

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION**

ORDER R7-2013-0060

**WASTE DISCHARGE REQUIREMENTS
AND
CLOSURE/POST CLOSURE MAINTENANCE
FOR
COUNTY OF SAN BERNARDINO, OWNER/OPERATOR
BIG BEAR SANITARY LANDFILL
CLASS III LANDFILL
North of Baldwin Lake - San Bernardino County**

The California Regional Water Quality Control Board, Colorado River Basin Region (Regional Water Board), finds that:

Discharger

1. The County of San Bernardino Solid Waste Management Division (hereinafter referred to as the Discharger or SWMD), 222 West Hospitality Lane, Second Floor, San Bernardino, California, 92415-0017, owns and administers the operation of the Big Bear Sanitary Landfill (BBSL, or Facility) for the disposal of municipal solid waste.
2. The Facility has been subject to the waste discharge requirements (WDRs) adopted in Board Order 96-046. The Discharger submitted a report of waste discharge (ROWD), dated March 12, 2013, to update the WDRs for the Facility to incorporate changes resulting from the final closure of the landfill and to comply with current laws and regulations, as set forth in the California Water Code and the California Code of Regulations, Title 27.
3. The Discharger currently operates a refuse transfer station at the Facility.

Definitions

4. Definitions of terms used in this Board Order:
 - a. Discharger – Any person who discharges waste that could affect the quality of the waters of the state, and includes any person who owns a Waste Management Unit (WMU), or who is responsible for the operation of the WMU.
 - b. Waste Management Facility (WMF) – The entire parcel of property at which waste discharge operations are conducted. Such a facility may include one or more waste management units.
 - c. Waste Management Unit (WMU) – An area of land, or a portion of a WMF, where waste is discharged. The term includes containment features as well as ancillary features for precipitation and drainage control and monitoring.

- d. Landfill – A WMU at which waste is discharged in or on land for disposal. It does not include surface impoundments, waste piles, or land and soil treatment areas.
- e. Landfill footprint – That area within the WMF where solid waste is permanently placed or disposed.

Facility

- 5. The Facility is located at 38550 Holcomb Valley Road, in Big Bear City, 1 1/2 miles north of Baldwin Lake in the SW 1/4 of Section 30 and NW 1/4 of Section 31, T3N, R2E, SBB&M, as shown in Attachment A, incorporated herein and made part of this Board Order. The entire Facility consists of about 79 acres of which about 35 acres have been used for landfill operations.
- 6. The Discharger implemented a load checking program that identified and removed hazardous and prohibited wastes from the municipal waste stream coming to the Facility. Specific components of the program included the following;
 - a. Customer notification by signs, notices and verbal inquiries.
 - b. Surveillance through visual inspection of waste loads and questioning of customers by entrance station personnel.
 - c. Waste inspection conducted on randomly-selected loads at the working face.
- 7. The BBSL is not lined and does not have a leachate collection and removal system.
- 8. The BBSL consists of two waste management areas with distinct disposal histories. The Upper (or winter) Area was opened as a burning site in about 1949. The Lower (or summer) Area was opened as a cut-and-cover operation in about 1972. The Facility was originally permitted by the Regional Water Board on June 28, 1973. The types of waste that have been accepted at the BBSL include residential, commercial, demolition/construction, and agricultural. The general layout of the Facility is shown on Attachment B, incorporated herein and made part of this Board Order.
- 9. The Lower Area of the BBSL consists of approximately 4.8 acres and is located in the northeast corner of the Facility. The Regional Water Board issued Cease and Desist Order 87-018 in 1987 and the Lower Level stopped receiving waste in 1987. In 1989 the Regional Water Board approved a Closure Plan for the Lower Area of the BBSL. The final cover system of the Lower Area of the BBSL consists of the following:
 - a. A two-foot-thick foundation layer – comprised of predominantly native soils compacted to 90 percent of relative compacted density.
 - b. A one-foot-thick low permeability layer – consisting of clay materials with a permeability of 1×10^{-6} centimeters per second or less.
 - c. A one-foot-thick erosion resistant layer – comprised of local topsoil to sustain the shallow roots of a vegetative cover.

