of constituents of concern in groundwater, the Discharger shall comply with the following requirements in order to bring the site into compliance with the applicable State and federal regulations.<sup>17</sup>

- a. The Discharger shall submit technical reports evaluating the effectiveness of the corrective action program semi-annually, as an appendix to the semi-annual monitoring reports required by this M&RP.
- b. If the San Diego Water Board or the Discharger determines that the corrective action measures are ineffective, the Discharger must submit revised Corrective Action Measures in the next semi-annual monitoring report.

## 4. **Corrective Action Groundwater Monitoring Program Elements.**

The Corrective Action Groundwater Monitoring Program shall implement all applicable State and federal requirements<sup>18</sup> and all applicable elements of a federal Assessment Monitoring Program (AMP) and a State Corrective Action Program (CAP), concurrent with the requirements for the detection groundwater monitoring

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<sup>15</sup> Title 27, California Code of Regulations, section 20415(b)(1)(D)(2).

<sup>16</sup> Title 27, California Code of Regulations, section 20415(b)(1)(D)(3).

<sup>17</sup> Title 27, California Code of Regulations, section 20430 and 40 CFR, Part 258.58.

<sup>18</sup> Title 27, California Code of Regulations, section 20385 through 20430, and 40 CFR, Part 258.58.

program as described above. At a minimum, the Corrective Action Monitoring Program shall include the following elements:

- a. Implement statistical or non-statistical data analysis at any given compliance well outside of the release, for those constituents of concern that are in Detection Mode at that well;
- b. Provide graphical representation of groundwater monitoring data collected from compliance wells. The graphs should include concentration-versus-time graphs, for any given monitoring point within the release, for all constituents of concern that are in Tracking Mode at that well;
- c. Utilize an initial scan for all Appendix II<sup>19</sup> constituents at all compliance wells involved in the release to be sure that the monitoring parameter list for each well includes all Appendix II constituents detectable in groundwater;
- d. After the initial scan, utilize a periodic (five-yearly) presence/absence screening of all constituents of concern rather than statistical/non-statistical data analysis, at all appropriate wells to keep the monitoring parameter list updated to include all constituents detectable in groundwater;
- e. Utilize annual leachate sampling for all non-constituent of concern Appendix II constituents to keep the constituent of concern (COC) list updated to include all Appendix II constituents that the Landfill could release; and
- f. Implement an automatic update procedure to assure that the monitoring parameter and COC lists remain current.

## **D. SURFACE WATER MONITORING**

The Sampling and Analysis Plan shall include a surface water monitoring plan compliant with the specific requirements and performance standards found in CCR title 27, section 20415(c), 40 CFR part 258.27, and Order No. 2014-0057-DWQ, *National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Industrial Activities, Order NPDES No. CAS000001*.

### **1. Surface Water Monitoring Program Requirements.**

The surface water monitoring program shall include:

- a. A sufficient number of background monitoring points established at appropriate locations and depths to yield samples from each surface water body that

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<sup>19</sup> Hereinafter, all references to Appendix I or II will be to 40 CFR, Part 258.

- represent the quality of surface water that has not been affected by a release from the Landfill.
- b. A sufficient number of monitoring points established at appropriate locations and depths to yield samples from each surface water body that provide the data to evaluate compliance with the Water Standard and to evaluate the effectiveness of the corrective action program.
2. **Surface Water Monitoring Network.**  
The Discharger shall add additional monitoring points as necessary to supplement monitoring point SYC-1 located downgradient of the Landfill in Little Sycamore Creek to meet the performance requirements found in CCR title 27, section 20415(c).
  3. **Surface Water Monitoring Program Elements.**  
Surface water monitoring shall be conducted semi-annually in Little Sycamore Creek when there is sufficient water to collect a sample to satisfy the requirements of CCR title 27, section 20415(c). Surface water samples shall be analyzed for the monitoring parameters found in Order No. 2014-0057-DWQ, *National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Industrial Activities, Order NPDES No. CAS000001*. Every five years, coincident with the five-year COC scan, the Discharger shall analyze surface samples for the constituents listed on the most current COC list. The point of compliance for surface water monitoring shall be located on Little Sycamore Creek at the outfall from the desiltation basin for the Sycamore Landfill.

## E. LEACHATE MONITORING

The Sampling and Analysis Plan shall include a leachate monitoring plan for the purpose of identifying the COCs being produced from the Landfill that would likely appear in groundwater should a breach of the liner system or a release from the unlined (legacy) portion of the Landfill occur.

1. **Collection of Leachate Samples.**  
Annually in **September**, the Discharger shall collect a liquid sample of the leachate from the leachate collection and removal system (LCRS) and analyze the sample for all constituents listed in Appendix II<sup>20</sup> constituents that are not yet on the COC list for the Landfill. The COC list shall consist of all waste constituents listed in this M&RP and include each constituent listed in Appendix II that is not already a COC for the Sycamore Landfill and that is both:

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<sup>20</sup> 40 CFR, Part 258.

- a. Detected in a sample of the Landfill's leachate.

The analytical results must be received in the San Diego Water Board office no later than **5:00 pm on October 30**, and include an identification of all detected Appendix II constituents that are not currently on the Landfill's COC list (non-COCs).

- b. Detected in a retest of a leachate sample collected the following **March**.

The Discharger is required to sample and analyze this retest sample only in cases where the annual leachate sample identifies non-COCs. The retest sample shall be analyzed only for the non-COCs detected in the **September** sample. During any year in which a **March** leachate retest is carried out, the Discharger shall submit a report of the results to the San Diego Water Board, to be received no later than **5:00 pm on April 30**. The **April 30** report shall also include an amended COC list that includes the Appendix II constituents that were newly detected in both the **September** and **March** leachate samples. The revised COC list must be noted in the Site's Operating Record within **14 days**, permanently adding these constituents to the Landfill's COC list. Within **seven days** of amending the Facility's Operating Record pursuant to this section, the Discharger shall also provide written notification to the San Diego Water Board indicating that the Discharger has made the amendment.

## 2. **Establishing Background Values for New COCs.**

For each Appendix II constituent (excluding synthetic constituents) that is added to the Landfill's COC list (as described above), the Discharger shall establish a reference background value in groundwater following the procedures required in the regulations.<sup>21</sup> Once this reference set of background data are collected, the Discharger shall include the data as a separate item in the next monitoring report submitted.

For those Appendix I metals detected and verified in the Landfill's leachate, the San Diego Water Board, after considering the factors listed in 40 CFR Part 258.54(a)(2), may substitute inorganic surrogates in the Landfill's list of monitoring parameters, but will include metals replaced by surrogates in the Landfill's COC list at the request of the Discharger.

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<sup>21</sup> Title 27, California Code of Regulations, section 20415, et seq.

### 3. **Narrowing the Monitoring List of COCs.**

To narrow the scope of monitoring parameters and reduce the costs of monitoring for waste constituents identified as groundwater monitoring parameters, this M&RP allows the Discharger to:

- a. Analyze for volatile organic constituents listed in Appendix I.
- b. Propose the use of surrogate monitoring parameters, as appropriate (i.e., pH, total dissolved solids (TDS), chloride (CL), sulfate (SO<sub>4</sub>) and nitrate (NO<sub>3</sub>) to monitor groundwater at the Landfill for a release of metals listed in Appendices I and II.
- c. Analyze soil vapor samples from either the vadose zone or a soil vapor monitoring network (soil gas probes) or an active landfill gas (LFG) control system at the Landfill. Analytical results from soil vapor (or LFG) samples may be used to identify additional specific volatile organic constituents (COCs) listed in Appendix II that are actually being generated by the wastes within the Landfill. The Discharger may propose that additional volatile organic constituents, listed in Appendix II and detected and verified by retest of vapor samples collected from properly constructed and maintained soil vapor monitoring probes or an active LFG control system, may be used to augment the groundwater monitoring parameters for the Corrective Action Monitoring Program.

## **F. FIVE YEARLY COC SCAN**

The Sampling and Analysis Plan shall include a Five-Yearly COC Scan<sup>22</sup> for the purpose of creating a “COC List” of constituents present in groundwater at each well. As part of a Five-Yearly COC Scan, any unknown peaks on the chromatographs shall be reported along with an estimate of the concentration of the unknown analyte(s). When unknown peaks are encountered, a second column or second method confirmation procedures shall be performed to attempt to identify and more accurately quantify the unknown analyte(s). If an analyte is detected that is not yet on the COC list, the Discharger shall, **within 30 days**, resample the well and reanalyze the sample for the newly detected constituent(s). All newly detected constituents verified by a retest become part of the COC list for regular detection groundwater monitoring at the Landfill.

The five-yearly COC sampling and analysis shall occur at alternating intervals to account for seasonal variations in the hydrogeology at the Landfill. Therefore, the Discharger shall sample either in the winter-spring timeframe, or summer-fall timeframe, and report the results of that sampling event in the groundwater monitoring report that is due at the end

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<sup>22</sup> The COC scan includes all COCs found in 40 CFR, part 258, Appendix II. Appendix II provides a comprehensive list of analytes that may exist in leachate generated from a landfill.

of that reporting interval. For example, if the Discharger samples in the winter-spring timeframe, the COC report and analysis is due on **April 30** of that same year. If the Discharger samples in the summer-fall timeframe, the COC report and analysis is due on **October 30** of that same year.

## G. SCHEDULE OF ACTIVITIES

The Sampling and Analysis Plan shall include a schedule for implementing all the activities described in the various monitoring programs detailed in the plan.

## PART II. METHODS OF ANALYSIS

Part II of this M&RP provides the requirements for the analysis of detection and corrective action groundwater monitoring data collected from monitoring wells associated with the Landfill. The objective of the detection groundwater monitoring program is to ensure early detection of a release of waste constituents from the Landfill. To accomplish this objective, the detection groundwater monitoring program must be able to determine whether the release of a COC has created a measurably significant increase at any given monitoring well. Similarly, the objective of the corrective action groundwater monitoring program is to monitor the effectiveness of the remedial alternatives initiated and implemented by the Discharger to achieve compliance with the water quality protection standard adopted for the Landfill. To achieve this objective, the Discharger must analyze groundwater samples collected from each corrective action monitoring well to determine which COCs are present and how their concentrations are changing over time.

### A. DETECTION MODE MONITORING

If COCs have not been detected in groundwater samples collected from a given well, that well will be monitored in “detection mode.” In detection mode, the Discharger has the option of using either the “*inter-well*” or “*intra-well*” statistical approach when analyzing groundwater data. The inter-well and intra-well approaches are described in **Section L of Attachment C** to Order R9-2018-0069.

### B. TRACKING MODE MONITORING

When one or more COCs are detected in groundwater samples and there is statistically significant evidence of a release, the Discharger shall monitor all of the COCs in that groundwater monitoring well in “tracking mode.” In tracking mode, the Discharger shall analyze COC concentrations in groundwater by plotting the concentrations in groundwater samples collected from a given well over time. The graphical representation of the groundwater data will be used to track trends in COC concentrations over time, and assist in evaluating the impacts of COCs on groundwater quality. All corrective action monitoring wells will be monitored in “tracking mode.”



## C. WATER QUALITY PROTECTION STANDARD

The Landfill is in violation of its water quality protection standard (Water Standard) any time a constituent in a given groundwater well monitoring in “detection mode” exhibits a measurably significant increase over the applicable background data set.<sup>23</sup> All groundwater wells monitored in “tracking mode” remain in violation of the Water Standard until completion of a successful proof period that ends the Corrective Action Program.<sup>24</sup> The Water Standard for the Sycamore Landfill consists of the following components:

### 1. **Constituents of Concern.**

The COCs for the Landfill, including any updates, are listed in Attachment No. 1. Statistical and non-statistical data analysis is limited to only those COCs that are on the current COC list.<sup>25</sup>

### 2. **Concentration Limits.**

For each COC detected in compliance monitoring wells, the Discharger shall propose one of the following:

- a. A concentration limit equivalent to the background dataset; or
- b. A concentration limit greater than background, justified through a statistical analysis of relevant data (including the background dataset) and a demonstration that background concentrations would not be technologically or economically feasible for the COCs for a given monitoring well.<sup>26</sup> A concentration limit greater than background will only be considered for COCs present in monitoring wells associated with corrective action monitoring.<sup>27</sup>

### 3. **Compliance Period.**

The compliance period for the Landfill shall include the remaining years of active life of the Landfill and the closure period of the Landfill. The Discharger shall continue to monitor and maintain the Landfill until the San Diego Water Board determines that the Landfill no longer poses a threat to water quality.<sup>28</sup>

## D. VALIDATION OF BACKGROUND DATASETS

The Discharger may need to validate an intra-well background dataset for COCs at an existing well if there have not been enough sampling events at that well to create a

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<sup>23</sup> Title 27, California Code of Regulations, section 20415(e)(7).

