DRAFT AUTHORITY TO CONSTRUCT

FOR

GREGORY CANYON LANDFILL

7/5/13

SENIOR ENGINEER: STEVEN MOORE
DEFINITIONS

1. For purposes of this permit, the following definitions are applicable:

   (a) “12-Month Period” means twelve consecutive calendar months.

   (b) “120-Day Monitoring Area” means an area where integrated surface monitoring is not required pursuant to the State Integrated Surface Monitoring Condition or the District’s implementation of 17 CCR §95460–§95476 because a remonitoring of the area during a previous calendar quarter showed a third exceedance of the 25 ppmv integrated surface monitoring standard of 17 CCR §95465 (a) and, to achieve compliance with this standard, the area is awaiting remediation, including, but not limited to, installation of a new or replacement well or wells, within 120 days of the second remonitoring date or by a later date if approved by the District.

   (c) “Alternative Cover Material” means cover material other than soil as defined in California Code of Regulations Title 27 §20164.

   (d) “Ancillary Blasting Operations” means those operations performed in conjunction with blasting that do not utilize explosives. Ancillary blasting operations include, but are not limited to, vehicle transport of explosive materials and materials produced by blasting operations and drilling of holes for emplacing explosives.

   (e) “Authorized Emergency Vehicle” means the same as in California Vehicle Code §165.

   (f) “Beneficial Reuse Material” means solid waste that is used for: the final cover foundation layer, liner operations layer, construction of the leachate or landfill gas collection and control system, construction fill, road base, wet weather operations pads and access roads, and soil amendments for erosion control and landscaping and nonorganic cover material such as waste soil.

   (g) “Borrow Area A Haul Road” means any road that ends on, or crosses the outer border of, Borrow Area A that is used by haul vehicles. Portions of this road may be paved or unpaved.

   (h) “Borrow Area B Haul Road” means any road that ends on, or crosses the outer border of, Borrow Area B that is used by haul vehicles. Portions of this road may be paved or unpaved.

   (i) “Borrow Area A/Stockpile A (BAA)” means the area indicated as Borrow Area A in the JTD.

   (j) “Borrow Area B/Stockpile B (BAB): means the area indicated as Borrow Area B in the JTD.

   (k) “Bulk Material” means rock, sand, gravel, soil, or aggregate or other organic or inorganic particulate matter including, but not limited to, beneficial reuse material
and alternative cover material that has more than 5%, by weight of particles with
dimensions that are less than two inches in length or diameter. Except for beneficial
reuse material and alternative cover material, solid waste is not a bulk material.

(l) “Bulk Material Haul Vehicle” means any vehicle with a gross vehicle weight rating
of more than 15,000 pounds used for transporting bulk materials.

(m) “Chemically Stabilized” means stabilized by means of any nontoxic chemical dust
suppressant other than water that is not prohibited for use by the controlling Regional
Water Quality Control Board, the California Air Resources Board, the U.S.
Environmental Protection Agency (U.S. EPA), or any applicable law, rule or
regulation. Any chemical stabilizers used shall meet any specifications, criteria, or
tests required by any federal or state agencies or the local water agency having
jurisdiction. For purposes of this definition, nontoxic means that it contains less than
0.1 weight percent of any compound required to be evaluated for cancer risk pursuant
to District Rule 1200 and less than 1.0 weight percent of any other compound
required to be evaluated for acute or chronic risk pursuant to District Rule 1200.

(n) “Cover and Bulk Material Haul Road” means a road used to transport cover materials
from storage piles or another location within the Landfill Footprint to the working
face area or to transport other bulk material from one location to another location
other than the working face area within the Landfill Footprint.

(o) “Cover Material” is material used to cover waste as defined in California Code of
Regulations Title 27 §20164 including soil used for daily or intermediate cover and
alternative cover material used for daily or intermediate cover but excluding final
cover material.

(p) “Disturbed Surface Area” means a portion of the landfill facility's surface that has
been physically moved, uncovered, destabilized, or otherwise modified from its
undisturbed natural soil condition, thereby increasing the potential for emission of
fugitive dust. This definition excludes those areas which have:

(i) Been paved or otherwise covered by a permanent structure; or

(ii) Sustained, for at least 30 days, a vegetative ground cover of at least 70
percent of the native cover for a particular area.

(q) “Dust Generating Activity” means an activity that has the potential of generating
fugitive dust, including, but not limited to, the following activities:

(i) Earth-moving activities;

(ii) Construction or demolition;

(iii) Disturbed surface areas;

(iv) Open storage piles;

(v) Bulk material handling;
(vi) Landfill gas collection system installation, repair, or maintenance;
(vii) Leachate collection and removal system installation, repair, or maintenance;
(viii) Landfill liner installation including the associated gravel layers and operations layer;
(ix) Solid waste handling; and
(x) Vehicular movement.

(r) “Earth-Moving Activity” means the use of any equipment for any activity where bulk material is being moved or uncovered, and shall include, but not be limited to, the following: excavation; grading; cut and fill operations; scraper or other loading; scraper or other unloading; adding material, to or removing material from, open storage piles; landfill cover operations; landfill liner, drainage layer, and working surface construction; weed abatement through disk ing; and soil mulching.

(s) “Employee-Owned Vehicle” means a vehicle without a trailer that has a gross vehicle weight rating of 15,000 pounds or less and that is owned by any person employed by the facility or by a person employed by a contractor operating at the facility.

(t) “Flat Vegetative Cover” is rooted vegetation or unattached vegetative debris lying on the surface with a predominant horizontal orientation that is not subject to movement by wind.

(u) “Haul Road” means any road used by one or more waste or bulk material vehicles per day.

(v) “Haul Vehicle” means a bulk material haul vehicle, a waste haul vehicle, or other haul vehicle. Bulldozers, compactors, and road graders are not considered haul vehicles.

(w) “High Wind Event” means a period of high winds that begins when the average speed in a 15-minute clock period exceeds 20 miles per hour, as measured by a representative onsite meteorological station, and there is not a high wind event already in effect. A high wind event ends when there are four consecutive 15-minute clock periods when the average wind speed is less than 20 miles per hour.

(x) “Inactive Disturbed Surface Area” means any disturbed surface area upon which no active operations are occurring that is not an active face, an internal waste haul road, a cover and bulk material haul road, the Borrow Area A Haul Road, the Borrow Area B Haul Road, or any other upaved road at the facility and that is not visibly moist. For purposes of this condition, on days on which waste is received, an area upon which an active operation has occurred during the calendar day is not considered inactive until two hours after the last solid waste is received for the calendar day or 8:00 P.M. on Monday through Friday or after 7:00 P.M. on Saturday or Sunday, whichever is earlier. On days on which no solid waste is received, an area upon
which an active operation has occurred during the calendar day is not considered inactive for two hours after the active operation ceases.

(y) “Internal Bulk Material Haul Roads” means any road used to deliver material to, or remove bulk material from, the Landfill Footprint that is not the Borrow Area A Road or Borrow Area B Road prior to the first receipt of solid waste. Portions of these roads may be paved or unpaved.

(z) “Internal Haul Vehicle” means any vehicle with a gross vehicle weight rating of more than 15,000 pounds used for transporting bulk materials, solid waste, landfill construction materials, water, or leachate or condensate from one location at the facility to another location within the facility without exiting the facility. For purposes of this definition, transportation of water in containers of ten gallons or less is not considered in determining whether vehicle is a haul vehicle.

(aa) “Internal Waste Haul Road” means any road used to haul solid waste to a working face within the Landfill Footprint. Portions of this road may be paved or unpaved.

(bb) “Joint Technical Document” or “JTD” means: Joint Technical Document, Gregory Canyon Landfill, San Diego County, California, September 2010, January 2011, Prepared for: Gregory Canyon Limited, 160 Industrial Street, Suite 200, San Marcos, CA 92708, Prepared By: Bryan A Stirrat & Associates, 1360 Valley Vista Drive, Diamond Bar, California 91765 as it exists on (date of Authority to Construct issuance) or a subsequent revision to this document that has been approved in writing by the District as replacing this document for purposes of this Authority to Construct. The Permittee shall maintain of copy of this document or a District approved revision on site.

(cc) “Landfill Construction Material” means any material that is used for construction in the Landfill Footprint, including, but not limited to, material used construction of: the landfill liner, landfill roads, leachate collection system, or landfill gas collection and control system.

(dd) “Landfill Dust Generating Activity” means any dust generating activity on the facility property associated with the landfill operations that are not explicitly excluded from the category of landfill dust generating activities by this Authority to Construct. Landfill dust generating activities include, but are not limited to, the following activities:

(i) Wind-driven fugitive dust from disturbed areas, including, but not limited to, borrow areas, silt basins, and the Landfill Footprint;

(ii) Earthmoving operations;

(iii) Transport, stacking, loading, and unloading of bulk materials, solid waste, alternative cover materials, beneficial reuse materials, or landfill construction material;
(iv) Landfill construction;
(v) Construction of landfill monitoring wells of any type;
(vi) Construction of landfill gas collection wells;
(vii) Borrow area operations;
(viii) Silt basin operations,
(ix) Vehicle movement; and
(x) Blasting.

For purposes of this Authority to Construct, the following operations are not considered landfill dust generating activities: construction of the Main Entrance Road and associated bridge over the San Luis Rey River; construction of the paved portion of the ancillary facilities area, as defined in Figure 8 of the JTD; construction of the ancillary facilities on the paved portion of the facilities area excluding the flare station and leachate collection system holding tanks; construction of the local serving utility power pole pads; demolition activities that occur outside of the area permitted for landfill activities; and mitigation of biological impacts in accordance with the EIR that occur outside the area permitted for landfill activity.

(ee) “Landfill Footprint” means the final waste boundary as defined in the Joint Technical Document (JTD)

(ff) “Local Ambient Background Methane Concentration” means the methane concentration in the ambient air in the vicinity of the facility excluding any methane concentration resulting from the facility.

(gg) “Liner Material” bulk material used to construct the liner low-permeability layer, including, but not limited to, clay.

(hh) “Main Entrance Road” means the paved road beginning at the exit from California State Highway 76 and ending where vehicles enter the Landfill Footprint.

(ii) “Monitored Area” means for purposes of calculating fugitive surface emissions from integrated surface monitoring means the area within 13 feet of an integrated surface monitoring path for monitoring conducted in accordance with the State Surface Monitoring Procedure Condition.

(jj) “NAD27 UTM Coordinate” means the Zone 11 North Universal Transverse Mercator (UTM) Easting or Northing coordinate as specified with the North American Datum of 1927 (NAD27) expressed in meters.

(kk) “Nonerodible Elements” means objects that are larger than one centimeter (cm) in diameter and that remain firmly in place even on windy days such as rocks, stones,
glass fragments, and hard-packed clumps of soil lying on or embedded in the surface. Vegetation is not considered a nonerodible element for purposes of this Authority to Construct.

(Ii) “Offsite Haul Vehicle” means a haul vehicle that is not an internal haul vehicle.

(Mm) “Open Storage Pile” means any accumulation of bulk material with a 5% or greater silt content that has a total surface area of 150 square feet or more and that at any one point attains a height of three feet. Silt content shall be assumed to be 5% or greater unless a person can show, by testing in accordance with ASTM Method C136-06 or other equivalent method approved in writing by the District and the U. S. EPA, that the silt content is less than 5%. For purposes of this Authority to Construct, BAA and BAB are not considered open storage piles.

(Nn) “Operational Startup Date” means the date when the flare first begins combusting landfill continuously or, with the approval of the District semicontinuously, and the flare is not operating under a temporary startup authorized by the District to assess the quantity and quality of landfill gas available.

(00) “Organic” means any material able to undergo anaerobic decomposition in whole or in part, including, but not limited to, green waste, processed green waste, composted material, and dewatered sewage sludge. Soil, rock, concrete, asphalt and other inert materials are not organic materials.

(Pp) “Other Haul Vehicle” means any vehicle with a maximum gross vehicle weight rating greater than 15,000 pounds that is used for transporting water, leachate, condensate, and landfill construction material. For purposes of this definition, transportation of water in containers of ten gallons or less is not considered in determining whether vehicle is a haul vehicle.

(Qq) “Paved” means engineered and constructed of Portland cement, concrete, or asphaltic concrete slabs and forming an impervious surface.

(Rr) “Regulatory Agency Vehicle” means any vehicle operated in the performance of their official duties by a person that is employed by any federal, state, or local agency, department, or district that regulates the facility.

(Ss) “Small Vehicle” means a vehicle that has four wheels or less, has a gross vehicle weight rating of 7,000 pounds or less, is not a waste haul vehicle, and the Permittee has records indicating that the gross vehicle weight rating is 7000 pounds or less.

(Tt) “Solid Waste” means all putrescible and nonputrescible solid, semisolid, and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, dewatered, treated, or chemically fixed sewage sludge that is not hazardous waste, manure, vegetable or animal solid and semisolid wastes, and other discarded solid and semisolid wastes.
“Stabilized Surface” means, for any disturbed surface area or open storage pile, that the surface does not emit visible emissions from wind-driven fugitive dust that exceed 20% opacity when the wind speed is less than 20 miles per hour and that the surface meets and maintains one of the following standards as measured by one or more of the applicable test methods contained in Sections 2.2–2.7 of Appendix C of Maricopa County, Arizona, Rule 310, as it exists on January 27, 2010:

(i) A soil crust;

(ii) A threshold friction velocity (TFV) for disturbed surface areas corrected for non-erodible elements of 100 cm/second or higher;

(iii) A flat vegetative cover that consists of rooted vegetation or unattached vegetative debris lying on the surface with a predominant horizontal orientation and that is not subject to movement by wind) that is equal to at least 50% cover of the area;

(iv) A standing vegetative cover that is rooted with a predominant vertical orientation and that is equal to or greater than 30% cover of the area;

(v) A standing vegetative cover that is rooted with a predominant vertical orientation and that is equal to or greater than 10% cover of the area and where the threshold friction velocity is equal to or greater than 43 cm/second when corrected for non-erodible elements;

(vi) Nonerodible elements that are equal to or greater than 10% cover of the area;

Solid tarps that are not dislodgeable by the wind are an alternative to the above standards for the areas that they cover. In addition, as an alternative to the standards (i)–(vi) of this condition, the disturbed surface can comply with a alternative standard or use an alternative test method, upon obtaining the advance written approval from the District and U.S. EPA.

“Standard Conditions” means 60 degrees Fahrenheit and one atmosphere for landfill gas volumes and 68 degrees Fahrenheit and one atmosphere for all other gas volumes.

“Standard Cubic Foot” means a cubic foot at standard conditions.

“Unstabilized Road or Surface” means an unpaved road or surface that is not a chemically stabilized road.

“Valid Monitoring Hour” means, for the monitoring of the landfill gas flow rate and methane concentration of the landfill gas collected by the landfill gas collection system and the landfill gas flowing to any control device, a clock hour with a measurement for both methane concentration and landfill gas flow rate in each 15-clock-minute period during which the gas collection system or control device, as applicable, operates for at least one minute except for hours in which calibration,
quality assurance, or preventive maintenance is being performed in accordance with the Methane and VOC Monitoring Protocol, as approved in writing in advance by the District. For hours in which calibration, quality assurance, or preventive maintenance is being performed, a valid monitoring hour is an hour with measurements of both methane concentration and landfill gas flow rate for at least two 15-clock-minute periods during which the gas collection system operates for at least one-minute or one 15-minute period if the gas collection system only operates for 15-minutes or less during the clock-hour.

(zz) “Vehicle” means a self-propelled motorized vehicle. Any nonmotorized attachments including, but not limited to, trailers or other conveyances that are connected to or propelled by the actual motorized portion of the vehicle are considered part of the vehicle for purposes of determining the loaded and empty weight of the vehicle, the number of vehicle axles or wheels, and the maximum gross vehicle weight rating of the vehicle.

(aaa) “Waste Haul Vehicle” means vehicle used for transporting solid waste including, but not limited to, alternative cover material, or beneficial reuse material.

(bbb) “Wind-Driven Fugitive Dust” means airborne particulate emissions from any disturbed surface area or open storage pile that are generated by wind action.

(ccc) “Working Face” means a surface of a landfill upon which solid wastes are deposited during the landfill operation, prior to the placement of cover material.
2. The collected landfill gas temperature shall be maintained at less than 55°C at each well and the oxygen level shall be less than or equal to 5 percent or the nitrogen level shall be less than or equal to 20 percent. With the written approval of the District or EPA, the Permittee may establish a higher operating temperature, nitrogen or oxygen value at a particular well, provided that a higher operating value demonstration shall show supporting data that the elevated parameter does not cause fires or significantly inhibit anaerobic decomposition by killing methanogens. If monitoring indicates that this condition is not being met at a well, corrective action shall be taken within 5 calendar days of that monitored exceedance. If the condition cannot be met within 15 calendar days of a monitored exceedance, the gas collection system shall be expanded within 120 calendar days of the date of that monitored exceedance to address the exceedance. In this case, the monitored exceedance shall not be considered a violation provided that corrective action was initially taken within 5 calendar days. Alternatively, if the District or EPA approve a higher operating limit within 120 days, or at a later date approved by the District or EPA, of a monitored exceedance, the exceedance shall also not be a violation provided that the initially measured exceedance value or the measured value after corrective action is less than the approved higher operating limit and corrective action was initially taken within 5 calendar days of the exceedance. [40 CFR 60.753(g), 40 CFR 60.753(c), 40 CFR 60.755(a)(5)]

3. Temperature gauge maintenance and calibration records shall be maintained for at least five years and made available to the District upon request.

4. The Permittee shall maintain a negative pressure within each gas extraction well except under the following conditions:
   
   (a) A fire or increased well temperature,
   
   (b) Use of a geomembrane or synthetic cover, or
   
   (c) A decommissioned well.

The Permittee shall record instances when positive pressure occurs and actions taken. An operating pressure gauge with an accuracy of 1 percent of the pressure measured shall be provided to the District upon request for verifying the pressure. The pressure gauge shall be maintained and calibrated in accordance with the manufacturer's specifications. [40 CFR 60.753(b)]

5. The Permittee shall on a monthly basis monitor or conduct testing to verify compliance with wellhead temperature and collected landfill gas composition requirements as follows:

   (a) Record pressure, temperature, and nitrogen or oxygen content at each wellhead; and

   (b) Monitor the pressure, temperature, and nitrogen or oxygen content at each wellhead.
(i) The temperature shall be monitored with a thermometer, thermal couple, or other temperature monitoring device that is accurate to +/- 0.5 degrees Centigrade at the temperature being measured.

(ii) The nitrogen content shall be measured using EPA Method 3C

(iii) The oxygen content shall be measured using EPA Method 3C or EPA Method 3A, except that:

(A) The span shall be set so the regulatory limit is between 20 and 50 percent of the span;

(B) A data recorder is not required;

(C) Only two calibration gases are required, a zero and a span, and ambient air may be used as the span;

(D) A calibration error check is not required; and

(E) The allowable sample bias, zero drift and calibration drift are +/- 10 percent.

(iv) Alternatively, nitrogen and/or oxygen content shall be measured by another method or methods approved by the District and EPA.

(v) With the advanced written approval of the District, the permittee may monitor the nitrogen and/or oxygen content by an alternative method to those specified Sections (iii) and (iv) of this condition. However, any measurements made in accordance with Section (iii) or (iv), as applicable, shall take precedence over such a monitored value. [40 CFR 60.753(c)]

6. The Permittee shall operate, adjust, and maintain the gas collection system to prevent excessive quantities of air from being drawn into the landfill. An oxygen analyzer, designed to be accurate to +/- 0.5 percent by volume, shall be installed in the gas collection piping at the flare station, maintained in good working condition, and calibrated at least annually. The Permittee shall adjust the vacuum at each collection well and flare burn time as necessary to prevent the concentration of oxygen in landfill gas at the inline analyzer from exceeding 5 percent by volume.

7. The Permittee shall route all the collected landfill gas to the flare authorized by this Authority to Construct or other landfill gas control devices that have received District authorization to be constructed and operated under District Rules and Regulations. [Rule 59 and 40 CFR Subpart WWW]

8. The flare shall be operated to reduce total nonmethane organic compounds (NMOC) by 99 percent by weight or reduce the total NMOC outlet concentration to less than 20 parts per million by volume on a dry basis (ppmvd) as hexane at three percent oxygen and reduce methane by at least 99 percent by weight.
9. The Permittee shall monitor and record flare exhaust gas temperature. The gas temperature monitoring device shall be equipped with a continuous recorder which has an accuracy of +/- 1.0 percent of the temperature being measured. [40 CFR 60.756(b)(1)]

10. A thermocouple, designed to be accurate to +/- 15 degrees Fahrenheit at 1500 degrees Fahrenheit, shall be installed in the flare stack and maintained in good working condition. The temperature of the exhaust gas in the flare stack shall be displayed at the flare station during incineration. [40 CFR 60.756(b)(1)]

11. Flare Landfill Gas Collection Monitoring Condition: The total quantity of landfill gas combusted at the by the flare described in this Authority to Construct’s equipment description shall not exceed 1500 wet standard cubic feet per minute (wscfm) and the heat input shall not exceed 45.5 million British thermal units per hour (MMBtu/hr). Prior to any mixing of the landfill gas with combustion air, the Permittee shall install, maintain, and calibrate a flow meter capable of measuring or, calculating from measured physical parameters, the volumetric flow, corrected to standard temperature and pressure, and calculating the flare heat input of landfill gas to the flare to an accuracy of +/- 2.0 percent of the flow or heat input, as applicable, and a gas composition monitor capable of measuring landfill gas methane, carbon dioxide, and oxygen concentration, in percent, to a relative accuracy of +/- 2.0 percent of the concentration measured. The Permittee shall monitor and record the gas flow and heat input and the methane, carbon dioxide, and oxygen concentration of the landfill gas flowing to the flare at least once every 15 clock-minutes in electronic format and, for each clock hour, average the 15 clock-minute values for each parameter monitored over the hour and provide the 15 clock-minute or clock-hour-average data for each parameter monitored to the District upon request in an electronic format specified by the District. The flow meter and gas composition measurement device(s) shall be calibrated at least once each calendar quarter, or more often if recommended by the manufacturer, and maintained according to manufacturer specifications. The Permittee shall install and maintain a section of the flare fuel inlet duct prior to any mixing with any flare combustion air that is at least 12 inches in diameter and has sampling ports that are at least eight fuel duct inner diameters downstream and two fuel duct inner diameters upstream of any flow disturbances to allow sampling to measure landfill gas composition and measurement of the inlet landfill gas fuel flow rate. [40 CFR 60.756(c)(2), NSR, Rule 21]

12. The flare shall be continuously monitored for the presence of a flame. [40 CFR 60.756(c)(1)]

13. In the event that all or part of the landfill gas collection system or any landfill gas control device is inoperable, the landfill gas mover system shall be shut down and all valves in the landfill gas collection system or the inoperable landfill gas control device contributing to venting of the gas to the atmosphere shall be closed within one hour or, if applicable, the landfill gas vented to an operating landfill gas control device. The gas mover system is the equipment used to transport landfill gas through the header system including, but not limited to, fans, blowers, and compressors. This provision does not apply to the landfill gas control device during periods of startup, shutdown, or malfunction that do not exceed one hour. [40 CFR 60.755(e)]
14. Flare Station Landfill Gas Collection Monitoring Condition: All flares at the site shall be located at the flare station. The total quantity of landfill gas combusted at the by the flare station by all flares combined shall not exceed 7250 wet standard cubic feet per minute (wscfm) and the heat input shall not exceed 150 MMBtu/hr. Prior to any mixing of the landfill gas with combustion air, the Permittee shall install, maintain, and calibrate a flow meter capable of measuring, or calculating from measured physical parameters, the volumetric flow, corrected to standard temperature and pressure, and calculating the flare heat input of landfill gas to the flare to an accuracy of +/- 2.0 percent of the flow or heat input, as applicable, and a gas composition monitor capable of measuring landfill gas methane, carbon dioxide, and oxygen concentration, in percent, to a relative accuracy of +/- 2.0 percent of the concentration measured. The Permittee shall monitor and record the gas flow and heat input and the methane, carbon dioxide, and oxygen concentration of the landfill gas flowing to the flare station at least once every 15 clock-minutes in electronic format and, for each clock hour, average the 15 clock-minute values for each parameter monitored over the hour and provide the 15 clock-minute or clock-hour-average data for each parameter monitored to the District upon request in an electronic format specified by the District. The flow meter and gas composition measuring device(s) shall be calibrated at least once each calendar quarter, or more often if recommended by the manufacturer, and maintained according to manufacturer specifications. The Permittee shall install and maintain a section of the flare station fuel inlet duct prior to any mixing with any flare combustion air that is at least 12 inches in diameter and has sampling ports that are at least eight fuel duct inner diameters downstream and two fuel duct inner diameters upstream of any flow disturbances to allow sampling to measure landfill gas composition and measurement of landfill gas fuel flow rate. In the case there is only one flare, the flow monitoring device for the flare may serve as the flow monitoring device for the flare station provided it complies with this condition. This condition by itself or in conjunction with any other permit to operate or authority to construct conditions applicable to the equipment at this facility that exist now or in the future does not limit the potential to emit of any existing or future individual flare at this facility. [NSR, Rule 21, Rule 60]

15. A shut-off valve shall be in place and maintained at each wellhead. [Rule 59(d)(7)]

16. Except for a flare ignition and startup period not to exceed 15 minutes, the Permittee shall ensure adequate combustion of landfill gases during operation of the flare by maintaining the stack gas exhaust temperature of the flare at no less than 1600 degrees Fahrenheit, or as otherwise specified by the flare manufacturer. Natural gas or propane shall be added as supplemental fuel as necessary to maintain the required stack gas exhaust temperature. [Rule 59(d)(7)]

17. Except for transient conditions lasting not more than 30 seconds or during periods of flare ignition and startup that are not to exceed 15 minutes, an automatic shut-off device shall stop the flow of landfill gas to the flare whenever the following conditions occur: flame-out; low stack exhaust temperature; high stack exhaust temperature, in accordance with manufacturer's specifications; or greater than 5 percent oxygen by volume in the header piping at the flare station. [Rule 59(d)(7)]
18. There shall be no leaks of landfill gas along the landfill gas transfer path for landfill gas collection, energy recovery, gas purification, or disposal systems from any component including, but not limited to, landfill gas wells, piping, flanges, valves, compressors, blowers, flame arrestors, pipe fittings, sampling ports, or any other connections or fittings along the landfill gas transfer path in excess of 1375 ppmv measured as methane at a distance of ½ inch from the landfill gas transfer path, other than nonrepeatable, momentary readings. [Rule 59]

19. The Permittee shall implement a program to monitor for landfill cover integrity by surface monitoring of methane concentrations as required in 40 CFR Part 60.753(d) (Subpart WWW Surface Monitoring) and implement cover repairs as necessary on a monthly basis.

