

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

**INVESTIGATIVE ORDER NO. R9-2020-0047**

**AN ORDER DIRECTING REPUBLIC SERVICES TO SUBMIT A LEACHATE  
INVESTIGATION TECHNICAL REPORT FOR THE OTAY LANDFILL,  
SAN DIEGO COUNTY**

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

**Legal Authority**

1. Landfills in the State of California are regulated under waste discharge requirements issued pursuant to the Porter-Cologne Water Quality Control Act (Water Code, Division 7, section 13000 et seq. (Water Code)) and implement (1) the federal Resource Conservation and Recovery Act (RCRA), including regulations found in the Code of Federal Regulations (CFR), title 40, part 258, 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 (CCR), and (3) applicable provisions of the California Health and Safety Code, division 20, chapter 6.5. Investigative Order No. R9-2020-0047, *An Order Directing Republic Services to Submit a Leachate Investigation Report for the Otay Landfill, San Diego County* (Investigative 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 reports.
2. The Water Quality Control Plan for the San Diego Basin (Basin Plan) is designed to preserve and enhance water quality and protect the beneficial uses of all regional waters. Specifically, the Basin Plan: (1) designates beneficial uses for surface waters and groundwater; (2) sets narrative and numerical water quality objectives that shall be attained or maintained to protect the designated beneficial uses and conform to the State's antidegradation policy; (3) describes implementation programs to protect the beneficial uses of all waters in the Region; and (4) describes surveillance and monitoring activities to evaluate the effectiveness of the Basin Plan.

**Waste Management Facility Classification, Siting, and Construction**

3. The Otay Landfill<sup>1</sup> is designated, as a Class III, nonhazardous municipal solid waste (MSW) landfill under CCR, title 27, subject to State and federal statutes and regulations.
4. Class III MSW landfills are subject to siting, design, and construction standards<sup>2</sup> that require containment structures to prevent degradation of waters of the State resulting from discharges of waste from the landfill.
5. Containment structures must be constructed of materials that have appropriate chemical and physical properties to ensure the structures do not fail to contain waste because of pressure gradients, including hydraulic head and external hydrogeologic forces, physical contact with the waste or leachate, chemical reactions with soil and rock, climatic conditions, the stresses of installation, or because of the stresses associated with daily operation.

**Waste Characterization and Acceptance**

6. Republic Services (Discharger) is the owner and operator of the Otay Landfill. Landfill owners and operators are responsible for the accurate characterization of wastes, including determinations of whether wastes are compatible with containment features and other wastes at the landfill to prevent conditions of contamination, pollution, or nuisance.
7. Certain special waste streams may be considered appropriate for disposal at a nonhazardous MSW landfill. These wastes may include treated wood, dewatered sludge, dredged sediments, landfill leachate, landfill gas condensate,<sup>3</sup> contaminated soils, and other wastes that meet the applicable State and federal regulatory requirements. If not properly characterized or managed, these wastes have the potential to pose a greater threat to water quality and could create conditions of contamination, pollution, or nuisance. Therefore, dischargers that accept these types of wastes at their landfills are required to maintain records documenting and demonstrating accurate waste characterization practices.

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<sup>1</sup> Located at 1700 Maxwell Road, Chula Vista, CA 91910 within the Otay Valley Hydrologic Area (902.10).

<sup>2</sup> Cal Code Regs., *tit.* 27, § 20240 et seq. and State Water Board Resolution No. 93-62.

<sup>3</sup> Landfill leachate and condensate may be discharged to a landfill unit that is equipped with a liner system including a leachate collection and removal system in compliance with Cal Code Regs., *tit.* 27, § 20340(g) and CFR, *tit.* 40, § 258.28.