<sup>24</sup> Title 27, California Code of Regulations, section 20430(g), and Title 40, Code of Federal Regulations, Part 258.58(e).

<sup>25</sup> Title 27, California Code of Regulations, section 20395.

<sup>26</sup> Title 27, California Code of Regulations, section 20400(c).

<sup>27</sup> Title 27, California Code of Regulations, section 20400(h).

<sup>28</sup> Title 27, California Code of Regulations, section 20950(a)(2).

background data set, and for each new well installed as part of the groundwater detection monitoring program. If the Discharger uses an intra-well approach, then the Discharger shall report the validated background dataset, specifying the COCs and monitoring well(s) affected, in the next scheduled monitoring report. If the Discharger detects COCs in monitoring wells while establishing the background dataset, then the San Diego Water Board may determine that affected wells will become part of the corrective action monitoring program well network.

1. **Accelerated Background Data Procurement.**

If there are less than ten sampling points for a given COC at any well, the Discharger shall implement the accelerated data procedure prior to initiating the intra-well background dataset validation procedure described below. Background concentrations for new wells or COCs may be determined by collecting and analyzing samples quarterly from each affected well until there are at least 10 data points. If quarterly sampling would not provide representative data for the site, the Discharger shall submit an alternative sampling plan to the San Diego Water Board for approval.

2. **Intra-Well Background Validation for New COCs.**

Once 10 data points are available, then a background dataset can be established and the intra-well analytical approach may be implemented.

a. **Commonly Quantified Constituents.**

For any COC that, absent the Landfill's existence, would usually be detected in groundwater at concentrations exceeding the COC's PQL, the Discharger shall validate the intra-well background data at each compliance well. A compliance well's data cannot be used for an intra-well comparison if the constituent's median concentration exceeds the 75<sup>th</sup> percentile of the pooled data. Inter-well comparisons shall be used for these wells. Datasets from a COC whose data's median is less than the pooled background plot's 75<sup>th</sup> percentile may be used as the initial background dataset for intra-well comparisons for that well or COC.

b. **Rarely Quantified Constituents.**

For a COC that, absent the Landfill's existence, would seldom be detected in groundwater (e.g., synthetic constituents), the Discharger shall identify the highest value in the pooled dataset from all background wells that have passed validation or, in a case where all applicable upgradient well data is non-detect, the MDL. The Discharger shall use this value as a basis of comparison to validate the data points in the proposed intra-well background dataset. The initial intra-well background dataset for that downgradient well shall consist of all data points in the proposed intra-well background dataset that are less than this value.

**3. Validate Upgradient Data for Synthetic Organic Appendix II COCs.**

Synthetic organic constituents should not be present at detectable concentrations in groundwater samples collected from background wells. Detections of synthetic organic constituents indicate either an analytical error (around 1 percent of the time) or that the constituent comes either from the Landfill or from another source. If synthetic organic constituents are detected in more than 10 percent of analyses in background wells, the Discharger shall conduct an investigation under **Part II.F** of this M&RP.

**4. Performance Standards.**

All statistical or non-statistical data analysis methods shall meet the applicable State and federal requirements.<sup>29</sup>

**5. Regular Retest Method.**

Regular retesting is required to validate data that indicates increasing COC concentrations. For wells in detection mode, the Discharger shall conduct up to two re-tests whenever test results signify an increased concentration, to verify the initial data.<sup>30</sup> If the first retest validates the preliminary indication, a second retest shall be conducted. A measurably significant increase exists if both retest samples validate the preliminary indication.

**6. Limited Retest Method.**

For any given detection groundwater monitoring point, the Discharger may perform the verification procedure only for those COCs that have shown a preliminary indication of a release at that well for that reporting period.

**E. CALIFORNIA NON-STATISTICAL DATA ANALYSIS METHOD**

The following section describes the California non-statistical data analysis method that the Discharger must use to evaluate and validate detection groundwater monitoring data collected from the Landfill.

**1. Non-Statistical Method for Detection Mode COCs Seldom Found in Background.**

The Discharger shall use this data analysis jointly for each constituent that exceeds its MDL in less than 10 percent of its background dataset. A measurably significant indication of a release occurs in a given sample when:

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<sup>29</sup> Title 27, California Code of Regulations, section 20415(e)(9) and Title 40, Code of Federal Regulations, Part 258.53.

<sup>30</sup> Title 27, California Code of Regulations, section 20415(e)(8)(E)(2).

- a. Two or more of the Detection Mode COCs exceed their respective MDLs; or
- b. One or more of the COCs equals or exceeds its respective PQL.

## 2. **Discrete Retest.**

If an approved data analysis method provides a preliminary indication that there has been a measurably significant increase for a COC in a given monitoring well, then the Discharger shall perform a discrete retest to verify the results.<sup>31</sup> The Discharger shall take the following steps in conducting a retest:

- a. The Discharger shall **immediately notify** the San Diego Water Board by phone or e-mail and **within 60 days** of the original sampling event, shall collect a new independent retest sample from the indicating compliance well.
- b. For the retest sample, the Discharger shall include only the laboratory analytical results for those constituents indicated in that well's original test. As soon as the retest data are available, the Discharger shall apply the same test, for only those COCs with a tentative indication of a release, to separately analyze each of the two suites of retest data at that compliance well.
- c. If the retest sample trips either or both of the triggers listed above, then there is a measurably significant increase at that well for that constituent(s) indicated in the validating retest sample. Thereafter, the Discharger shall monitor all constituents in "tracking mode" instead of "detection mode" at that well, and shall highlight the conclusion about the measurably significant increase at the well and document the changes to the monitoring program in the next scheduled monitoring report.

## F. **SYNTHETIC ORGANIC COCS IN BACKGROUND WELLS**

An "excessive proportion" of a COC exists when 10 percent or more of the COC data collected from a given background well are reported to have concentrations equal to or greater than the MDL. An "excessive frequency" exists when a COC is reported to have concentrations equal to or greater than the MDL for two consecutive sampling events. The Discharger shall notify the San Diego Water Board **within 30 days** of the determination that either an "excessive proportion" or "excessive frequency" exists. Furthermore, **within 180 days** of the determination, the Discharger shall submit a report to the San Diego Water Board that evaluates whether the COC is from the site, and propose appropriate changes to the monitoring program. Based on the evaluation, if the San Diego Water Board concludes that the organic constituent originated from a source other than the Landfill, then the Discharger shall do the following:

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<sup>31</sup> Title 27, California Code of Regulations, section 20415(e)(8)(E).

**1. Determination of Secondary Source.**

The Discharger shall make appropriate changes to the monitoring program, such as using an appropriate statistical “inter-well” comparison procedure with a suite of background data that reflects the expected concentration for that constituent. The Discharger shall complete the following:

- a. List the constituent(s) as a COC in the next scheduled monitoring report if it is not already listed, and note this change in the Transmittal Letter.
- b. Include this background well as part of the release for that COC and monitor this well as a compliance well as part of the Corrective Action Monitoring Program.
- c. ***Within 120 days***, install a new upgradient or cross-gradient background well in a portion of the aquifer that will provide data representative of background conditions for the Landfill’s compliance wells.

**2. Ongoing Background Well Test.**

The Discharger shall continue to monitor background wells, for each COC, each time that COC is monitored at downgradient wells (excluding retests). New background well data shall be included in the Annual Compliance Report and included on a time-versus-concentration plot for that “background” well and constituent.<sup>32</sup> Any time such a plot for a given well and constituent shows two successive data points in excess of the MDL for any organic constituent that has not already been investigated at that well, the Discharger shall notify the San Diego Water Board ***within 30 days*** of the sampling event by phone or email, and shall initiate an investigation ***within 180 days*** of noting this condition, ***in accordance with Part II.F of this M&RP.***

## **PART III. REPORTS TO BE FILED WITH THE SAN DIEGO WATER BOARD**

Part III provides a description of the reports required to be submitted to the San Diego Water Board for the Sycamore Landfill.

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<sup>32</sup> Title 27, California Code of Regulations, section 20415(e)(14).

## A. GROUNDWATER MONITORING REPORT

The Discharger shall submit Groundwater Monitoring Reports to the San Diego Water Board semi-annually, no later than **April 30 and October 30** of each year. The Reports shall contain, at a minimum, the following information:

### 1. **Topographic Map.**

A topographic map (or copy of an aerial photograph), at an appropriate scale, identifying the maximum lateral extent of wastes in the Landfill, the locations of observation stations, monitoring points, background monitoring points, the groundwater elevation contours with interpreted groundwater flow direction and gradient. Maps must also be updated to show the maximum extent of any waste constituent or waste degradation product in groundwater.

The information contained on the topographic map shall also be provided in a Geographic Information System (GIS) shape file that shall be submitted as part of the Detection Groundwater Monitoring Report. The shape file must be polygons and include two Global Positioning Systems (GPS) points for each line of the polygon, with a minimum of 10 points. GIS metadata must also be submitted. The shape file and metadata shall be included on a CD attached to the Report.

### 2. **COC List.**

A list of COCs for each detection and corrective action monitoring well/point.

### 3. **Detection Limits.**

Detection limits of laboratory testing and monitoring equipment.

### 4. **COC Concentrations.**

A table containing the concentrations of COCs in samples collected during the reporting period.

### 5. **Groundwater Elevations.**

The method and time of groundwater elevation measurements, a description of the method used to purge the well and collect groundwater samples, and quality assurance/quality control (QA/QC) procedures used.

### 6. **Leachate Production.**

The total volume of leachate collected each month during the monitoring period and the method of leachate disposal (i.e., reused at the Landfill for dust control, sent offsite for treatment, etc.).<sup>33</sup>

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<sup>33</sup> As required by CCR title 27, section 20340(h).

**7. Field Logs.**

Field logs used during well purging and sampling. At a minimum, the field logs should include the following:

- a. The well number.
- b. The sampling date and time.
- c. The method of monitoring field parameters and calibration of equipment used to monitor field parameters.
- d. The purge method (if a pump is used, include the depth of pump placement in each well and the pumping rate).
- e. The purge and sample collection information such as: date each well was purged; well recovery time; method of disposal of the purged water; an estimate of the volume of water purged from each well; the results of all field analyses; depth to groundwater prior to purging, at the conclusion of purging, and when the sample was collected; the method of measuring the water level; and field personnel names and signature.

**8. Graphical Display.**

For each downgradient monitoring well and background monitoring well, a graphical display of all the groundwater data collected within at least the previous five calendar years as required by CCR title 27, section 20415(e)(14). Each graph shall plot the concentration of one or more constituents on a semi-log scale. Based on visual inspection of trends, the San Diego Water Board may direct the Discharger to carry out a preliminary investigation to determine whether or not a release is indicated.

**9. Method of Analysis.**

Documentation of statistical and non-statistical data analysis at each monitoring well, for those COCs that have not previously been identified in a release at the well.

**10. Background Data.**

Updates to the background data set.

**11. Summary of Groundwater Conditions.**

A written summary of the monitoring results and any changes to the groundwater monitoring system since the previous Semi-Annual Groundwater Monitoring Report. The written summary shall include a discussion of the groundwater flow rate and direction, the appearance of trends or other information that may indicate a potential change in the hydrogeologic conditions beneath and adjacent to the Landfill.

**12. Evaluation of Groundwater Data.**

An evaluation of the detection and corrective action groundwater monitoring data analyzed according to the methods described in **Part II** of this M&RP, and whether the analysis indicates a release of waste constituents or waste degradation products from the Landfill.

13. **Evaluation of Corrective Actions.**

A written summary that includes a discussion and evaluation of the effectiveness of corrective action measures implemented at the site to mitigate the release of waste constituents from the Landfill.