20. Subpart WWW Surface Monitoring Condition: The methane concentration at the landfill surface, which includes, but is not limited to, the well bore area, shall be maintained at less than 500 ppmv above background. On a calendar quarterly basis, the Permittee shall monitor surface concentrations of methane at discrete sampling points along the entire perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals or less for each collection area and in addition using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in 40 CFR Part 60.755(d). Surface emission monitoring shall be performed in accordance with Section 4.3.1 of EPA Method 21 except that the probe inlet shall be placed within 5 to 10 centimeters of the ground. The calibration procedures provided in Section 4.2 of EPA Method 21 shall be followed immediately before commencing a surface monitoring survey, and the calibration gas shall be methane diluted to a nominal concentration of 500 ppmv. Any reading of 500 ppmv or more above background at any location shall be recorded as a monitored exceedance. The background concentration shall be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells. A monitored exceedance is not a violation of the above requirement as long as all the following specified actions are taken by the Permittee:

(a) The location of each monitored exceedance shall be marked and the location recorded.

(b) Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the landfill gas collection in the vicinity of each exceedance shall be made and the location shall be remonitored within 10 calendar days of detecting the exceedance.

(c) If the first remonitoring of the location shows a second exceedance, additional corrective action shall be taken and the location shall be remonitored again within 10 calendar days of the second exceedance. If the second remonitoring shows a third exceedance from the same location, the action specified in Section (e) of this condition shall be taken, and no further monitoring of that location is required until the action specified in Section (e) of this condition has been taken. [40 CFR 60.755(c)(4)(iii)]
(d) Any location that initially showed an exceedance but has a methane concentration less than 500 ppmv above background at the 10-day remonitoring specified in Sections (b) or (c) of this condition shall be remonitored one month from the initial exceedance. If the one-month remonitoring shows a concentration less than 500 ppmv above background, no further monitoring is required until the next quarterly monitoring period. If the one-month remonitoring shows an exceedance, the actions specified in Section (c) or, if applicable, Section (e) of this condition shall be taken.

(e) For any location where monitored methane concentration equals or exceeds 500 ppmv above background three times within a quarterly period, a new well or other collection device shall be installed within 120 calendar days of the initial exceedance. An alternative remedy to the exceedance and a corresponding time line for implementation may be submitted to the District for approval.

21. Permittee Excluded Surface Monitoring Areas Condition: The following areas are excluded from Permittee surface monitoring:

(a) Dangerous or inaccessible areas, including, but not limited to, areas with steep slopes, may be excluded from Permittee monitoring conducted pursuant to the Subpart WWW Surface Monitoring Condition. For purposes of this Section (a), the Permittee can consider slopes of more than 30 degrees to be steep slopes.

(b) The working face of the landfill or areas of the landfill surface where the landfill cover material has been removed and refuse has been exposed for the purpose of installing, expanding, replacing, or repairing components of the landfill gas, leachate, or landfill gas condensate collection and removal system, or for law enforcement activities requiring excavation are excluded from Permittee monitoring pursuant to the State Instantaneous Surface Monitoring Condition and State Integrated Surface Monitoring Condition. [17 CCR §95465 and §95466]

(c) With the advance written approval of the District in accordance with 17 CCR §95468, the Permittee may exclude dangerous or inaccessible areas including, but not limited to, steep or slippery slopes, construction areas, or paved roads from State Instantaneous Surface Monitoring Condition, State Integrated Surface Monitoring Condition, and the State Component Monitoring Condition of this permit.

The Permittee shall maintain a record of all areas excluded with an explanation as to why they have been excluded and a photograph of the area and the location of the excluded area on a topographic map of the landfill, drawn to scale with the location of both monitoring grids and the gas collection system wells clearly identified and, for areas excluded from monitoring pursuant to the State Integrated Surface Monitoring Condition the amount surface area excluded, in acres, rounded to the nearest tenth of an acre. Nothing in this condition shall be construed as relieving the Permittee of compliance with the surface concentration standards of this Authority to Construct for all areas of the landfill.

22. Any methane surface emission concentration of that is:
(a) Measured by instantaneous surface monitoring by a District compliance inspector with the probe inlet placed within 5 to 10 centimeters (2 to 4 inches) of the ground and that is 500 ppmv or more, with background included, other than nonrepeatable, momentary readings, and not recorded as specified in 40 CFR Part 60 Subpart WWW Section 60.755(c)(4) shall be considered a violation of this Authority to Construct; or [Rule 59 and Subpart WWW]

(b) Measured by instantaneous surface monitoring by an Air Resources Board staff member or District compliance inspector and that is 500 ppmv or more, with background included, other than nonrepeatable, momentary readings, with the probe inlet placed within 3 inches of the ground and not recorded as specified in the State Instantaneous Surface Monitoring Condition of this Authority to Construct shall be considered a violation of this Authority to Construct unless the surface measured is the working face of the landfill or areas of the landfill surface where the landfill cover material has been removed and refuse has been exposed for the purpose of installing, expanding, replacing, or repairing components of the landfill gas, leachate, or gas condensate collection and removal system, or for law enforcement activities requiring excavation. [17 CCR §95465 and §95466]

(c) Measured by integrated surface monitoring by an Air Resources Board staff member or District compliance inspector and that averages 25 ppmv or more, with background included and with the probe inlet placed within 3 inches of the ground, and not recorded as specified in the State Integrated Surface Monitoring Condition of this Authority to Construct shall be considered a violation of this Authority to Construct unless the surface measured is the working face of the landfill or areas of the landfill surface where the landfill cover material has been removed and refuse has been exposed for the purpose of installing, expanding, replacing, or repairing components of the landfill gas, leachate, or gas condensate collection and removal system, or for law enforcement activities requiring excavation. [17 CCR §95465 and §95466]

23. The Permittee shall maintain all of the following records:

(a) Records of the maximum design capacity, the current amount of solid waste in place, the year-by-year waste acceptance rate.

(b) A plot map with existing and planned wells in the gas collection system.

(c) The installation date and location of all newly installed wells.

(d) The description, location, amount and placement date of all non-degradable refuse including asbestos and demolition refuse place in landfill areas which are excluded from landfill gas collection and control as provided by 40 CFR Part 60.759(A)(3)(II).

(e) For purposes of determining applicability of 40 CFR Subpart WWW, a record of maximum expected gas flow, etc, from an initial performance test pursuant to 40 CFR 60.754(a), if any.
24. The Permittee shall record all flare monitoring data and shall keep a record of all periods when the flare is nonoperational.

25. The Permittee shall record all values which exceed the operation standards for pressure, temperature, and nitrogen or oxygen concentration specified in this Authority to Construct and in 40 CFR Part 60.753 and shall include the operating value from the next subsequent monitoring period and the location of each exceedance.

26. The Permittee shall maintain, readily accessible records for the life of the landfill gas control equipment, the control device vendor specifications and the following data as measured during the initial performance test or compliance determination:

   (a) The maximum expected gas generation flow rate as calculated in 40 CFR Part 60.755(a)(1).

   (b) The density of wells, horizontal collectors, surface collectors or other gas extraction devices determined using the procedures specified in 40 CFR Part 60.759 (a)(1).

27. The Permittee shall submit semi-annual reports no later than March 1 and September 1 with the following required information:

   (a) The value and length of time for exceedances of applicable parameters monitored as required in 40 CFR Parts 60.753 and 60.756.

   (b) A description and the duration of all periods when all combustion devices were not operating for any period exceeding 1 hour and the length of time all combustion devices were not operating.

   (c) All periods when the landfill gas collection system was not operating in excess of five days.

   (d) The location and concentration of each exceedance of the surface methane concentration limit as monitored in accordance with the Subpart WWW Surface Monitoring Condition above.

   (e) The date of installation and the location of each well or collection system expansion added pursuant to Section (e) of the Subpart WWW Surface Monitoring Condition above.

28. Prior to the removal or permanent cessation of operation of the landfill gas control equipment the Permittee shall apply for a modification to the facility equipment for the removal or cessation of operation of the equipment in accordance with District Rule 10 and be granted approval for such action by the District. In addition, the Permittee shall submit an equipment removal report to the District 30 days prior to removal or cessation of operation of the landfill gas control equipment. The equipment removal report shall contain the following:

   (a) A copy of the closure report for the landfill.
(b) A copy of the initial performance test report demonstrating that the 15-year minimum control period has expired.

(c) Dated copies of three successive annual NMOC emission rate reports demonstrating that the landfill is no longer producing 50 mega-grams or greater of NMOC per year.

29. The equipment shall be properly maintained in good operating condition at all times when the equipment is in operation. Calibration and maintenance records required by this Authority to Construct shall be retained for at least five (5) years and be made available to the District on request.

30. The Permittee shall keep the following records:

(a) The occurrence and duration of each startup, shutdown, or malfunction of operation.

(b) The occurrence and duration of each malfunction of the required air pollution control and monitoring equipment.

(c) All required maintenance performed on the air pollution control and monitoring equipment.

(d) Actions taken during periods of startup, shutdown, and malfunction when such actions are different from the procedures specified in the startup, shutdown, and malfunction (SSM) plan.

(e) All information necessary to demonstrate conformance with the affected source's SSM plan when actions taken during periods of SSM are consistent with the procedures specified in the SSM plan.

31. The Permittee shall report action(s) recorded above to the District during the applicable semi-annual reporting period.

32. The Permittee shall report actions taken during a SSM event that are not consistent with the SSM plan and the source exceeds any applicable emissions limitation to the District within 2 working days after commencing actions inconsistent with the SSM plan and shall report such actions in writing to the District within 7 working days after the end of the event.

33. The Permittee shall maintain a copy of the current startup, shutdown, and malfunction (SSM) plan for at least five years, and make the SSM plan available to the District upon request. Each previous version of the SSM plan shall be maintained for at least 5 years from the date of the SSM plan revision.

34. If the SSM plan fails to address or inadequately addresses an event that meets the definition of a malfunction but was not included in the SSM plan, the Permittee shall revise the SSM plan within 45 days after the event to include procedures for operating and maintaining the source during similar malfunction events and a program of corrective action for similar
malfunctions. The revised SSM plan shall not take effect until after the owner or operator has provided a written notice describing the SSM plan revision to the District.

35. Any SSM plan revision which alters the scope of the activities at the source which are deemed to be a startup, shutdown, or malfunction, or otherwise modifies the applicability of any emission limit, work practice requirement, or other requirement in a standard established under this part, the revised plan shall not take effect until after notice has been provided to the District.

36. Each SSM plan revision shall be reported in the semi-annual report covering the reporting period in which the SSM plan was revised.

37. The Permittee shall inspect each off-site gas migration probe with a combustible gas indicator for the presence of methane on a minimum quarterly basis and retain records of the percent methane. Inspection records shall be made available to the District upon request.

38. Should the District, San Diego County Health Department or any health agency of the State of California determine that an imminent, life endangering threat to human life requiring immediate action exists on-site, the Permittee shall take whatever actions are deemed necessary by the District and/or the health agency to protect human health.

39. The sulfur content of any gaseous fuel combusted shall not exceed 0.05 percent by weight.

40. If requested by the District or EPA, the sulfur content of fuel shall be measured in accordance with ASTM Test Method D-3246.

41. Particulate Emissions from any combustion device shall not exceed 0.10 grains per dry standard cubic foot of gas which is standardized to 12 percent of carbon dioxide by volume.

42. If requested by the District or EPA, nonfugitive particulate emissions shall be measured in accordance with District Method 5.

43. There shall be no release of odors from any part of the landfill, associated operations, or on-site equipment which exceed the applicable public nuisance standards specified in the District Rules and Regulations. [Rule 51].

44. There shall be no release of leachate or condensate from any part of the landfill, landfill gas collection system, or flare station which results in the discharge of odors, toxic air contaminants, or reactive organic compounds to the atmosphere.

45. Whenever landfill material is to be brought to the surface during the installation or preparation of wells, piping, or other equipment, or when landfill waste is to be excavated and moved, the owner/operator shall first obtain and then follow mitigation measures approved in writing by the Air Pollution Control Officer to prevent public nuisance and to minimize the release of odors, toxic air contaminants, and volatile organic compounds into the atmosphere. [Rule 59]
46. The active waste disposal operation shall not exceed a maximum elevation of 1,100 feet above mean sea level, a maximum waste disposal area of 183 acres, and a maximum depth of approximately 380 feet as specified in Solid Waste Facility Permit 37-AA-0032 as it exists on August 1, 2011, and the Joint Technical Document referenced therein. These limits are equivalent to a total gross air space capacity of approximately 59.5 million cubic yards and a total net air space capacity of 57 million cubic yards calculated as the gross air space less the liner volume and the final cover volume.

47. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.

48. The Permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act. (California Health and Safety Code Section 44300 et seq.)

49. The landfill gas collection and control system shall be designed, constructed, operated, maintained, modified, and extended, when necessary, to prevent underground off site gas migration and to maintain compliance with all of the following:

(a) There are no violations of an instantaneous surface methane concentration limit of 500 ppmv, with background included, measured in accordance with the State Instantaneous Surface Monitoring Condition of this Authority to Construct or measured by a District compliance inspector or Air Resources Board staff member.

(b) There are no violations of an integrated surface methane concentration limit of 25 ppmv, with background included, measured in accordance with the State Integrated Surface Monitoring Condition of this Authority to Construct or measured by a District compliance inspector or Air Resources Board staff member.

(c) There are no violations of a calendar-year-average integrated surface methane concentration limit, calculated as specified in this Authority to Construct, of 6.0 ppmv, with background included, or 4.2 ppmv above the local ambient background methane concentration provided that the local ambient background methane concentration is measured, in accordance with a protocol that is approved in advance in writing by the District and that ensures that the background methane concentration measurement is not biased high as result of facility methane emissions, for each applicable monitoring event that occurs during the calendar year for each area that is used to calculate the calendar-year-average integrated surface methane concentration. The protocol shall require that the average local ambient background concentration be based on minute-by-minute measurements during the same time-period as each applicable integrated surface monitoring event for each area. (NSR)

(d) Reserved

(e) Emissions of volatile organic compounds (VOC), calculated as specified in this Authority to Construct, do not exceed 49.5 tons per calendar year.
Unless the Permittee can demonstrate to the satisfaction of the District that the maximum feasible landfill gas collection rate does not provide sufficient quantity or quality of landfill gas to support continuous or semicontinuous combustion without use of supplementary fuel, if a landfill gas collection and control system that captures landfill gas from all areas of the landfill where waste has been deposited for six months or more and that has been installed in accordance with a plan approved by the District is not already in continuous or, if as authorized in writing by the District, semicontinuous operation, then the Permittee shall install and operate such a system no later than the earliest of the following dates: (1) 120 days after the date that there is an exceedance of the limits in Sections (a) or (b) of this condition; (2) 120 days after the end of the month in which emissions of VOCs calculated in accordance with the Landfill Startup VOC Emissions Condition exceed 30 tons per year; and (3) 120 days after the end of the month in which the cumulative amount of waste and organic alternative cover material deposited in the landfill since waste was first received reaches 1,300,000 tons. Nothing in this condition shall be construed to relieve the Permittee from complying with other emission standards and limitations in this Authority to Construct.

50. State Surface Monitoring Procedure Condition: State instantaneous and integrated surface monitoring of the landfill surface shall be conducted by the Permittee each calendar quarter using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in 17 CCR §95471(a) and using the applicable procedures specified in, and in accordance with, 17 CCR §95471(c) including, but not limited to, the monitoring grid layout, except that 17 CCR §95471(c)(1)(B)1. shall not apply. The Permittee shall maintain an up-to-date Integrated Surface Monitoring Protocol that includes a topographic map that is drawn to scale on which the location of each grid; the gas collection system; landfill gas control devices, structures, roads, and the boundary of the solid waste are all clearly marked and identified; lists the total number of integrated surface monitoring grids, the surface area of each grid in square feet, and the total surface area of all grids combined; any areas excluded from integrated surface monitoring pursuant to the Permittee Excluded Surface Monitoring Areas Condition; and any other information requested by the District.

51. State Instantaneous Surface Monitoring Condition: Beginning with the calendar quarter immediately following the calendar quarter in which this facility first accepts solid waste, the Permittee shall conduct instantaneous surface monitoring in accordance with the State Surface Monitoring Procedure Condition of this Authority to Construct during each calendar quarter for all areas of the landfill surface under which there is solid waste unless otherwise excluded from such monitoring by this Authority to Construct. Except for nonrepeatable, momentary readings, any methane concentration measurement exceeding 200 ppmv must be recorded as a reporting level exceedance and any methane concentration measurement exceeding 500 ppmv must be recorded as an exceedance of the standard and all the following actions must be taken, as applicable:

(a) The owner or operator must record the date, location, and value of each reporting level exceedance and of each exceedance of the standard, along with remonitoring dates and results for each exceedance of the standard. The location of each exceedance must be clearly marked and identified on a topographic map of the
landfill, drawn to scale with the location of both the grids and the gas collection system wells clearly identified.

(b) For each exceedance of the standard, all the following actions must be taken:

(i) Corrective action must be taken by the owner or operator. Such corrective actions may include, but are not limited to, cover maintenance or repair or well vacuum adjustments.

(ii) The location must be remonitored within ten calendar days of the measured exceedance.

(iii) If the first remonitoring of the location shows a second exceedance, additional corrective action must be taken and the location must be remonitored again no later than 10 calendar days after the second exceedance.

(iv) If the second remonitoring shows a third exceedance, the owner or operator must install and operate a new or replacement well or wells as determined necessary to achieve compliance no later than 120 calendar days after detecting the third exceedance, or it is a violation of this condition unless:

(A) An alternative remedy to the exceedance and a corresponding time line for implementation is approved by the District in accordance with 17 CCR §95468; or

(B) The District determines there is insufficient landfill gas quantity or quality to operate a landfill gas collection and control system.

52. State Integrated Surface Monitoring Condition: Beginning with the calendar quarter immediately following the calendar quarter in which this facility first accepts solid waste, the Permittee shall conduct integrated surface monitoring in accordance with the State Surface Monitoring Procedure Condition of this Authority to Construct during each calendar quarter for all areas of the landfill surface under which there is solid waste unless otherwise excluded from such monitoring by this Authority to Construct. For each grid, the date; time; value for each integrated surface methane concentration measurement, if any; the monitored area, in square feet; the unmonitored area, in square feet; and the reason for not monitoring the unmonitored area shall be recorded and an integrated surface methane concentration measurement exceeding 25 ppmv must be recorded as an exceedance and all the following actions must be taken:

(a) The Permittee must record the date, location, and value of each exceedance, along with remonitoring dates and results. The location of each exceedance must be clearly marked and identified on a topographic map of the landfill, drawn to scale with the location of both the grids and the gas collection system wells clearly identified.

(b) Corrective action must be taken by the owner or operator. Such corrective actions may include, but are not limited to, cover maintenance or repair or well vacuum adjustments.
(c) The location must be remonitored within ten calendar days of the measured exceedance.

(d) If the first remonitoring of the location shows a second exceedance, additional corrective action must be taken and the location must be remonitored again no later than 10 calendar days after the second exceedance.

(e) If the second remonitoring shows a third exceedance, the owner or operator must install and operate a new or replacement well or wells as determined necessary to achieve compliance no later than 120 calendar days after detecting the third exceedance, or it is a violation of this condition unless:

   (i) An alternative remedy to the exceedance and a corresponding time line for implementation is approved by the District in accordance with 17 CCR §95468; or

   (ii) The District determines there is insufficient landfill gas quantity or quality to operate a landfill gas collection and control system.

53. For purposes of this Authority to Construct, semicontinuous operation of a landfill gas collection and control system means operating the system as necessary to comply with all of the surface emission standards of this permit but no less than a minimum number of hours each calendar day specified in writing by the District. Semicontinuous operation instead of continuous operation of a landfill gas collection and control system must be authorized in advance in writing by the District if the Permittee provides a demonstration that there is insufficient landfill gas quantity or quality to sustain continuous operation of the landfill gas control system. Unless the landfill is closed, the authorization for semicontinuous operation is only valid for a one year period or a lesser time as specified by the District. The Permittee shall operate the system continuously as soon as the landfill gas quantity or quality is adequate for continuous operation and the authorization for semicontinuous operation shall be cancelled. The District may grant temporary approval to operate the landfill gas collection and control system semicontinuously without a specified minimum number of hours of operation each calendar day for a period of 120 days to allow an assessment of the landfill gas quantity or quality.

54. The Permittee shall calculate and record the calendar-quarter-average integrated surface concentration within 30 days of the end of each calendar quarter.

55. The calendar-quarter-average integrated surface concentration shall be calculated as the grid-area-weighted average over all of the final integrated surface concentration measurements for each grid monitored in the calendar quarter. For purposes of this condition, the final integrated surface concentration measurement for each grid in a calendar quarter is the first monitored value if there is no exceedance, the first remonitored value if there is a first exceedance but no second exceedance, or the second remonitored value if there is a second exceedance.
56. No later than February 1 of the next calendar year, for each calendar year in which there are at least three quarters in which integrated surface concentration monitoring occurs pursuant to the State Integrated Surface Monitoring Condition of this Authority to Construct, the Permittee shall calculate and record the calendar-year-average integrated surface concentration by averaging all the calendar-quarter-average integrated surface concentration measurements for that calendar year.