10. The closure construction for the Lower Area was completed on October 30, 1989. Approximately 200,000 cubic yards (yd³) of solid waste were placed in the Landfill prior to the closure date.
11. The Upper Area of the BBSL consists of approximately 25 acres and has a total capacity of 1.2 million cubic yards. In 1995 the Discharger informed the Regional Water Board that evidence of a release had been identified at the site. The Regional Water Board issued Cleanup and Abatement Order 97-131 on September 26, 1997. The Upper area of the BBSL stopped receiving waste in November 2005 and was covered with one foot of intermediate cover.
12. The Discharger submitted Amendment No. 2 of the Final Closure and Post Closure Maintenance Plan (FCPCMP) for the Upper Area of the BBSL in March 2010. The final cover system of the Upper Area of the BBSL is comprised of an alternative final cover design consisting the following:
 - a. Side Slope Areas:
 - i. A one-foot-thick foundation layer – consisting of existing intermediate cover compacted to the maximum density obtainable at optimum moisture content.
 - ii. A four-foot-thick evapotranspiration (ET) layer – consisting of a mix of available soils engineered to exhibit a saturated hydraulic conductivity no greater than 4.3×10^{-5} centimeters per second.
 - b. Deck Areas, Benches, and Access Roads:
 - i. A two-foot-thick foundation layer – consisting of one foot of existing intermediate cover and one foot of on-site or import soils that meet the project material requirements.
 - ii. A barrier layer – consisting of a 60-mil linear low-density polyethylene (LLDPE) geomembrane overlain by a drainage geocomposite.
 - iii. A two-foot-thick protective layer – composed of the more granular stockpiled soils and import soils that meet project material requirements.
13. Construction of the Upper Area final cover was completed on April 29, 2011, and a closure certification letter was issued by the Regional Water Board to the Discharger on July 12, 2012.
14. The Discharger has installed a perimeter landfill gas monitoring system consisting of eight probes installed at less than 1000 feet apart between the limits of refuse and the permitted landfill boundary. All of the probes extend to the elevation of the bottom of the landfill or 10 feet above groundwater, whichever is shallowest. Using this criterion, the probes range in depth from approximately 43 to 265 feet below ground surface (bgs).

15. A landfill gas collection and control system (LFGCCS) was installed under the barrier layer of the Upper Area final cover.
16. Land within 1,000 feet of this site is in the San Bernardino National Forest, administered by the United States Forest Service. The current land use is largely recreational. An electric power substation is located immediately south of the site.

Geologic Conditions

17. The site is located in a mountainous region along the northeastern flank of Nelson Ridge. Elevations range from approximately 6,900 feet above mean sea level in the southern part of the site to approximately 6,500 feet in the northern part. The site is located on the axis of a surface drainage divide. Natural drainage along the northeast flank of Nelson Ridge flows northeast towards Cactus Flat. The drainage along the southwest flank of the ridge flows south towards Baldwin Lake.
18. The site is entirely underlain at shallow depth by bedrock. The bedrock consists of highly faulted and fractured Paleozoic Saragossa Quartzite and marble; localized Mesozoic granite and quartz monzonite; and Precambrian gneiss and schist.
19. Although the rocks have very low hydraulic conductivity values, the existing faults and fractures appear to be hydraulically interconnected, resulting in increased hydraulic conductivity.
20. The site is located in an area that is seismically active. The Discharger has performed a seismic analysis of the site and determined that the maximum probable earthquake (MPE) at the site would produce a ground acceleration of 0.42 gravity (g). The analysis determined that the MPE would result in a horizontal displacement of the landfill cover that is significantly less than the maximum movement that the landfill cover could accommodate without compromising the integrity of the landfill's environmental control systems.
21. Big Bear Lake is located approximately five miles southwest of the Landfill. Baldwin Lake, usually dry in the summer, is located 1.5 miles south of the Landfill. There is one intermittent spring below the Lower Area, approximately 700 feet northeast of the site. It is located along a trace of the Helendale Fault, which acts as a ground water barrier diverting the ground water to the surface.
22. The average annual rainfall in the general vicinity of the Facility is 15 inches, while the evaporation rates average 56 inches. Most precipitation falls in the form of snow during storm events that occur during the months of December through February.