14. **Data Tables.**

All data obtained during the current, and previous four semi-annual reporting periods (two years total) presented in tabular form. Data files larger than 150 megabytes shall be provided electronically on compact disks (CD) or other media, and in a file format approved by the San Diego Water Board. Any electronic files submitted to the San Diego Water Board in accordance with Order No. R9-2018-0069 and this M&RP, shall not be password protected.

15. **Site Inspections.**

A copy of any site inspection report produced by the Discharger, the LEA, or the San Diego Water Board. Inspection reports may be included as an appendix to the Semi-Annual Groundwater Monitoring Report.

## **B. ANNUAL COMPLIANCE REPORT**

The Dischargers shall submit an Annual Compliance Report comprised of the detection groundwater monitoring, corrective action groundwater monitoring, surface water monitoring program data, and the landfill gas monitoring program data collected during the past year, and evaluations of that data. The Annual Compliance Report, covering the previous monitoring and reporting year, must be received by the San Diego Water Board no later than **5:00 p.m. on April 30** of each year, and shall contain the following minimum information.

1. **Sampling and Analysis Plan.**

Include the current version of the Sampling and Analysis Plan electronically on a CD attached to the Annual Compliance Report.

2. **Topographic Map.**

Include a topographic map (or copy of an aerial photograph), at an appropriate scale, identifying all the surface water and groundwater monitoring points, background monitoring points, the groundwater elevation contours with interpreted groundwater flow direction and gradient. Maps must also be updated to show the maximum extent of any waste constituent or waste degradation product in groundwater.



3. **Semi-Annual Groundwater Monitoring Report.**  
Include the Semi-Annual Groundwater Monitoring Report due on October 30. This report may be submitted on a CD as an appendix to the Annual Compliance Report.
4. **Summary of Groundwater Monitoring Data.**  
Include a written summary of the groundwater monitoring results from both detection and corrective action monitoring wells, indicating any changes made or observed since the previous Annual Compliance Report. Additionally, all analytical data obtained during the previous two six-month reporting periods shall be presented in tabular form. The data shall be provided electronically on compact discs (CDs) in a file format and media acceptable to the San Diego Water Board.
5. **Graphical Display.**  
Include a graphical display for all data collected within at least the previous five calendar years for each monitoring point and background monitoring point.<sup>34</sup> Each graph shall plot the concentration of one or more constituents over time for a given monitoring point. For any given constituent, the scale for all plots should be the same semi-log plot to facilitate comparison and identification of trends. On the basis of any outliers noted in the plotted data, the San Diego Water Board may direct the Discharger to carry out a preliminary investigation, in accordance with Part II.F of this M&RP, to determine whether or not a release is indicated. Trend analyses shall include identification of current trends, a comparison to previously identified trends, and a discussion of any significant changes in the trends. This shall be prepared for groundwater, surface water (including seeps and springs), and any vadose zone monitoring points (including subdrains, lysimeters, or landfill gas).
6. **Surface Water Monitoring Data Summary.**  
Include a Surface Water Monitoring Data Summary consisting of all surface water data collected during the past year. This Summary shall also contain a brief discussion of the findings and observations made during the past year regarding surface water sampling, and any recommendations concerning future modifications to the surface water monitoring system.
7. **Leachate Data Summary.**  
Include a Landfill Leachate Data Summary consisting of the monthly total volume of leachate collected during the reporting year, from the LCRS and any other leachate collection systems, to demonstrate the effectiveness of the leachate collection and removal system. This Summary shall contain a brief discussion of the leachate sampling results and volume produced and the method of leachate disposal during

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<sup>34</sup> Title 27, California Code of Regulations, section 20415(e)(14).

the reporting period. This Summary shall also include a table consisting of the last five years of leachate data collected at the Landfill.

**8. Sludge Wastes Data Summary.**

Include a Sludge Wastes Data Summary with a monthly tabulation of all sludge waste data collected during the reporting period, including the specific sources of sludge wastes, the weight (tons), and composition/types of sludge wastes<sup>35</sup> discharged at the Landfill. The Summary shall also include a discussion that includes confirmation that the primary and secondary sludge wastes and mixtures of primary / secondary sludges, and water treatment sludge, met the minimum moisture content and ratio of solids-to-liquids (by weight), required by the Order No. R9-2018-0069 and CCR title 27. The Sludge Wastes Summary shall also include a table that reports weight (tons) of sludge wastes discharged at the Landfill.

**9. Dredged Sediment Summary.**

Include a Sediment Summary of dredged sediment discharges in a monthly tabulation of all dredged sediments data collected during the reporting period, including the specific source(s) of dredged sediments, weight (in tons) and volume (in cubic yards) of dredged sediments accepted, and the results of moisture content analyses. The Sediment Summary shall also include written confirmation and a certification statement, that ensures the dredged sediments accepted met the non-hazardous waste classification criteria for disposal at the Landfill.

**10. Annual Waste Acceptance Summary.**

Include an Annual Tonnage Summary consisting of the monthly total volume (in cubic yards) and weight (in tons) of wastes accepted at the facility. The summary shall contain a table that lists each category of waste (i.e., MSW, sludge, contaminated soils, biosolids, etc.) and the volume accepted at the Landfill each month during the reporting period. Further, the Annual Waste Acceptance Summary shall identify the sources of non-MSW waste streams (i.e., sludges, sediments, biosolids, grit, etc.) discharged at the Landfill during the reporting period.

**9.11. Landfill Gas Data Summary.**

Include a Landfill Gas Data Summary consisting of all landfill gas data collected during the past year in accordance with the requirements set forth by CalRecycle and the County LEA. This Summary shall also contain a brief discussion of the findings and observations made during the past year regarding landfill gas

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<sup>35</sup> Sludge wastes include dewatered sludge (section 20164, CCR title 27), dewatered sewage or water treatment sludge; including primary sludge, secondary sludge, mixtures of primary and secondary sludges, or water treatment sludge (CCR title 27, section 20220(c)), grit and bar screen wastes. [https://www3.epa.gov/npdes/pubs/final\\_sgrit\\_removal.pdf](https://www3.epa.gov/npdes/pubs/final_sgrit_removal.pdf)

production, migration, and/or any issues with the landfill gas monitoring system noted during the previous year.

#### ~~10-12.~~ **Site Conditions Summary.**

Include a comprehensive discussion regarding the condition of the Landfill, including, but not limited to, interim cover areas, the current operational area, maintenance roads, the chip and grind area, the detention basin, the erosion and drainage control measures implemented to control run-on and run-off during the rainy season, the condition of monitoring wells, piezometers, landfill gas probes, and any other monitoring device located at the Landfill. The discussion should also highlight any areas of noncompliance observed and repaired during the previous year and should be documented with photographs and inspection reports.

#### ~~11-13.~~ **Compliance Summary.**

Include a comprehensive discussion of the compliance record, and of any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with Order No. R9-2018-0069 or this M&RP.

### **C. OTHER REPORTS TO BE FILED**

In addition to the Semi-Annual Groundwater Monitoring Reports and Annual Compliance Report, the following reports shall be submitted to the San Diego Water Board as described below.

#### **1. Construction Quality Assurance Report.**

The Dischargers shall provide the San Diego Water Board with a complete Construction Quality Assurance (CQA) Report that contains all the final report elements and the results from laboratory and field testing referenced in the approved CQA Plan for future lateral expansion stages of the Landfill. The preparation of the final CQA Report, and supervision of the CQA Program, shall be performed by persons having the qualifications required by CCR title 27, section 20324(b). The CQA Report shall be submitted upon completion of construction activities associated with each stage of expansion at the Landfill.

#### **2. Leachate Monitoring Reports.**

Leachate sampling shall be conducted each September, and the data shall be provided in a report that includes an identification of all detected Appendix II constituents that are not on the Landfill's COC list. The leachate monitoring report must be received by the San Diego Water Board no later than **5:00 p.m. on October 30**.

For leachate sampling requiring a retest, a report must be received by the San Diego Water Board office no later than **5:00 p.m. on April 30** of the following calendar

year. This report must identify all constituents that were detected in both the previous calendar year's September sample and in the March retest sample, and must add these constituents to the Landfill's COC list, and for at least two years, must also add them to the monitoring parameter list. The report shall also include an updated COC list that includes the Appendix II constituents that are newly detected in both the September and March leachate samples.

3. **Five Year COC Reports.**

Every five years, the Discharger shall complete a COC analysis on groundwater samples to update and verify the COC list included in the semi-annual monitoring reports. The COC analysis shall include all COCs found in Appendix II of title 40, Code of Federal Regulations part 258. The next COC Report shall be received ***no later than 5:00 p.m. on October 30, 2018.*** Subsequent COC reports shall be due every fifth year alternately by April 30 and October 30, and shall be submitted as an appendix to any Detection Groundwater Monitoring Report or Annual Compliance Report having a reporting period that ends at the same time.

4. **Violations Reports.**

If the Discharger determines there has been a violation of any requirements in M&RP No. R9-2018-0069, then the Discharger must notify the San Diego Water Board office by phone ***within 24 hours*** once the Discharger has knowledge of the violation. The San Diego Water Board may, depending on the severity of the violation, require the Dischargers to submit a separate technical report regarding the violation within ***five working days*** of the request of the San Diego Water Board.

5. **Groundwater Monitoring Well Workplan.**

The Discharger shall submit a workplan for the siting, design, and installation of additional groundwater monitoring wells to fulfill the performance requirements of a corrective action groundwater monitoring program in accordance with CCR title 27, section 20415(b)(1)(D). The workplan shall be submitted to the San Diego Water Board ***no later than 5:00p.m. 30 days after the date of adoption of M&RP No. R9-2018-0069.***

6. **Significant Maintenance Activity Workplan.**

The Discharger shall submit a workplan prior to any significant maintenance activities that could alter the existing surface drainage patterns or change existing slope configurations. These activities include, but are not limited to, significant grading activities, and the installation of soil borings, detection groundwater monitoring wells, landfill gas borings and monitoring points, and other devices for site investigation purposes. Unless otherwise directed by the San Diego Water Board, the Discharger may initiate the activities proposed in the workplan after expiration of ***30 days*** of receipt of the report by the San Diego Water Board.

| Monitoring and Reporting Program  
No. R9-2018-0069

**D. REPORTING SCHEDULE**

Reports shall be received in the San Diego Water Board office ***no later than 5:00 p.m.*** on the due date shown in the following schedule:

<b>Report Type</b>	<b>Report Frequency</b>	<b>Reporting Period</b>	<b>Report Due Date</b>
First Sampling and Analysis Plan <sup>1</sup>			December 11, 2018
Semi-Annual Groundwater Monitoring Report	Semi-Annual	October – March	April 30
Semi-Annual Groundwater Monitoring Report	Semi-Annual	April – September	October 30
Annual Compliance Report	Annual	April – March	April 30
Annual Leachate Monitoring Report	Annual	October – September	October 30
Leachate Retest Monitoring Report <sup>2</sup>	Annual	March	April 30
COC Report <sup>3</sup>	First Five Years	October 2018 – March 2023	April 30
COC Report	Second Five Years	April 2023 – September 2028	October 30
Surface Water COC Report <sup>4</sup>	First Five Years	October 2018– March 2023	April 2023
Surface Water COC Report	Second Five Years	April 2023 – September 2028	October 2028
Groundwater Monitoring Well Workplan	One Time	NA	30 days after adoption of Order No. R9-2018-0069
Revised JTD and Design Plans	Periodic	NA	At least 120 days prior to the commencement of construction of a new stage
Construction Quality Assurance Report	Periodic	NA	Upon completion of each new stage of construction

<sup>1</sup>Subsequent Sampling and Analysis Plans shall be submitted as an attachment to the Annual Compliance Report.

<sup>2</sup>As necessary, based on the results of the Annual Leachate Monitoring.

<sup>3</sup>COC Reports are due at alternating intervals to account for potential seasonal variations in these data (i.e., every other report is due in April of the reporting year).

<sup>4</sup>Surface Water COC Reports are due at alternating intervals to account for potential seasonal variations in these data (i.e., every other report is due in April of the reporting year).

## **E. STANDARD REPORTING REQUIREMENTS**

Standardized protocols for reporting are discussed below. There are protocols for submission procedures, use of licensed professionals, electronic data submission, and transmittal letters.