57. State Component Monitoring Condition: Beginning with the calendar quarter immediately following the calendar quarter in which this facility first accepts solid waste, the Permittee shall conduct leak monitoring using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in 17 CCR §95471(a) of all components in the gas collection and control system that contain landfill gas at positive pressure during each calendar quarter except those portions of the gas collection and control system that are excluded pursuant to this permit. Except for nonrepeatable, momentary readings, any methane concentration measurement exceeding 500 ppmv measured at one half inch or less from the component source must be recorded as an exceedance. The exceedance is a violation of this Authority to Construct if it is not repaired within 10 days of the initial measurement. The Permittee shall keep records of the location and date of all leaks that are exceedances or violations and, if they were repaired, the date they were repaired. This condition does not apply to (1) individual wells during well raisings provided that new fill is being added or compacted in the immediate vicinity around the well and, once installed, the gas collection well extension is sealed or capped until the raised well is reconnected to a vacuum source and (2) to individual landfill gas collection system components that must be temporarily shut down in order to repair the components, due to catastrophic events such as earthquakes, to connect new landfill gas collection system components to the existing system, to extinguish landfill fires, to perform construction for the purpose of installing, expanding, replacing, or repairing components of the landfill gas, leachate, or landfill gas condensate collection and removal system, or for law enforcement activities requiring excavation provided that any new components are included in the latest approved Landfill Gas Collection and Control System Plan.

58. The following are a violation of this Authority to Construct:

(a) Any component leak concentration of methane of 500 ppmv or more from a component under positive pressure, other than nonrepeatable, momentary readings, that is measured by a District compliance inspector or an ARB staff member with the probe inlet placed one half inch or less from the leak source and not recorded as specified in the State Component Monitoring Condition of this Authority to Construct shall be considered a violation of this Authority to Construct unless the area measured is excluded from State Component Monitoring Condition applicability [17 CCR 95464 (b)(1)(B)]; and

(b) Any component leak concentration of total organic gases of 1375 ppmv or more, measured as methane, other than nonrepeatable, momentary readings, that is measured by a District compliance inspector with the probe inlet placed one half inch or more from the leak source shall be considered a violation of this Authority to Construct. [Rule 59]
59. The gas collection system must be operated, maintained, and expanded in accordance with the procedures and schedules in a Design Plan approved by the District. The Permittee shall design a landfill gas collection and control system, and submit an Initial Design Plan to the District prior to accepting any solid waste, and shall not accept any solid waste until the District approves the Initial Design Plan in writing. The District shall request additional information or declare the Initial Design Plan administratively complete within 30 days of submittal. Each time additional information is requested, the District shall have 30 days after submittal of the requested information to declare the Initial Design Plan administratively complete or request additional information. The District shall approve or disapprove the Initial Design Plan within 90 days if possible, or within a maximum of 120 days of the Initial Design Plan being declared complete unless a later date is mutually agreed to by the District and the Permittee. After the Initial Design Plan is declared complete, the District may request additional information necessary to complete evaluation of the plan and provide a reasonable period of time for the Permittee to respond. The District and the Permittee both agree to act in good faith to request and provide information in a timely manner so as to allow the District approval of the Initial Design Plan within the the time periods set forth in this condition immediately above. The District may deny the Initial Design Plan if information is not provided by the Permittee in a timely manner, as specified by the District. A request for information after the Initial Design Plan is declared complete shall not be construed as extending the time for the District to take action on the Initial Design Plan. At a minimum, the Initial Design Plan shall address all the requirements and specifications of 40 CFR §60.752 (b)(2) and 40 CFR §60.759 and 17 CCR §95464 (a) and all of the following:

(a) The landfill gas collection system shall be designed to achieve a minimum of 90% control of the landfill gas generated from all waste deposited in the landfill for six months or more after a total of 3,000,000 tons of solid waste have been deposited in the landfill considering all the factors affecting landfill gas collection specified in 40 CFR §60.752 (b)(2), 40 CFR §60.759, 17 CCR §95464 (a), and the influence of landfill slopes and liner properties on gas collection efficiency. For less than 3,000,000 tons of solid waste deposited in the landfill, the collection system shall be designed to achieve the maximum control feasible, considering the above factors. For purposes of this paragraph, the amount of landfill gas generated shall be determined by the standard District calculation methodology for landfill gas generation or an alternative procedure approved by the District.

(b) The landfill gas collection system shall be designed to at all times comply with all the mass emission limits and concentration limits contained in this permit that are applicable to fugitive landfill gas emissions.

(c) The demonstration of compliance with the requirements of (a) above shall be based on a analysis using a methodology related to rate of gas production and the radius of influence of landfill gas collection wells (both horizontal and vertical) or an alternative methodology approved by the District. The analysis shall evaluate both pressure and flow rates in the collection wells and landfill and provide an estimate the amount of air infiltration and collection efficiency considering areas of varying solid waste depth, landfill cover type and depth, landfill gas generation rates, and well proximity to slopes in a manner that adequately represents the collection efficiency.
for the landfill as a whole. The results of the analysis shall provide an estimate of the landfill gas collection efficiency which may be based on three dimensional illustrations of the radii of influence of the wells for various scenarios. The analysis shall demonstrate an overall 90% landfill gas collection efficiency in accordance with Section (a) of this condition.

(d) Identify the instruments and methods that the Permittee will use to comply with the monitoring requirements of this permit.

If an owner or operator is modifying an existing gas collection and control system to meet the requirements of this Authority to Construct, the existing Design Plan must be amended to include any necessary updates or addenda, and must be certified by a professional engineer. An amended Design Plan must be submitted to the District within 90 days of any event that requires such a change to the Design Plan. The District shall review and either approve or disapprove, in writing, the amended Design Plan within 120 days. The District may request that additional information be submitted as part of the review of the amended Design Plan.
ADDITIONAL FLARE CONDITIONS

60. Except for a flare ignition and startup period not to exceed 15 minutes, the Permittee shall ensure adequate combustion of landfill gases during operation of the flare by maintaining a stack residence time of no less than 0.6 seconds at or above 1600 degrees Fahrenheit, or at a temperature otherwise specified by the flare manufacturer, for the landfill gas combustion exhaust gases. The residence time shall be measured from the combustor tip to the location of the flare source test ports. Source test ports for the flare source testing required by this permit shall be at least 7.6 feet below the exit of the flare stack. Natural gas or propane shall be added as supplemental fuel as necessary to maintain the required stack gas exhaust temperature.

61. For purposes of compliance with the flare exhaust temperature limits of this Authority to Construct, the Permittee shall install and maintain a temperature measuring device in the flare exhaust that is no more than 7.6 feet below the exit of the flare stack.

62. Emissions of oxides of nitrogen (NOx), volatile organic compounds (VOCs), particulate matter less than or equal 10 microns in diameter from the flare exhaust stack and the total reduced sulfur (TRS) concentration in the flare landfill gas fuel shall not exceed any of the following limits:

   (a) For NOx in the flare exhaust, calculated as nitrogen dioxide, 0.025 pounds per million British thermal units (lb/MMBtu) of landfill gas combusted.

   (b) For VOCs in the flare exhaust, calculated as total nonmethane nonethane organic compounds (NMNEOC) as hexane, 0.006 pounds per million British thermal units (lb/MMBtu) of landfill gas combusted.

   (c) For CO in the flare exhaust, 0.06 pounds per million British thermal units (lb/MMBtu) of landfill gas combusted.

   (d) For PM10 in the flare exhaust, 6 pounds per million wet standard cubic feet (lb/MMwscf) of landfill gas combusted prior to mixing with combustion air or auxiliary fuel. For purposes of this limit, all particulate matter emitted from the flare is considered PM10.

   (e) For the total reduced sulfur concentration in the flare landfill gas fuel, 150 ppmvd as hydrogen sulfide prior to mixing with combustion air or auxiliary fuel.

Initial compliance with these limits shall be demonstrated during initial compliance testing and ongoing compliance demonstrated by periodic source testing [Rule 1200, Rule 20.2 (d)].

63. Not later than 90 calendar days after the operational startup date of the flare, an Initial Emissions Source Test shall be conducted on that flare to demonstrate compliance with the applicable flare landfill gas fuel sulfur content limit, NOx, VOC, total NMOCs, SOx, and particulate matter exhaust emission limits, and the methane and total NMOC destruction efficiency limits of this Authority to Construct and, in addition, measure the flare inlet landfill gas flow rate, balance gas composition, and the CO concentration in the flare exhaust.
The Initial Emissions Source Test Protocol shall comply with all of the following requirements:

(a) Measurements of NOx and CO concentrations and emissions and oxygen (O\textsubscript{2}) and carbon dioxide (CO\textsubscript{2}) concentration in the flare exhaust shall be conducted in accordance District source test Method 100, or an alternative method approved by the District and U.S. EPA.

(b) Measurement of total NMOC concentration at the flare inlet shall be conducted in accordance with EPA Method 18, or an alternative method approved by the District and U.S. EPA.

(c) Measurement of total NMOC and NMNEOC concentrations in the flare exhaust shall be conducted in accordance with South Coast Air Quality Mangagement Method 25.3 with ethane determined by EPA Method 18, or alternative methods approved by the District and U.S. EPA.

(d) Source testing shall be performed at not less than 80\% of the flare’s rated capacity unless it is demonstrated to the satisfaction of the District that the flare cannot operate under these conditions. If the demonstration is accepted, then emissions source testing shall be performed at the highest achievable continuous load level for the source test period. The District may specify additional testing at different load levels or operational conditions to ensure compliance with the emission limits of this permit and District Rules and Regulations.

(e) Measurements of particulate matter emissions shall be conducted in accordance with SDAPCD Method 5 or an alternative method approved by the District and EPA.

(f) Measurement of hydrogen sulfide (H\textsubscript{2}S) and total reduce sulfur compounds as H\textsubscript{2}S at the flare inlet shall be conducted in accordance with ASTM Method D-5504-08, Standard Test Method for Determination of Sulfur Compounds in Natural Gas and Gaseous Fuels by Gas Chromatography and Chemiluminescence, or an alternative method approved by the District and EPA. The sampling shall be made prior to mixing of the landfill gas with combustion air or auxiliary fuel.

(g) Flare inlet moisture, nitrogen, oxygen (O\textsubscript{2}), carbon dioxide (CO\textsubscript{2}), argon, and methane concentration shall be measured by ASTM D1946-90(2011), Standard Practice for Analysis of Reformed Gas by Gas Chromatography, or an alternative method approved by U.S. EPA and the District.

(h) The higher heating value of the fuel to the flare shall be calculated in accordance with ASTM D3588-98, Practice for Calculating Heat Value, Compressibility Factor, and Relative Density of Gaseous Fuels, or an alternative test method approved by the District and EPA.

(i) Exhaust gas temperature and flow rate shall be measured by EPA Method 1 and 2 or, for the exhaust gas flow rate, calculated by EPA Method 19 or an alternative method approved by the District and EPA.
(j) The inlet landfill gas fuel flow rate to the flare shall be measured by EPA Method 1 and Method 2 or an alternative method approved by the District and EPA.

(k) Bias adjustment factors for the facility’s measuring devices for landfill gas flow rate and methane concentration shall be calculated by a protocol approved in writing by the District.

64. Not later than 90 calendar days after the operational startup date of the flare, initial source testing shall be successfully completed at the applicant's expense to quantify the following:

(a) At the flare inlet:

(i) Gas fuel flow rates:

(A) Landfill gas flow rate in dry standard cubic feet per minute (dscfm), wet standard cubic feet per minute (wscfm), and pounds per hour; and

(B) Landfill gas heat input rate in million British thermal units per hour;

(C) Auxiliary fuel, if any, gas flow rate in dry standard cubic feet per minute (dscfm), dry million standard cubic feet per hour, and pounds per hour; and

(D) Auxiliary fuel, if any, heat input rate based on the higher heating value, in million British thermal units per hour.

(ii) Landfill gas composition and characteristics:

(A) Nitrogen, oxygen (O2), methane, carbon dioxide, argon, and moisture concentration, in percent

(B) Landfill gas heat content based on the higher heating value, in British thermal units per standard cubic foot (Btu/scf)

(C) Total nonmethane organic compound (NMOC) concentration, in parts per million by volume, dry (ppmvd), as hexane;

(D) Hydrogen sulfide, in ppmvd;

(E) Total reduced sulfur compound concentration as H2S in the landfill gas fuel and auxiliary fuel, if any, in ppmvd or parts per billion by volume, dry (ppbv); and

(F) Landfill gas temperature, in degrees Fahrenheit.

(iii) Total NMOC flow rate in pounds per hour and total methane flow rate in pounds per hour.

(iv) Bias adjustment factors for the facility’s measuring devices for landfill gas
flow rate and methane concentration, as applicable.

(b) At the flare outlet:

(i) Exhaust gas flow rate, in standard cubic feet per minute;

(ii) Exhaust gas temperature, in degrees Fahrenheit;

(iii) Exhaust gas residence time at 1600 degrees Fahrenheit or greater as calculated, in seconds;

(iv) Concentration of O₂, in percent;

(v) Concentrations of methane, total NMOCs as methane and as hexane, carbon monoxide, nitrogen dioxide (NO₂), and NOx as nitrogen dioxide in ppmvd;

(vi) Emission rates of methane, VOCs calculated as total NMNEOCs, total NMOCs as hexane, carbon monoxide, nitrogen dioxide (NO₂), NOx as nitrogen dioxide, total particulate matter, and SOx exhaust rates, in pounds per hour.

(vii) Concentrations of methane, carbon monoxide, total NMOCs as methane and hexane, nitrogen dioxide (NO₂), and NOx in ppmvd at 3% O₂;

(viii) Emission rates of carbon monoxide and NOx, as nitrogen dioxide, in lb/MMBtu of landfill gas combusted;

(ix) Concentration of SOx, as sulfur dioxide, as calculated from the total reduced sulfur concentration at the flare inlet landfill gas fuel and auxiliary fuel, if any, in ppmvd;

(x) Reserved;

(xi) Reserved;

(xii) Destruction efficiency of methane and total NMOCs on a mass basis and, if requested, speciated organic compounds;

(xiii) Total VOC concentration calculated as total NMNEOCs, in ppmvd as hexane;

(xiv) Total VOC concentration calculated as NMNEOCs, in ppmvd as hexane, at 3% O₂;

(xv) Total VOC emission rate calculated as NMNEOCs, in lb/MMBtu;

(xvi) Total particulate matter concentration, in grains per dry standard cubic foot at 12% CO₂; and
(xvii) Total particulate matter emission rate, in lb/MMwscf of landfill gas combusted; and

(xviii) Any other emission or other parameter, as requested by the District.

65. Not later than 90 calendar days after the operational startup date of the flare, an Initial Emission Source Test for Toxic Air Contaminants shall be conducted at the flare inlet and outlet to determine the emissions of toxic air contaminants from the flare. At a minimum the following compounds and elements shall be tested for, and emissions quantified:

(a) Vinyl chloride;

(b) Benzene;

(c) Perchloroethylene;

(d) Speciated polycyclic aromatic hydrocarbons including, but not limited to,
benzo[a]pyrene, benz[a]anthracene, benzo[b]fluoranthene, benzo[j]fluoranthene,
benzo[k]fluoranthene, dibenzo[a,j]acridine, dibenz[a,h]acridine, 7H-
dibenzo[c,g]carbazole, dibenzo[a,e]pyrene, dibenzo[a,h]pyrene, dibenzo[a,i]pyrene,
dibenzo[a,l]pyrene, indeno[1,2,3-cd]pyrene, 5-methylchrysene, Chrysene,
dibenzo[a,h]anthracene, 7,12-dimethylbenzanthracene, 3-methylcholanthrene;

(e) Formaldehyde;

(f) Acetaldehyde;

(g) Acrolein;

(h) Ethyl Benzene;

(i) Toluene;

(j) Xylenes; and

(k) Aluminum (Al), antimony (Sb), arsenic (As), barium (Ba), beryllium (Be), cadmium (Cd),
chromium (Cr), cobalt (Co), copper (Cu), lead (Pb), manganese (Mn), mercury (Hg), nickel (Ni), phosphorus (P), selenium (Se), silver (Ag), thallium (Tl), vanadium (Vn) and zinc (Zn).

The District may require one or more or additional compounds and elements to be quantified through source testing as needed to ensure compliance with Rule 1200. The list of compounds may be adjusted by the District based on source test results to ensure compliance with District Rule 1200 is demonstrated. The source test shall be performed in accordance with a source test protocol approved in advance, in writing, by the District. Within 60 calendar days after completion of a source test performed by an independent contractor, a final test report shall be submitted to the District for review and approval. [Rule 1200 and AB2588]
66. Following the Initial Source Test for the flare, the flare shall be source tested annually no earlier than 45 calendar days before, and no later than 45 calendar days after, the anniversary date for the Initial Source Test or during an alternate time period during each calendar year specified in writing in advance by the District. The annual source tests shall be conducted on the flare to determine compliance with the applicable NOx, VOC, NMOC, total reduced sulfur compounds, and SOx emission limits and the methane and total NMOC destruction efficiency limits of this Authority to Construct and, in addition, determine bias adjustment factors, as applicable; measure the flare inlet landfill gas and auxiliary fuel flow rates; measure the inlet landfill gas and auxiliary fuel heat input values, measure inlet nitrogen, oxygen (O₂), methane, carbon dioxide, argon, moisture, and hydrogen sulfide concentrations; measure the CO concentration in the flare exhaust; and measure or determine any emission or other inlet or exhaust parameter requested by the District. If the flare remains in compliance with all the applicable emission limits of this Authority to Construct after three consecutive annual source tests, the owner or operator may conduct the source test every three years during a time period during each calendar year specified in writing in advance by the District. If a subsequent source test shows the gas collection and control system is out of compliance with any applicable limit, the source testing frequency will return to annual testing for a minimum of three consecutive calendar years. The annual source test protocol shall comply with all applicable requirements of the Initial Emissions Source Test Protocol.

67. The following compounds and elements, and any additional compounds and elements specified by the District, shall be quantified at the outlet of the flare by a source test conducted at a minimum once every three calendar years in accordance with a protocol approved in advance in writing by the District to ensure compliance with Rule 1200 and Rule 1210:

(a) Vinyl chloride;

(b) Benzene;

(c) Perchloroethylene;

(d) Total and speciated polycyclic aromatic hydrocarbons including but not limited to benzo[a]pyrene, benz[a]anthracene, benzo[b]fluoranthene, benzo[j]fluoranthene, benzo[k]fluoranthene, dibenz[a,j]acridine, dibenz[a,h]acridine, 7H-dibenzo[c,g]carbazole, dibenzo[a,e]pyrene, dibenzo[a,h]pyrene, dibenzo[a,i]pyrene, dibenzo[a,l]pyrene, indeno[1,2,3-cd]pyrene, 5-methylchrysene, Chrysene, dibenz[a,h]anthracene, 7,12-dimethylbenzanthracene, and 3-methylcholanthrene;

(e) Formaldehyde;

(f) Acetaldehyde;

(g) Acrolein

(h) Acrylonitrile;

(i) Ethyl Benzene;
(j) Toluene;

(k) Xylenes; and

(l) Aluminum (Al), antimony (Sb), arsenic (As), barium (Ba), beryllium (Be), cadmium (Cd), chromium (Cr), cobalt (Co), copper (Cu), lead (Pb), manganese (Mn), mercury (Hg), nickel (Ni), phosphorus (P), selenium (Se), silver (Ag), thallium (Tl), vanadium (Vn) and zinc (Zn).

No later than 30 calendar days after completion of a source test performed by an independent contractor, a final test report shall be submitted to the District for review and approval unless the District agrees to a later date in writing. After four such tests, the District may approve in writing less frequent testing or testing upon request of the District. If the District requires the Permittee to perform source testing upon request, the District shall request the testing in writing a reasonable period of time prior to the testing date. [Rule 1200, Rule 1210, and AB2588]

68. All source test or other tests required by this permit shall be performed by the District or by an independent contractor and witnessed by the District at the Permittee’s expense. Unless otherwise specified in this permit or authorized in writing by the District, if testing will be performed by an independent contractor, a proposed test protocol shall be submitted to the District for written approval at least 60 calendar days prior to source testing. Additionally, the District shall be notified a minimum of 30 calendar days prior to the test so that observers may be present unless otherwise authorized in writing by the District.

69. The Permittee shall provide the District with the final flare system process and instrumentation diagrams; control diagrams; equipment specifications including, but not limited to, the flare make, model dimensions, size and maximum capacities; and other vendor data at least 30 days prior to commencing construction of the flare.

70. To determine bias adjustment factors for landfill gas flow rate and methane concentration, each measuring device for landfill gas flow rate and methane concentration installed pursuant to the Flare Landfill Gas Collection Monitoring Condition, Flare Station Landfill Gas Collection Monitoring Condition, or the Aggregate Landfill Gas Collection Monitoring Condition shall be source tested not later than 90 days after the operational startup date of the flare in accordance with a source test protocol approved in advance in writing by the District and thereafter shall be source tested annually no earlier than 45 calendar days before, and no later than 45 calendar days after, the anniversary date for the initial source test or during an alternate time period during each calendar year specified in writing in advance by the District. Based on the source test results, bias adjustment factors for each affected measuring device for landfill gas flow rate and methane concentration shall be calculated annually no later than 30 days after the source test date by a protocol approved in writing by the District. No bias adjustment factor calculated pursuant to this condition shall be less than one. Each source test protocol shall comply with all of the following requirements.

   (a) Landfill gas fuel flow rate, prior to mixing with combustion air or auxiliary fuel if for a combustion device measurement system, shall be measured by EPA Method 1 and Method 2, or an alternative method approved by U.S. EPA and the District.
(b) Moisture, nitrogen, oxygen (O₂), carbon dioxide, argon, and methane concentration, prior to mixing with combustion air or auxiliary fuel if for a combustion device measurement system, shall be measured by ASTM D1946-90(2011), Standard Practice for Analysis of Reformed Gas by Gas Chromatography, or an alternative method approved by U.S. EPA and the District.

71. The flare shall meet the following requirements:

(a) Without burner adjustments, maintain stable combustion and comply with the operating temperature requirements of this permit with fuel methane concentrations of 10% to 50%;

(b) Alarms that shutdown the flare automatically shut off the supply of landfill gas for:

(i) Flame out;

(ii) Low stack temperature;

(iii) High stack temperature;

(iv) High vibration; and

(v) Low blower discharge pressure.

72. The permittee shall install a pressure measuring device to measure the pressure of the fuel at the point it enters the flare and maintain that pressure within manufacturer specifications.

73. The applicant shall provide the District’s Source Test Group with a scaled drawing of the exhaust stack configuration of any flare that is source tested and the location of the combustor tip relative the stack exit. Based on the drawing, the District will provide drawings and/or instructions based on the District's test requirements that detail the location of platforms and test ports, and stack modifications, if necessary, that shall be implemented by the applicant.

74. For all source testing, a final test report shall be submitted for approval to the District no more than 60 days following completion of source testing unless the District agrees to a later date in writing.

75. The flare stack height shall be no less than 40 feet.

76. No additional flares or combustion equipment shall be used at the facility unless it has been granted a District Authority to Construct and/or Permit to Operate for operation at the facility and is equipped with Toxic Best Available Control Technology as specified by District without regard for the equipment’s own emissions and health risk assessment under District Rule 1200.
LEACHATE AND CONDENSATE COLLECTION AND TREATMENT SYSTEM

77. There shall be no leachate or condensate injected into the flares or any other combustion system at the facility.

78. There shall be no leaks of landfill gas from any leachate or condensate collection or treatment system components of 1375 ppmv measured as methane at a distance of 1/2 inch from the component, other than nonrepeatable, momentary readings.

79. All permanent vents of any leachate or condensate collection or treatment system shall be vented to the landfill gas collection and control system at all times the landfill gas collection and control system is in operation.

80. All leachate and condensate shall be transported offsite for disposal unless an Authority to Construct and/or Permit to Operate has been approved by the District for an alternative method of disposal.

81. No leachate or condensate treatment system shall be used at the facility unless it has been granted a District Authority to Construct and/or Permit to Operate for operation at the facility and is equipped with Toxic Best Available Control Technology as specified by the District without regard for the equipment’s own emissions and health risk assessment under District Rule 1200.
82. No later than 90 days after commencing construction, as defined in 40 CFR §60.2, the Permittee shall submit to the District an initial design capacity report in accordance with 40 CFR §60.757 (a).