8. The Otay Landfill is authorized to accept nonhazardous MSW as defined in State and federal regulations.<sup>4</sup>

**Management of Liquids**

9. Landfill owners and operators are prohibited from accepting and discharging liquids or semi-solid waste, other than dewatered sewage or water treatment sludge, at a Class III landfill. Semi-solid wastes are those wastes containing less than 50 percent solids, by weight. Exceptions may be granted by the jurisdictional Regional Water Quality Control Board, if the owner and operator can demonstrate that such a discharge will not exceed the moisture holding capacity of the landfill. The moisture holding capacity shall not be exceeded initially or as a result of waste management operations, compaction, or settlement.<sup>5</sup> These requirements are necessary to minimize the risk to human health and the environment, which includes potential discharges to groundwater and surface water.
10. The Discharger has accepted dewatered sludge<sup>6</sup> (since 1996) and dredged sediments (since 2013) for disposal at the Otay Landfill. These wastes may have a higher moisture content than the standard MSW waste stream, and therefore have the potential to exceed the designed moisture holding capacity and overwhelm the design capacity of the leachate collection and removal system (LCRS) at the Otay Landfill.

**Investigative Order No. R9-2016-0067**

11. In 2016, the San Diego Water Board issued Notice of Violation and Investigative Order No. R9-2016-0067 (Investigative Order No. R9-2016-0067, Attachment No. 1) to the Discharger. The Notice of Violation was issued for:
- Failure to implement appropriate storm water management practices; and
  - Failure to prevent the comingling of storm water runoff and composting wastewater.

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<sup>4</sup> MSW Landfills in California are subject to State regulations under CCR title 27, federal regulations under title 40 CFR part 258, and the California Health and Safety Code, Division 20, Chapter 6.5 (Hazardous Waste Control).

<sup>5</sup> Cal. Code Regs., *tit.* 27, § 20200(d)(3).

<sup>6</sup> Sludge wastes include dewatered sludges (defined in CCR title 27, section 20164), 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://www.epa.gov/npdes/pubs/final\\_sgrit\\_removal.pdf](https://www.epa.gov/npdes/pubs/final_sgrit_removal.pdf)

12. Investigative Order No. R9-2016-0067 required the Discharger to:
- Provide information related to the excessive production of leachate at the Otay Landfill;
  - Submit a Storm Water, Erosion Controls and BMP Implementation Report;
  - Submit a Leachate Generation Report; and
  - Submit a Slope Stability Workplan and Final Report.
13. In response to Investigative Order No. R9-2016-0067, the Discharger submitted a series of memoranda and technical reports beginning in June 2016. These responses included a supplemental *Stability Evaluation for the Southeastern Corner of the Otay Landfill* (Stability Evaluation), dated December 23, 2016. The Stability Evaluation addressed staff concerns regarding observations and violations noted during a routine compliance inspection of the Otay Landfill on February 4, 2016. Additionally, the Discharger provided a *Response to Investigative Order No. R9-2016-0067, Otay Landfill, San Diego County* (Response Report), dated July 30, 2016. The Response Report included information regarding waste acceptance criteria, copies of analytical data demonstrating compliance with that criteria, the volumes of various waste streams accepted, and the volume of leachate produced by the Otay Landfill for May 2016, including the manifests for leachate disposal.
14. According to the information provided in the Response Report, all non-MSW materials accepted for disposal at the Otay Landfill are required to be accompanied by analytical data characterizing the waste stream. The number of samples required to be characterized is dependent on the volume of materials proposed for disposal. The minimum testing requirements to characterize the waste stream are dependent on the type of material proposed for disposal at the Otay Landfill. Table 1 below is an excerpt from the Response Report,<sup>7</sup> identifying the minimum testing requirements for the waste streams of interest in this Investigative Order.

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<sup>7</sup> Response to Investigative Order No. R9-2016-0067, July 30, 2016.

Table 1: Otay Landfill Minimum Waste Stream Testing Requirements.