### **1. Submission Procedures.**

The Discharger must submit all reports required under this M&RP in a text-searchable, electronic, Portable Document Format (PDF). Larger documents shall be divided into separate files at logical places in the report to keep the file sizes under 150 megabytes. The Discharger shall continue to provide a paper transmittal letter, a paper copy of all figures larger than 8.5 inches by 14 inches (legal size), and an electronic copy (on a CD or other appropriate media) of all reports to the San Diego Water Board. All correspondence and documents submitted to the San Diego Water Board shall include the reference code "Groundwater Protection Unit Supervisor" in the header or subject line, where "Groundwater Protection Unit Supervisor" is the first initial and last name of the San Diego Water Board case manager. If the Discharger has any questions regarding the submittal of electronic data files, contact the San Diego Water Board's Mission Support Services Unit at (619) 516-1990.

### **2. Use of Licensed Professionals.**

Pursuant to CCR title 27, section 21710(d), any report submitted in compliance with CCR title 27, and this Order, which proposes a design or design change (or which notes occurrences) that might affect the Landfill's containment features or monitoring systems, shall be approved by a civil engineer or a certified engineering geologist appropriately licensed by the State of California. The Discharger shall provide documentation that plans and reports required under this M&RP are prepared by or under the direction of, appropriately qualified professionals. CCR title 27, sections 20324(b), 20415(e)(1) and (e)(2), and 21090(b)(1)(C); and the California Business and Professions Code sections 6735, 7835, and 7835.1 require that engineering and geologic evaluations and judgements be performed by or under the direction of licensed professionals. A statement of qualifications and license numbers of the responsible lead professionals shall be included in all plans and reports submitted by the Dischargers. The lead professional shall sign and affix their license stamp to the report, plan or document.

### **3. Electronic Data Submittals.**

The State's Electronic Reporting Regulations<sup>36</sup> mandate the electronic submission of any report or data, required by a regulatory agency for any discharge of waste to land subject to CCR title 27. All information submitted to the San Diego Water Board in compliance with this M&RP is also required to be submitted electronically via the internet into the Geotracker database at <http://geotracker.waterboards.ca.gov/>. The electronic data must be uploaded on or prior to the regulatory due dates set forth in M&RP or addenda thereto. To comply with CCR title 23, section 3893(b), the Discharger must upload into the Geotracker database, the following information:

a. **Laboratory Analytical Data.**

Analytical data (including geochemical data) for all soil, vapor, and water samples in Electronic Deliverable File (EDF) format.<sup>37</sup> Water, soil, and vapor data including analytical results of samples collected from monitoring wells, boreholes, LFG probes, LFG extraction wells, soil vapor wells, piezometers, surface water, stockpiles, and drinking water wells, if applicable.

b. **Location Data.**

The latitude and longitude of any permanent monitoring well for which data is reported in EDF format, accurate to within one meter and referenced to a minimum of two reference points from the California Reference System (SCRS-H), if available.

c. **Monitoring Well Elevation Data.**

The surveyed elevation relative to a geodetic datum of any permanent monitoring well. Elevation measurements shall be made at the top of groundwater well casings for all detection groundwater monitoring wells.

d. **Depth-to-Water Data.**

The depth-to-water in monitoring wells even if groundwater samples are not actually collected during the sampling event.

e. **Monitoring Well Screen Intervals.**

The depth to the top of the screened interval and the length of screened interval for any permanent monitoring well.

f. **Landfill Map.**

A map or maps which display discharge locations, streets bordering the Landfill, and sampling locations for all soil, water, and vapor samples. The sample map is a stand-alone document that may be submitted in various electronic formats. An updated map may be submitted at any time.

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<sup>36</sup> Title 23, California Code of Regulations, chapter 30, division 3, section 3890 et seq.

<sup>37</sup> See Geotracker database:

[http://www.swrcb.ca.gov/water\\_issues/programs/ust/electronic\\_submittal/docs/edf\\_gr\\_v1\\_2i.pdf](http://www.swrcb.ca.gov/water_issues/programs/ust/electronic_submittal/docs/edf_gr_v1_2i.pdf)



g. **Boring Logs.**

Boring logs (as searchable PDF documents) prepared by an appropriately licensed professional.

h. **Electronic Report.**

A complete copy (as a searchable PDF document) of all Joint Technical Documents, technical reports, workplans, CQA Reports, plans, and monitoring reports, including the signed transmittal letter, professional certifications, and all data presented in the reports.

4. **Transmittal Letter.**

A letter summarizing the significant findings must be submitted with each report. The transmittal letter shall also include the following minimum information:

a. **Summary of Non-Compliance.**

A summary of any areas of non-compliance with M&RP No. R9-2018-0069 or Order No. R9-2018-0069, incurred during the reporting period. The summary may include verbal and written notices of violations from State and local regulatory agencies regarding monitoring and/or maintenance deficiencies or violations noted by the Discharger, such as the exceedance of Water Quality Protection Standards, failure to conduct monitoring as required by M&RP No. R9-2018-0069 or Order No. R9-2018-0069.

b. **Certification Statement.**

The person signing the transmittal letter must make the following certification:

*"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations."*

c. **Signatory Designation.**

All documents submitted to the San Diego Water Board shall be signed by either a principle executive officer or ranking elected official, or by a duly

authorized representative of the Discharger. An individual is a duly authorized representative only if:

- i. The authorization is made in writing by an authorized representative of the Discharger;
- ii. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated Landfill or activity; and
- iii. The authorization is submitted in writing to the San Diego Water Board.

The Discharger shall submit to the San Diego Water Board ***within 30 days*** of adoption of this M&RP, an updated signatory designation, identifying those persons authorized to sign reports.

## PART IV. CONTINGENCY REPORTING

In the event that the Discharger discovers that a release from the Landfill has occurred, the Discharger shall notify the San Diego Water Board within the timeframes listed below.

### A. NOTIFICATION OF A RELEASE

Should the Discharger discover that a release to groundwater from the Landfill has occurred, the Discharger shall:

1. Notify the San Diego Water Board by phone or e-mail ***within 24-hours***, and by mail ***within seven days*** when the Discharger determines from groundwater monitoring results that there is significant physical evidence of a release.
2. Notify the San Diego Water Board by phone or e-mail ***within 30 days*** of a sampling event when the Discharger determines that there is preliminary indication of a release. The Discharger shall provide written notification by certified mail ***within seven days*** of the initial notification, and conduct a retest.

### B. EVALUATION OF A RELEASE

If the Discharger determines that a release from the Landfill has occurred, the following actions shall be taken:

1. If this determination is not based upon direct monitoring of the COCs, then the Discharger shall, ***within 30 days***, sample for all COCs at all monitoring wells in both the detection and corrective action groundwater monitoring networks and submit the samples for analysis. ***Within seven days*** of receiving the laboratory

analytical results, the Discharger shall notify the San Diego Water Board, by certified mail, of the concentrations of all COCs at each monitoring point sampled. Because this scan is not to be statistically tested against background, only a single datum is required for each COC at each monitoring well.

2. The Discharger shall, ***within 90 days*** of determining there is measurably significant evidence of a release, submit an Amended Report of Waste Discharge (ROWD)<sup>38</sup> proposing an Evaluation Monitoring Program that meets the requirements of CCR title 27, sections 20415(b)(2), 20420(k)(5), and 20425 et seq.
3. The Discharger shall, ***within 180 days*** of discovering the release, submit to the San Diego Water Board a preliminary engineering feasibility study report that meets the requirements of CCR title 27, section 20420(k)(6).

### C. NOTIFICATION AND EVALUATION OF EXCESSIVE LEACHATE PRODUCTION

The Discharger must report significant increases in leachate production from the Landfill. A significant increase is defined by an increase of leachate production exceeding three times the production rate of the previous month. When a significant increase in leachate production is identified, the Discharger shall:

1. Notify the San Diego Water Board by phone or email ***within 24-hours***, and by mail ***within seven days***, when the Discharger determines there has been a significant increase in the production of leachate.
- ~~1.2.~~ When the Discharger determines there is evidence of a significant increase in leachate production, the Discharger shall cease the use of leachate for onsite dust control, operations water, or any other purpose that adds leachate back into the lined areas of the Landfill. All leachate produced after determination of a significant increase has been made, shall be containerized or sent offsite for treatment until the source of the increased leachate production has been identified and the San Diego Water Board concurs that leachate reuse at the Landfill is appropriate.
- ~~2.3.~~ When the Discharger determines there is evidence of a significant increase in leachate production, the Discharger shall, submit an Amended Report of Waste Discharge (ROWD) ***within 90 days***. The Amended ROWD shall include a technical evaluation that identified the source(s) of the increase in leachate production and potential adverse impacts to the Landfill's waste containment, LCRS, and landfill gas detection/removal systems. The Amended ROWD shall propose corrective actions

<sup>38</sup> As an amendment to the Joint Technical Document (JTD) under title 27.

and highlight a preferred alternative for addressing the impacts to the containment, LCRS, and landfill gas detection/removal systems, as needed.

## **D. RELEASE BEYOND THE FACILITY BOUNDARY**

If the Discharger determines that a release has been discovered to extend beyond the facility boundary, the Discharger shall:

1. Develop a Public Participation Plan and submit it for review and comment by the San Diego Water Board **within 90 days** of determining that a release extends beyond the facility boundary.
2. Provide notification of the release to all affected persons (i.e., individuals, and private and public entities) who either own or occupy property that overlies the release. The initial notification shall include a description of the Discharger's current knowledge of the nature and extent of the release.
3. Provide updates to all affected persons.
4. Provide the San Diego Water Board a copy of the current mailing list of affected persons and copies of the notification and updates **within seven days** of sending such notifications.

## **PART V. NOTIFICATIONS**

The San Diego Water Board hereby notifies the Discharger of the following information.

### **A. ENFORCEMENT DISCRETION**

The San Diego Water Board reserves its right to take any enforcement action authorized by law for violations of the terms and conditions of M&RP No. R9-2018-0069.

### **B. STATE WATER BOARD ADMINISTRATIVE REVIEW**

Any person affected by this action of the San Diego Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320, and CCR title 23, California Code of Regulations, section 2050. The petition must be received by the State Water Board (Office of Chief Counsel, P.O. Box 100, Sacramento, CA 95812) **within 30 days** of the date of adoption of this M&RP. Copies of the law and regulations applicable to filing petitions will be provided upon request.

### **C. DELEGATION OF AUTHORITY**

The San Diego Water Board has delegated to the Executive Officer by resolution, all the powers and authority that may be delegated pursuant to Water Code section 13223. The San Diego Water Board intends for the Executive Officer to make modifications or revisions when appropriate, to M&RP No. R9-2018-0069. The Board further directed the Executive Officer to exercise discretion in determining whether proposed modifications and revisions should be considered for approval by the Board.

Ordered By:

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David W. Gibson  
Executive Officer

# ATTACHMENT C

## INFORMATION SHEET

### ORDER NO. R9-2018-0069

### WASTE DISCHARGE REQUIREMENTS FOR THE SYCAMORE LANDFILL SAN DIEGO COUNTY

This Information Sheet includes the legal requirements and technical rationale that serve as the basis for the waste discharge requirements in Order No. R9-2018-0069 (Order) and requirements in Monitoring and Reporting Program No. R9-2018-0069 (M&RP, Attachment B).

#### A. INTRODUCTION

The Order establishes requirements for the development, expansion, design, maintenance, and monitoring of the Sycamore Landfill (Landfill). Lateral and vertical expansion of the Landfill is necessary to meet the future waste disposal needs of County of San Diego. The Order establishes waste discharge requirements (WDRs) for: (1) the design and construction of the Landfill expansion and (2) operations, monitoring, and maintenance of the existing and expanded areas of the Landfill.

The Landfill is a Class III (non-hazardous) municipal solid waste (MSW) landfill subject to both State and federal requirements.<sup>1</sup> The Landfill has been regulated since 1976, when the San Diego Water Board issued WDRs to the County of San Diego.<sup>2</sup> Sycamore Landfill Inc. purchased the active Landfill from the County of San Diego in 1997 and became the owner and operator (Discharger) of the Landfill.