83. No later than 90 days after commencing construction, as defined in 40 CFR §60.2, the Permittee shall submit to the District an Initial Subpart WWW NMOC Emission Rate Report in accordance with 40 CFR §60.757 (b). In addition, beginning in the calendar year following the Initial Subpart WWW NMOC Emission Rate Report, for each calendar year the Permittee shall submit, a Subpart WWW Annual Emission Rate Report in accordance with 40 CFR §60.757 (b) no later than March 1 of the year immediately succeeding the year in which each report is due, except for time periods when such reports are not required pursuant to 40 CFR §60.757 (b)(3). The NMOC emissions shall be calculated for each calendar year using the formula and procedures provided in 40 CFR §60.754(a) or (b), as applicable. The District or EPA may request such additional information as may be necessary to verify the reported NMOC emission rate in these reports. If the NMOC emission rate calculated in accordance with 40 CFR §60.754(a) or (b), as applicable, is equal to or greater than 50 megagrams per year, the Permittee shall:

(a) Unless such a plan has already been submitted pursuant to this Authority to Construct, submit to the District for approval a Subpart WWW Collection and Control System Design Plan in accordance with 40 CFR §60.752(b)(2)(i) within one year or the no later than the earliest date required in 40 CFR §60.757 (c), whichever is later,

(b) Unless a landfill gas collection and control system that meets the requirements of this condition has already been installed and is operating pursuant to this Authority to Construct, install and operate a landfill gas collection and control system that captures the gas generated within the landfill as required by paragraphs 40 CFR §60.752 (b)(2)(ii)(A) and (b)(2)(iii) within 30 months after the first Subpart WWW Annual Emission Rate Report in which the emission rate equals or exceeds 50 megagrams per year.

84. Reserved.
STATE LANDFILL GAS COLLECTION SYSTEM INSTALLATION AND STARTUP

85. An Initial Waste-in-Place Report pursuant to section 17 CCR §95470(b)(4) shall be submitted to the District no later than the date that the facility begins receiving solid waste.

86. Beginning with the first calendar year of operation, the Permittee shall submit an annual Waste-in-Place Report to the District pursuant to section 17 CCR §95470(b)(4) for the period of January 1 through December 31 of each year. The report must be submitted to the District by March 1 of the following year for each year until the landfill reaches a size greater than or equal to 450,000 tons of waste-in-place on December 31 or the Permittee submits a Closure Notification pursuant to section 17 CCR §95470(b)(1).

87. No later than March 1 of the year following the year that the facility has 450,000 tons of waste in place as of the end of the calendar year, the Permittee shall calculate the landfill gas heat input capacity pursuant to section 17 CCR §95471(b) and submit an Initial Landfill Gas Heat Input Capacity Report to the District. If the calculated landfill gas heat input capacity is less than 3.0 million British thermal units per hour (MMBtu/hr) recovered, the owner or operator shall recalculate the landfill gas heat input capacity as of the end of the calendar year for each calendar year subsequent to year for which the Initial Landfill Gas Heat Capacity Report was required using the procedures specified in section 17 CCR §95471(b) and submit an Annual Landfill Gas Heat Input Capacity Report to the District until the earlier of either of the following conditions is met.

   (a) A landfill gas collection and control system that meets the requirements of 17 CCR §95464 (b)(1)–(3) is installed and in operation, or

   (b) The Permittee submits a Closure Notification pursuant to section 17 CCR §95470(b)(1).

88. If the landfill gas heat input capacity is greater than or equal to 3.0 MMBtu/hr recovered at the end of any calendar year, as calculated in the Annual Landfill Gas Heat Input Capacity Report, then the owner or operator must either:

   (a) Unless a landfill gas and control system has already been approved that meets the requirements of 17 CCR §95464 and this system is installed and is in operation pursuant to this Authority to Construct, if there has been a measured concentration of methane from the surface of the landfill of 200 ppmv or greater, comply with the requirements of 17 CCR §95464 through §95476, if not already in compliance pursuant to this Authority to Construct, including, but not limited to, submittal to the District of a landfill gas collection and control plan in accordance with 17 CCR §95464 no later than January 1 of the next calendar year or twelve months from the date a measured concentration from the surface of the landfill equals or exceeds 200 ppmv, whichever is later, and install and operate of that landfill gas collection and control system no later than 18 months after District approval a landfill gas collection and control plan; or

   (b) If there has not been a measured concentration of methane from the surface of the
landfill of 200 ppmv or greater, continue to monitor methane surface emissions in accordance with the State Instantaneous Surface Monitoring Condition until such time, if any, that a measured methane concentration exceeds 200 ppmv, at which time the Permittee shall comply with Section (a) of this condition.
ADDITIONAL LANDFILL GAS RECORDKEEPING REQUIREMENTS

89. State Recordkeeping Condition: In addition to any other records required elsewhere in this Authority to Construct the Permittee shall maintain the following records:

(a) Except when the landfill gas collection system is not operating pursuant to a semicontinuous operation schedule approved by the District, the dates and times, rounded to the nearest hours that the entire landfill gas collection control system is not operating; the dates and times, rounded to the nearest hour, that individual wells are shutdown, disconnected, or without a vacuum source; and the reason for the downtime.

(b) All gas control system downtime in excess of one hour, the reason for the downtime, and the length of time the gas control system was shutdown.

(c) Expected gas generation flow rate calculated pursuant to 17 CCR §95471(e).

(d) Records of all instantaneous surface methane concentration measurements of 200 ppmv or greater; all instantaneous surface methane surface concentration measurements of 500 ppmv or greater made pursuant to the State Component Monitoring Condition or the State Instantaneous Surface Monitoring Condition, including the location of the leak or, for landfill surface measurements, the affected grid; the leak concentration in ppmv; date and time of measurement; the action taken to repair the leak; date of repair; any required remonitoring and the remonitored concentration in ppmv; for landfill surface measurements, wind speed during surface sampling; and the installation date and location of each well installed as part of a landfill gas collection system expansion.

(e) Records of any positive wellhead gauge pressure measurements made pursuant to the State Component Monitoring Condition, the date of the measurements, the well identification number, and the corrective action taken.

(f) The following solid waste records to be made available within 10 days of the end of the recordkeeping period for monthly or quarterly records and within 30 days of the end of the calendar year calendar year recordkeeping periods:

   (i) Annual solid waste acceptance rate and the current amount of solid waste-in-place;

   (ii) The amount of solid waste and the amount of solid waste that is not beneficial reuse material received each calendar month;

   (iii) The amount of solid waste and the amount of solid waste that is not beneficial reuse material received each calendar quarter.

(g) Records of the nature, location, amount, and date of deposition of nondegradable waste for any landfill areas excluded from the collection system.
(h) Results of any source tests conducted, including, but not limited to, landfill gas sampling and flare source tests.

(i) Records describing the mitigation measures taken to prevent the release of methane or other emissions into the atmosphere:

   (i) When solid waste was brought to the surface during the installation or preparation of wells, piping, or other equipment;

   (ii) During repairs or the temporary shutdown of gas collection system components; or,

   (iii) When solid waste was excavated and moved.

(j) Records of any construction activities where the landfill cover material has been removed and refuse has been exposed for the purpose of installing, expanding, replacing, or repairing components of the landfill gas, leachate, or gas condensate collection and removal system, or for law enforcement activities requiring excavation. The records must contain the following information:

   (i) A description of the actions being taken, the areas of the MSW landfill that will be affected by these actions, the reason the actions are required, and any landfill gas collection system components that will be affected by these actions.

   (ii) Construction start and finish dates, projected equipment installation dates, and projected shut down times for individual gas collection system components.

   (iii) A description of the mitigation measures taken to minimize methane emissions and other potential air quality impacts.

(k) For any enclosed flare, all 3-hour periods of operation during which the average temperature difference was more than 50 degrees Fahrenheit below the average combustion temperature during the most recent source test at which compliance was determined.

(l) The owner or operator must maintain the following records, whether in paper, electronic, or other format, for the life of each gas control device, as measured during the initial source test or compliance determination:

   (i) The control device vendor specifications.

   (ii) The expected gas generation flow rate as calculated pursuant to 17 CCR §95471(e).

   (iii) The percent reduction of methane achieved by the control device determined pursuant to section 17 CCR §95471(f).
90. The Permittee shall maintain calendar daily records, calendar monthly, and calendar year records of the total amount of the following materials received by the facility during each calendar day, calendar month, or calendar year, as applicable:

(a) Solid waste that is not alternative cover or beneficial reuse material;

(b) Green waste imported, including, but not limited to, processed green material, that in not alternative cover or beneficial reuse material;

(c) Green waste, including, but not limited to, processed green material, that is alternative cover material

(d) Green waste, including, but not limited to, processed green material, that is beneficial reuse material;

(e) Other organic alternative cover material;

(f) Other organic beneficial reuse material; and

(g) Green waste and other organic alternative cover material combined.

91. The Permittee must maintain copies of the records and reports required by this Authority to Construct onsite and readily available and provide them to the District upon request or at an alternative location with the advance written approval of the District. [17 CCR 95470 (a)(3)]
ADDITIONAL LANDFILL GAS REPORTING REQUIREMENTS

92. For the calendar year during which a landfill gas control system has been installed and is in operation either continuously or semicontinuously and each year thereafter, the Permittee shall submit an Annual Landfill Gas Report for each calendar year to the District no later than March 15 of the next calendar year. The annual report must contain the following information:

(a) MSW landfill name, owner and operator, address, and solid waste information system (SWIS) identification number;

(b) Total volume of landfill gas collected, reported in standard cubic feet;

(c) Average composition of the landfill gas collected over the reporting period, reported in percent methane and percent carbon dioxide by volume;

(d) Gas control device type, year of installation, rating, fuel type, and total amount of landfill gas combusted in each control device;

(e) The date that the gas collection and control system was installed and in full operation;

(f) The percent methane destruction efficiency of each gas control device(s);

(g) Type and amount of supplemental fuels burned with the landfill gas in each device;

(h) Total volume of landfill gas shipped off-site, the composition of the landfill gas collected, reported in percent methane and percent carbon dioxide by volume, and the recipient of the gas;

(i) Most recent topographic map of the site showing the areas with final cover and a geomembrane and the areas with final cover without a geomembrane with corresponding percentages over the landfill surface; and

(j) The information required by Sections (a)–(f), (h), and (k) of the State Recordkeeping Condition in this Authority to Construct.

(k) The total amount of the following materials received by the facility during the calendar year:

(i) Solid waste that is not alternative cover or beneficial reuse material;

(ii) Green waste imported, including, but not limited to, processed green material, that is not alternative cover or beneficial reuse material;

(iii) Green waste, including, but not limited to, processed green material, that is alternative cover material.
(iv) Green waste, including, but not limited to, processed green material, that is beneficial reuse material;

(v) Other organic alternative cover material;

(vi) Other organic beneficial reuse material; and

(vii) Green waste and other organic alternative cover material combined.

(l) Reserved.

93. Until the end of the calendar year in which a landfill gas collection and control system that captures landfill gas from all areas of the landfill where waste has been deposited for six months or more and that has been installed in accordance with a plan approved by the District is in continuous operation, the Permittee shall maintain calendar monthly records of the cumulative amount of solid waste and organic alternative cover material combined that have been deposited in the landfill since waste was first received.

94. Reserved.
TITLE V REQUIREMENTS

95. No later than one year after commencing construction, as defined in 40 CFR §60.2, the Permittee shall submit an application to the District for a Title V permit in accordance with District Regulation XIV.
STANDARD AUTHORITY TO CONSTRUCT CONDITIONS

96. If compliance with the applicable emission standards of this Authority to Construct or District Rules and Regulations cannot be demonstrated, the Permittee shall take corrective action to meet these limits. Any proposed corrective action that would result in a modification to any equipment shall require an application and a District Authority to Construct for such modification.

97. This Authority to Construct authorizes temporary operation of the above-specified equipment. This temporary Permit to Operate shall take effect upon written notification to the District that construction has been completed in accordance with this Authority to Construct. This temporary Permit to Operate will remain in effect, unless either (1) withdrawn or modified by the District, or (2) until the equipment is inspected by the District and a revised temporary permit (Startup Authorization) is issued, or (3) a Permit to Operate is granted or denied.

98. Upon completion of construction in accordance with this Authority to Construct and prior to commencing operation, the Permittee must complete and mail, deliver or fax the enclosed Construction Completion Notice to the District. After mailing, delivering, or faxing the notice, the Permittee may commence operation of the equipment. Operation must be in compliance with all of the conditions of the Authority to Construct and Applicable District rules.

99. This Authority to Construct shall be posted on or within 25 feet of the equipment or maintained readily available at all times on the operating premises.

100. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.

101. Operation must be in compliance with all information provided in conjunction with this application and the performance conditions listed above.

102. This Air Pollution Control District Authority to Construct does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.

103. Reserved.
ROADS GENERAL

104. Except for vehicles engaged in dust control operations or construction of storm water drainage control features, operations at the facility shall be limited to the following time periods:

(a) Haul vehicles importing material to the facility shall only enter the facility after 7:00 A.M. and before 6:00 P.M. on Monday through Friday and after 8:00 A.M. and before 5:00 P.M. on Saturday and Sunday. The permittee shall maintain records of the time each vehicle enters the facility.

(b) Waste haul vehicles shall only use the Main Entrance Road or the internal waste haul roads after 7:00 A.M. and before 7:00 P.M. on Monday through Friday and after 8:00 A.M. and before 6:00 P.M. on Saturday and Sunday.

(c) Internal haul vehicles or other haul vehicles shall not use an internal bulk material haul road or a cover and bulk material haul roads or the BAA Haul Road or the BAB Haul Road before 7:00 A.M. on Monday through Friday or before 8:00 A.M. on Saturday and Sunday.

(d) Internal haul vehicles or other haul vehicles shall not use an internal bulk material haul road or a cover and bulk material haul road or the BAA Haul Road or the BAB Haul Road after 6:00 P.M. on Monday through Friday or after 5:00 P.M. on Saturday and Sunday except for 66 days per year and for not more than one hour on each of those days and then only for the purpose of transporting cover material to the working face. The Permittee shall keep records that indicate when the last use of these haul roads occurred on each day and, if the use was after 6:00 P.M. on Monday through Friday or after 5:00 P.M. on Saturday and Sunday, and the material transported by each haul vehicle using the roads after 6:00 P.M. on Monday through Friday or after 5:00 P.M. on Saturday and Sunday.

(e) Operations to cover the working face shall not occur before 7:00 A.M. or after 7:00 P.M. on Monday through Friday or before 8:00 A.M. or after 6:00 P.M. on Saturday and Sunday.

(f) Except as specified in this condition above no landfill dust generating activity shall occur before 7:00 A.M. or after 6:00 P.M. on Monday through Friday or before 8:00 A.M. and after 5:00 P.M. on Saturday and Sunday.

(g) No blasting or drilling shall occur before 11:00 A.M. or after 5:00 P.M. on any day.

105. Vehicle speeds on paved and unpaved roads and any other area of the landfill shall not exceed 15 miles per hour. The owner shall prominently post speed limit signs visible to incoming traffic at the facility entrance and speed limit signs visible to traffic travelling in both directions every 2500 feet on the Main Entrance Road, at the entrance to the Landfill Footprint and at least every 2500 feet on internal waste haul roads, and at the entrance to BAA and BAB. The Permittee shall also inform all facility employees and all contractors
that perform earthmoving, landfill construction, or onsite bulk material transport at the facility of the speed limit and document the fact they have been informed.

106. Within 60 days after completion of the bridge over the San Luis Rey River leading to the facility, the Main Access Road from Highway 76 to the Landfill Footprint shall be paved. This paved road shall be maintained until final landfill closure and the final cover installation is complete. The Permittee may elect to pave other roads within the facility. All haul vehicles entering the facility shall use the Main Access Road once it is paved.

107. The facility shall accept no more than 5000 tons of solid waste per day, excluding alternative cover and beneficial reuse material, and no more than 1,000,000 tons of solid waste per year, excluding alternative cover and beneficial reuse material. In addition, the facility shall accept no more than 295 tons per day of organic alternative cover material and no more than 90,565 tons per year of organic alternative cover material.

108. On or after the date the facility begins accepting solid waste, except as otherwise specified in the Haul Road Particulate Matter Emission Monitoring Protocol or elsewhere in this Authority to Construct, all vehicles entering and leaving the facility, except for employee owned and small vehicles, shall be weighed on vehicle scales certified by the San Diego County Department of Agriculture, Weights and Measures each time they enter or exit the facility. The entry date, entry time, gross entrance weight, the gross exit weight shall be recorded for each vehicle. The weights shall be measured before leaving the Main Access Road. In addition, the total number of wheels on ordinary axles and the total number of wheels on lift axles for each vehicle shall be counted and recorded. The gross entrance weight and the gross exit weight and the number of wheels on ordinary axles and the number of wheels on lift shall be used to calculate the two-way average weight and average number of wheels for each vehicle unless alternative values are used pursuant to this Authority to Construct.

109. The Permittee may establish a database for individual vehicles importing or exporting material into or out of the facility that includes the gross empty weight and the number of wheels on ordinary axles and the number of wheels on lift axles for the vehicle. The gross empty weight in the database shall be based on one or more actual recorded weights on the facility’s scales or information provided by the vehicle manufacturer. The database values may be used in lieu of a measured entrance or exit weight, as applicable, to calculate the two-way average weight and in lieu of the counted number of wheels or axles to calculate two-way average number of wheels for a vehicle pursuant to this Authority to Construct. The Permittee shall maintain documentation of the vehicle owner, the license plate number, the gross empty weight measurement, number of vehicle wheels on ordinary axles and the number on lift axles, and the date(s) those parameters were measured or determined and provide it to the District upon request.

110. For any vehicles except waste haul vehicles, the Permittee may establish a database for individual vehicles that includes the maximum gross vehicle weight rating and the number of wheels on ordinary axles and the number of wheels on lift axles. The database values may be used in lieu of a measured entrance or exit weight, as applicable, to calculate the two-way average weight and in lieu of the counted number of wheels or axles to calculate two-way average weight.
average number of wheels for a vehicle pursuant to this Authority to Construct. The Permittee shall maintain documentation identifying the vehicle owner, license plate number, and the maximum gross vehicle weight rating.

111. For waste haul vehicles, the Permittee may establish generic values for empty weight, loaded weight, and total number of wheels for one or more generic waste haul vehicle classes with a maximum gross vehicle weight rating of less than 15,000 pounds or, for vehicles with trailers, with a maximum combined vehicle weight rating of less than 35,000 pounds based on a representative sample of actual measured weights on the facility’s scales for each class of vehicles and counted number of wheels or other information approved in writing by the District. The database values may be used in lieu of a measured entrance and exit weight to calculate the two-way average weight and in lieu of the counted number of wheels to calculate two-way average number of wheels for a vehicle pursuant to this Authority to Construct. The Permittee shall maintain documentation identifying the generic waste haul vehicle class and the data used to establish the generic values and provide it to the District upon request.

112. For each calendar day, for each time a vehicle enters the facility, the Permittee shall record the entrance time and date and, for haul vehicles, record the type of material carried, or that will be carried on exit, by each vehicle. The material carried shall be categorized as water, leachate, condensate, landfill liner material, landfill construction materials other than liner materials, bulk material other than liner material, solid waste that is not beneficial reuse material or green waste; solid waste that is green waste and not beneficial reuse material; green waste that is organic alternative cover material, green waste that is beneficial reuse material, other organic alternative cover material, other organic beneficial reuse material, or inert beneficial reuse material that is not bulk material. For each time a vehicle enters the facility, except for small vehicles, the following shall be recorded each calendar day:

(a) The vehicle license plate number or a unique identifier number assigned by the facility, or, if applicable, the generic vehicle class;

(b) For haul vehicles, whether the vehicle is importing material or exporting material or both importing and exporting material;

(c) Whether the vehicle will enter or transport material to or from one or more of the following: the Landfill Footprint, BAA, BAB, or a storage pile within the Landfill Footprint.

(d) For waste haul vehicles:

(i) The measured entrance weight on the facility scales or, if applicable, the generic loaded weight for the generic waste haul vehicle class;

(ii) The measured exit weight on the facility scales or, if applicable, the generic empty weight for the generic waste haul vehicle class;

(iii) The net amount of material imported, calculated as the difference of the entrance and exit weight, that is:
(A) Solid waste that is not alternative cover or beneficial reuse material;

(B) Green waste, including, but not limited to, processed green material, that is not alternative cover or beneficial reuse material;

(C) Green waste, including, but not limited to, processed green material, that is alternative cover material;

(D) Green waste, including, but not limited to, processed green material, that is beneficial reuse material;

(E) Other organic alternative cover material;

(F) Other organic beneficial reuse material;

(iv) The number of wheels on ordinary axles and the number of wheels on lift axles as counted on entrance or from prerecorded values from a database or, if applicable, the generic number of wheels for the generic waste haul vehicle class.

(e) For all vehicles that are not waste haul vehicles, at a minimum, the number of vehicle axles.

(f) For all vehicles, the calculated two-way average weight; and

(g) For all vehicles, the calculated two-way average number of wheels.

113. For each calendar day, for each time an internal haul vehicle or offsite haul vehicle enters BAA or BAB or delivers material to, or removes material from, a storage pile or another area within the Landfill Footprint without entering BAA or BAB except for vehicles transporting material used for an engineered fill within the Landfill Footprint, the Permittee shall record the date and time of each entrance. For each such vehicle, for each area, for each entrance, the following shall be recorded each calendar day:

(i) The unique vehicle identifier assigned by the facility;

(ii) For internal haul vehicles, the entrance and exit weights and the number of wheels on ordinary axles and number of wheels on lift axles at the area material is removed from as obtained from prerecorded information and, for offsite vehicles, the facility entrance, exit, and empty weights and the number of wheels on ordinary axles and number of wheels on lift axles based on the information recorded on entrance and exit from the facility;

(iii) For internal haul vehicles, the prerecorded calculated two-way average number of wheels;

(iv) For offsite vehicles, the calculated two-way average number of wheels;
(v) For internal haul vehicles, the prerecorded calculated two-way average vehicle weight and maximum load weight;

(vi) For offsite haul vehicles, the calculated two-way average vehicle weight;

(vii) The weight of material delivered to an area;

(viii) The weight of material removed from an area;

(ix) The area from which material is removed or to which material is delivered.

(x) Whether the vehicle is delivering material to, removing material from, or both delivering material to and removing material from the applicable area;

(xi) Whether the material being delivered is material from the Landfill Footprint; and

(xii) Whether the material used is cover material.

For internal haul vehicles, in lieu of recording each separate entrance to an area for a vehicle, the Permittee may elect to record the total number of entrances for each vehicle and the prerecorded two-way averages and maximum load weight for each vehicle only once per calendar day. In this case, the portion of the sum of the two-way averages for each area and associated road, for each calendar day, attributed to each internal haul vehicle is the total number of entrances for that vehicle times the applicable two-way average value for that vehicle. Also, the portion of the sum of the weight of material delivered or removed for each area, as applicable, for each calendar day, attributed to each internal haul vehicle is the total number of entrances for that vehicle times the applicable maximum load weight for that vehicle.

For offsite vehicles, the weight delivered shall be the entrance weight less the exit weight except for vehicles both delivering and removing material in the same trip. For vehicles both delivering and removing material in the same trip, weight delivered shall be the entrance weight less the empty weight.

For offsite vehicles, the weight removed shall be the exit weight less the entrance weight except for vehicles both delivering and removing material in the same trip. For vehicles both delivering and removing material in the same trip, weight removed shall be the exit weight less the empty weight.

114. Unless a default value is used as specified elsewhere in this Authority to Construct, the two-way average vehicle weight shall be calculated as the average of the vehicle’s entrance and exit weight. For vehicles that are not weighed, the entrance weight for vehicles delivering material and the exit weight for vehicles removing material shall be the the gross vehicle weight rating. The amount of material delivered to removed from an area shall be calculated as the absolute value of the difference of the entrance and exit weight unless the vehicle both delivers and removes material from an area in the same trip. If a vehicle, delivers and removes material in the same trip from an area the amount of material delivered
shall be the vehicle’s entrance weight less the empty weight and the amount of material removed shall be vehicle’s exit weight less the empty weight. For offsite haul vehicles, vehicles delivering material to one area and removing material from another area are deemed to be both delivering and removing material in the same trip.