<b>Waste Stream Type</b>	<b>Minimum Testing Requirements</b>
Dredged Sediments	Paint Filter, CAM 17 Metals, Volatiles, Semi-Volatiles, Pesticides/Herbicides, PCB's and TPH Extended Range (C <sub>4</sub> – C <sub>40</sub> )
Wastewater Treatment Sludge (Municipal)	pH, Paint Filter, Percent Solids, TPH Extended Range (C <sub>4</sub> – C <sub>40</sub> ), CAM 17 Metals, Volatiles, Semi-Volatiles
Wastewater Treatment Sludge (Industrial)	pH, Paint Filter, Percent Solids, TPH extended range (C <sub>4</sub> – C <sub>40</sub> ), CAM 17 Metals, Volatiles, Semi-Volatiles, PCB's
Water Treatment Sludge	pH, Paint Filter, Percent Solids, CAM 17 Metals

15. Nonhazardous MSW landfills are required to ensure that the acceptance of dredge sediments or dewatered sludge materials is appropriate and will not threaten the integrity of the containment and waste management systems. The integrity of containment systems may come into question if the waste disposal practices are inconsistent with the design of the containment structures. For example, LCRS can become overwhelmed if wastes regularly accepted for disposal contain a higher volume of liquids than the landfill was designed to manage. Subsequently, as the volume of leachate increases, so too does the weight and pressure on the landfill liner system.

Therefore, the Discharger is required to ensure these wastes are appropriate for disposal. Under CCR title 27, section 20220(b) and (c), dischargers must determine the solids to liquid ratio and moisture content of the materials, and for dewatered sludge the percent solids of the material. Information regarding each of these criteria is essential to ensure the waste streams do not cause an exceedance of the moisture holding capacity of the landfill. According to the minimum testing requirements in Table 1, evaluation of soil moisture content of dredged sediments and dewatered sludge is not included in the Discharger's protocols for waste acceptance. The Discharger's protocols for waste acceptance do require a paint filter test,<sup>8</sup> which is a qualitative measurement (i.e., pass or fail), limited to determining the presence of free liquids in a representative sample. Because the paint filter test is not a quantitative measurement, the test cannot be used to accurately determine the moisture content within a given waste stream or the potential impacts these wastes may have on the Landfill's containment structures.

At the time the Landfill was designed and expanded, the Discharger was not proposing to include saturated wastes at the quantities previously and currently

<sup>8</sup> SW\_846 Test Method 9095B.

accepted at the Landfill. Therefore, it is prudent to revisit design and stability analyses to determine compliance with regulatory standards and design criteria.

**Landfill Comparison**

16. San Diego Water Board staff reviewed the accepted waste streams and leachate production rate data from the Badlands, Bowerman, Prima Deshecha (Prima), Sycamore, and Sunshine Canyon (Sunshine) landfills (Table 2 and Figure 1) and compared the data to data provided for the Otay Landfill.

Table 2: Southern California Landfill Waste Acceptance and Leachate Production Comparison Data: April – August 2018

Landfill	Lined Acreage	Municipal Solid Waste (TPM) <sup>a,c</sup>	Sludge/Biosolids (TPM) <sup>a,c</sup>	Dredging Sediment (TPM) <sup>a,c</sup>	Leachate Production (GPM) <sup>b,c</sup>
Badlands	112	83,268	89	0	2,638
Bowerman	302.5	233,910	N/A	N/A	155,970
<b>Otay</b>	<b>80</b>	<b>145,573</b>	<b>10,989</b>	<b>1,560</b>	<b>1,500,000</b>
Prima	93	48,480	925	N/A	3,450
<b>Sycamore</b>	<b>89</b>	<b>120,000</b>	<b>0</b>	<b>0</b>	<b>374,500</b>
<b>Sunshine</b>	<b>250</b>	<b>176,370</b>	<b>0</b>	<b>0</b>	<b>632,720</b>