The San Diego Water Board adopted Order No. 99-74<sup>3</sup> in 1999 to incorporate revised State regulations<sup>4</sup> and implement federal regulations for active landfills, as was required by State Water Resources Control Board (State Board) Resolution No. 93-62<sup>5</sup>. Order No. 99-74 expanded the Landfill footprint to 324 acres, allowed the Discharger to construct an engineered alternative liner system, and required implementation of a corrective action monitoring and reporting program. Over the past 19 years, Order No. 99-74 has been

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<sup>1</sup> MSW Landfills in California are subject to State regulations under California Code of Regulations (CCR) title 27, and federal regulations under Code of Federal Regulations (CFR) title 40.

<sup>2</sup> WDR Order No. 76-40, *Waste Discharge Requirements for County of San Diego, Little Sycamore Canyon Sanitary Landfill*.

<sup>3</sup> WDR Order No. 99-74, *Waste Discharge Requirements for the Sycamore Landfill Inc., a Subsidiary of Allied Waste Industries Inc., Sycamore Landfill, San Diego County.*"

<sup>4</sup> Under Order 76-40, the Landfill was regulated by CCR title 23, chapter 15. In 1994, CCR title 27 was promulgated, and Order No. 99-74 incorporated the amended State regulations now found in CCR title 27.

<sup>5</sup> State Water Resources Control Board Resolution No. 93-62, *Policy for Regulation of Discharges of Municipal Solid Waste*.

amended four times to modify the liner design and construct new landfill stages within the previously-approved footprint.

Order No. R9-2018-0069 replaces Order No. 99-74, increases the Landfill's lateral waste disposal footprint from 324 acres to 352.6 acres, and allows the Discharger to vertically expand the Landfill to a waste thickness of approximately 500 feet.<sup>6</sup> The 28.6-acre lateral expansion will incorporate the former SDG&E corridor into the Landfill footprint. The former SDG&E power lines previously bisected the southwestern portion of the Landfill footprint until they were relocated to the ridgeline (Attachment A-2) west of the Landfill footprint in 2016, allowing for landfilling operations to expand into the area. The Order authorizes the Discharger to construct the expansion in stages (see below) within the approved 352.6 acres, which includes the existing 324 acres approved by Order No. 99-74, and the additional 28.6 acres approved by adoption of the Order. The expansions approved by this Order increase the Landfill's solid waste capacity by 82 million cubic yards. This additional capacity is necessary because the West Miramar and Otay Landfills will reach final build-out and begin the closure process within the next 10 to 15 years.

The Discharger proposed a phasing plan for the development of the remaining Landfill footprint in the Joint Technical Document (JTD). The proposal includes the expansion of the Landfill in ten additional phases within the approved footprint (Stage V through Stage XIV; Attachment A-2 to the Order). The stages and associated acreages are: Stage V - 8.1 acres; Stage IV - 4.9 acres; Stage VII - 12 acres; Stage VIII - 4.5 acres; Stage IX - 23.6 acres; Stage X - 15.9 acres; Stage XI - 6.9 acres; Stage XII - 22.1 acres; Stage XIII - 19.4 acres; and Stage XIV - 24.8 acres.<sup>7</sup>

## **B. GEOLOGY AND HYDROLOGY OF THE SITE**

The geologic and hydrologic characteristics of the site that are pertinent to the findings and requirements of this Order are described below.

### **Geologic Setting and Hazards.**

The Landfill is underlain by alluvium, Stadium Conglomerate, and the Friars Formation. Alluvium consists of loose, cobble-rich sands and gravelly sands intermixed with thin lenses of silt and clayey silts. The Stadium Conglomerate is a massive to thickly bedded cobble conglomerate surrounded by a matrix of fine to coarse-grained sand. The Friars Formation consist of fine-grained sandstones and claystones.

The site lacks significant geologic structures and previous site investigations did not identify evidence of faulting in bedrock deposits. The closest known fault to the Landfill is the Rose Canyon Fault, located approximately 11 miles west of the site. The site is not located within an Alquist-Priolo Earthquake Fault Zone.

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<sup>6</sup> The current approved footprint and waste prism thickness are 324 acres and 200 vertical feet, respectively. Order No. R9-2018-0069 increases the lateral footprint by 28.6 acres and the waste prism thickness by 300 vertical feet.

<sup>7</sup> The acreages associated with each planned stage of expansion may be modified over time to accommodate changing site conditions.

## **Local Hydrology and Groundwater Use.**

Groundwater occurs in two water bearing zones beneath the Landfill: 1) the regional aquifer located within the Stadium Conglomerate and Friars Formation, and 2) the perched alluvial aquifer. The general direction of groundwater flow at the Landfill is south towards the San Diego River. Two water supply wells are located within a one-mile radius of the Landfill. Both wells are located hydrologically up-gradient of the Landfill, and therefore are unlikely to be impacted by a release of waste constituents from the Landfill.

## **C. LINER DESIGN**

The liner system for the Landfill is an engineered alternative to the prescriptive liner prescribed in 40 Code of Federal Regulations (CFR) part 258 and California Code of Regulations (CCR), title 27. The existing liner system, constructed in multiple earlier lateral expansion areas at the Landfill, is similar to the composite liner system proposed for the 10 future expansion areas. The proposed liner system meets the applicable State and federal requirements for containment systems at Class III landfills. Further, the Discharger has demonstrated that this liner system is as conservative as a prescriptive liner system, and appropriate for use at the Landfill.

The base liner system is composed of the following elements from top to bottom:

- two-feet of protective cover soil;
- 8-oz. non-woven geotextile (filter fabric).
- 12-inches of sub-rounded gravel for the leachate collection and removal system (LCRS drainage gravel);
- 16-oz. non-woven geotextile (cushion fabric);
- 60-mil high density polyethylene (HDPE).
- Geosynthetic clay liner (GCL) with hydraulic conductivity  $1 \times 10^{-9}$  cm/sec.;
- 40-mil HDPE and
- Prepared subgrade.

The side slope liner system is composed of the following elements from top to bottom:

- Two feet of protective cover soil;
- 8-ounce nonwoven geotextile;
- Single-sided (textured side down) 60-mil HDPE flexible membrane with a fuse layer to armor the side slope liner system. The fuse layer will consist of a high-



strength geotextile placed along the crest of each bench, ballasted in place until anchored by waste;

- GCL;
- Double-sided textured, 40-mil HDPE flexible membrane; and
- Prepared subgrade consisting of six inches of engineered fill soil materials rolled to a smooth and uniform surface.

The side slope liner system is similar to the base liner system except for the 8-oz. non-woven geotextile cushion fabric and overlying layer of sub-rounded gravel. Side slope liner systems cannot typically support this type of leachate collection and removal system and therefore, these layers are omitted from side slope liner systems. Leachate, when formed, will flow via gravity towards the base liner system, where it will be collected and transmitted out of the landfill and into the leachate sumps located downgradient of the waste.

## **D. APPLICABLE PLANS, POLICIES, AND REGULATIONS**

The requirements contained in the Order and M&RP are based on the State statutes, regulations, applicable federal regulations,<sup>8</sup> and authorities described in this section.

### **Legal Authorities.**

The Order and M&RP are issued pursuant to the California Water Code (Water Code) commencing with section 13000, applicable portions of CCR (including titles 23 and 27), applicable provisions of the Health and Safety Code (including division 20, chapter 6.5 - Hazardous Waste Control), and 40 CFR part 258.

### **Water Quality Control Plans.**

The *Water Quality Control Plan for the San Diego Basin (9)* (Basin Plan) designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed in the plan. The beneficial uses of groundwater designated for the Santee Hydrologic Subarea (907.12) of the San Diego Hydrologic Unit are municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply. The beneficial uses for surface waters in Little Sycamore Canyon are agricultural supply, industrial service supply, water contact recreation, non-contact water recreation, warm freshwater habitat, cold freshwater habitat, wildlife habitat, and rare, threatened or endangered species.

The Order implements the Basin Plan by prescribing waste discharge requirements for Landfill design, expansion, maintenance, and monitoring. The Discharger's adherence to these requirements will ensure that municipal solid wastes accepted at the landfill, and

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<sup>8</sup> 40 Code of Federal Regulations part 258.

pollutants produced from the degradation of the waste, will not impair beneficial uses of groundwater or surface waters or result in violations of water quality objectives.

### **California Environmental Quality Act.**

The discretionary decision to issue WDRs is a project under the California Environmental Quality Act (CEQA).<sup>9</sup> As lead agency for the Landfill Master Development Plan (Project), which includes the 28.6-acre Landfill expansion, the City of San Diego filed a Notice of Determination on September 20, 2014, for the Final Environmental Impact Report (FEIR) titled *Sycamore Canyon Landfill Master Development Plan*.<sup>10</sup> The San Diego Water Board is a responsible agency under CEQA. As such, the San Diego Water Board has reviewed and considered the FEIR and the project's environmental effects as described therein.

The Project will allow horizontal and vertical expansion of the Landfill footprint and continued waste disposal operations at the Sycamore Landfill in accordance with the Sycamore Landfill Master Plan Project. The existing 491-acre Landfill is a Class III solid waste facility located off Mast Boulevard in the City of Santee, within 603-acres of land owned by Sycamore Landfill Inc. Of the 112-acre expansion, 28.6 acres will be used for waste disposal activities, 16.5 acres for support facilities, and approximately 66.9 acres will be used for access roads and open space.

The Project considered in the FEIR includes an increase in the overall capacity of the Landfill by 82 million cubic yards and is expected to extend the lifespan of the Landfill. The increased capacity will be accomplished through additional excavation, fill between currently permitted landfill footprint areas that were bisected by SDG&E transmission lines, and vertical expansion of the Landfill to a maximum height of 1,050 feet above mean sea level. The SDG&E transmission lines were relocated in 2016 to a ridgeline along the western and northern boundary of the Landfill, making 28.6 acres available for development in the center of the previously permitted Landfill footprint. The Discharger anticipates an increase of daily waste tonnage over the next several years as other regional landfills (Miramar and Otay Landfills) reach final capacity and cease operation.

The Project considered in the FEIR also describes site-wide improvements which include mitigation for biological resources impacts, upgrades to the maintenance yard and administrative offices, relocation of the recycling center and drop-off area, construction of a perimeter access road, installation of landscaping, drainage improvements, and improvements to the entrance area.

The FEIR concludes that the Project will have no significant or less than significant impacts related to water quality, greenhouse gas emissions, energy, geologic conditions, hydrology, and water quality. The San Diego Water Board concurs with the evaluation in the FEIR and finds that, other than biological resources (discussed below), the Project will have either no impacts or less than significant impacts in all areas within the Board's jurisdiction.

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<sup>9</sup> Public Resources Code section 21000 et seq.

<sup>10</sup> State Clearing House Number 2003041057.

The FEIR stated that the identified changes or alterations required in or incorporated into the Project would mitigate, avoid or lessen to less than significant levels the environmental effects on transportation/circulation, noise, biological resources, historical resources, and paleontological resources. The FEIR concludes that the Project will have significant unmitigated impacts related to land use, transportation and traffic circulation, noise, aesthetics, biological resources (native grasslands) and air quality. The FEIR incorporates a Statement of Overriding Considerations and a Mitigation, Monitoring and Reporting Program (MMRP), which were also adopted by the City of San Diego.

As lead agency, the City of San Diego was required to make findings regarding significant and unavoidable, as well as potentially significant environmental effects that would be mitigated to below a level of significance (CCR title 14, section 15091(a)). As a responsible agency, the San Diego Water Board is also required to make such findings relating to its action and effects within the Board's jurisdiction. (CCR title 14, section 15096(h).) The findings must be "accompanied by a brief explanation of the rationale for each finding." (CCR title 14, section 15091(a).)

### **Findings Regarding Impacts That Would Be Mitigated to Below a Level of Significance.**

For reasons stated in the FEIR, and pursuant to CEQA Section 21081(a)(1) and CEQA Guidelines section 15091(a)(1), the San Diego Water Board finds that the changes or alterations incorporated into the Project would mitigate, avoid, or substantially lessen the significant environmental effects on biological resources as identified in the FEIR. Specifically, the FEIR identifies significant effects on biological resources within the regulatory authority of the San Diego Water Board which would be mitigated to below of level of significance. The Project would impact 0.53 acre of United States Army Corps of Engineers (ACOE) jurisdictional habitat, including non-wetland waters of the United States (U.S.); 0.85 acre of California Department of Fish and Game (CDFG) jurisdiction, including 0.35 acre of CDFG riparian habitat and 0.50 acre of CDFG streambed; and 0.62 acres of City of San Diego sensitive wetland/riparian habitats (0.35 acre of riparian area and 0.27 acre of natural flood channel). Relocation of the SDG&E transmission lines resulted in an impact of 0.01 acre of ACOE jurisdictional non-wetland waters of the U.S.