115. For purposes of calculating two-way average weight, for a vehicle for which the gross vehicle weight rating is used in place of the loaded weight and that transports material in both directions, the entrance weight and the exit weight shall both be deemed to be the gross vehicle weight rating. For purposes of this condition, small amounts of residual material left in the vehicle after the vehicle has deposited its load is not considered material being transported in both directions of travel.

116. Unless a default value is used as specified elsewhere in this Authority to Construct, the two-way average number of wheels shall be calculated as the number of wheels on ordinary axles plus one half of the number of wheels on lift axles except that, for vehicles that are transporting material in both directions of travel in the same trip, the two-way average number of wheels shall be the sum of the number of wheels not on lift axles and the number of wheels on lift axles. For purposes of this condition, small amounts of residual material left in the vehicle after the vehicle has deposited its load is not considered material being transported in both directions of travel.

117. Except for internal haul vehicles transporting material into or out of BAA or BAB or from locations in the Landfill Footprint, if the entrance or exit weight or number of wheels has not been measured or obtained from a database or other recorded data, the following default values shall be used for vehicles entering the facility, as applicable:

(a) Except for small vehicles entering or exiting the facility:

(i) For vehicles with two axles, the two-way average weight and gross vehicle weight rating shall be 40,000 pounds and the empty weight shall be 16,000 pounds.

(ii) For vehicles with three axles, the two-way average weight and gross vehicle weight rating shall be 60,000 pounds and the empty weight shall be 22,000 pounds.

(iii) For vehicles with four or more axles, the two-way average weight and gross vehicle weight rating shall be 80,000 pounds and the empty weight shall be 30,000 pounds.

(b) All axles shall be deemed ordinary axles for purposes of the calculation of the two-way average of the number of wheels.

The Permittee shall maintain up to date records of all internal vehicles that are used at the facility. At a minimum, for each vehicle, the list shall include the type and description of the vehicle; license number, make, model, and model year of the vehicle; and the number of wheels on ordinary axles, number of wheels or lift axles, the vehicle’s empty weight, and the vehicle’s maximum gross vehicle weight rating and maximum load calculated as
the gross vehicle weight rating less the empty weight.

118. Beginning with the date the facility first accepts solid waste or alternative daily cover and ending on the date the facility is fully closed and the final landfill cover is completely in place, the applicable daily vehicle PM10 emission factor shall be calculated for each calendar day in accordance with this Authority to Construct. The Permittee shall calculate and record the daily vehicle PM10 emission factor for each road listed in the table below for each calendar day before the end of the next calendar day unless the facility is not open for business on the next calendar day in which case the Permittee shall calculate the index before the end of the next calendar day the facility is open for business. The daily vehicle PM10 emission factor shall be defined as follows for each road:

<table>
<thead>
<tr>
<th>Road</th>
<th>Daily Vehicle PM10 Emission Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Entrance Road</td>
<td>$V_{MER} = (n + 25)W^{1.5}$</td>
</tr>
<tr>
<td>Internal waste haul roads</td>
<td>$V_{IW} = (n + 25)W^{0.7}w^{0.5}$</td>
</tr>
<tr>
<td>Cover and bulk material haul roads</td>
<td>$V_{COV} = (n + 10)W^{0.7}w^{0.5}$</td>
</tr>
<tr>
<td>Borrow Area A Haul Road</td>
<td>$V_{BAA} = (n + 10)W^{0.7}w^{0.5}$</td>
</tr>
<tr>
<td>Borrow Area B Haul Road</td>
<td>$V_{BAB} = (n + 10)W^{0.7}w^{0.5}$</td>
</tr>
</tbody>
</table>

Where in the table above:

$V_{MER}$, $V_{IW}$, $V_{BAA}$, $V_{BAB}$, and $V_{COV}$, are the daily vehicle PM10 emission factors applicable to the indicated roads;

$n$ is the total number of one-way trips excluding small vehicle trips for the applicable road(s) for the applicable calendar day;

$W$ is the daily average weight of the vehicles traversing the applicable road(s) for the applicable calendar day; and

$w$ is the daily average number of wheels on the vehicles traversing the applicable road(s) for the applicable calendar day.

If there is more than one internal waste haul road or cover and bulk material haul road, the total number of vehicles and daily average for the vehicle weight and number of wheels shall be calculated for all internal waste haul roads or cover and bulk material haul roads, as applicable, combined.

119. Reserved.

120. Beginning with the date the facility first accepts solid waste or alternative daily cover and ending on the date the facility is fully closed and the final landfill cover is completely installed, the applicable calendar monthly vehicle PM10 emission factor shall be calculated for each calendar month in accordance with this Authority to Construct. The Permittee shall
calculate and record the calendar monthly vehicle PM10 emission factor for each road listed in the table below for each calendar month no later than 10 days after the end of the calendar month. The calendar monthly vehicle PM10 emission factor shall be defined as follows for each road:

<table>
<thead>
<tr>
<th>Road</th>
<th>Annual Vehicle PM10 emission factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Entrance Road</td>
<td>( V_{MER} = (n + 760)W^{1.5} )</td>
</tr>
<tr>
<td>Internal waste haul roads</td>
<td>( V_{IW} = (n + 760)W^{0.7}w^{0.5} )</td>
</tr>
<tr>
<td>Cover and bulk material haul roads</td>
<td>( V_{COV} = (n + 304)W^{0.7}w^{0.5} )</td>
</tr>
<tr>
<td>Borrow Area A Haul Road</td>
<td>( V_{BAA} = (n + 304)W^{0.7}w^{0.5} )</td>
</tr>
<tr>
<td>Borrow Area B Haul Road</td>
<td>( V_{BAB} = (n + 304)W^{0.7}w^{0.5} )</td>
</tr>
</tbody>
</table>

Where in the table above:

\( V_{MER}, V_{IW}, V_{BAA}, V_{BAB}, V_{BA}, \) and \( V_{COV} \), are the monthly vehicle PM10 emission factors applicable to the indicated roads;

\( n \) is the total number of one-way trips excluding small vehicle trips for the applicable road(s) for the applicable calendar month;

\( W \) is the calendar monthly average weight of the vehicles traversing the applicable road(s) for the applicable calendar month; and

\( w \) is the calendar monthly average number of wheels on the vehicles traversing the applicable road(s) for the applicable calendar month.

If there is more than one internal waste haul road or cover and bulk material haul road, the total number of vehicles and daily average for the vehicle weight and number of wheels shall be calculated for all internal waste haul roads or cover and bulk material haul roads, as applicable, combined.

121. Beginning with the date the facility commences construction and ending on the date the facility first accepts solid waste or alternative daily cover, the applicable daily vehicle PM10 emission factor shall be calculated for each calendar day in accordance with this Authority to Construct. The Permittee shall calculate and record the daily vehicle PM10 emission factor for each road listed in the table below for each calendar day before the end of the next calendar day unless the facility is not open for business on the next calendar day in which case the Permittee shall calculate the index before the end of the next calendar day the facility is open for business. The daily vehicle PM10 emission factor shall be defined as follows for each road:
Where in the table above:

\[ V_{\text{MER}}, V_{\text{IM}}, V_{\text{BAA}}, V_{\text{BAB}}, \text{ and } V_{\text{COV}}, \text{ are the daily vehicle PM10 emission factors applicable to the indicated roads;} \]

\[ n \text{ is the total number of one-way trips excluding small vehicle trips for the applicable road(s) for the applicable calendar day;} \]

\[ W \text{ is the daily average weight of the vehicles traversing the applicable road(s) for the applicable calendar day; and} \]

\[ w \text{ is the daily average number of wheels on the vehicles traversing the applicable road(s) for the applicable calendar day.} \]

Vehicles that are delivering construction materials via the Main Entrance Road for use in construction that is not a landfill dust generating activity are excluded from the calculation of \( V_{\text{MER}} \). If there is more than one internal bulk material haul road, the total number of vehicles and daily average for the vehicle weight and number of wheels shall be calculated for all internal bulk material haul roads combined.

122. Beginning with the date the facility commences construction and ending on the date the facility first accepts solid waste or alternative daily cover, the applicable calendar monthly vehicle PM10 emission factor shall be calculated for each calendar month in accordance with this Authority to Construct. The Permittee shall calculate and record the calendar monthly vehicle PM10 emission factor for each road listed in the table below for each calendar month no later than 10 days after the end of the calendar month. The calendar monthly vehicle PM10 emission factor shall be defined as follows for each road:

<table>
<thead>
<tr>
<th>Road</th>
<th>Annual Vehicle PM10 emission factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Entrance Road, only after being paved</td>
<td>( V_{\text{MER}} = (n + 760)W^{1.5} )</td>
</tr>
<tr>
<td>Internal bulk material haul roads</td>
<td>( V_{\text{IM}} = (n + 304)W^{0.7}w^{0.5} )</td>
</tr>
<tr>
<td>Borrow Area A Haul Road,</td>
<td>( V_{\text{BAA}} = (n + 304)W^{0.7}w^{0.5} )</td>
</tr>
<tr>
<td>Borrow Area B Haul Road,</td>
<td>( V_{\text{BAB}} = (n + 304)W^{0.7}w^{0.5} )</td>
</tr>
</tbody>
</table>

Where in the table above:
VMER, VIW, VBAA, VBAB, VBA and VCOV, are the monthly vehicle PM10 emission factors applicable to the indicated roads;

n is the total number of one-way trips excluding small vehicle trips for the applicable road(s) for the applicable calendar month;

W is the calendar monthly average weight of the vehicles traversing the applicable road(s) for the applicable calendar month; and

w is the calendar monthly average number of wheels on the vehicles traversing the applicable road(s) for the applicable calendar month.

Vehicles that are delivering construction materials via the Main Entrance Road for use in construction that is not a landfill dust generating activity are excluded from the calculation of VMER. If there is more than one internal bulk material haul road, the total number of vehicles and daily average for the vehicle weight and number of wheels shall be calculated for all internal bulk material haul roads combined.

123. For each calendar day, beginning with the dates specified below, the Permittee shall record the total number of one-way trips, calculate the two-way average weight and two-way average number of wheels for each vehicle, and calculate the daily average weight and daily average number of wheels for all vehicles traversing the following roads:

(a) Main Entrance Road on and after the date it is paved;

(b) Internal waste haul roads on and after the date the facility first begins receiving alternative cover or solid waste;

(c) Borrow Area A Haul Road on and after the date the road is first used by a haul vehicle;

(d) Borrow Area B Haul Road on and after the date the road is first used by a haul vehicle; and

(e) Cover and bulk material haul roads on and after the date the facility first begins receiving bulk material or solid waste.

(f) Internal bulk material haul roads before the date the facility first begins receiving alternative cover or solid waste.

124. The number of one-way trips on each road shall be determined as follows:

(a) For the Main Entrance Road, on and after the date it is paved, all vehicles, except for small vehicles, entering the facility on a calendar day are deemed to traverse this road on that calendar day. Each separate entrance of a vehicle is deemed a separate one-way trip for that calendar day.
(b) For internal bulk material haul roads, before the date the facility first begins receiving solid waste, all bulk material haul vehicles entering the facility on a calendar day are deemed to traverse these roads on that calendar day except for those vehicles excluded from the calculation of the Main Entrance Road vehicle PM10 emission factors. In addition, any other vehicle, except for small vehicles, entering the facility and subsequently the Landfill Footprint on a calendar day, except for haul vehicles traveling solely to BAA, is deemed to traverse these roads on that calendar day. Each separate entrance of a vehicle is deemed a separate one-way trip for that calendar day.

(c) For internal waste haul roads, on and after the date the facility first begins receiving solid waste, all bulk material and waste haul vehicles entering the facility on a calendar day are deemed to traverse these roads on that calendar day. In addition, any other vehicle, except for small vehicles, entering the facility and subsequently the Landfill Footprint on a calendar day, except for haul vehicles traveling solely to BAA, is deemed to traverse these roads on that calendar day. Each separate entrance of a vehicle is deemed a separate one-way trip for that calendar day.

(d) For the Borrow Area A Haul Road, on and after the date the road is first used by a haul vehicle, all haul vehicles entering the facility and traveling to BAA and all internal haul vehicles entering BAA on a calendar day are deemed to traverse this road on that calendar day. Each separate entrance of such a vehicle to the facility or, for internal vehicles, to BAA is deemed a one-way trip for that calendar day.

(e) For the Borrow Area B Haul Road, on and after the date the road is first used by a haul vehicle, all haul vehicles entering the facility and traveling to BAB and all internal haul vehicles entering BAB on a calendar day are deemed to traverse this road on that calendar day. Each separate entrance of such a vehicle to the facility or, for internal vehicles, to BAB is deemed a one-way trip for that calendar day.

(f) For cover and bulk material haul roads, on and after the date the facility first begins receiving solid waste, all haul vehicles entering the facility on a calendar day and carrying bulk material, are deemed to traverse these roads on that calendar day unless they deliver or remove material exclusively to BAA or BAB or deliver material to within 100 feet of the working face and do not remove material from the landfill. Each separate entrance of a vehicle is deemed a separate one-way trip for that calendar day. In addition, each internal haul vehicle transporting bulk material from one area within the Landfill Footprint to another area within the Landfill Footprint and is not transporting cover material from Borrow Area A or Borrow Area B to within 100 feet of the working face or fill material for an engineered fill within the Landfill Footprint on a calendar day is deemed to traverse these roads on that calendar day. Each separate time a vehicle transports cover to the working face is deemed a separate one-way trip for that calendar day.

125. For each calendar day, for each road, the daily average weight for vehicles traversing the road shall be calculated as follows:

(a) For the Main Entrance Road and internal waste haul roads,
\[ \bar{W} = \frac{75 + \sum_{i=1}^{n_{ot}} W_i}{25 + n_{ot}} \]

(b) For the BAA Haul Road, BAB Haul Road, internal bulk material haul roads, and cover and bulk material haul roads,

\[ \bar{W} = \frac{30 + \sum_{i=1}^{n_{ot}} W_i}{10 + n_{ot}} \]

Where:

\( \bar{W} \) is the daily average weight, in tons;
\( i \) is an index that labels individual one-way trips;
\( W_i \) is the two-way average weight of vehicle on the i’th one way trip on the road for that day; and
\( n_{ot} \) is the total number of one-way trips excluding small vehicle trips on the road for that day.

126. For each calendar day, for each road, the daily average number of wheels for vehicles traversing the road shall be calculated as follows:

(a) For the Main Entrance Road and internal waste haul roads,

\[ \bar{w} = \frac{100 + \sum_{i=1}^{n_{ot}} w_i}{25 + n_{ot}} \]

(b) For the BAA Haul Road, BAB Haul Road, internal bulk material haul roads, and cover and bulk material haul roads,

\[ \bar{w} = \frac{40 + \sum_{i=1}^{n_{ot}} w_i}{10 + n_{ot}} \]

Where:

\( \bar{w} \) is the daily average number of wheels;
\( i \) is an index that labels individual one-way trips;
\( w_i \) is the two-way average number of wheels of the vehicle on the i’th one way trip on
the road for that day; and

\( n_{ot} \) is the total number of one-way trips on the road for that day.

127. For each calendar day, for each road, as applicable, the Permittee shall calculate and record the total number of one-way trips, the sum of all the two-way average weights, the sum of all the two-way average number of wheels, the daily average weight, and the daily average number of wheels.

128. For each calendar month, for each road, the calendar monthly average weight for vehicles traversing the road shall be calculated as follows:

(a) For the Main Entrance Road and internal waste haul roads,

\[
\bar{W}_m = \frac{25 \sum_{j=1}^{n_d} \bar{W}_j + \sum_{j=1}^{n_{ot,j}} n_{ot,j} \bar{W}_j}{760 + n_{ot,an}}
\]

(b) For the BAA Haul Road, BAB Haul Road, internal bulk material haul roads, and cover and bulk material haul roads,

\[
\bar{W}_m = \frac{10 \sum_{j=1}^{n_d} \bar{W}_j + \sum_{j=1}^{n_{ot,j}} n_{ot,j} \bar{W}_j}{304 + n_{ot,m}}
\]

Where:

\( \bar{W}_m \) is the calendar monthly average weight;

\( j \) is an index that labels individual days;

\( \bar{W}_j \) is the daily average weight for the \( j \)’th day;

\( n_{ot,j} \) is the total number of one-way trips excluding small vehicle trips on the \( j \)’th day;

\( n_d \) is the total number of calendar days in the month; and

\( n_{ot,m} \) is the total number of one-way trips in the month.

129. For each calendar month, for each road, the calendar monthly average number of wheels for vehicles traversing the road shall be calculated as follows:

(a) For the Main Entrance Road and internal waste haul roads,
\[ \bar{w}_m = \frac{25 \sum_{j=1}^{n_d} \bar{w}_j + \sum_{j=1}^{n_d} n_{ot,j} \bar{w}_j}{760 + n_{ot,m}} \]

(b) For the BAA Haul Road, BAB Haul Road, and cover and bulk material haul roads,

\[ \bar{w}_m = \frac{10 \sum_{j=1}^{n_d} \bar{w}_j + \sum_{j=1}^{n_d} n_{ot,j} \bar{w}_j}{304 + n_{ot,m}} \]

Where:

\( \bar{w}_m \) is the calendar monthly average number of wheels;

\( j \) is an index that labels individual days;

\( \bar{w}_j \) is the daily average number of wheels for the j’th day;

\( n_{ot,j} \) is the total number of one-way trips excluding small vehicle trips on the j’th day;

\( n_d \) is the total number of calendar days in the month; and

\( n_{ot,m} \) is the total number of onw-way trips in the month;

130. For each calendar month, for each road, as applicable, the Permittee shall calculate and record the total number of one-way trips during the calendar month, the calendar monthly average weight, and the calendar monthly average number of wheels.

131. This Authority to Construct does not apply to the operations of authorized emergency vehicles or regulatory agency vehicles.

132. Before the date on which the facility first accepts any solid waste or alternative cover material, the Permittee shall install one or more vehicle scales that are certified by the San Diego County Department of Agriculture, Weights and Measures capable of measuring the gross weight of each vehicle upon entrance to, and upon exit from the landfill. The scales shall be operated and maintained at least until the date that the facility no longer accepts solid waste.

133. Reserved
UNPAVED ROADS AND OTHER UNPAVED TRAVEL AREAS

134. The Permittee shall apply water at frequent enough intervals so that all unpaved haul roads that are not chemically stabilized and other unpaved areas of the facility traversed by haul vehicles are visibly moist when being traversed by any haul vehicle.

135. There shall be no visible emissions at any time at eight feet or more above the travel surface, except for momentary and nonrepeatable emissions, from any vehicle travel on all unpaved haul roads, any vehicle travel on engineered fill material, and from haul vehicle travel on any other unpaved areas. This requirement does not apply to visible emissions during material loading or unloading operations including, but not limited to, scraper loading and unloading except for loading or unloading material that is to be used as engineered fill. The Permittee shall apply chemical stabilizers, water, or use vacuum sweeping or other dust control techniques as frequently as necessary to comply with this condition.

136. Unpaved areas on which material loading or unloading is occurring, including, but not limited to, scraper loading and unloading; unpaved roads or unpaved areas that are not haul roads; and other unpaved areas that are being traversed by vehicles other than haul vehicles, shall be watered and/or chemically stabilized sufficiently so that visible emissions from any vehicle travel on such unpaved roads or unpaved areas do not exceed 20% opacity at any time at eight feet or more above the surface except for momentary and nonrepeatable emissions.

137. For each calendar day, the Permittee shall record the total amount of water used for dust control. The records shall indicate the total amount of water withdrawn from the facility’s water storage tanks for the purposes of dust control and, if water is imported from offsite and is used directly for dust control, the name of the water provider or providers, the number of trucks importing water to the facility to apply water for dust control and each such truck’s water capacity, and the total amount of water applied directly to surfaces from trucks importing water.
CHEMICALLY STABILIZED ROADS

138. No later than 60 days prior to the start of construction of any chemically stabilized unpaved road that will be traversed by bulk material and waste haul vehicles, the Permittee shall submit to the District a plan for the chemically stabilized road that identifies the chemical stabilizer(s) used and their chemical and physical properties, provides initial road construction details including the amount and method of initial chemical stabilizer application, specify road maintenance practices including the frequency, method, and amounts of chemical stabilizer reapplication recommended by the manufacturer. The Permittee shall install the chemically stabilized road in accordance with the chemical stabilizer manufacturer recommendations.

139. Unless a different frequency is specified elsewhere in this Authority to Construct, the Permittee shall reapply chemical stabilizer to any chemically stabilized road that is traversed by bulk material and waste vehicles no less frequently than as recommended by the chemical stabilizer manufacturer and in the amounts recommended by the manufacturer. Additionally, the Permittee shall perform any other road maintenance as recommended by the chemical stabilizer manufacturer.

140. Unless a more frequent reapplication of chemical stabilizer is recommended by the chemical stabilizer manufacturer, the Permittee shall reapply chemical stabilizer to roads traversed by bulk material and waste haul vehicles at least once each calendar quarter beginning with the calendar quarter following the calendar quarter in which the initial application occurred. The amount of chemical stabilizer reapplied per unit area shall be at least as much as the maximum amount recommended by the manufacturer for any reapplication unless a lesser amount is approved in writing in advance by the District.

141. For roads traversed by bulk material and waste haul vehicles, the Permittee shall maintain calendar daily records of, at a minimum, the dates and amounts of chemical stabilizer application, dates and description of any other road maintenance activities for all roads traversed by haul vehicles.

142. For chemically stabilized roads or surfaces not traversed by bulk material and waste haul vehicles, the Permittee shall, at a minimum, maintain records that identifies the chemical stabilizer(s) used and their chemical and physical properties.
PAVED ROADS

143. From the date that construction of the facility commences, the Permittee shall install and ensure that all haul vehicles that delivered material to the facility or that are exporting material from the facility exit the facility via at least one of the following trackout control devices: a wheel wash system, a grizzly or rumble grate, a gravel pad, or a paved road. The trackout control devices shall meet the following specifications, as applicable:

(a) A wheel wash system shall be capable of washing the entire circumference of all vehicle tires leaving the facility and be installed according to manufacturer recommendations.

(b) A grizzly or rumble grate shall consist of raised dividers, such as rails, pipes, or grates that are a minimum of three inches tall, six inches apart, and 20 feet long, to allow vibration to be produced such that dust is shaken off the wheels of a vehicle. A grizzly or rumble grate shall be at least 24 feet long and installed according to manufacturer recommendations.

(c) Vehicle speeds shall not exceed five miles per hour through a wheel wash system or grizzly or rumble grate. The Permittee shall post a sign by any wheel wash system or grizzly or rumble grate that is visible to the vehicles before they pass through the trackout control device and indicates that the speed limit is five miles per hour.

(d) A gravel pad shall be a layer of washed gravel, rock, or crushed rock that is at least one inch or larger in diameter and that is at least 30 feet wide and 3 inches deep. The pad shall be at least 50 feet long, or the length of the longest haul vehicle, whichever is greater.

(e) A paved road shall be at least 20 feet wide and extend at least 100 feet from the intersection with the public road into the facility.

144. The Permittee shall remove all trackout/carryout from the surface of public roads immediately if it extends for more than 25 feet onto the public road. For a shorter length of trackout/carryout, the Permittee shall remove the trackout/carryout at the end of the work day. For purposes of this condition, trackout/carryout is any and all bulk materials or solid waste that has fallen or been deposited on a public road from vehicles including, but not limited to, material deposited from the vehicle wheels.

145. The Permittee shall maintain a silt loading of 0.4 grams per square meter or less at all times on paved roads.

146. The silt loading of all paved roads shall be tested at least once each calendar quarter in accordance with a source test protocol approved in advance in writing by the District. Unless otherwise approved in writing by the District, each such quarterly source test shall be at least two calendar months after the previous quarterly test and at a date and time that represents an average or higher silt loading of the road considering any dust suppressant activities. At any time, after not less than eight consecutive quarterly tests showing compliance with the silt
loading limit for paved roads in this Authority to Construct, the District may approve less frequent tests, but not less than annually, based on a demonstration by the applicant that less frequent testing is sufficient to maintain compliance with the silt loading standard for paved roads in this Authority to Construct. If a subsequent test at the reduced frequency shows noncompliance with the paved road silt loading standard, the testing shall return to once each calendar quarter for a minimum of eight consecutive calendar quarters.