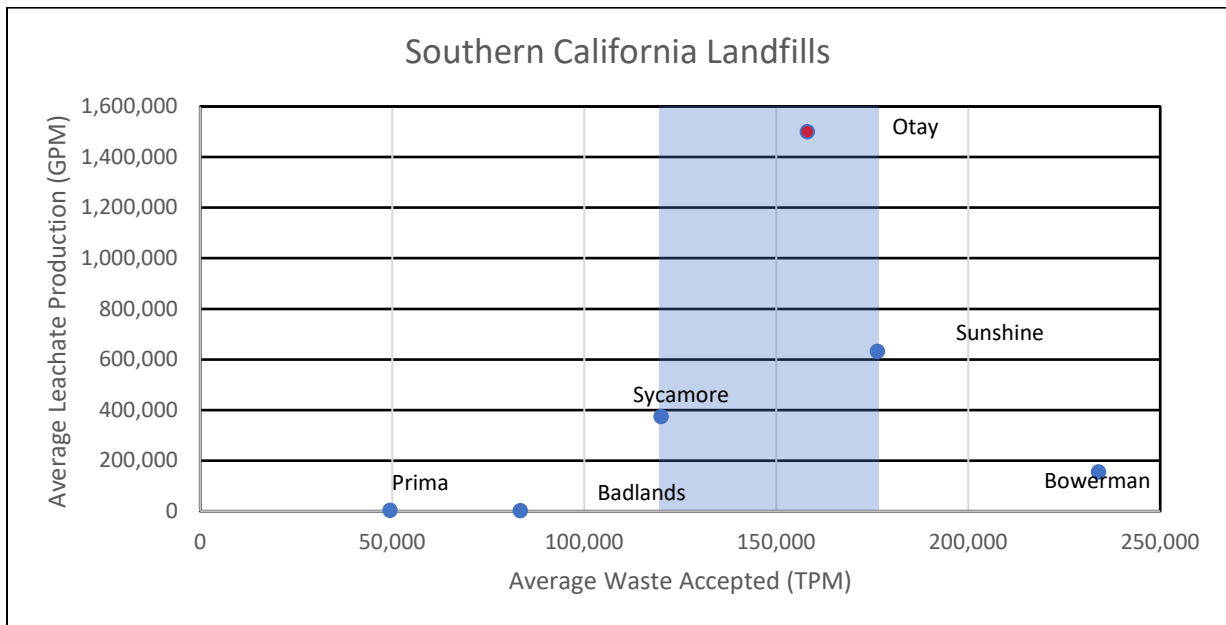
Notes: a – Tons per month

b – Gallons per month

c – Averages based on a 30-day month

Bolded rows indicate comparable landfills.

Figure 1: Southern California Landfill Waste Acceptance and Leachate Production Comparison Graph: April – August 2018



17. Based on the information provided in Table 2, San Diego Water Board staff found that Sycamore and Sunshine Landfills were comparable to the Otay Landfill, with respect to the average tons of MSW accepted per month. Comparison of these landfills to the Otay Landfill found the following:

- Sycamore Landfill Comparison. Located in the San Diego Water Board Region, the Sycamore Landfill is approximately 18 miles north of the Otay Landfill. In comparison, Sycamore and Otay landfills have similar lined acreages and monthly average tonnages of accepted MSW. As such, the anticipated volume of leachate produced on a monthly average basis should be similar. However, the Sycamore Landfill accepts approximately 18.5% fewer tons of MSW each month than the Otay Landfill and the Otay Landfill produces approximately 70% more leachate each month than the Sycamore Landfill.
- Sunshine Canyon Landfill Comparison. Located within the jurisdictional boundaries of the California Regional Water Quality Control Board, Los Angeles Region, the Sunshine Canyon Landfill is approximately 147 miles northwest of the Otay Landfill. While the Sunshine Canyon Landfill accepts approximately 18.5% more tons of MSW each month than the Otay Landfill, the Otay Landfill produces twice the volume of leachate in a given month.