Groundwater

23. Although the Facility straddles the boundary separating two Regional Water Quality Control Board jurisdictions, Santa Ana Region and Colorado River Basin Region, all water quality matters are administered by the Colorado River Basin Regional Water Board because its physically located in the Colorado River Basin Region.

24. Ground water depth ranges from about 32 feet (bgs) at the north end of the facility below the Lower Area to about 236 feet bgs just north of the Upper Area.
25. The Discharger originally constructed five ground water monitoring wells at the BBSL as part of a Solid Waste Assessment Test (SWAT) conducted in 1987. Since that time, two of the wells (BB-2 and BB-3) have become inoperable and have been replaced. The current BBSL monitoring system consists of two up gradient background wells, (BB-4 and BB-7) and three down gradient compliance wells (BB-1, BB-5 and BB-6). The location of the monitoring wells is shown on Attachment C, incorporated herein and made a part of this Board Order.
26. The Water Quality Control Plan for the Colorado River Basin Region of California (Basin Plan), which was adopted on November 17, 1993, and amended on November 16, 2012, designates the beneficial uses of ground and surface waters in this Region.
27. The BBSL is located in the Johnson Hydrologic Unit. The beneficial uses of ground water in the Johnson Hydrologic Unit are:
 - a. Municipal supply (MUN)
 - b. Industrial supply (IND)
 - c. Agricultural supply (AGR)

Regulatory Background

28. The Discharger performed the SWAT and submitted the results to the Regional Water Board in December 1987. Analyses of water samples from down gradient wells BB-2, BB-4, and BB-5 indicated the presence of the following compounds in the ground water:

<u>Parameter</u>	<u>Concentration, µg/L¹</u>	<u>Well No</u>
Trichlorofluoromethane	0.53	BB-2
Toluene	6.5	BB-4
1,3-Dichlorobenzene	0.6	BB-5

29. The Discharger submitted an Evidence of Release Notification on July 26, 1995, stating that there was evidence of non-statistical and statistical releases in samples taken from the ground water wells BB-2 and BB-4 at the Landfill. The following is the list of compounds found in ground water samples:

<u>Parameter</u>	<u>Concentration, µg/L</u>	<u>Well No</u>
CIS-1,2 Dichloroethene	4.28	BB-2
Trichlorofluoromethane	1.55	
Dichlorodifluoromethane	3.21	
Tetrachloroethane (PCE)	2.02	
Dichlorodifluoromethane	0.67	BB-4

¹ µg/L – microgram-per-Liter

1,1,1-Trichloroethane (TCA)	1.67
Trichlorofluoromethane	1.32

30. On October 2, 1995, the Regional Water Board received analytical results of Constituents of Concern (COC) for the Landfill indicating the following parameters in samples taken from ground water monitoring well BB-2:

<u>Parameter</u>	<u>Concentration, µg/L</u>	<u>Well No</u>
Phenol	27.7	BB-2
Dichlorodifluoromethane	2.6	
C-1,2 Dichloroethene	2.8	

31. The Discharger submitted an amended ROWD and a proposed Evaluation Monitoring Program (EMP) workplan within 90 days of the evidence of a release on October 25, 1995. The EMP was reviewed by Regional Water Board staff and deemed acceptable on November 9, 1995.
32. Cleanup and Abatement Order (CAO) 95-124, concerning soil and ground water pollution at the Landfill, was issued to the Discharger on November 22, 1995.
33. The Discharger submitted a revised EMP and Preliminary Engineering and Feasibility Study (EFS) On October 8, 1996. The revised EMP and EFS further evaluated impacts to groundwater and made recommendations to update the EMP and detection monitoring program.
34. On September 26, 1997, CAO 95-124 was rescinded and a revised Order, CAO 97-131, was issued to the Discharger.