147. At a minimum, paved roads shall be vacuum swept, wet swept, or washed no less than twice per calendar week with a South Coast Air Quality Management District Rule 1186-Certified Street Sweeper unless an alternative silt loading control method has been approved in advance in writing by the District.

148. When being traversed by any vehicle, there shall be no visible emissions from any paved road at eight feet or more above the road surface except for momentary and nonrepeatable emissions. The Permittee shall use water application, vacuum and/or wet sweeping, washing, or other dust control methods as frequently as necessary to comply with this condition. The Permittee shall keep records of the dates and times of all silt loading or dust control methods used for each paved road and records demonstrating that any sweeper used is a Rule 1186-Certified Street Sweeper.
GENERAL FUGITIVE DUST

149. Except for the Rule 50 Condition, no Authority to Construct condition for the control of fugitive dust, including, but not limited to, opacity and/or visible emissions and watering requirements, shall apply during:

(a) An emergency operation conducted during, and in response to, a life-threatening situation or in conjunction with any officially declared disaster or state of emergency;

(b) A dust generating activity conducted by essential service utilities to provide electricity, natural gas, telephone, water and/or sewer during periods of unplanned service outages and emergency disruptions;

(c) Any dust generating for which the Permittee can demonstrate that necessary fugitive dust preventive or mitigating actions are in conflict with the California or federal Endangered Species Acts, or a local, state, or federal water quality requirement; or

(d) Abrasive blasting operations regulated by District Rule 71.

150. Rule 50 Condition. There shall be no release of dust from any part of the landfill, associated landfill operations, or on-site equipment that exceeds the applicable visible emission standards specified in District Rule 50. Compliance with the condition shall be determined by EPA Method 9.

151. Except for blasting, no dust generation activity of any kind at this facility shall discharge any visible dust emissions into the atmosphere beyond the property line of the facility for a period or periods aggregating more than three minutes in any 60-minute period.

152. Except for operations within 25 feet of the property line, no landfill dust generating activity except blasting shall discharge visible emissions at any time into the atmosphere beyond the property line of the facility.

153. Except for wind-driven fugitive dust from disturbed surface areas and blasting, no landfill dust generating activity shall discharge visible dust emissions that exceed 10% opacity at any time except for momentary and nonrepeatable emissions.

154. Visible emissions from wind-driven fugitive dust from any disturbed surface area that is a landfill dust generating activity shall not exceed 20% opacity at any time.

155. When a disturbed surface area or open storage pile that is a landfill dust generating activity is inactive for any length of time including, but not limited to, periods when the landfill is not operating, the Permittee shall ensure that the applicable opacity standards of this Authority to Construct are complied with at all times and a stabilized surface is maintained by one or more of the following methods:

(a) Application of water in sufficient quantity and frequency;
(b) Application of dust suppressants other than water in sufficient quantity and frequency;

(c) Application of nonerodible elements such as gravel or other suitable material in sufficient quantity;

(d) Establishment of sufficient vegetative ground cover; or

(e) Being covered with a tarp, plastic, or other material that will not be dislodged by wind and will prevent wind-blown dust from the surface.

156. When an active operation that is a landfill dust generating activity is occurring on a disturbed surface area or open storage pile, the Permittee shall apply water or a dust suppressant other than water in sufficient quantity and frequency to comply with all the applicable visible emission standards of this Authority to Construct.

157. For all earth-moving operations that are a landfill dust generating activity, the Permittee shall apply water or a dust suppressant other than water in sufficient quantity and frequency to comply with all the applicable visible emission standards of this Authority to Construct and maintain soils in a visibly moist condition.

158. For all earth-moving that is a landfill dust generating activity and an engineered construction fill, soil moisture content shall be maintained at a minimum of 12 percent unless the optimum moisture content is less than 12 percent. For fill materials which have an optimum moisture content for compaction of less than 12 percent, the compaction process shall be completed as expeditiously as possible after achieving at least 70 percent of the optimum soil moisture content. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations during each subsequent four hour period of active operations. Landfill liner construction is considered an engineered construction fill, but application of cover material is not considered an engineered construction fill.

159. Open storage piles that are within 100 yards of off-site occupied buildings must not be greater than eight feet in height; or must have a road to the top to allow water truck access or must have an operational water irrigation system that is capable of complete coverage of the storage pile.

160. For a landfill dust-generating activity that involves importing or exporting solid waste or bulk material to or from the facility, all haul vehicles with open tops that are vehicles owned by the facility; operated by the facility; or operating under contract with the facility or owned, operated, or operated under contract with, by an entity contracting with the facility or any vehicle that is exporting material from the facility, while on the facility’s property shall comply with Vehicle Code Section 23114 (a) and shall:

(a) For waste haul vehicles, have the load covered in accordance with Vehicle Code Section 23115; and
(b) For bulk material haul vehicles, comply with Vehicle Code Section 23114 (b) and have the load covered in accordance with Vehicle Code Section 23114 (e) or:

(i) Have the load where it contacts the sides, front, or back of the cargo container no less than six inches from the upper edge of the sides, front, or back, as applicable; and

(ii) Have the peak of the load below the upper edge the sides, front, and back of the cargo area.

For purposes of this condition, facility means the facility and any entity that has a controlling interest in the facility.

161. Except for the Rule 50 Condition, the visible emissions and opacity requirements of this Authority to Construct shall not apply during a high-wind event. During a high-wind event, the Permittee shall apply sufficient water or dust suppressants other than water to comply with the Rule 50 Condition at all times for all dust generating activities occurring at the facility. The Permittee shall keep daily records of all high-wind events indicating the beginning and ending times.

162. There shall be no unloading, loading, or excavation of any bulk material in Borrow Area A within 145 feet of the facility property line.

163. Reserved.

164. Soil moisture content shall be measured in accordance with Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass, or ASTM Method D6938-10, Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth), or an alternative method approved in writing by the District and the U.S. EPA.

165. Optimum soil moisture content shall be measured by ASTM Method D1557-12, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lb/ft³ (2,700 kN-m/m³)], or an alternative method approved by the District and the U.S. EPA.
BLASTING OPERATIONS

166. Prior to first receipt of waste, there shall be no more than one blast event per day and no more than 65 blast events per year. The total amount of explosives used shall not exceed 176 tons in any 12-month period and shall not exceed 8000 pounds on any calendar day. The applicant shall maintain records of the date of each individual blast event and the total amount of explosives used, in pounds, for each individual blast event, for each calendar month, and for each 12-month period.

167. After first receipt of waste, there shall be no more than one blast event per day and no more than 22 blast events per year. For blast events in the landfill footprint, the total amount of explosives used shall not exceed 8 tons in any 12-month period and shall not exceed 16,000 pounds on any calendar day. For blast events in Borrow Area B, the total amount of explosives used shall not exceed 22 tons in any 12-month period and shall not exceed 2,000 pounds on any calendar day. The applicant shall maintain records of the date and location of each individual blast event and the total amount of explosives used, in pounds, for each individual blast event, for each calendar month, and for each 12-month period.

168. A blast event shall occur no closer to the facility property boundary, as measured from the point in the blast area nearest the applicable boundary along the shortest straight-line distance to that boundary, than the applicable distances specified in the following table:

<table>
<thead>
<tr>
<th>Blast Size, tons of explosives per blast event</th>
<th>Closest distance from the Northern Property Line for the Landfill Area, meters</th>
<th>Closest distance from the Southern Property Line, meters</th>
<th>Closest distance from the Western Property Line, meters</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>250</td>
<td>285</td>
<td>165</td>
</tr>
<tr>
<td>2</td>
<td>265</td>
<td>300</td>
<td>175</td>
</tr>
<tr>
<td>4</td>
<td>415</td>
<td>475</td>
<td>275</td>
</tr>
<tr>
<td>8</td>
<td>650</td>
<td>750</td>
<td>430</td>
</tr>
</tbody>
</table>

The applicant shall maintain records of the distance to the Northern, Southern, and Western Property Lines in meters of each blast event.

169. The Permittee shall apply water or a dust suppressant other than water in sufficient quantity and frequency or use other dust suppression methods such that the Rule 50 Condition is complied with during any blasting operations including, but not limited to, the blast event itself.

170. The Permittee shall apply water or a dust suppressant other than water in sufficient quantity and frequency or use other dust suppression methods such that the opacity of fugitive dust from drilling of holes for emplacing explosives during blasting operations does not exceed 10% at any time.
171. There shall be no blasting in Borrow Area A. In addition, prior to date that solid waste is first received, no haul vehicle shall transport material to or from Borrow Area B during any calendar day on which a blast event occurs.

172. Only ammonium nitrate fuel oil explosives or an alternative approved in advance in writing by the District shall be used for blasting.
MISCELLANEOUS FUGITIVE DUST CONDITIONS

173. There shall be no processing of green waste at the facility including, but not limited to, shredding, grinding, screening, mulching, or composting.

174. Reserved.

175. The following equipment, including, but not limited to, any nonelectric engine powering the equipment unless the engine is exempted from the requirement to have a permit to operate under District Rules and Regulations, shall not be used at the facility unless it has been granted a District Authority to Construct and/or Permit to Operate for operation at the facility, is equipped with Toxic Best Available Control Technology as specified by the District without regard for the equipment’s own emissions, has had an Air Quality Impact Analysis (AQIA) and Health Risk Assessment (HRA) performed for all criteria pollutants and toxic air contaminant emissions not analyzed in the evaluation for this Authority to Construct even if the equipment’s own potential emission increase would not exceed the thresholds requiring an AQIA or HRA by themselves and including emissions from other sources as deemed necessary by the District, and is limited to operating in a manner consistent with the Air Quality Impact Analysis and Health Risk Assessment supporting this Authority to Construct, as approved by the District.

(a) Rock crushing equipment including, but not limited to, rock crushers, screens, conveyors, and classifiers;

(b) Rock drilling equipment;

(c) Equipment for shredding or grinding of tires; and

(d) Waste vehicle tippers.

176. Reserved.
FUGITIVE DUST MONITORING

177. Stabilization observations for disturbed inactive surface areas shall be conducted annually in accordance with the methods specified in this Authority to Construct. A sufficient number of representative areas for stabilization observations will be selected by the Permittee to cover each identifiable category of inactive area at the site. The date, time, and results of all such observations shall be recorded and made available to the District upon request. The District may require more frequent stabilization observation if opacity observations indicate that fugitive dust from inactive areas is not being sufficiently controlled. The Permittee shall maintain a log of the observations and provide it to the District upon request. The log shall contain the following information:

(a) Observer's name(s) and affiliation(s), date and time of the observation;

(b) Location of the inactive area for which the observation is conducted;

(c) A description of the inactive area, its prior function, surface condition (e.g., crusted, vegetation present, rock coverage), and method of stabilization used (if any);

(d) Documentation of the test method used and physical measurement results, as detailed in the selected method as referenced in this authority to construct.

(e) If stabilization criteria for a given area are not met, description of corrective actions that are suitable to improve the surface stabilization.

178. On days when the facility is operating or under construction, the Permittee shall conduct daily visual opacity and dust control measure observations for the following fugitive dust generating sources, or representative sections thereof, on each day a dust generating activity occurs: the Main Entrance Road, Borrow Area A Haul Road, Borrow Area B Haul Road, internal bulk material haul roads, cover and bulk material haul roads, unpaved internal waste haul roads, unpaved travel areas between the end of an internal waste haul road and a working face, any other internal haul roads or unpaved areas being traversed by haul vehicles; the unloading and spreading waste and cover materials at the working face; and the loading or unloading of material in the landfill footprint, Borrow Area A; and Borrow Area B. The Permittee shall select the single representative sections of each road or area and the single representative time suitable for daily opacity observations on a daily basis that is likely representative of the worst-case fugitive dust emissions. The criteria shall include, but are not limited to, for roads, the presence of curves, hills, and the proximity of curves to an upslope or downslope and for other areas the soil surface characteristics and the method of dust control used. The Permitee shall maintain a daily log of the observations and provide it to the District upon request. The log shall contain the following information:

(a) Observer's name, date, and approximate location of the observation on the unpaved road or travel area or other area,

(b) Type of operation, type of equipment in use and level of activity, and method of dust control used (if any);
(c) The time observations began and ended;

(d) Information indicating if any fugitive dust was observed other than momentary and nonrepeatable observations.

(e) Information indicating if no fugitive dust was observed or if only momentary and nonrepeatable observations of dust occurred.

(f) Description of corrective actions taken to correct an opacity exceedance including the date and time that any opacity exceedance was eliminated (if applicable).

179. Reserved.
VOLATILE ORGANIC COMPOUND AND TOXIC COMPOUND MONITORING

180. Total VOC emissions shall not exceed 49.5 tons in any calendar year. The Permittee shall calculate and record the VOC emission for the preceding calendar year by March 1 of the next calendar year in accordance with a protocol approved in advance in writing by the District. In addition, if the calculated VOC emissions in any calendar year exceed 40 tons, the Permittee shall notify the District no later than March 1 of the next calendar year and do all of the following by no later June 1 of that year:

(a) Provide an estimate to the District of the remaining life of the landfill and the total amount of solid waste that will be received to closure including, but not limited to, organic alternative cover;

(b) Provide an estimate to the District of the projected total VOC emissions each 12-month period prior to closure based on the remaining airspace, the solid waste density for the waste already deposited, and expected waste receipts until closure;

(c) Begin tracking VOC emissions for each 12-month period;

(d) If the Permittee’s projection of VOC emissions or a District estimate of future VOC emissions shows that VOC emissions will exceed 49.5 tons per year in any 12-month period prior to closure, provide a continuing compliance plan to the District within six months of the Permittee projection’s submittal to the District or the District’s determination that VOC emissions will exceed the 49.5 ton per year limit prior to closing that describing the actions the Permittee will take and demonstrating that the facility will remain below the 49.5 ton per year limit if the plan is implemented and implement the plan as approved by the District or comply with Section (e) of this condition;

(e) If the Permittee’s estimate of projected total 12-month VOC emissions or the District’s estimate of total 12-month VOC emissions immediately prior to closure exceed the 49.5 limit despite implementation of all feasible control measures, as determined by the District, the applicant shall provide, before the month in which the limit is exceeded, Class A Emission Reduction Credits (ERCs) representing actual emission reductions equivalent to 1.2 times the total projected VOC emissions in the final 12-month period prior to closure, but not less than ERCs representing 60 tons per year of actual emission reductions.

(f) Continue to track VOC emissions for each 12-month period using a protocol approved by the District until final closure of the landfill.

181. In the event the landfill size is expanded, and the potential to emit of the expanded landfill exceeds 49.5 tons per year, the Permittee will provide Class A ERCs representing actual emission reductions equivalent to 1.2 times the total projected VOC emissions in the final 12-month period prior to closure of the existing landfill if it had not been expanded, but not less than ERCs representing 60 tons per year of actual emission reductions, and ERCs to
offset the potential maximum VOC emissions attributable to the expansion in accordance with District Rules and Regulations.

182. Aggregate Landfill Gas Collection Monitoring Condition: The Permittee shall measure and record at locations that, in total, represent all the landfill gas collected at facility including the gas that is collected at wells owned by the Permittee and gas collected at wells owned or operated by a separate entity. At each location, the Permittee shall install, maintain, and calibrate a flow meter capable of measuring, or calculating from measured physical parameters, the volumetric flow, corrected to standard temperature and pressure, of landfill gas to the flare to an accuracy of +/- 2.0 percent of the flow and a gas composition monitor capable of measuring landfill gas methane, carbon dioxide, and oxygen concentration, in percent, to a relative accuracy of +/- 2.0 percent of the concentration measured. The Permittee shall monitor and record the gas flow and the methane, carbon dioxide, and oxygen concentration at each location at least once every 15 clock-minutes and, for each clock hour, average the 15 clock-minute values for each parameter monitored over the hour. The measurement devices shall be calibrated at least once each calendar quarter, or more often if recommended by the manufacturer, and maintained according to manufacturer specifications. The permittee shall record the information electronically and provide it to the District in an electronic format specified by the District upon request. The Permittee shall install and maintain a section of the applicable flow ducts prior to any mixing with any combustion air that is at least 12 inches in diameter and has sampling ports that are at least eight duct inner diameters downstream and two duct inner diameters upstream of any flow disturbances to allow sampling to measure landfill gas composition and measurement of the landfill gas flow rate.

183. No later than 60 days after the operational startup date of the landfill gas collection and control system, unless an alternative later date is selected by the District, and each calendar quarter thereafter unless more frequent sampling is specified by the District, the District shall sample the landfill gas from a representative point, or points, of the landfill gas collection system prior to mixing with combustion air or auxiliary fuel, as determined by the District, that in sum represent all the landfill gas collected, to measure volatile organic compounds, toxic air pollutants, and other species in the landfill gas. At each location, at a minimum, the following shall be measured or calculated, as applicable:

(a) The concentrations of the following chemical species shall be measured in concentration units as specified below or alternative concentration units approved by the District:

(i) Moisture, methane, carbon dioxide, nitrogen, oxygen and argon, in mole percent, dry;

(ii) Nonmethane organic compounds (NMOCs) in parts per million by volume as carbon, dry (ppmvCd);

(iii) The following exempt compounds: acetone, ethane, and methyl acetate, tetrachloroethene, methylene chloride, and 1,1,1-trichloroethane, in ppmvCd and in parts per million by volume, dry (ppmvd);
(iv) The following volatile organic compounds (VOCs) and toxic air contaminants: methanol, ethanol, 1-propanol, 2-propanol, 1-butanol, 2-butanol, methyl ethyl ketone, methyl isobutyl ketone, tetrahydrofuran, epichlorohydrin, ethyl acetate, isopropyl acetate, n-propyl acetate, n-butyl acetate, isobutyl acetate, ethyl propionate, n-propyl propionate, ethyl butyrate, and n-propyl butyrate, methyl butyrate, acetic acid, n-butyl butyrate, propionaldehyde, dimethyl sulfide, ethyl hexanoate, n-butyl propionate, butyric acid, n-propyl hexanoate, isobutanol, methyl isobutylate, ethyl isobutyrate, and propionic acid, in ppmvCd and in ppmvd;

(v) The following additional VOC and toxic air contaminants: vinyl chloride; benzene, 1,1,2,2-tetrachloroethane, 1,3-butadiene, ethyl benzene, naphthalene, 1,1,2-trichloroethane, 1,1-dichloroethane, 1,2-dichloroethane, trichloroethene, acrylonitrile, toluene, m- and p-xylene, o-xylene, benzyl chloride, 1,4-dichlorobenzene, 1,4-dioxane, allyl chloride, and acetaldehyde, in ppmvCd and in ppmvd;

(vi) Hydrogen sulfide and total reduced sulfur compounds, as hydrogen sulfide, in ppmvd;

(vii) Any other compound specified by the District, in ppmvCd and in ppmvd.

(b) Calculate the weight fraction, dry, in the landfill gas, as collected, of each of the chemical species listed in Subsection (a)(iv) and (a)(v) of this condition by individual species and the total weight fraction of all such species;

(c) Calculate the total ppmvCd, in the landfill gas, as collected, of each of the exempt compounds listed in Section (a)(iii) of this condition

(d) Calculate the total ppmvCd, in the landfill gas, as collected, of each of the VOCs listed in Section (a)(iv) and (a)(v) of this condition;

(e) Calculate the ppmvCd of nonindividually quantified VOCs as the ppmvCd of total NMOCs less the total ppmvCd of all the exempt compounds calculated in Section (c) and less the total ppmvCd of all the VOCs calculated in Section (d) of this condition and express this total as ppmvd as hexane;

(f) Calculate the total weight fraction of nonindividually quantified VOCs expressed as hexane in the landfill gas, as collected;

(g) Calculate the total weight fraction, dry, of all volatile organic compounds in the landfill gas, as collected, as the sum of the weight fractions of individually and nonindividually quantified VOCs;

(h) Reserved.; and

(i) Measure the temperature, pressure, and flow rate of the landfill gas at the sampling point in standard cubic feet per minute (scfm) corrected to standard conditions.
Measurement of the compounds listed in Subsections (a)(iii)–(a)(v) of this condition shall be conducted in accordance with Compendium Method TO-15 Determination Of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS) and measurements of hydrogen sulfide conducted in accordance with ASTM Method D-5504-08, Standard Test Method for Determination of Sulfur Compounds in Natural Gas and Gaseous Fuels by Gas Chromatography and Chemiluminescence or alternative methods approved by the District. All sampling, measurements, and calculations shall be performed in accordance with a written source test protocol approved by the District.

184. Beginning with the first 12-month period after the facility begins receiving solid waste, the Permittee shall calculate VOC emissions for each 12-month period that ends prior to the operational startup date of the landfill gas collection and control system in accordance with a protocol approved in writing in advance by the District.

185. Landfill Startup VOC Emissions Condition: For each 12-month period, prior to the operational startup date of the landfill gas collection and control systems, the emission of volatile organic compounds (VOCs) shall be calculated as follows:

   (a) For each calendar month in the 12-month period, the VOC emissions shall be calculated as follows:

   \[
   E_{VOC,j} = 8.1854 \times 10^{-10} y_{VOC,\text{default}} \sum_{i=1}^{j} M_i e^{-0.001667(j-i+1)}
   \]

   where:

   \(E_{VOC,j}\) is the total VOC emissions in the \(j\)th month in tons per month;

   \(y_{VOC,\text{default}}\) is the default VOC concentration in ppmvd and is equal to 2500 ppmvd as hexane or an alternative VOC concentration based on a source test or tests performed at the facility in accordance with a source test protocol approved in advance by the District; and

   \(M_i\) is the amount of solid waste that is not beneficial reuse material, including, but not limited to, organic alternative cover material, that was received in the \(i\)th calendar month, in tons

   (b) For each 12-month period, the VOC emissions shall be calculated as follows shall be calculated as follows:

   \[
   E_{VOC,12} = \sum_{j=1}^{12} E_{VOC,j}
   \]

   where:
Beginning twelve months after the first receipt of waste, the Permittee shall begin calculating the VOC emissions for each 12-month period within 10 days of the end of each month and shall notify the District within 30 days of the end of the month in which the calculated emissions equal or exceed 30 tons. This condition no longer applies after a landfill gas collection and control system that captures landfill gas from all areas of the landfill where waste has been deposited for six months or more and that has been installed in accordance with a plan approved by the District is in continuous or, if as authorized in writing by the District, semicontinuous operation.

186. Annual VOC Emissions Monitoring Condition: For each calendar year, after the operational startup date of the landfill gas collection and control system the Permittee shall calculate the total aggregate emissions of volatile organic compounds (VOCs) and greenhouse gases (GHGs) in accordance with the applicable procedures specified in this permit. For each calendar year, the Permittee shall submit a report with the calculated total aggregate emissions, the emission calculations, and all supporting information to the District no later than March 1 of the following calendar year. The emission of VOCs and GHGs shall be calculated as follows:

(a) For each calendar quarter, the mass ratio of VOCs to methane in the landfill gas shall be calculated as follows:

\[
\omega_{VOC,q} = 1.02 \left( \frac{16y_{CH_4} + 44y_{CO_2} + 28y_{N_2} + 16y_{O_2} + 40y_{Ar}}{16y_{CH_4}} \right) \omega_{VOC,ac}
\]

Where:

\( \omega_{VOC,q} \) is the mass ratio of VOCs to methane in the landfill gas;

\( \omega_{VOC,ac} \) is the mass fraction, dry, of VOCs in the landfill gas, as collected, as determined from the quarterly landfill gas source test or another source test or tests during the quarter as specified and approved in writing by the District;

\( y_{CH_4}, y_{CO_2}, y_{N_2}, y_{O_2}, \) and \( y_{Ar} \) are the mole fractions, dry, of methane, carbon dioxide, nitrogen, oxygen, and argon, respectively, in the landfill gas, as collected, as determined from the applicable quarterly landfill gas source test or another source test or tests during the quarter as specified and approved in writing by the District;

(b) For each calendar quarter, calculate the calendar-quarter average hourly methane collection rate, average areal methane collection rate, and total methane collected by the following procedure:

(i) Determine the valid monitoring hours for the landfill gas flow measurement device and the methane concentration measurement device and associated data collection system.
(ii) For each valid monitoring hour, calculate the arithmetic average of the landfill gas flow rate to the nearest tenth of a standard cubic foot per minute (scfm) and the mole percent methane rounded to the nearest tenth of a mole percent during the period of the hour that the landfill gas collection system is operating.