18. Based on the comparisons above, the data can be interpreted to indicate the total lined acreage of a landfill and the volume of MSW accepted each month may not be

the driving factor behind the production of leachate at these landfills. Currently the only known significant difference amongst the three landfills is the type of waste streams accepted. Neither Sycamore nor Sunshine Landfills accept wastewater treatment sludge or dredged sediments, whereas Otay Landfill accepts an average of 12,000 tons per month. These wastes may influence the amount of liquid potentially entering the waste prism and contributing to the overall production of leachate at the Otay Landfill. Additionally, from review of the waste stream volumes and associated leachate production for the Otay Landfill provided by the Discharger in response to Investigative Order No. R9-2016-0067, it appears that the production of leachate significantly increased after the Otay Landfill began accepting dredge sediments and dewatered wastewater treatment sludge (Attachment No. 3).

### **Current Leachate Production**

19. In compliance with Investigative Order No. R9-2016-0067, copies of May 2016 leachate disposal and waste acceptance manifests were provided to the San Diego Water Board. These manifests are intended to be representative of leachate disposal quantities for a typical month at the Otay Landfill.
20. According to the information provided, the Discharger disposed of 1,265,000 gallons of leachate in May 2016. In addition, San Diego Water Board staff's review of annual leachate production data, collected between 2010 and 2013, suggest the volume of leachate generated at the Otay Landfill doubled from approximately 764,000 gallons to approximately 1.5 million gallons, respectively. From 2013 to 2014, the annual volume of leachate produced at the Otay Landfill more than tripled, increasing from approximately 1.5 million gallons to 5.8 million gallons. By 2017 the recorded annual volume of leachate produced at the Otay Landfill again doubled to over 15.2 million gallons.
21. To provide perspective to these volumes, an Olympic sized swimming pool holds approximately 605,160 gallons of water. In 2016, the Otay Landfill generated approximately 1,265,000 million gallons of leachate each month, or approximately 15,200,000 million gallons in a year. This volume of leachate could fill two Olympic sized pools every month, or approximately 25 Olympic sized swimming pools over the course of a year.

### **Basis for Requiring Technical Reports**

22. Information contained within the San Diego Water Board files, which includes documents provided by the Discharger to date, is useful but incomplete. Additional information is necessary to further investigate and evaluate the cause or source of the excessive leachate volumes generated at the Otay Landfill. Further, more information is necessary to determine the potential regulatory mechanism necessary



to support and facilitate the ability of the Otay Landfill to comply with local, State, and federal requirements. Therefore, the intent of this Investigative Order is to gather the additional data and information necessary to complete an investigation, evaluate the information gathered, and make determinations regarding leachate production at the Otay Landfill. The additional information required includes:

- An evaluation of the LCRS to determine whether the conveyance system was designed to manage the volume of leachate currently produced at the Otay Landfill;
- An evaluation of the production of landfill gas condensate as a potential contributing source of leachate production; and
- An evaluation of the moisture-holding content of typical waste streams accepted for disposal at the landfill, as well as calculations that identify the moisture-holding capacity of the Otay Landfill.

The addition of this information to the record will provide a better understanding of the various factors that may impact the Otay Landfill, specifically with regards to leachate production.

23. This Investigative Order is issued pursuant to Water Code section 13267. Water Code section 13267 authorizes the San Diego Water Board to require Dischargers to furnish technical reports, provided 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 shall provide a written explanation regarding the need for the reports and shall identify the evidence that supports requiring the reports. Based on the nature and possible adverse consequences of the discharge as described in the findings of the Order, the need for the report is justified. It is anticipated that a considerable amount of the information required by the Order will be available to the Discharger in previously submitted records or reports. Much of the information will be a compilation of data acquired from manifests, lab records, chain-of-custody reports, monitoring reports, or technical reports, provided in tables, figures, and graphs that will allow for a streamlined review and an evaluation of impacts from landfill operations. It is estimated that the costs associated with providing the requested information and producing a report will be less than \$100,000. The San Diego Water Board finds that the burden, including the costs, of providing the required ***Leachate Investigation Technical Report***, bears a reasonable relationship to the need for the report and the benefits to be obtained from the report.