Stormwater

35. Federal regulations for storm water discharges were promulgated by the United States Environmental Protection Agency (USEPA) on November 16, 1990 (40 CFR Parts 122, 123, and 124). The regulations require specific categories of facilities which discharge storm water associated with industrial activity to obtain National Pollutant Discharge Elimination System (NPDES) permits and to implement Best Conventional Pollutant Technology (BCT) to reduce or eliminate industrial storm water pollution.
36. The State Water Resources Control Board (SWRCB) adopted Order 97-03-DWQ (General NPDES Permit CAS000001) specifying WDRs for discharges of storm water associated with industrial activities, excluding construction activities, and requiring submittal of a Notice of Intent (NOI) by industries to be covered under the Permit (General Industrial permit).
37. The Facility is not subject to the federal requirements for regulation of storm water discharges associated with industrial activities since it is not one of the industrial activities listed in 40 CFR 122.26(b)(14). Therefore, the Discharger is not required to obtain coverage under Order 97-03-DWQ (General Permit CAS000001) for the Facility.

CEQA and Public Participation

38. The County of San Bernardino, Solid Waste Management Division (SWMD), is the Lead Agency, as that term is defined in the California Environmental Quality Act (CEQA) (Cal. Pub. Resources Code § 21000 et seq.), for conducting the environmental review required under CEQA for the BBSL Closure Project (Project).
39. The Project, as it was originally construed, was a joint venture with the Big Bear Municipal Water District (BBMWD) and was titled, "Big Bear Lake Nutrient/Sediment Remediation Project and Big Bear Sanitary Landfill Final Closure/Postclosure Maintenance Plan." The Project consisted of using dredged material from the remediation of Big Bear Lake as final cover material for the BBSL Upper Area. The BBMWD was the Lead agency for that Project and conducted the environmental review. As Lead Agency, the BBMWD prepared an Initial Study and Environmental Checklist (State Clearinghouse Number 2004061162) in 2004 and determined that no significant environmental impacts would result from the Project. Accordingly, the BBMWD prepared a Negative Declaration and filed a Notice of Determination with the County Clerk on December 13, 2004.
40. It was later determined that the dredged materials were unsuitable for construction of the final cover. In February 2010 the SWMD prepared an Initial Study and Environmental Checklist (State Clearinghouse Number 2010021060) to address a change in cover materials for the final closure of the BBSL and determined that no significant environmental impacts would result from a change in cover materials, including type, source and location, used in the BBSL Closure Project. The SWMD, in accordance with Section 15164 of the California Public Resources Code, amended the negative declaration that was adopted in 2004 to incorporate the change in cover materials.
41. The Regional Water Board has reviewed the Initial Studies, Negative Declarations, and other relevant Project documents and has concluded that compliance with these WDRs should prevent, or mitigate to a less than significant level, any potential water quality impacts associated with the Project.
42. It is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This Order promotes that policy by requiring discharges to meet maximum contaminant levels designed to protect human health and ensure that water is safe for domestic use.
43. The monitoring and reporting requirements in Monitoring and Reporting Program R7-2013-0060, attached herein and made a part of this Order by reference, and revisions thereto, are necessary to determine compliance with these WDRs and to determine the Facility's impacts, if any, on receiving waters.
44. The Regional Water Board has notified the Discharger and all known interested agencies and persons of its intent to update waste discharge requirements for this discharge and has provided them with an opportunity for a public meeting and an opportunity to submit comments

45. The Regional Water Board in a public meeting heard and considered all comments pertaining to this discharge.

IT IS HEREBY ORDERED, that Board Order 96-046 is rescinded, except for enforcement purposes, and in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, including the California Code of Regulations, Title 27, the Discharger shall comply with the following:

A. Specifications

1. The treatment or disposal of wastes at this facility shall not cause a condition of pollution or nuisance, as defined in Sections 13050 (l) and (m) of Division 7 of the California Water Code, respectively.
2. Waste materials shall be confined to the existing footprint of the WMF as defined in Finding 4.e.
3. The discharge shall not cause degradation of any water supply.
4. Surface drainage from tributary areas and internal site drainage from surface or subsurface sources shall not contact or percolate through wastes discharged at this site.
5. The exterior surfaces of the disposal area, including the final landfill covers, shall be graded and maintained to promote lateral runoff of precipitation and to prevent ponding.
6. The Discharger shall use the constituents listed in Monitoring and Reporting Program R7-2013-0060, and revisions thereto, as Monitoring Parameters. These monitoring parameters are subject to the most appropriate statistical or non-statistical tests under Monitoring and Reporting Program R7-2013-0060 Part III, and any revised Monitoring and Reporting Program approved by the Regional Water Board's Executive Officer.
7. The Discharger shall implement the attached Monitoring and Reporting Program No. R7-2013-0060 and revisions thereto to detect, at the earliest opportunity, any unauthorized discharge of waste constituents from the Facility, or any unreasonable impairment of beneficial uses associated with (caused by) discharges of waste from the Facility.
8. The discharge shall not cause the concentration of any Constituent of Concern or Monitoring Parameter to exceed its respective background value in any monitored medium at any Monitoring Point assigned to Detection Monitoring pursuant to Part II.A.7. of the attached Monitoring and Reporting Program R7-2013-0060 and revisions thereto.
9. The Discharger shall follow the water quality protection standards (WQPS) for detection monitoring established by the Regional Water Board in this Board Order pursuant to Title 27, Section 20390 of the California Code of Regulations. The WQPS for this facility is as follows (monitoring terms are defined in Part 1 of the attached Monitoring and Reporting Program R7-2013-0060 and revisions thereto, hereby incorporated by reference):

- a. The Discharger shall test for the monitoring parameters and the constituents of concern listed in Monitoring and Reporting Program R7-2013-0060.
 - b. The concentration limits for each monitoring parameter and constituents of concern for each monitoring point (as stated in detection Monitoring Program Part II) shall be its background value.
 - c. Monitoring points and background monitoring points for detection monitoring shall be those listed in Part II.A.7 of the attached Monitoring and Reporting Program R7-2013-0060, and any revised Monitoring and Reporting Program approved by the Regional Water Board's Executive Officer.
 - d. Points of Compliance are those Monitoring Points listed in Part II.A.7ii of the attached Monitoring and Reporting Program R7-2013-0060.
 - e. Compliance Period – Each time the WQPS is not met (i.e., a release is discovered), the Facility begins a compliance period on the date the Regional Water Board directs the Discharger to begin an Evaluation Monitoring Program (EMP) and develop and implement an approved Corrective Action Program (CAP) based on the results of the EMP. If the Discharger's CAP has not achieved compliance with the WQPS by the scheduled end of the compliance period, the compliance period is automatically extended until the Facility has been in continuous compliance for at least three (3) consecutive years.
10. The Discharger shall remove and relocate any wastes which are discharged at this site in violation of these requirements.
11. Water used for site maintenance shall be limited to amounts necessary for dust control.
12. Adequate measures shall be taken to assure that flood or surface drainage waters do not erode or otherwise render portions of the Facility inoperable. The Facility shall be protected from any washout or erosion of waste or covering material from any inundation which could occur as a result of floods having a predicted frequency of once in 100 years.
13. The discharge shall not cause the release of pollutants, or waste constituents in a manner which could cause a condition of contamination or pollution to occur, as indicated by the most appropriate statistical (or non-statistical) data analysis method and retest method listed in Part III of the attached Monitoring and Reporting Program R7-2013-0060 and revisions thereto.

B. Prohibitions

1. The discharge or deposit of any solid waste at this site is prohibited.
2. The discharge of liquid or semi-solid waste (i.e., waste containing less than 50 percent solids) to the Facility is prohibited.
3. The discharge or deposit of designated waste (as defined in Title 27) at this site is prohibited.

4. The discharge of waste to land not owned or controlled by the Discharger is prohibited.
5. The direct discharge of any waste to surface waters or surface drainage courses is prohibited.
6. The discharge shall neither cause nor contribute to the contamination or pollution of ground water via the release of waste constituents in either liquid or gaseous phase.
7. The discharge shall not cause any increase in the concentration of waste constituents in soil-pore gas, soil-pore liquid, soil, or other geologic materials outside of the landfill if such waste constituents could migrate to waters of the State, in either the liquid or the gaseous phase, and cause a condition of contamination or pollution.