(iii) Calculate the data availability for flow rate measurements and methane concentration measurements rounded to the nearest percent for the calendar quarter. The data availability, in percent, is 100 times the number of valid monitoring hours divided by the total number of hours the landfill gas collection and control system operated during the calendar quarter rounded to two significant figures.

(iv) For each valid monitoring clock-hour, calculate the mass of methane collected as:

\[ M_{hv,CH_4} = 0.025B_{CH_4}B_Qt_{hc}Q_hY_{CH_4} \]

Where:

- \( M_{hv,CH_4} \) is the amount of methane collected during the valid clock-monitoring hour, in pounds;
- \( B_{CH_4} \) is the applicable bias adjustment factor as determined from the annual source test of the methane concentration measurement device;
- \( B_Q \) is the applicable bias adjustment factor as determined from the annual source test of the landfill gas flow measurement device;
- \( t_{hc} \) is time during the hour when the landfill gas collection system was operating and is equal to zero when the landfill gas collection did not operate in any portion of the hour, in hours rounded to the nearest quarter of an hour;
- \( Q_h \) is the average hourly landfill gas flow rate during the portion of the hour the landfill gas collection system was operating calculated from measured values, in standard cubic feet per minute (scfm) rounded to the nearest tenth of a scfm; and
- \( Y_{CH_4} \) is the average hourly methane concentration during the portion of the hour the landfill gas collection system was operating calculated from measured values, in mole percent rounded to the nearest tenth of a mole percent.

(v) Find the valid monitoring hour lookback period. The valid monitoring hour lookback period is the lesser of the most recent 2160 valid monitoring hours counting backwards from the end of the calendar quarter or the total number of valid monitoring hours during the period that the landfill gas collection
system has been operating since the operational startup of the landfill gas collection and control system.

(vi) For the methane mass collected, calculate the arithmetic average, the upper 90th percentile, the upper 95th percentile, and the maximum values for the hourly arithmetic average values in the group of valid monitoring hours in the valid monitoring hour lookback period.

(vii) For the methane mass collected, fill in the values in the calendar quarter for any hours that are not a valid monitoring hour, i.e., missing valid monitoring hours, as follows:

(A) If the data availability is 95 percent or more and a period of missing valid monitoring hours is 24 contiguous hours or less, fill the missing valid monitoring hours with the arithmetic average value for the valid monitoring hour lookback period.

(B) If the data availability is 95 percent or more and a period of missing valid monitoring hours is more than 24 contiguous hours, fill the missing valid monitoring hours with the larger of the arithmetic average of the hour before and the hour after the missing period or the upper 90th percentile value for the valid monitoring hour lookback period.

(C) If the data availability is equal to or greater than 90 percent but less than 95 percent and a period of missing valid monitoring hours is 8 contiguous hours or less, fill the missing valid monitoring hours with the arithmetic average value for the valid monitoring hour lookback period.

(D) If the data availability is equal to or greater than 90 percent but less than 95 percent and a period of missing valid monitoring hours is more than 8 contiguous hours, fill the missing valid monitoring hours with the larger of the arithmetic average of the hour before and the hour after the missing period or the upper 95th percentile value for the valid monitoring hour lookback period.

(E) If the data availability is equal to or greater than 80 percent but less than 90 percent, fill all missing valid monitoring hours with the maximum value for the valid monitoring hour lookback period.

(F) If the data availability is less than 80 percent, fill all missing valid monitoring hours with the larger of the maximum value for the valid monitoring hour lookback period or the maximum value among all the valid monitoring hours in the the immediately preceding eleven calendar quarters.
(viii) Determine the total time during the quarter that landfill gas collection system was in operation rounded to the nearest quarter of an hour.

(ix) Calculate the arithmetic average hourly methane rate during gas collection system operation for valid monitoring hours for the valid monitoring hour lookback period by:

\[
\bar{M}_{hv,CH_4} = \frac{\sum_{i=1}^{n_{hvclb}} M_{hv,CH_4,i}}{t_{hvclb}}
\]

Where:

\(\bar{M}_{hv,CH_4}\) is the arithmetic average methane collection rate during valid monitoring hours for the valid monitoring hour lookback period, in pounds per hour rounded to four significant figures;

\(M_{hv,CH_4,i}\) is methane mass collected during the i’th valid monitoring hour, in pounds;

\(n_{hvclb}\) is the total number of valid monitoring hours in the valid monitoring hour lookback period; and

\(t_{hvclb}\) is the total time the landfill gas collection and control system was operating in the valid monitoring hour lookback period, in hours to the nearest quarter hour.

(x) Determine the applicable bias adjustment factor for the landfill gas flow measurement device and the methane concentration measurement device for each calendar quarter in the calendar year by the following procedure:

(A) The applicable bias adjustment factor for each calendar quarter following the calendar quarter in which the annual source test to determine a bias adjustment factor occurred is the bias adjustment factor determined from the annual source test.

(B) The applicable bias adjustment factor for the calendar quarter in which the annual source test to determine a bias adjustment factor occurred is the bias adjustment factor determined from the annual source test.

(C) The applicable bias adjustment factor for each calendar quarter preceding the calendar quarter in which the annual source test to determine a bias adjustment factor occurred is the bias adjustment factor determined from the annual source test in the preceding calendar year or, if no such source test occurred, the bias adjustment factor determined from the annual source test.
(xi) Reserved.

(xii) Calculate the total methane collected during the calendar quarter by the following equation:

\[ M_{qc,CH_4} = 0.0005 \sum_{i=1}^{n_{qhcp}} M_{hc,CH_4,i} \]

Where:

- \( M_{qc,CH_4} \) is the total methane collected in the calendar quarter, in tons rounded to the nearest ton.
- \( M_{hc,CH_4,i} \) is methane mass collected during the \( i \)'th clock hour either as calculated from the equation in Subsection (b)(iv) of this condition using measured values of landfill gas flow rate and methane concentration for valid monitoring hours or values of methane mass collected as filled in accordance with the procedure in Subsection (b)(vii) of this condition, as applicable, in pounds; and
- \( n_{qhcp} \) is the total number of hours in the calendar quarter that the landfill gas collection and control system was operating.

(xiii) Calculate the total VOCs collected by the following equation:

\[ M_{qc,VOC} = \omega_{q,VOC} M_{qc,CH_4} \]

Where:

- \( M_{qc,VOC} \) is the mass of VOCs collected in the calendar quarter, in tons rounded to the nearest hundredth of a ton.

(xiv) Calculate the average VOC fractional control efficiency for all control devices for the landfill gas collected as follows:

(A) If there is more than one control device, find the number of valid monitoring hours for each control device.

(B) If there is more than one control device, calculate the data availability for each control device. The data availability, in percent, is 100 times the number of valid monitoring hours divided by the total number of hours the control device operated during the calendar quarter rounded to two significant figures.
(C) If there is more than one control device, for each control device, for each valid monitoring hour, calculate the mass of methane collected as:

\[ M_{hf,v,CH_4} = 0.025 B_{CH_4} B_Q t_{hf} Q_h Y_{CH_4} \]

Where:

- \( M_{hf,v,CH_4} \) is the amount of methane flowing to the control device during the valid clock-monitoring hour, in pounds;
- \( B_{CH_4} \) is the applicable bias adjustment factor as determined from the annual source test of the methane concentration measurement device;
- \( B_Q \) is the applicable bias adjustment factor as determined from the annual source test of the landfill gas flow measurement device;
- \( t_{hf} \) is time during the hour when the control device was operating and is equal to zero when the control device did not operate in any portion of the hour, in hours rounded to the nearest quarter of an hour;
- \( Q_h \) is the average hourly landfill gas flow rate during the portion of the hour the control device was operating calculated from measured values, in standard cubic feet per minute (scfm) rounded to the nearest tenth of a scfm; and
- \( Y_{CH_4} \) is the average hourly methane concentration during the portion of the hour the control device was operating calculated from measured values, in mole percent rounded to the nearest tenth of a mole percent.

(D) If there is more than one control device, calculate the arithmetic average hourly methane flow rate to each control device during valid monitoring hours for the calendar quarter by the following equation:

\[ \bar{M}_{hf,v,CH_4} = \frac{\sum_{i=1}^{n_{qhfop}} M_{hf,v,CH_4,i}}{t_{qhfop}} \]

Where:

- \( \bar{M}_{hf,v,CH_4} \) is the arithmetic average methane flow rate to the control device during valid monitoring hours for the calendar quarter, in pounds per hour rounded to four significant figures;
- \( M_{hf,v,CH_4,i} \) is the methane mass collected during the i’th valid monitoring hour, in pounds;
\( n_{qhfop} \) is the total number of valid monitoring hours during which the control device operated during the calendar quarter; and

\( t_{qhfop} \) is the total time the control device was operating during valid monitoring hours, in hours to the nearest quarter hour.

(E) If there is only one control device the average fractional VOC control efficiency is equal to the total NMOC destruction efficiency expressed as a fraction measured in the most recent source test approved by the District for the control device.

(F) If there is more than one control device, and the data availability calculated in Subsection (b)(xiv)(B) of this condition for each control device is greater than or equal to 80\%, calculate the average fractional control device efficiency by the following equation:

\[
\bar{\eta} = \frac{\sum_{i=1}^{n_f} t_{qfop,i} \eta_i \bar{M}_{hf,CH_4,i}}{\sum_{i=1}^{n_f} t_{qfop,i} \bar{M}_{hf,CH_4,i}}
\]

Where:

\( \bar{\eta} \) is the average VOC fractional control efficiency, as applicable, for the calendar quarter, rounded to three significant figures;

\( \eta_i \) is the measured destruction efficiency, expressed as a fraction, for VOCs or methane, as applicable, for the most recent source test approved by the District for the \( i \)’th control device;

\( \bar{M}_{hf,CH_4,i} \) is arithmetic average methane mass collected during valid monitoring hours for the \( i \)’th control device, in pounds per hours;

\( n_f \) is the total number of control devices that operated during the calendar quarter; and

\( t_{qfop,i} \) is the total time the \( i \)’th control device operated during the calendar quarter, in hours to the nearest quarter hour.

(G) If the one or more of the control devices has less than 80\% data availability as calculated in Subsection (b)(xiv)(B) of this condition, then the average VOC control efficiency is the minimum measured total NMOC destruction efficiency expressed as a fraction, from the most recent source test approved by the District for all the control devices that operated during the calendar quarter.
Calculate the total mass of VOCs emitted from the control device(s) from the following equation:

\[ E_{qc, VOC} = (1 - \bar{\eta})M_{qc, VOC} \]

Where:

\( E_{qc, VOC} \) is the VOC emissions from the landfill gas collected, in tons rounded to the nearest hundredth of a ton;

\( \bar{\eta} \) is the average VOC fractional control efficiency of the control devices receiving landfill gas from gas flow measurement device.

(c) Reserved.

(d) Reserved.

(e) Reserved.

(f) Reserved.

(g) For each calendar quarter, calculate the adjusted average methane integrated surface monitoring concentration for emission monitoring (ISMCEM) by the following procedure:

(i) For each grid monitored, the measured ISMCEM for the area monitored in that grid shall be calculated as follows:

(A) If the there was only one monitoring event for the grid the ISMCEM is calculated by:

\[ C_{gm} = C_{gm1} \]

(B) If there was a first remonitoring of the area pursuant to the State Integrated Surface Monitoring Condition, the ISMCEM for the area is calculated by:

\[ C_{gm} = \frac{t_{gm2}C_{gm1} + (t_{qh} - t_{gm2})C_{gm2}}{t_{qh}} \]

(C) If there was a second remonitoring of the area pursuant to the State Integrated Surface Monitoring Condition, the ISMCEM for the area is calculated by:

\[ C_{gm} = \frac{t_{gm2}C_{gm1} + (t_{gm3} - t_{gm2})C_{gm2} + (t_{qh} - t_{gm3})C_{gm3}}{t_{qh}} \]
Where:

\( C_{gm} \) is the methane ISMCEM for the area of the grid that was monitored, including background, in parts per million by volume (ppmv) rounded to four significant figures;

\( C_{gm1}, C_{gm2}, \) and \( C_{gm3} \) are the initial, first remonitoring, and second remonitoring value of the integrated surface concentration for the monitored area, respectively, in ppmv rounded to the nearest unit;

\( t_{gm1}, t_{gm2}, \) and \( t_{gm3} \) are the times measured from the beginning of the calendar quarter of the initial, first remonitoring, and second remonitoring of the area, respectively, in hours rounded to the nearest hour; and

\( t_{qh} \) is the total number of hours in the quarter.

For purposes of this subsection, any District, Air Resources Board, or EPA measurements of the initial, first remonitoring, and second remonitoring value of the integrated surface concentration of methane shall take precedence over other measurements or an average of the measurements shall be used with the approval of District, Air Resources Board, or EPA, as applicable.

(ii) Find the upper 90th and the upper 95th percentile and the maximum value among all of measured ISMCEMs for all the grids monitored in the ISMCEM lookback period. For each calendar quarter, the ISMCEM lookback period that quarter and the three previous calendar quarters.

(iii) Determine the area of each grid.

(iv) Determine the monitored area of each grid excluding areas for which no integrated surface monitoring was performed including, but not limited to, areas excluded from integrated surface monitoring in accordance with the Permittee Excluded Surface Monitoring Areas Condition except that areas of a grid within 25 feet of the centerline of the main internal waste haul road, as approved by the District, shall be considered monitored areas of a grid provided the entire remainder of the grid is monitored.

(v) Calculate the unmonitored area, if any, of each grid as:

\[ A_{gum} = A_g - A_{gm} \]

Where:

\( A_{gum} \) is the unmonitored area of the grid.

\( A_{gm} \) is the monitored area of the grid;
$A_g$ is the total grid area; and

(vi) Calculate the average measured ISMCEM by the following formula:

$$
\bar{C}_{qm} = \frac{\sum_{i=1}^{n_g} A_{gm,i} C_{gm,i}}{\sum_{i=1}^{n_g} A_{gm,i}}
$$

Where:

$\bar{C}_{qm}$ is the average measured ISMCEM for the calendar quarter, in ppmv rounded to four significant figures;

$A_{gm,i}$ is the monitored area of the $i$’th grid, in square feet rounded to the nearest ten square feet;

$C_{gm,i}$ is the measured ISMCEM, including background, for the $i$’th grid, in ppmv:

$n_g$ is the total number of grids in the Integrated Surface Monitoring Protocol.

(vii) Calculate the percentage of the total grid area monitored by the following formula:

$$
p_{qgm} = \frac{100 \sum_{i=1}^{n_g} A_{gm,i}}{(\sum_{i=1}^{n_g} A_{g,i}) - 2}
$$

Where:

$p_{qgm}$ is percentage of the total area that was monitored rounded to two significant figures, not to exceed 100;

$A_{gm,i}$ is the monitored area of the $i$’th grid, in square feet rounded to the nearest ten square feet;

$A_{g,i}$ is the total area of the $i$’th grid, in square feet rounded to the nearest ten square feet; and

$n_g$ is the total number of grids in the Integrated Surface Monitoring Protocol.

(viii) Reserved.
(ix) If the sum of the unmonitored areas for all the grids combined is less than or equal to two acres, assign a value for the ISMCEM equal to the average measured ISMCEM for the calendar quarter.

(x) If the sum of all unmonitored areas for all grids combined is more than two acres, assign a value for the ISMCEM equal to the average measured ISMCEM to two acres of the unmonitored acres and assign a value for the ISMCEM to each remaining unmonitored area based on the percentage of total grid area monitored as calculated in Subsection (g)(vii) of this condition by the following procedure:

(A) If the percentage of the total grid area monitored is 95 percent or more, assign a ISMCEM equal to the upper 90th percentile value for the calendar quarter ISMCEM lookback period to all remaining unmonitored areas.

(B) If the percentage of the total grid area monitored is equal to or greater than 90 percent but less than 95 percent assign a ISMCEM equal to the upper 95th percentile value for the calendar quarter ISMCEM lookback period to all remaining unmonitored areas.

(C) If the percentage of the total grid area monitored is equal to or greater than 80 percent but less than 90 percent, assign a ISMCEM equal to the maximum value for the calendar quarter ISMCEM lookback period to all remaining unmonitored areas.

(D) If the percentage of the total grid area monitored is less than 80 percent, assign the maximum potential ISMCEM value to all the remaining unmonitored areas. The maximum potential value ISMCEM is maximum measured ISMCEM value for the five-year period that includes the calendar year for which the ISMCEM values are being determined and the previous four calendar years.

(xi) Calculate the adjusted average ISMCEM as follows:

\[
\tilde{C}_{qsa} = \frac{\sum_{i=1}^{n_g} A_{gm,i} C_{gm,i} + A_{gum,i} C_{gf,i}}{\sum_{i=1}^{n_g} A_{gm,i} + A_{gum,i}}
\]

Where:

\( \tilde{C}_{qsa} \) is the adjusted average ISMCEM for the calendar quarter, in ppmv rounded to four significant figures;

\( A_{gum,i} \) is the unmonitored area of the i’th grid, in square feet rounded to the nearest ten square feet;
\( C_{gf,i} \) is the assigned ISMCEM, for the i’th grid, in ppmv:

\[ n_g \] is the total number of grids in the Integrated Surface Monitoring Protocol

(h) For each calendar quarter calculate the calendar-quarter surface fugitive methane mass emission rate as follows:

\[
E_{qs,CH_4} = 4.226 \times 10^{-4} t_{qh} A_q \left( \frac{\bar{C}_{qs,sa} - C_b}{1.857} \right)
\]

Where;

\( E_{qs,CH_4} \) is the calendar quarter surface fugitive methane mass emission emissions, in tons rounded to four significant figures;

\( t_{qh} \) is the total number of clock hours in the calendar quarter;

\( A_q \) is the total surface area of all the grids in the Integrated Surface Monitoring Protocol, in acres rounded to the nearest tenth of an acre; and

\( C_b \) is the average atmospheric background methane concentration and is equal to 1.800 ppmv unless an alternative value is specified by the District in writing.

(i) For each calendar quarter, for each hour, find the total amount of surface area for which integrated monitoring pursuant to the State Integrated Surface Monitoring Condition, the 120-Day Integrated Surface Monitoring Condition, or the Optional Additional Integrated Surface Monitoring Condition of this Authority to Construct was performed during the hour.

(j) For each calendar quarter, for the methane mass collected by the landfill gas collection system, calculate the arithmetic average, the lower 10\(^{th}\) percentile, the lower 5\(^{th}\) percentile values, and the minimum value for the hourly arithmetic average values in the group of valid monitoring hours in the valid monitoring hour lookback period.

(k) For purposes of calculating excess surface emissions, for each hour in each calendar quarter, for the methane mass collected by the landfill gas collection system, fill in the values in the calendar quarter for any hours that are not a valid monitoring hour, i.e., missing valid monitoring hours, by the following procedure based on the data availability as calculated in Subsection (b)(iii) of this condition:

(i) For each hour for which integrated surface monitoring was performed on any area pursuant to the State Integrated Surface Monitoring Condition, the 120-Day Integrated Surface Monitoring Condition, or the Optional Additional
Integrated Surface Monitoring Condition of this Authority to Construct, fill the missing data as follows:

(A) If the data availability is 95 percent or more and a period of missing valid monitoring hours is 24 contiguous hours or less, fill the missing valid monitoring hours with the arithmetic average value for the valid monitoring hour lookback period.

(B) If the data availability is 95 percent or more and a period of missing valid monitoring hours is more than 24 contiguous hours, fill the missing valid monitoring hours with the larger of the arithmetic average of the hour before and the hour after the missing period or the upper 90th percentile value for the valid monitoring hour lookback period.

(C) If the data availability is equal to or greater than 90 percent but less than 95 percent and a period of missing valid monitoring hours is 8 contiguous hours or less, fill the missing valid monitoring hours with the arithmetic average value for the valid monitoring hour lookback period.

(D) If the data availability is equal to or greater than 90 percent but less than 95 percent and a period of missing valid monitoring hours is more than 8 contiguous hours, fill the missing valid monitoring hours with the larger of the arithmetic average of the hour before and the hour after the missing period or the upper 95th percentile value for the valid monitoring hour lookback period.

(E) If the data availability is equal to or greater than 80 percent but less than 90 percent, fill all missing valid monitoring hours with the maximum value for the valid monitoring hour lookback period.

(F) If the data availability is less than 80 percent, fill all missing valid monitoring hours with the larger of the maximum value for the valid monitoring hour lookback period or the maximum value among all the valid monitoring hours in the the immediately preceding eleven calendar quarters.

(ii) For each hour for which integrated surface monitoring was not performed pursuant to the State Integrated Surface Monitoring Condition, the 120-Day Integrated Surface Monitoring Condition, or the Optional Additional Integrated Surface Monitoring Condition of this Authority to Construct, fill the missing data as follows:

(A) If the data availability is 95 percent or more and a period of missing valid monitoring hours is 24 contiguous hours or less, fill the missing
valid monitoring hours with the arithmetic average value for the valid monitoring hour lookback period.

(B) If the data availability is 95 percent or more and a period of missing valid monitoring hours is more than 24 contiguous hours, fill the missing valid monitoring hours with the smaller of the arithmetic average of the hour before and the hour after the missing period or the lower 10th percentile value for the valid monitoring hour lookback period.

(C) If the data availability is equal to or greater than 90 percent but less than 95 percent and a period of missing valid monitoring hours is 8 contiguous hours or less, fill the missing valid monitoring hours with the arithmetic average value for the valid monitoring hour lookback period.

(D) If the data availability is equal to or greater than 90 percent but less than 95 percent and a period of missing valid monitoring hours is more than 8 contiguous hours, fill the missing valid monitoring hours with the smaller of the arithmetic average of the hour before and the hour after the missing period or the lower 5th percentile value for the valid monitoring hour lookback period.

(E) If the data availability is equal to or greater than 80 percent but less than 90 percent, fill all missing valid monitoring hours with the minimum value for the valid monitoring hour lookback period.

(F) If the data availability is less than 80 percent, fill all missing valid monitoring hours with zero.

(I) For each calendar quarter, calculate the area-weighted average methane hourly collection rate during integrated surface monitoring by the following equation:

\[
M_{q,CH_4} = \frac{\sum_{i=1}^{n_g} A_{gm,i} M_{hcsm,CH_4,i}}{\sum_{i=1}^{n_g} A_{gm,i}}
\]

Where:

\(M_{q,CH_4}\) is the calendar quarter area-weighted average methane collection rate during integrated surface monitoring, in pounds per hour rounded to four significant figures;

\(A_{gm,i}\) is the monitored area of the i’th grid, in square feet rounded to the nearest ten square feet;

\(M_{hcsm,CH_4,i}\) is the methane mass collected in the hour the i’th grid was initially
monitored: either as calculated from measured values in accordance with the equation in Subsection (b)(iv) of this condition for valid monitoring hours or as filled in accordance with Subsection (k)(i) of this condition;

\( n_g \) is the total number of grids for which integrated surface monitoring was performed in the calendar quarter including the initial monitoring and all subsequent remonitorings.

(m) For each calendar quarter, calculate the total methane collected for purposes of determining excess surface emissions for the calendar quarter by:

\[
M_{qcrsm,CH_4} = \sum_{i=1}^{n_{qhcop}} M_{hcrsm,CH_4,i}
\]

Where:

\( M_{qcrsm,CH_4} \) is the total methane collected for purposes of determining excess surface emissions, in pounds per hour rounded to four significant figures;

\( M_{hcrsm,CH_4,i} \) is the methane mass collected in the i’th clock hour either as calculated from measured values in accordance with the equation in Subsection (b)(iv) of this condition for valid monitoring hours or as filled in accordance with Subsection (k)(i) or Subsection (k)(ii) of this condition, as applicable; and

\( n_{qhcop} \) is the total number of clock hours in the calendar quarter that the landfill gas collection and control system was operating.