***Expectation of Interim Remedial Actions***

24. The Discharger shall continue to take all steps necessary to reduce, eliminate or prevent the unauthorized discharge of wastes and waste byproducts from the Otay Landfill through compliance with applicable waste discharge requirements (WDRs), and all applicable federal, State and local statutes and regulations.

**California Environmental Quality Act**

25. The issuance of this Investigative Order is an enforcement action taken by a regulatory agency and is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to CCR title 14, chapter 3, section 15321(a)(2). The activity of preparing a report describing and evaluating the production and associated impacts of landfill leachate, as described in the directives, below, will not cause or have the potential to cause a significant effect on the environment. Therefore, this action is also exempt from the provisions of CEQA in accordance with CCR title 14, chapter 3, section 15061(b)(3) because it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment.

**Qualified Professionals**

26. Pursuant to CCR title 27, sections 20950(b), 20324(b), and 20324(d), any report submitted in compliance with CCR title 27 or 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 demonstrating that plans and reports required by 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 section 6735, 7835, and 7835.1 which require that engineering and geologic evaluations and judgments be performed by or under the direction of licensed professionals. A statement of qualification 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.

**IT IS HEREBY ORDERED**, pursuant to Water Code section 13267, the Discharger shall provide the San Diego Water Board with a ***Leachate Investigation Technical Report*** containing the following information:

**Directives**

1. **Neutral Third Party Investigator.**

The ***Leachate Investigation Technical Report*** shall be prepared and signed by a neutral third-part investigator, licensed by the State of California to practice geology and civil engineering.

2. **Submittal Date.**

The ***Leachate Investigation Technical Report*** must be received by the San Diego Water Board no later than ***5:00 p.m. June 30, 2020***

3. **Discussion and Evaluation.**

***The Leachate Investigation Technical Report*** shall include a detailed description of the overall operation of the Otay Landfill and an evaluation of the effectiveness of containment structures and features at the Landfill. Specifically, the description and evaluation must include, but is not limited to, information regarding:

- a. The waste acceptance protocols implemented at the Otay Landfill.
- b. The criteria, protocols, and confirmation testing data for determining and supporting which wastes are appropriate for disposal at the Otay Landfill.
- c. The management of special waste streams accepted for disposal at the Otay Landfill, including dredged sediments and sludge.
- d. The mixing and placement procedures for waste streams accepted for disposal, or stockpiled for daily cover, at the Otay Landfill.
- e. The management procedures for stockpiled wastes accepted for disposal or used as daily cover at the Otay Landfill.
- f. The integrity and performance of the waste containment structures and systems constructed at the Otay Landfill, including the LCRS and LFG extraction systems.
- g. The ability of the waste containment structures and systems to contain and maintain wastes and waste byproducts under final build out conditions and maximum predicted normal strengths.

- h. The effectiveness of the correction action monitoring program and remedial alternatives implemented at the Otay Landfill.
- i. The management and disposal practices associated with leachate generated at the Otay Landfill. The discussion shall address how the leachate is disposed of offsite or reused on site. If leachate is reused on site for dust control or operations water, the discussion should specify where it is applied, how it is applied, and the volume and rate at which it is applied to the Otay Landfill.
- j. The volume of leachate generated over time and a summary of any potential correlations to wastes accepted and discharged at the Otay Landfill.
- k. The moisture holding content of dredged sediments disposed of at the Landfill from the Shipyards Cleanup project, other bay sediment cleanup projects, and for dewatered sludge materials regularly accepted for disposal at the Landfill. The evaluation should include the volume of materials, how the materials were integrated or mixed with MSW wastes to promote absorption of liquids, and the estimated moisture holding capacity of the Landfill based on the volume and types of wastes accepted for disposal. The evaluation must include calculations, assumptions used, and any site-specific data acquired for the purposes of this evaluation.