C. Provisions

1. The Discharger shall comply with Monitoring and Reporting Program R7-2013-0060, and revisions thereto, as specified by the Regional Water Board's Executive Officer.
2. Prior to any modifications in this facility which would alter the performance of the final cover or drainage facilities, the Discharger shall report all pertinent information in writing to the Regional Water Board and obtain written approval or revised requirements before any modifications are implemented.
3. Prior to any change in ownership or management of this operation, the Discharger shall transmit a copy of this Board Order to the succeeding owner/operator, and forward a copy of the transmittal letter to the Regional Water Board.
4. The Discharger shall ensure that all site operating personnel are familiar with the contents of this Board Order, and shall maintain a copy of this Board Order at the site.
5. This Board Order does not authorize violation of any federal, state, or local laws or regulations.
6. The Discharger shall allow the Regional Water Board, or an authorized representative, upon presentation of credentials and other documents as may be required by law, to:
 - a. Enter upon the premises regulated by this Board Order, or the place where records must be kept under the conditions of this Board Order;
 - b. Have access to and copy, at reasonable times, any records that shall be kept under the conditions of this Board Order;
 - c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Board Order; and
 - d. Sample or monitor at reasonable times, for the purpose of assuring compliance with this Board Order or as otherwise authorized by the California Water Code, any substances or parameters at this location,

7. This Board Order does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.
8. Unless otherwise approved by the Regional Water Board's Executive Officer, all analyses shall be conducted at a laboratory certified for such analyses by the California Department of Public Health. All analyses shall be conducted in accordance with the latest edition of "Guidelines Establishing Test Procedures for Analysis of Pollutants", promulgated by the United States Environmental Protection Agency (USEPA).
9. The Discharger is the responsible party for the WDRs and the monitoring and reporting program for the WMF. The Discharger shall comply with all conditions of these WDRs. Any noncompliance with this Board Order constitutes a violation of the Porter-Cologne Water Quality Control Act and may result in enforcement actions, including Regional Water Board Orders or court orders that require corrective action or impose civil monetary liability, or in modification or revocation of these WDRs by the Regional Water Board.
10. The Discharger shall furnish, under penalty of perjury, technical monitoring program reports, and such reports shall be submitted in accordance with the specifications prepared by the Regional Water Board's Executive Officer. Such specifications are subject to periodic revisions as may be warranted.
11. All containment structures and erosion and drainage control systems shall be designed and constructed under direct supervision of a California Registered Civil Engineer or Certified Engineering Geologist, and shall be certified by the individual as meeting the prescriptive standards and performance goals of Title 27.
12. The Discharger shall, within 72 hours of a significant earthquake event, submit to the Regional Water Board a detailed post-earthquake report describing any physical damages to the containment features, ground water monitoring and/or leachate control facilities. The report shall contain a corrective action plan to repair the damages that will be implemented at the Facility.
13. The Discharger shall immediately notify the Regional Water Board of any flooding, slope failure or other change in site conditions that could impair the integrity of the final cover or of precipitation and drainage control structures.
14. The Discharger shall maintain legible records on the volume and type of each *waste* discharged at the site. These records shall be available for review by representatives of the Regional Water Board at any time during normal business hours throughout the post-closure maintenance period.
15. The Discharger shall maintain visible monuments identifying the boundary limits of the entire waste management facility.
16. The Discharger shall submit to this Regional Water Board and to the California Department of Resources Recycling and Recovery (CalRecycle), evidence of Financial Assurance for Closure and Post Closure, pursuant to Title 27. The post-closure period

shall be at least 30 years from July 12, 2012 . However, the post-closure maintenance period shall extend as long as the waste poses a threat to water quality.

17. Within 180 days of the adoption of this Board Order, the Discharger shall submit to the Regional Water Board, pursuant to Section 20380(b) of Title 27, assurances of financial responsibility acceptable to the Regional Water Board's Executive Officer for initiating and completing corrective action for all known or reasonably foreseeable releases from the landfill.
18. This Board Order is subject to Regional Water Board review and updating, as necessary to comply with changing state or federal laws, regulations, policies, or guidelines, or changes in the discharge characteristics.

I, Robert E. Perdue, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, Colorado River Basin Region, on June 20, 2013.

Ordered By:



ROBERT PERDUE
Executive Officer