The effects on biological resources, hydrology and water quality are mitigated through the requirements included in Clean Water Act Section 401 Water Quality Certification No. 09C-076 (Certification), dated October 16, 2014. The Certification requires the Discharger to construct a compensatory mitigation site that will be managed, protected and maintained in perpetuity to prevent any land use and maintenance activities that could threaten water quality or beneficial uses within the mitigation area. The compensatory mitigation includes the establishment of 0.94 acre of onsite streambed in Little Sycamore Canyon Creek, establishment of 0.82 acre of wetland habitat at Mast Park, and the purchase of 0.316 acre of wetland enhancement compensatory mitigation credit from the Rancho Jamul Mitigation Bank. The MMRP adopted by the City of San Diego also requires the Discharger to reduce, mitigate, and avoid impacts to a less than significant level. The San Diego Water Board incorporated the City's MMRP into Certification and requires compliance with the mitigation monitoring and reporting

provisions within the Board's regulatory purview. The San Diego Water Board also requires the Discharger to implement compensatory mitigation plans, which provide performance standards, long-term management and maintenance, and a mitigation site preservation mechanism to preserve the mitigation site in perpetuity.

**Findings Regarding Significant Unmitigated Impacts/Infeasible Mitigation Measures (CEQA § 21081(a)(3) and CEQA Guidelines § 15091(a)(3)).**

The FEIR prepared by the City of San Diego found that specific economic, legal, social, technological or other considerations, including providing necessary municipal solid waste capacity for the Region and making efficient use of an existing landfill site, make infeasible the mitigation measures or alternatives identified in the FEIR. The FEIR identifies significant and unmitigable /unavoidable impacts to land use, transportation/circulation, noise, aesthetics, biological resources (native grasslands) and air quality. The San Diego Water Board lacks the authority to require mitigation to reduce these impacts to below a level of significance. Environmental impacts within the San Diego Water Board's authority (e.g., biological resources (aquatic life) and hydrology/water quality) have been reduced to less than significant levels through changes to the Project or required mitigation.

**Antidegradation Policy.**

The Basin Plan implements and incorporates by reference both the State and federal antidegradation policies. As discussed below, this Order is consistent with the antidegradation policy.

**Solid Waste Diversion.**

The San Diego Water Board, supports the implementation efforts of CalRecycle to decrease the volume of wastes sent to landfills for disposal throughout the State. The Public Resources Code includes the California Integrated Waste Management Act (CIWMA), which was amended in 2011 to increase the required percentage of solid waste diverted from landfills by the year 2020. This WDR is consistent with the mandates included in amendments to the Public Resources Code and the CIWMA.

**E. COMPLIANCE WITH THE ANTIDEGRADATION POLICY**

The State Water Board established California's Antidegradation Policy in Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California*. Resolution No. 68-16 requires that whenever the existing quality of waters is better than the quality established in policies as of the date on which such policies become effective, such existing high-quality water must be maintained unless degradation is justified based on specific findings. Resolution 68-16 requires that any change in existing high-quality water be maintained until it has been demonstrated to the State that:

- The change will be consistent with the maximum benefit to the people of the State,
- The change will not unreasonably affect the present and anticipated beneficial use of the water, and
- The change will not result in water quality less than that prescribed in the Basin Plan.

Resolution 68-16 further requires that discharges meet WDRs, which will result in the best practicable treatment or control of the discharge necessary to assure that (a) pollution or nuisance will not occur and (b) the highest water quality consistent with the maximum benefit to the people of the state will be maintained. Resolution 68-16 incorporates the federal “anti-degradation” policy (40 CFR section 131.12). The Order is consistent with these policies because it requires construction of a composite liner, leachate collection and removal system (LCRS), and storm water collection and conveyance system to protect groundwater and surface water beneficial uses. The Discharger is also required to design and implement groundwater, surface water, and landfill gas monitoring programs to monitor potential impacts to human health and the environment. The composite liner and LCRS are designed to prevent further degradation of groundwater beyond what has occurred historically. This Order requires the Discharger to manage waste and waste disposal to prevent degradation of groundwater, minimize odors, and prohibit nuisance conditions. The San Diego Water Board finds that under normal operating conditions, the discharge conditions and specifications established by the Order will ensure existing beneficial uses and quality of waters of the State in the Region will be maintained and protected and discharges regulated by this Order will not degrade existing water quality.

## **F. COMPLIANCE WITH CALIFORNIA PUBLIC RESOURCES CODE FOR SOLID WASTE DIVERSION**

The State has statutory diversion targets for active landfills that are enforced by CalRecycle. The San Diego Water Board has no authority to enforce these diversion targets, and therefore they are not included in the Order. The following discussion is for informational purposes only.

For more than a decade, cities and counties within California worked to reduce the municipal solid waste stream sent to active landfills for disposal. The CIWMA mandated that each city or county develop a plan to divert 25 percent of its solid wastes by 1995, and a 50 percent by 2000.<sup>11</sup> This diversion was proposed to be accomplished through source reduction, recycling, composting, or other means (i.e. anaerobic digesters, chipping and grinding operations, etc.). The mandate to reduce the disposal of solid wastes into landfills resulted in curbside recycling for millions of California residents. Landfill owners and operators also started using green waste materials as alternative daily cover, replacing soil materials and tarps with green wastes which are biodegradable. This process results in more capacity for the landfill, lowering the need for soils for use as daily cover.

Section 41780.02, added to the Public Resources Code in 2011, increased the waste diversion goals from 50 percent to 75 percent by the year 2020. Section 41780.02 focused on the reduction of “commercial wastes,” which include wastes derived from commercial, industrial, construction and demolition activities, and multifamily residential housing communities. In its Report to the Legislature,<sup>12</sup> CalRecycle estimates that approximately

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<sup>11</sup> Public Resources Code section 41730 et seq.

<sup>12</sup> [2015 AB 341 Report to the Legislature, CalRecycle](#)

60 million tons of solid wastes will need to undergo source reduction, recycling, or composting to meet the 75 percent reduction goal by 2020. Just over half of this volume will likely be met through existing programs, leaving approximately 23 million tons of solid waste to be diverted to meet the 75 percent reduction goal by 2020.

The State and Regional Water Boards are working cooperatively with CalRecycle to support the efforts to reach California's 2020 diversion goals and to ensure that conflicting goals and mandates don't impede those efforts. The State Water Board issued General Order No. WQ-2015-0121-DWQ, *General Waste Discharge Requirements for Composting Operations*, in 2015<sup>13</sup> to support the diversion goals by streamlining the permitting process for composting operations. This statewide General Order includes requirements for composting operations including siting, design, operations, storm water management, monitoring, and reporting requirements. Additionally, the State and Regional Water Boards have a vested interest in staying informed of CalRecycle's mandates as well as the measures implemented or proposed to meet the 2020 diversion goals because the diversion of wastes impacts the accepted waste streams, and solid waste disposal operations at Landfills. While the solid waste Local Enforcement Agencies (LEAs) regulate the day-to-day operations at landfills, the Regional Water Boards provide discharge specifications in WDRs that restrict the types of special wastes (i.e., treated wood, auto shredder wastes, contaminated soils, sludge, etc.) that may be disposed of at a landfill. The Regional Water Boards also regulate other activities that may be undertaken at landfills including composting, chip and grind operations, materials recovery facilities (MRFs), anaerobic digesters, etc. that may be employed by landfill owners and operators to meet the diversion goals mandated by CalRecycle. To this end, staff have encouraged owners and operators of active landfills within the Region to begin discussions with CalRecycle and the San Diego Water Board so WDRs may be developed to provide the Discharger with the necessary specifications to implement appropriate actions at the Landfill to address the mandated 75 percent diversion by 2020. This can include identifying areas at the facility for separation of compostable material from the incoming waste stream, placing compost on a closed cell, expanding the existing chip and grind operation, developing a material recovery facility (MRF), etc. The discharger has not proposed an on-site diversion method other than the current chip and grind operations.

## **G. RATIONALE FOR DISCHARGE PROHIBITIONS**

Water Code section 13243 provides that a Regional Water Board, in a water quality control plan, may specify certain conditions or areas where the discharge of waste, or certain types of waste are prohibited. The Basin Plan waste discharge prohibitions are applicable to any person, as defined by section 13050, subdivision (c) of the Water Code, who is a citizen, domiciliary, or political agency or entity of California whose activities in California could affect the quality of waters of the State within the boundaries of the San Diego Region. The Discharge Prohibitions listed in Section B of Order No. R9-2018-0069 are based upon the waste discharge prohibitions established in the Basin Plan

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<sup>13</sup> [Order WQ-2015-0121-DWQ, General Waste Discharge Requirements for Composting Operations.](#)

(*Implementation, Chapter 4*) and the waste characteristics for “sludge wastes” specified in CCR title 27.<sup>14</sup>

## H. RATIONALE FOR DESIGN SPECIFICATIONS

The United States Environmental Protection Agency (USEPA) promulgated federal regulations that apply to dischargers who own or operate landfills that accept, have previously accepted, or will continue to accept non-hazardous wastes on or after October 9, 1991. The federal regulations, referred to as 40 CFR,<sup>15</sup> implement the statutory requirements of Subtitle D of the Resource Conservation and Recovery Act (RCRA), and obligate dischargers of new or expanding landfills to construct a liner system for the purpose of containing wastes and protecting the environment.<sup>16</sup> The requirements in 40 CFR establish the minimum federal criteria for the siting, design, operation, and closure of municipal solid waste (MSW) landfills. These federal regulations apply to the entire waste containment system, including liners, leachate collection and management systems, and surface water control systems. 40 CFR provides the prescriptive design criteria for a composite liner system, consisting of an upper and lower component, and a leachate collection system. A 40 CFR composite liner system requires a lower component comprised of at least two-feet of compacted soils with a hydraulic conductivity of  $1 \times 10^{-7}$  cm/sec or less, and an upper component consisting of a flexible membrane liner. The USEPA requires that each State implement the federal MSW landfill regulations. States were given the authority to approve engineered alternatives to the prescriptive standards contained in 40 CFR, if the alternative meets all applicable conditions and performance standards found in the federal regulations.

The design and construction specifications in this Order, derived from the JTD, are consistent with the siting, design, and operational criteria found in both State and federal regulations, and include wetland protection<sup>17</sup> and seismic considerations.<sup>18</sup> Although the liner system proposed for the Landfill is an engineered alternative to the prescriptive design, the Discharger demonstrated that the proposed liner system is protective of water quality and appropriate for use at the Landfill.

The liner system proposed for the Landfill includes an encapsulated clay layer and armoring on the crest of the slopes at each bench. Both features are considered engineered alternatives to the prescriptive design found in 40 CFR and CCR title 27. The need for these design features is based in part on the proposed landfill configuration at final build-out. The proposed design features high, steep slopes, and a final waste prism that is 450 to 500 feet thick. The large potential normal forces acting on the side slopes

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<sup>14</sup> Sludge wastes include dewatered sludges (defined in section 20164, CCR title 27), dewatered sewage or water treatment sludge; including primary sludge, secondary sludge, mixtures of primary and secondary sludges, or water treatment sludge (CCR title 27, section 20220(c)), grit and bar screen wastes.

<sup>15</sup> 40 CFR part 258.

<sup>16</sup> The federal Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA), authorized the development of nationwide standards for municipal solid waste disposal sites.

<sup>17</sup> Wetland protection is a required consideration for siting, including the expansion of landfills, found in 40 CFR, Part 258.12.

<sup>18</sup> Slope stability requirements are found in CCR title 27, section 21750(f)(5).

due to waste settlement, compounded with the steepness of the slopes, leaves the slopes vulnerable to down drag, a phenomenon that results in the straining of landfill liner components to their point of rupture. To accommodate the anticipated stresses and to reinforce the most vulnerable parts of the slopes, the Discharger is required to armor the top of each slope where the slope benches, approximately every 50-feet up slope.