4. **Slope Stability and Containment System Construction.**

The ***Leachate Investigation Technical Report*** shall include a summary of the activities associated with the construction of the containment systems at the Otay Landfill, including **a copy of** the global stability analysis used to demonstrate that the Landfill containment systems were designed to contain wastes under final build out conditions. The report shall also include the following minimum information:

- a. The design calculations for the LCRS, including the hydraulic head, pump sizing, leachate line and tank capacities, and data determining the maximum discharge capacity for the LCRS.
- b. The anticipated overburden stresses and underlying pore pressures used in the original global stability analysis and modified values representative of current leachate production rates and its effects on the waste prism weight and strength parameters.

5. **Tabulated Data.**

The ***Leachate Investigation Technical Report*** shall include tabulated data for the following information:

- a. The liner system for each lined waste management unit (Unit) of the Otay Landfill, identifying:
  - i. The acreage of each Unit, broken into side slopes and base liner areas, and
  - ii. The liner components for lined Unit.
- b. Leachate holding tank design, capacity, and the pump out frequency for each tank.
- c. Leachate pump records, identifying the frequency of use and run time durations for each pump.
- d. Disposal records for leachate from January 2016 to present.
- e. Monthly averages (in gallons per day) of leachate collected from January 2016 to the present.
- f. Well-head elevations from 2010 – present.
- g. Landfill gas data for each landfill gas probe, collected from January 2014 – present.

6. **Maps, Drawings, and Figures.**

The ***Leachate Investigation Technical Report*** shall include the maps, figures, and drawings needed to demonstrate that the containment structures at the Otay Landfill are designed, constructed, and functioning in a manner that is consistent with the requirements found in CCR title 27, the design reports, the final construction reports, and the intent of these features. Any graphs submitted as part of the ***Leachate Investigation Technical Report*** shall be plotted on a semi-logarithmic scale for consistency and ease of comparison and review. This information shall include, but may not be limited to:

- a. The final construction as-built drawings, maps, and design specifications for LCRS at the Otay Landfill.
- b. A map of the Otay Landfill, identifying:
  - i. The outline of each lined and unlined Unit.
  - ii. The location of all monitoring systems (i.e., groundwater monitoring wells, piezometers, landfill gas probes, and leachate tanks or sumps).

- iii. The location of all leachate lines and vertical extraction wells within the lined Units.
  - iv. The location of the perimeter drains, detention basins, and any other drainage features located at the Otay Landfill.
  - v. The location of the composting operation and all drainage features associated with that operation.
  - vi. The location of chipping and grinding activities, the materials recycling facility, and any other non-landfill operations currently taking place within the property boundary.
- c. Maps showing the locations where leachate is applied to the Otay Landfill surface, if applicable.
  - d. Graphs depicting the monthly average (in gallons per day) of leachate collected from January 2016 to present.

7. **Waste Acceptance Records.**

The ***Leachate Investigation Technical Report*** shall include copies of records of all contaminated soils, sewage treatment sludge, biosolids, and dredged sediments accepted at the Otay Landfill, as well as manifests for leachate management, and landfill gas systems. This information shall be limited to January 2016 to present and be provided in a tabular format. The tabulated information should include the:

- a. Type of waste accepted.
- b. Volume of waste accepted.
- c. Source of waste accepted.
- d. Solid-to-liquid ratio of waste accepted.
- e. Moisture content of waste accepted, and the method used to make this measurement.
- f. Manifests for leachate disposal, treatment, and management from 2016 to present.
- g. Copies of the drill logs for any new landfill gas probes installed since January 2014.