## **I. RATIONALE FOR DEWATERED SLUDGE AND DREDGED SEDIMENT WASTES DISCHARGE SPECIFICATIONS**

The Sycamore Landfill is a Class III, municipal solid waste (MSW) landfill subject to both State and Federal requirements regulating MSW landfills, and applicable provisions of the California Health and Safety Code.<sup>19</sup> MSW landfills are designed and constructed to accept nonhazardous wastes as defined in these regulations. Dischargers are responsible for accurately characterizing wastes to ensure the wastes accepted for disposal at a landfill are compatible with the containment systems constructed to permanently contain those wastes and their degradation products (e.g., leachate and landfill gas).

Order No. R9-2018-0069 requires the Discharger to characterize wastes and allows for the acceptance of MSW and other waste streams that are allowed for disposal at non-hazardous waste landfills, in compliance with CCR title 27.<sup>20</sup> These waste streams may include treated wood, dewatered sludge, dredged sediments, landfill leachate and condensate,<sup>21</sup> contaminated soils, and special wastes meeting the applicable requirements of the State and federal regulations. For each of the waste streams listed above, the Discharger is required to maintain records that demonstrate the wastes meet the applicable criteria for classification as a nonhazardous waste and are appropriate for disposal at the Sycamore Landfill.

Order No. R9-2018-0069 also requires the Discharger to either acquire accurate waste characterization data from the source or implement its own sampling and analysis of dewatered sludge and dredged sediments for waste characterization prior to disposal at the Landfill. The purpose of this waste characterization data is to ensure that these waste streams meet the moisture content requirements prescribed by CCR title 27. Specifically, the Discharger must demonstrate that the disposal of these soil materials will not exceed the moisture holding capacity of the Landfill, either initially or as a result of waste

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<sup>19</sup> MSW Landfills in California are subject to State regulations under California Code of Regulations (CCR) Title 27, federal regulations under Code of Federal Regulations (CFR) Title 40, and the California Health and Safety Code, Division 20, Chapter 6.5 (Hazardous Waste Control).

<sup>20</sup> See of CCR title 27, sections 20200 *et seq.*

<sup>21</sup> Landfill leachate and condensate may be discharged to a landfill unit that is equipped with a liner system include a leachate collection and removal system in compliance with CCR Title 27, section 20340(g) and 40 CFR, part 258.28.



management operations, compaction, or settlement of the wastes over the life of the landfill, as they are likely to produce leachate in greater quantities than MSW.<sup>22</sup>

Dewatered sludges<sup>23</sup> and dredged sediment wastes may initially contain higher moisture contents than MSW which may cause the landfill to exceed its moisture holding capacity, and overwhelm the capacity of the leachate collection and removal system. Solid waste landfills are generally designed and operated to minimize the amount of moisture and oxygen entering and retained in waste containment systems. This design is intended to minimize the risk to groundwater pollution by limiting the amount of leachate and landfill gas generated by the degradation of wastes over time. Therefore, the Discharger must ensure that dewatered sludges and dredged sediment waste streams comply with the applicable criteria when the wastes are accepted for disposal at the Landfill.

## **I.J. RATIONALE FOR PROVISIONS**

The standard provisions contain language that allows the San Diego Water Board to enforce this Order. Provisions include the need for inspections, implementation of corrective actions, monitoring and maintaining the Landfill property or real property located adjacent to the Landfill. Standard provisions apply to all WDRs and are consistent with San Diego Water Board findings. Special provisions that apply to landfills are derived from CCR title 27.

## **J.K. RATIONALE FOR FINANCIAL ASSURANCE REQUIREMENTS**

State law requires operating landfills to provide financial assurance mechanisms for costs associated with closure, post-closure maintenance, and corrective actions. The Discharger provided proof of financial assurances to the San Diego Water Board in the form of a series of bonds for closure activities, post-closure monitoring and maintenance, and implementation of corrective action in response to a release of waste constituents from the Landfill. This information was submitted as part of the JTD,<sup>24</sup> and meets the requirements of CCR title 27, section 22205.

CalRecycle is regulating the Sycamore Landfill through issuance of a Solid Waste Facility Permit (SWFP) and required the Discharger to provide financial assurances for Non-Water Corrective Actions in accordance with CCR title 27, section 22221. The amount of financial assurances necessary to cover the costs associated with non-water corrective actions exceeds the amount needed to implement water-based corrective actions. Therefore, the financial assurances names CalRecycle as the beneficiary in accordance with CCR title 27 section 22221(c). However, CalRecycle only issues permits for the operation of a Landfill. Therefore, once the Landfill closes, financial assurance

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<sup>22</sup> See CCR title 27, section 20200 *et seq.*

<sup>23</sup> Sludge wastes include dewatered sludges (defined in section 20164, CCR title 27), dewatered sewage or water treatment sludge; including primary sludge, secondary sludge, mixtures of primary and secondary sludges, or water treatment sludge (CCR title 27, section 20220(c)), grit and bar screen wastes. [https://www3.epa.gov/npdes/pubs/final\\_sgrit\\_removal.pdf](https://www3.epa.gov/npdes/pubs/final_sgrit_removal.pdf)

<sup>24</sup> Final Joint Technical Document for the Sycamore Landfill, August 31, 2017.

mechanisms will need to be modified to name the San Diego Water Board as the beneficiary for the purposes of implementing corrective actions or post-closure maintenance in the event the Discharger is unwilling or unable to do so.

The Discharger has estimated that the cost to implement closure at the Landfill will be approximately \$9,998,000. This estimate includes, but is not limited to, costs associated with the construction of the final monolithic cover system, and installation of erosion and drainage control systems. The Order requires the Discharger to update, as necessary, financial assurance estimates to account for inflation and ensure that adequate funds are available to cover the costs associated with closure and post-closure activities. The Discharger estimates that annual post-closure maintenance and monitoring costs will be approximately \$18,340,683 over the course of a minimum of 30 years. Annual post-closure maintenance and monitoring costs include, but are not limited to, maintenance grading of the final cover to promote sheet flow and positive drainage to storm water control features; maintenance of groundwater, surface water, and landfill gas monitoring equipment; maintenance, repair, and implementation of best management practices; and general site maintenance.

## **K.L. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS**

The County of San Diego completed a Solid Waste Assessment Test (SWAT) investigation in 1992 to determine if the Landfill had impacted groundwater or surface waters near the Landfill. The SWAT investigation confirmed that groundwater adjacent to the Landfill was impacted by low levels of landfill-related constituents, including metals and volatile organic compounds. These constituents were released from the unlined or “legacy” portions of the Landfill.

CCR title 27, section 20385 provides that when a Regional Water Board determines that groundwater or surface water monitoring is necessary to evaluate impacts or potential impacts from landfill wastes, dischargers shall implement one of the monitoring programs outlined in the regulations. Monitoring and Reporting Program No. R9-2018-0069 (M&RP, Attachment B) requires the Discharger to conduct both a detection monitoring program and a corrective action monitoring program.

The M&RP requires the Discharger to implement a Corrective Action Monitoring Program for groundwater impacted by Landfill waste constituents. The purpose of the Corrective Action Monitoring Program is to detect changes in chemical concentrations in groundwater over time and determine the effectiveness of corrective actions implemented to remediate the groundwater impacts. The Discharger must also implement a Detection Monitoring Program that monitors wells not included in the Corrective Action Monitoring Program. The purpose of the Detection Monitoring Program is to detect a new release from the landfill. The Corrective Action Monitoring Program and Detection Monitoring Program requirements are included in the M&RP.

M&RP No. R9-2018-0069 requires the Discharger to furnish technical and monitoring program reports to demonstrate compliance with the WDRs in the Order. The San Diego Water Board’s authority to require submission of the reports is found in both Water Code

section 13267 and in CCR title 27. Water Code section 13267 authorizes the San Diego Water Board to require the Discharger to furnish technical or monitoring reports, provided that the burden, including costs, of these reports bears a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. In requiring these reports, the San Diego Water Board must provide a written explanation regarding the need for the reports and must identify the evidence that supports requiring the report. Based on the nature and possible consequences of the discharge, as described in the following sections, the burden of providing the required reports, including the costs, bears a reasonable relationship to the need for the reports and the benefits to be obtained from the reports.

### **Basis for Detection and Corrective Action Groundwater Monitoring.**

Regional Water Boards are authorized by CCR title 27, section 20080(d) to issue monitoring and reporting requirements to landfills if site conditions indicate that impairments or potential impairments to water quality and/or beneficial uses may be caused by a landfill. As previously stated, the County of San Diego's comp SWAT investigation found that a release of waste constituents from the Landfill had impacted groundwater near the site. A portion of the Landfill (the legacy area) is unlined, and a subsequent release of waste, waste constituents, or waste degradation products may occur; creating a condition of pollution or nuisance as defined in Water Code section 13050. The M&RP requires the Discharger to implement groundwater monitoring programs designed to evaluate the effectiveness of corrective action measures implemented at the Landfill to mitigate the original release (Corrective Action Monitoring) and to provide the earliest possible detection of a subsequent release from the Landfill (Detection Monitoring).<sup>25</sup> The monitoring programs prescribe a standard set of monitoring and reporting requirements consistent with CCR title 27, sections 20385 and 20420 et seq. Results of the groundwater monitoring programs must be provided in the semi-annual groundwater monitoring reports.

Both monitoring programs require dischargers to have a sufficient number of wells, including background and compliance monitoring wells, to evaluate the quality of water upgradient and downgradient of a landfill. The Discharger has the discretion to determine how many wells are necessary to provide adequate groundwater monitoring information to make this evaluation. Background and compliance monitoring wells are defined as follows

- a) Background monitoring wells are located up-gradient or cross-gradient from a landfill and are used to evaluate the quality of water outside the area of influence of the Landfill that are unlikely to be impacted by a release to groundwater from the Landfill. Background monitoring wells are installed at appropriate locations and depths to yield groundwater samples from the uppermost aquifer that represents the quality of water that has not been impacted by a release from the Landfill.

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<sup>25</sup> CCR title 27, section 20415(b) – Groundwater Monitoring Systems.

- b) Compliance monitoring wells are used to detect constituents of concern (COCs) as they leave the Landfill and enter the groundwater aquifer. The data collected from these wells are used to provide early detection of a release of waste constituents or track the concentrations of those constituents over time. Compliance monitoring wells are placed at locations immediately downgradient of the Landfill to detect a release of waste constituents (release) as soon as possible. Similar to background monitoring wells, compliance monitoring wells are installed at depths to yield groundwater samples from the uppermost aquifer. Some compliance wells may be located within the pollutant plume at the Landfill. These wells are included in the Corrective Action Monitoring Program compliance well network. Should a subsequent release from the Landfill occur from either the legacy area or another portion of the Landfill, the Discharger may need to install additional compliance monitoring wells to further delineate the pollutants and assess impacts to water quality and beneficial uses of groundwater downgradient of the Landfill.

The Dischargers may propose to implement one of two statistical approaches for the long-term detection of release(s) of wastes from the Landfill. These two approaches are known as Intra-Well Analysis and Inter-Well Analysis.

An intra-well analysis compares groundwater data collected from a given well to historical groundwater data collected at that same well for the previous two-year timeframe. This method of analysis minimizes the adverse effects of geographic and hydrogeographic variation at the Landfill, thereby reducing the likelihood of a false positive indication of a release. If an intra-well analysis method is used for detection monitoring, then prediction limits will be used to establish a range of concentrations for monitoring parameters, within which future groundwater monitoring data should fall. These prediction limits will be used to evaluate if there is a statistically significant change in concentration of monitoring parameters in groundwater. Every two years, Dischargers may retire the oldest two years of background data points for the COC's, thereby creating a background dataset that is representative of current and recent groundwater conditions at the Landfill.

An inter-well analysis compares groundwater data collected from background wells with groundwater data collected from compliance wells to determine whether there is statistical evidence of a release from the Landfill. This approach may be affected by variability in groundwater quality due to geographic and hydrogeographic conditions and may result in higher frequencies of false indications of a release. Therefore, Dischargers should use caution when choosing to implement this type of groundwater data analysis.