- h. Copies of the logs or notes identifying the presence of liquids present during the drilling, construction, or post construction phase of all landfill gas probes installed since January 2014.
  - i. Copies of the logs or notes identifying the volume of liquid removed during the drilling, construction, or post construction phase of all landfill gas probes installed since January 2014.
  - j. Copies of all documents identifying management and disposal of liquids encountered during the drilling, construction, or post construction phase of all landfill gas probes installed since January 2014.
  - k. Copies of all documents recording the generation (in volume), management, and disposal of landfill gas condensate at the Otay Landfill from 2014 to present.
  - l. Copies of maps depicting the locations of all landfill gas probes at the Otay Landfill. The San Diego Water Board anticipates receiving six maps, one for each year from 2014 to present, and showing the locations of all landfill gas probes existing onsite and offsite at that time.
  - m. Copies of maps showing the migration of landfill gas on and offsite, based on probe data.
8. **Groundwater Five-Yearly Constituents of Concern Data.**  
The *Leachate Investigation Technical Report* shall include copies of the summary tables and laboratory analytical data sheets for the last four 5-year Constituents of Concern (COC) sampling events, data collected from the groundwater monitoring well network used to develop the COC list of the Otay Landfill. The Discharger shall also provide the current COC list for each groundwater monitoring well at the Otay Landfill.
9. **Annual Leachate Data.**  
The *Leachate Investigation Technical Report* shall include copies of the summary tables and graphs presenting the COCs present in leachate and their change in concentrations from 2008 to present.
10. **Elevation of Groundwater and Landfill Liner System.**  
The *Leachate Investigation Technical Report* shall include:
- a. Tables providing the historical groundwater elevations from 1990 to present.
  - b. Hydrographs of the groundwater elevations for each groundwater monitoring from 1990 to present.

- c. Geologic cross-sections illustrating design-based groundwater elevation, the actual range in groundwater elevations and liner systems elevations measured during construction activities.

11. **Conclusions and Recommendations.**

The ***Leachate Technical Investigation Report*** shall include a summary discussion incorporating conclusions and recommendations regarding the origin and production of excessive leachate at the Landfill. The conclusions shall be based on the evaluation of data and information presented in the ***Leachate Technical Investigation Report***. The recommendations shall present potential mitigation measures the Discharger may implement in the future to decrease the production of leachate at the Landfill.

**Provisions**

1. **Certification Statement.**

All documents submitted to the San Diego Water Board shall have the following certification statement:

*"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 submitted false information, including the possibility of fine and imprisonment for known violations."*

2. **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:

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



3. **Report Submission Procedures.**

Unless directed otherwise by the Executive Officer, all correspondence and documents submitted to the San Diego Water Board shall include the reference code “**246288: Groundwater Protection Unit Supervisor**” in the header or subject line.

The Discharger shall provide a full paper copy of the **Leachate Investigation Technical Report** to the San Diego Water Board for review and comment. Appendices that include copies of manifest records, laboratory data, or chain of custody logs may be submitted as an electronic attachment to the paper copy (via compact disc or USB drive). Paper copies may be submitted to:

California Regional Water Quality Control Board, San Diego Region  
2375 Northside Drive, Suite 100  
San Diego, CA 92108  
Attn: Groundwater Protection Unit Supervisor

The Discharger shall also upload all reports into the GeoTracker database in accordance with CCR title 23, chapter 30, division 3, section 3890 et seq. All information submitted to the San Diego Water Board in compliance with this Investigative Order is required to be submitted electronically via the internet into the GeoTracker database at <http://geotracker.waterboards.ca.gov/>. The electronic data shall be uploaded on or prior to the due dates set forth in this Investigative Order.

**Notifications**

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

1. **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 this Investigative Order.

2. **Failure to Comply.**

Failure to comply with the requirements of this Investigative Order may subject the Discharger to enforcement action, including but not limited to, administrative enforcement orders requiring the Discharger to cease and desist from violations, imposition of administrative civil liability, pursuant to Water Code section 13268, not to exceed \$1,000 (one thousand dollars) per day if imposed administratively or \$5,000 (five thousand dollars) per day if imposed judicially for each day the violation occurs; referral to the State Attorney General for injunctive relief, and referral to the District Attorney for criminal prosecution.

3. **State Water Board Administrative Review.**

Any person aggrieved by this action of the San Diego Water Board may petition the State Water Board to review this Investigative Order in accordance with Water Code section 13320, and CCR title 23, section 2050. The petition shall 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 Investigative Order. Copies of the law and regulations applicable to filing petitions will be provided upon request.

Ordered By:



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Kelly Dorsey  
Acting Assistant Executive Officer