### **Basis for Landfill Gas Monitoring.**

The Dischargers are required to comply with the requirements prescribed by the City of San Diego Solid Waste Local Enforcement Agency (LEA) for oversight of the landfill gas monitoring system and program. Title 27 gives the authority for oversight of landfill gas monitoring and systems to CalRecycle and its LEAs. The M&RP requires the Discharger to report the results from the landfill gas monitoring in the Annual Summary Compliance report, if landfill gas data is proposed for use to satisfy the requirements for vadose zone monitoring.

### **Basis for Sludge Waste Monitoring.**

Unless the California Department of Toxic Substances Control (DTSC) determines that the waste must be managed as a hazardous waste, primary sludge disposed of in the Landfill shall contain at least 20 percent solids (by weight). Likewise, secondary sludge, mixtures of primary and secondary sludge, or water treatment sludge disposed of in the Landfill shall contain at least 15 percent solids (by weight). A minimum solids-to-liquid ratio of 5:1 by weight shall be maintained in sewage sludge to ensure that the co-disposal of sludge and municipal solid wastes will not exceed the initial moisture holding capacity of the non-hazardous solid waste in accordance with CCR title 27, section 20220(c). The Order requires the Discharger to implement a monitoring program for the disposal of sludge, grit and bar screen wastes to ensure that sludge wastes complies with the regulatory requirements for disposal of dewatered sludge wastes at the Landfill. The Monitoring and Reporting Program requires the Discharger to provide the San Diego Water Board with a summary of information about the source(s) of wastewater treatment plant sludge wastes,<sup>26</sup> the results of analyses to demonstrate compliance with dewatered sludge acceptance requirements in section 20220(c) of CCR title 27, and the amount and types of sludge wastes received from each source for disposal at the Landfill. This information will be reported in the semi-annual monitoring reports as required by Monitoring and Reporting Program No. R9-2018-0069.

### **Basis for Dredged Sediments Monitoring.**

If the Discharger demonstrates that dredged sediments from a cleanup project or other source meet the requirements for classification as a nonhazardous waste,<sup>27</sup> then these waste streams may be accepted for disposal at the Landfill. Additionally, the Discharger must demonstrate that its waste characterization criteria for dredged sediments meet the minimum regulatory requirements and the criteria to ensure the waste stream will not cause an exceedance of the moisture holding capacity of the landfill at any time during the operational life and closure/post-closure period (a minimum of 30 years) of the Landfill.

This Order requires the Discharger to implement a monitoring program for the disposal of dredged sediments into the Landfill. The Monitoring and Reporting Program requires the Discharger to provide the San Diego Water Board with a summary of information about the source(s) of dredged sediments and the amount and types of dredged sediment wastes received from each source. This information will be reported in the semi-annual monitoring reports as required by Monitoring and Reporting Program No. R9-2018-0069. The Discharger shall retain and maintain all analytical results records used to demonstrate compliance with the waste stream classification and acceptance

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<sup>26</sup> Sludge wastes include dewatered sludges (defined in section 20164, CCR title 27), dewatered sewage or water treatment sludge; including primary sludge, secondary sludge, mixtures of primary and secondary sludges, or water treatment sludge (CCR title 27, section 20220(c)), grit and bar screen wastes. [https://www3.epa.gov/npdes/pubs/final\\_sgrit\\_removal.pdf](https://www3.epa.gov/npdes/pubs/final_sgrit_removal.pdf)

<sup>27</sup> See CCR title 27, section 20200(d)(3) – liquids or semi-solid wastes.

criteria found in CCR title 27, section 20200 et seq. Those data shall be made available to the San Diego Water Board upon a written request from the Executive Officer.

## **L.M. RATIONALE FOR NOTIFICATIONS**

Notifications are included in the Order to inform the Discharger of administrative issues regarding this Order.

## **M.N. OTHER PERMITS REQUIRED**

The Landfill is subject to additional permits from the San Diego Water Board and other agencies. These permits consist of the San Diego Water Board's Clean Water Act Section 401 Water Quality Certification;<sup>28</sup> the State Water Board's General Industrial Storm Water Permit (Order No. 2014-0057-DWQ; NPDES No. CAS000001); the County of San Diego Air Pollution Control District's Air Operating Permit No. 971226; the County of San Diego, Department of Environmental Health LEA's Unified Program Facility Permit; and the City of San Diego LEA's Solid Waste Facility Permit No. 37-AA-0023.

## **N.O. SAN DIEGO WATER BOARD PRACTICAL VISION**

The issuance of this Order establishes requirements for the development and expansion of the Landfill and is consistent with the Practical Vision goal to provide water resources protection, enhancement and restoration while balancing economic and environmental impacts. The Order implements the goal of the Practical Vision to maintain healthy waters in the San Diego Region by establishing proper disposal and long-term containment and management of solid wastes at the Landfill, ensuring protection of groundwater and surface water quality.

## **O.P. PUBLIC PARTICIPATION**

Two of the four values embraced by the San Diego Water Board Practical Vision are communication and transparency. Participation of the public in the decision-making process of the Board is a hallmark of the board governmental structure in California and essential to this Board's success. The San Diego Water Board's process to encourage public participation in the adoption of this Order is discussed in the following paragraphs.

### **Notification of Interested Parties.**

Consistent with Water Code section 13167.5, and CCR title 27 sections 21730, subdivisions (a) and (b), the San Diego Water Board provided a 45-day notice to the Discharger and interested agencies and persons, of its intent to adopt waste discharge requirements for the expansion of the Landfill and made a copy of this Order available on its website. Furthermore, the San Diego Water Board provided the public an opportunity to submit written comments and recommendations. Notification was provided through

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<sup>28</sup> 401 Water Quality Certification issued by the San Diego Water Board on October 16, 2014; this Certification incorporates mitigation monitoring and reporting requirements for biological impacts identified by the City of San Diego in the Final EIR for the Master Planned Expansion of the Landfill.

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posting on the San Diego Water Board website on September 28, 2018, a newspaper notice in the \_\_\_\_\_, and in the board meeting agenda publication.

### Written Comments.

Interested persons are invited to submit written comments concerning this tentative Order. Written comments must be submitted in text searchable Portable Document Format (PDF) or Microsoft Word format via email to [sandiego@waterboards.ca.gov](mailto:sandiego@waterboards.ca.gov) by **5:00 p.m. on November 14, 2018.** Written comments must include a signed cover/transmittal letter. Comments should include a topic line "Sycamore Landfill Tentative Order" and be addressed to the attention of Ms. Amy Grove.

In order for comments to receive a written response from staff and be provided to the San Diego Water Board for consideration prior to the hearing, written comments must be received at the Board office by **5:00 p.m. on November 14, 2018.**

### Public Hearing.

The San Diego Water Board will hold a public hearing on the tentative Order during its regular Board meeting on the following date and time, and at the following location:

Date: Wednesday, ~~November 14~~December 12, 2018  
Time: 9:00 a.m.  
Location: San Diego Regional Water Quality Control Board  
San Diego Water Board Meeting Room  
2375 Northside Drive, Suite 108  
San Diego, CA 92108

### Petitions.

Any aggrieved person may petition the State Water Board to review the decision of the San Diego Water Board regarding the final Order. The petition must be received by the State Water Resources Control Board's Office of Chief Counsel **within 30 days** after the San Diego Water Board's action at the following address:

State Water Resources Control Board  
Office of Chief Counsel  
P.O. Box 100, 1001 I Street  
Sacramento, CA 95812-0100

### Information and Copying.

The Order, written comments received, and other related documents are on file and may be inspected at the San Diego Water Board's address listed above, at any time **between 8:00 a.m. and 5:00 p.m., Monday through Friday.** Copying of documents may be arranged through the San Diego Water Board by calling (619) 516-1990.

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**Register of Interested Persons.**

Any person interested in being placed on the mailing list for information regarding the Order should contact Ms. Amy Grove at (619) 521-3920 or at [Amy.Grove@waterboards.ca.gov](mailto:Amy.Grove@waterboards.ca.gov), reference this facility, and provide a name, address, phone number, and email address.

**Additional Information.**

Requests for additional information or questions regarding this Order should be directed to Ms. Amy Grove at (619) 521-3920 or at [Amy.Grove@waterboards.ca.gov](mailto:Amy.Grove@waterboards.ca.gov).



**ATTACHMENT D TO  
ORDER NO. R9-2018-0069**

**Table 1.** Maximum Concentration Limits for Soils Containing Nonhazardous Concentrations of Metals, Pesticides, Organic and Inorganic Compounds. (Reference: CCR title 22, Section 66261.24 as Amended).

<b>Contaminant (CAM 17*)</b>	<b>Maximum Concentration Limits STLC**</b>
Antimony	15 mg/l
Arsenic	5.0 mg/l
Barium	100 mg/l
Beryllium	0.75 mg/l
Cadmium	1.0 mg/l
Chromium	5.0 mg/l
Cobalt	80 mg/l
Copper	25 mg/l
Lead	5.0 mg/l
Mercury	0.2 mg/l
Molybdenum	350 mg/l
Nickel	20 mg/l
Selenium	1.0 mg/l
Silver	5.0 mg/l
Thallium	7.0 mg/l
Vanadium	24 mg/l
Zinc	250 mg/l
<b>Contaminant</b>	<b>STLC</b>
Aldrin	0.14 mg/l
Chlordane	0.25 mg/l
DDT, DDE, DDD	0.1 mg/l
2,4-Dichlorophenoxyacetic acid	10 mg/l
Dieldrin	0.8 mg/l
Dioxin (2,3,7,8-TCDD)	0.001 mg/l
Endrin	0.02 mg/l
Heptachlor	0.47 mg/l
Kepone	2.1 mg/l
Lead compounds, organic	-
Lindane	0.4 mg/l
Methoxychlor	10 mg/l
Mirex	2.1 mg/l
Pentachlorophenol	1.7 mg/l
Polychlorinated biphenyls (PCBs)	5.0 mg/l
Toxaphene	0.5 mg/l
Trichloroethylene	204 mg/l
2,4,5-Trichlorophenoxypropionic acid	1.0 mg/l

\*California Metals 22 CCR Section 66261.24

\*\* STLC - Soluble threshold Limit Concentration

**ATTACHMENT E TO  
ORDER NO. R9-2018-0069**

**Table 2.** Maximum Concentration Limits for Soils Containing Nonhazardous Concentrations of Metals, Pesticides, Organic and Inorganic Compounds using toxicity Characteristic Leaching Procedure (TCLP) analysis. (Reference: CCR Title 22 Section 66261.24 as Amended).

<b>Contaminant</b>	<b>Maximum Concentration Limits Regulatory Level</b>
Arsenic	5.0 mg/l
Barium	100 mg/l
Benzene	0.5 mg/l
Cadmium	1.0 mg/l
Carbon tetrachloride	0.5 mg/l
Chlordane	0.03 mg/l
Chlorobenzene	100 mg/l
Chloroform	6.0 mg/l
Chromium	5.0 mg/l
o-Cresol	200 mg/l
m-Cresol	200 mg/l
p-Cresol	200 mg/l
Cresol, total	200 mg/l
2,4-D	10 mg/l
1,4-Dichlorobenzene	7.5 mg/l
1,2-Dichloroethane	0.5 mg/l
1,1-Dichloroethylene	0.7 mg/l
2,4-Dinitrotoluene	0.13 mg/l
Endrin	0.02 mg/l
Heptachlor (and its epoxide)	0.008 mg/l
Hexachlorobenzene	0.13 mg/l
Hexachlorobutadiene	0.5 mg/l
Hexachloroethane	3.0 mg/l
Lead	5.0 mg/l
Lindane	0.4 mg/l
Mercury	0.2 mg/l
Methoxychlor	10 mg/l
Methyl ethyl ketone	200 mg/l
Nitrobenzene	2.0 mg/l
Pentachlorophenol	100 mg/l
Pyridine	5.0 mg/l
Selenium	1.0 mg/l
Silver	0.5 mg/l
Tetrachloroethylene	0.7 mg/l
Toxaphene	0.5 mg/l
trichloroethylene	0.5 mg/l
2,4,5-Trichlorophenol	400 mg/l
2,4,6-Trichlorophenol	2.0 mg/l
2,4,5-TP (Silvex)	1.0 mg/l
Vinyl Chloride	0.2 mg/l