(n) For the calendar year calculate the ratio of methane collected by the landfill gas collection system to the methane that would have been collected if the methane collection rate was the same during each calendar quarter as when integrated surface monitoring occurred by the following equation:

\[
R_{rsm,CH_4} = \frac{\sum_{i=1}^{4} M_{qcrsm,CH_4,i}}{\sum_{i=1}^{4} \bar{t}_{qh,i} \bar{M}_{hcrsm,CH_4,i}}
\]

Where:

\( R_{rsm,CH_4} \) is the annual ratio of methane collected rate when integrated surface monitoring is not occurring to average hourly collection rate when integrated surface monitoring is occurring, rounded to three significant figures;

\( M_{qcrsm,CH_4,i} \) is the methane collected in the i’th calendar quarter, in pounds per hour rounded to four significant figures;
\( \bar{M}_{qhcsm,CH_4,i} \) is the calendar quarter area-weighted average methane collection rate during integrated surface monitoring for the \( i \)’th calendar quarter, in pounds per hour rounded to four significant figures, and

\( t_{qh,i} \) is the total number of hours in the \( i \)’th calendar quarter.

(o) For each calendar quarter, calculate the fugitive methane surface emissions for the calendar quarter in excess of the fugitive surface methane emissions during integrated surface monitoring by the following procedure:

(i) If \( R_{qsm,CH_4} \geq 0.96 \) then:

\[ E_{qxc,CH_4} = 0 \]

(ii) If \( R_{qsm,CH_4} < 0.96 \) then:

\[ E_{qxc,CH_4} = 0.0005\left( t_{qh} \bar{M}_{qhcsm,CH_4} - M_{qcsm,CH_4} \right) \]

Where:

\( E_{qxc,CH_4} \) is the fugitive methane surface emissions for the calendar quarter in excess of the fugitive surface methane emissions during integrated surface monitoring, in tons rounded to four significant figures;

\( t_{qh} \) is the total number of clock hours in the calendar quarter;

(p) Calculate the total VOC emissions from initial aerobic decomposition during the calendar quarter by the following equation:

\[ E_{qae,VOC} = 9.470 \times 10^{-7} M_{q,dsw} \]

Where:

\( E_{qae,VOC} \) is the emissions of VOCs from the initial aerobic decomposition of the waste during the calendar quarter, in tons rounded to four significant figures; and

\( M_{q,dsw} \) is the amount of solid waste that is not beneficial reuse material, including, but not limited to, organic alternative cover material, that was received during the calendar quarter, in tons rounded to the four significant figures.

(q) Calculate the total VOC emissions for the calendar quarter from the following equation:
\[ E_{q,VOC} = E_{qae,VOC} + E_{qc,VOC} + \omega_{q,VOC} \left( E_{qs,CH_4} + E_{qxc,CH_4} \right) \]

Where:

\( E_{q,VOC} \) is the calendar-quarter VOC emissions, in tons rounded to the nearest tenth of a ton;

(r) Calculate the total VOC emissions for the calendar year as the sum of the VOC emissions for each calendar quarter in the calendar year.

187. 120-Day Area Integrated Surface Monitoring Condition: In addition, to the monitoring required by the State Integrated Surface Monitoring Condition of this Authority to Construct, the Permittee shall conduct monitoring of all 120-day monitoring areas. Such additional monitoring shall be done in accordance with the State Surface Monitoring Procedure Condition and the State Integrated Surface Monitoring Condition of this Authority to Construct except that measured methane values in excess of 25 ppmv shall not be recorded as an exceedance of the standard nor do any of the corrective actions required for an such an exceedance need to be performed.

188. Optional Additional Integrated Surface Monitoring Condition: Each calendar quarter, in addition to the monitoring required by the State Integrated Surface Monitoring Condition of this Authority to Construct, the Permittee may elect to have additional integrated surface monitoring conducted for some or all of the areas where monitoring is not required by the State Integrated Surface Monitoring Condition because landfill operations cause the area to be considered dangerous during normal operating hours and the area is excluded from monitoring pursuant to the Permittee Excluded Surface Monitoring Areas Condition. The Permittee may elect to have the additional monitoring conducted during time periods when active landfill operations are not occurring. Any such additional monitoring shall be done in accordance with the provisions of the State Surface Monitoring Procedure Condition and the State Integrated Surface Monitoring Condition of this Authority to Construct that apply to nonexcluded areas.

189. For each landfill gas collection well that is in a grid for which integrated surface monitoring was not conducted by the Permittee as allowed by the Permittee Excluded Surface Monitoring Areas Condition, the Permittee shall record the wellhead pressure and landfill gas flow rate and oxygen content on the first day when integrated surface monitoring is performed for other grids at the landfill in that calendar quarter.

190. For each landfill gas collection well the Permittee shall maintain records indicating the operational status of each well at the beginning of each month.

191. For each landfill gas collection well in operation at the beginning of a calendar month the Permittee shall monitor and record the following information at least a once that calendar month and each time the gas flow from the well is adjusted during the calendar month and calculate the initial methane flow rate and the flow rate after adjustment in pounds per hour:

(a) The date and time of the monitoring:
(b) The volume percent of methane, carbon dioxide, and oxygen in the landfill gas being collected to the nearest tenth of a percent;

(c) The initial and adjusted pressure in inches of water to the nearest tenth of an inch;

(d) The initial and adjusted temperature to the nearest degree Fahrenheit;

(e) The initial and adjusted landfill gas flow rate to the nearest standard cubic foot per minute;

(f) An indication as to whether the well’s flow rate has increased, decreased, or remained the same;

(g) An indication as any changes to the well’s operational status during the month and the date and time of the change and the reason for the change;
AMBIENT MONITORING

192. In accordance with a protocol approved in advance in writing by the District, the Permittee shall design, install, and operate one or more meteorological monitoring stations. The monitoring station or stations shall meet the following requirements:

(a) Provide representative wind speed measurements for the landfill dust generating activities at the facility;

(b) Provide representative wind speed and direction measurements for all surface emission monitoring pursuant to the State Instantaneous Monitoring Condition and the State Integrated Surface Monitoring Condition;

(c) Provide representative measurements of any other meteorological parameters specified by the District

(d) For wind speed, use a 3 cup assembly range of 0 to 50 miles per hour and with an accuracy of plus or minus 0.15 miles per hour and threshold of 0.5 mile per hour or less;

(e) For wind direction, use a vane with a range of 0 to 540 degrees azimuth, with an accuracy of plus or minus 2 degrees and threshold of 0.5 miles per hour or less;

(f) For wind speed and direction, meet any other criteria specified by the District and, for other measured parameters, meet any criteria specified by the District; and

(g) Continuously record, and maintain the records of one-clock-minute, 15-clock-minute, and one-clock-hour averages of wind speed and direction and, for other measured parameters, if any, averages over averaging times specified by the District

193. The Permittee shall install sampling wells in accordance with 27 CCR §20925 to determine whether underground offsite migration of landfill gas exists. The Permittee shall measure the methane concentration and other chemical species specified by the District, if any, at least once each calendar quarter and, for each monitoring well, maintain records of the date, time, measured concentrations of methane and other specified species, and the probe pressure, barometric pressure, atmospheric pressure, and general weather conditions at the time of the monitoring. [Rule 59 (d)(5)]

194. At the request of the District, the Permittee shall conduct simultaneous upwind and downwind ambient monitoring for toxic air contaminants in accordance with a source test protocol approved in advance in writing by the District. [Rule 59 (e)(4)]

195. No earlier than five years and no later than ten years after the landfill has commenced operation or at other times at the request of the District, the Permittee shall conduct integrated surface monitoring for toxic air contaminants in accordance with a source test protocol approved in advance in writing by the District. [Rule 59 (e)(5)]
196. The Permittee shall inspect each off-site gas migration sampling well with a combustible gas indicator for the presence of Methane on a minimum quarterly basis and retain records. Inspection records shall be made available to the District upon request. [Rule 59]
ADDITIONAL EMISSION AND OPERATIONAL LIMITATIONS

197. The permittee shall have a topographic map prepared by an independent professional surveyor or civil engineer licensed in California as a professional land surveyor under the Professional Land Surveyors’ Act before commencing construction and once each calendar year thereafter. The surveyor shall calculate the total volume of material excavated by the area average end method on a no greater than 50 foot grid based on the difference between the elevations at each grid point between each survey. Areas covered by waste at the beginning of the calendar year need not be surveyed. No waste shall be deposited over any area that has been excavated before the volume of material excavated has been determined by a survey for that area. The permittee shall keep records of the date the facility, commences construction first accepts waste, monthly maps of locations of waste deposition and areas excavated indicating the date of waste deposition and the date of excavation, the volume of material excavated during each calendar year expressed as in-place cubic yards, the survey results, and all supporting calculations. The surveys do not have to be performed after the volume of material excavated equals or exceeds 7,912,000 in-place cubic yards or the permittee provides notice to the District that excavation is complete. Any excavation after the date of the notice shall be a violation of this Authority to Construct.

198. No more that 7,912,000 in-place cubic yards shall be excavated from the Landfill Footprint.

199. In the area east of NAD27 UTM Easting coordinate 489657.2 and south of the NAD27 UTM Northing coordinate 3689579.5, haul vehicles that travel in the ancillary facilities area or on the Main Entrance Road and that enter or exit the Landfill Footprint, Borrow Area A, or Borrow Area B shall not travel east of the NAD27 UTM Easting coordinate 489928.9 and shall not travel north of the straight lines that connect each successive pair of the following NAD27 UTM coordinates:

<table>
<thead>
<tr>
<th>Easting</th>
<th>Northing</th>
</tr>
</thead>
<tbody>
<tr>
<td>489657.2</td>
<td>3689315</td>
</tr>
<tr>
<td>489683.5</td>
<td>3689333</td>
</tr>
<tr>
<td>489722.5</td>
<td>3689356.8</td>
</tr>
<tr>
<td>489756.9</td>
<td>3689375</td>
</tr>
<tr>
<td>489795.8</td>
<td>3689378.8</td>
</tr>
<tr>
<td>489831.2</td>
<td>3689380.3</td>
</tr>
<tr>
<td>489859.5</td>
<td>3689405.5</td>
</tr>
<tr>
<td>489896.4</td>
<td>3689425.6</td>
</tr>
<tr>
<td>489924.9</td>
<td>3689437.7</td>
</tr>
</tbody>
</table>

200. Total emissions of particulate matter equal to or less than 10 microns in diameter (PM0) shall not exceed 95 tons per year in any 12-month period.
201. Total impact of emissions of particulate matter equal to or less than 10 microns in diameter (PM0) shall not exceed 2.4 micrograms per cubic meter ($\mu g/m^3$) in any calendar year.

202. Total impact of emissions of particulate matter equal to or less than 10 microns in diameter (PM0) shall not exceed 50 micrograms per cubic meter ($\mu g/m^3$) in any calendar day.

203. There shall be no rock crushing operations outside of the Landfill Footprint or Borrow Area B.

204. Except for vehicles transporting bulk material within the Landfill Footprint for an engineered fill within the Landfill Footprint, no bulk material haul vehicle and no waste haul vehicle that is engaged in a landfill dust generating activity shall travel more than 500 feet and 700 feet, respectively, from the end of a chemically stabilized road that is designed and maintained in accordance with this permit.

205. Vehicles transporting bulk material within the Landfill Footprint for an engineered fill within the Landfill Footprint, shall not travel more than 750 feet from the end of a chemically stabilized road that is designed and maintained in accordance with this permit before the date on which the cumulative amount of material excavated in the Landfill Footprint since construction of the landfill commenced is 6,845,000 tons and shall not travel more than 950 feet from the end of a chemically stabilized road that is designed and maintained in accordance with this permit thereafter.

206. The applicant shall notify the District within 30 days of the date that the cumulative amount of material excavated in the Landfill Footprint since construction of the landfill commenced exceeds 6,845,000 tons and provide information that supports the cumulative amount of material excavated.

207. Reserved.

208. Reserved.

209. Reserved.
PARTICULATE MATTER EMISSIONS AND EMISSION IMPACT MONITORING

210. On and after the date the facility first receives solid waste, the Permittee shall measure and record the location of the center of the working face once each calendar day in NAD27 UTM coordinates to an accuracy of 10 meters.

211. On and after the date the facility first receives solid waste, for each calendar month the Permittee shall calculate the arithmetic monthly average Northing NAD27 UTM coordinate of the working face from the daily measured Northing NAD27 UTM coordinates.

212. For each calendar day, for each time an offsite haul vehicle delivers cover material to the working face, the Permittee shall record the date and time of each entrance to the facility. In addition, for each such vehicle, the following shall be recorded for each entry:

(i) The unique vehicle identifier assigned by the facility;

(ii) The entrance and exit weights based on the weights recorded on entrance and exit from the facility;

(iii) The weight of cover material delivered and the weight of material removed, if any, calculated in accordance with this permit;

(iv) Whether the vehicle is delivering material to, removing material from the facility, or both delivering material to and removing material from the facility;

The weight delivered shall be the entrance weight less the exit weight both delivering material to, and removing material from, the facility in the same trip. For vehicles both delivering and removing material in the same trip, the weight delivered shall be the entrance weight less the empty weight.

213. For each calendar day, for each time an offsite haul vehicle delivers bulk material to an area in the Landfill Footprint, the Permittee shall record the date and time of the entrance to the facility. In addition, for each such vehicle, the following shall be recorded for each entry:

(i) The unique vehicle identifier assigned by the facility;

(ii) The entrance and exit weights based on the weights recorded on entrance and exit from the facility;

(iii) The weight of bulk material delivered and the weight of material removed, if any;

(iv) Whether the vehicle is delivering material to, removing material from the facility, or both delivering material to and removing material from the facility;

The weight delivered shall be the entrance weight less the exit weight except for vehicles both delivering and removing material in the same trip. For vehicles both delivering material
to, and removing material from, the facility in the same trip, weight delivered shall be the entrance weight less the empty weight.

214. Reserved.

215. For each calendar day, the Permittee shall calculate and record all the following values and information by the procedures specified below for each calendar day before the end of the next calendar day unless the facility is not open for business on the next calendar day in which case the Permittee shall calculate and record the values and information before the end of the next calendar day the facility is open for business:

(a) Total weight of material delivered to BAA and BAB by summing the weight of material delivered by each vehicle that day, in tons.

(b) Total weight of material delivered to BAA and BAB from the Landfill Footprint by summing the weight of material delivered by each vehicle delivering such material that day, in tons.

(c) Reserved.

(d) Total weight of material removed from BAA and BAB by summing the weight of material removed by each vehicle that day, in tons.

(e) Total weight of cover material delivered to the working face that day by summing the weight of material delivered as calculated pursuant to Subsections (f), (g), and (h) of this condition for material from Borrow Area A, Borrow Area B, the Landfill Footprint, and material delivered by offsite vehicles, in tons.

(f) The total weight of cover material delivered to the working face from Borrow Area A and Borrow Area B by summing the weights of material removed by each vehicle for use as cover material from each of Borrow Area A and Borrow Area B delivered to the working face that day.

(g) The total weight of cover material delivered by offsite haul vehicles to the working face by summing the weight of material delivered by each vehicle that day, in tons.

(h) The total weight of cover material that was removed from the Landfill Footprint that day and delivered to the working face that day by summing the weight of material delivered by each vehicle, in tons.

(i) Total weight of alternative cover delivered to the working face by summing the weight of material delivered by each vehicle, in tons.

(j) Total weight of solid waste deposited by summing the weight of solid waste received from each vehicle that day, in tons.

(k) Total weight of landfill liner material used for liner installation by summing the weight of liner material received from each vehicle that day, in tons.
(l) The total weight of final cover material installed north of NAD27 UTM Northing coordinate 3688715 by summing the weight of material delivered by each vehicle that day, in tons.

(m) The weight of final cover material installed south of NAD27 UTM Northing coordinate 3688715 by summing the weight of material delivered by each vehicle that day, in tons.

(n) Total weight of rock crushed that day in the Landfill Footprint, in tons.

(o) Total weight of rock crushed that day in Borrow Area B, in tons.

(p) Whether excavation of bulk material occurred within the Landfill Footprint that day.

(q) Whether excavation of bulk material occurred in BAA and BAB that day.

216. For each calendar month, the Permittee shall calculate and record all the following values and information by the procedures specified below for each calendar month within 10 days of the end of that month:

(a) Total weight of material delivered to BAA and BAB by summing the weight of material delivered each day, in tons.

(b) Total weight of material delivered to BAA and BAB from the Landfill Footprint by summing the weight of material delivered each day, in tons.

(c) Total weight of material delivered to BAA and BAB on days that excavation occurred within the Landfill Footprint by summing the weight of material delivered each day that such excavation occurred, in tons.

(d) Total weight of material removed from BAA and BAB by summing the weight of material removed each day, in tons.

(e) Total weight of cover material delivered to the working face by summing the weight of material delivered calculated pursuant to Subsections (f), (g), and (h) of this condition for material from Borrow Area A, Borrow Area B, the Landfill Footprint, and material delivered by offsite vehicles, in tons, in tons.

(f) The total weight of cover material delivered to the working face from Borrow Area A and Borrow Area B by summing the weights of material removed each day for use as cover from each of Borrow Area A and Borrow Area B.

(g) The total weight of cover material delivered offsite haul vehicles to the working face by summing the weight of material delivered each day, in tons.

(h) The total weight of cover material that originated in the Landfill Footprint and that was not stored in Borrow Area A or Borrow Area B at any time that is delivered directly to the working face by summing the material delivered each day.
(i) Total weight of alternative cover delivered to the working face by summing the weight of material delivered each day, in tons.

(j) Total weight of solid waste received by summing the weight of solid waste received each day, in tons.

(k) Total weight of landfill liner material used for liner installation by summing the weight received each day, in tons.

(l) The total weight of final cover material installed north of NAD27 UTM Northing coordinate 3688715 by summing the weight of material delivered each day, in tons.

(m) The weight of final cover material installed south of NAD27 UTM Northing coordinate 3688715 by summing the weight of material delivered each day, in tons.

(n) Total weight of rock crushed in the Landfill Footprint by summing the amount of rock crushed each day, in tons.

(o) Total weight of rock crushed in Borrow Area B by summing the amount of rock crushed each day, in tons.

(p) The total weight of soil and rock excavation within the Landfill Footprint and total weight of fill material for engineered fills within the Landfill Footprint shall be calculated with the following equation:

(i) If the cumulative weight of excavation since commencement of construction of the landfill calculated for the immediately preceding calendar month is less than or equal to 6,845,000 tons, the total weight of soil and rock excavation and total weight of material used for fill shall be calculated with the following equations:

\[ W_{\text{Excav,soil}} = 1.061 \left( W'_{BAA,UnLd} + W'_{BAB,UnLd} + W_{\text{Export}} \right) \]

\[ W_{\text{Excav,rock}} = 0.214 \left( W'_{BAA,UnLd} + W'_{BAB,UnLd} + W_{\text{Export}} \right) \]

\[ W_{\text{Fill}} = 0.276 \left( W'_{BAA,UnLd} + W'_{BAB,UnLd} + W_{\text{Export}} \right) \]

Where:

\( W_{\text{Excav,soil}} \) is the total weight of soil excavated, in tons;

\( W_{\text{Excav,rock}} \) is the total weight of rock excavated, in tons

\( W_{\text{Fill}} \) is the total weight of material used for fill, in tons
$W'_{BAA,UnLd}$ is the total weight of material from the Landfill Footprint delivered to BAA in the calendar month, in tons;

$W'_{BAB,UnLd}$ is the total weight of material from the Landfill Footprint delivered to BAB in the calendar month, in tons;

$W_{Export}$ is the total weight of material from the Landfill Footprint exported offsite from the Landfill Footprint in the calendar month, in tons.

(ii) If the cumulative weight of excavation since commencement of construction of the landfill calculated for the immediately preceding calendar month is greater than 6,845,000 tons, the total weight of soil and rock excavation and total weight of fill material for engineered fills within the Landfill Footprint shall be calculated with the following equations:

\[
W_{Excav,soil} = 1.367(W'_{BAA,UnLd} + W'_{BAB,UnLd} + W_{Export})
\]

\[
W_{Excav,rock} = 0.01(W'_{BAA,UnLd} + W'_{BAB,UnLd} + W_{Export})
\]

\[
W_{Fill} = 0.366(W'_{BAA,UnLd} + W'_{BAB,UnLd} + W_{Export} + W_{Cov})
\]

Where:

$W_{Cov}$ is the weight of cover material that is delivered to the working face that was excavated from the Landfill Footprint and not stored in Borrow Area A or Borrow Area B at any time.

(q) The cumulative amount of material excavated since construction of the landfill commenced shall be calculated by adding the amount of soil and rock excavated in the month to the calculated cumulative amount of soil and rock excavated in the immediately preceding calendar month.

(r) Reserved.

217. Beginning with the date the facility commences construction and ending on the date that the final cover is completely in place and the landfill is closed, the Permittee shall calculate and record the PM10 emission impact for each calendar month within 10 days of the end of that month and calculate and record the annual PM10 emission impact for each calendar year before March 1 of the next calendar year. The Permittee shall maintain records of the calculations and all supporting information used in the calculations for each calendar month and each calendar year. The annual PM10 emission impact for each calendar month and each calendar year shall be calculated by the following procedure:
(a) The following vehicle PM10 emission impact factors shall be used, as applicable, to calculate the PM10 emission impact from vehicle travel on roads:

<table>
<thead>
<tr>
<th>Road</th>
<th>Operational Status</th>
<th>Vehicle PM10 Emission Impact Factor, ((\mu g/m^3)/\text{ton}^{1.5}) for the Main Entrance Road, ((\mu g/m^3)/\text{ton}^{0.7}) for all other roads</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Entrance Road</td>
<td>Prior to initial receipt of waste</td>
<td>2.51598E-08</td>
</tr>
<tr>
<td>Main Entrance Road</td>
<td>After initial receipt of waste</td>
<td>3.59088E-08</td>
</tr>
<tr>
<td>Internal bulk material haul roads</td>
<td>Prior to initial receipt of waste</td>
<td>1.92916E-07</td>
</tr>
<tr>
<td>Internal waste haul roads</td>
<td>(Y_{wf} \leq Y_{17})</td>
<td>6.50967E-07</td>
</tr>
<tr>
<td>Internal waste haul roads</td>
<td>(Y_{wf} &gt; Y_{17})</td>
<td>8.13709E-07</td>
</tr>
<tr>
<td>Cover and bulk material haul roads</td>
<td>At all times</td>
<td>8.42724E-07</td>
</tr>
<tr>
<td>Borrow Area A Haul Road</td>
<td>Prior to initial receipt of waste</td>
<td>2.40528E-07</td>
</tr>
<tr>
<td>Borrow Area A Haul Road</td>
<td>After initial receipt of waste and (Y_{wf} \leq Y_{17})</td>
<td>3.82294E-07</td>
</tr>
<tr>
<td>Borrow Area A Haul Road</td>
<td>After initial receipt of waste and (Y_{wf} &gt; Y_{17}) and (Y_{wf} \leq Y_{17})</td>
<td>7.85453E-07</td>
</tr>
<tr>
<td>Borrow Area A Haul Road</td>
<td>After initial receipt of waste (Y_{wf} &gt; Y_{17})</td>
<td>7.85453E-07</td>
</tr>
<tr>
<td>Borrow Area A Haul Road</td>
<td>After closure of the landfill to receipt of solid waste</td>
<td>7.85453E-07</td>
</tr>
<tr>
<td>Borrow Area B Haul Road</td>
<td>Prior to initial receipt of waste</td>
<td>3.13321E-07</td>
</tr>
<tr>
<td>Borrow Area B Haul Road</td>
<td>After initial receipt of waste and (Y_{wf} \leq Y_{17})</td>
<td>4.03159E-07</td>
</tr>
<tr>
<td>Borrow Area B Haul Road</td>
<td>After initial receipt of waste and (Y_{wf} &gt; Y_{17})</td>
<td>8.11438E-08</td>
</tr>
<tr>
<td>Borrow Area B Haul Road</td>
<td>After closure of the landfill to receipt of solid waste</td>
<td>4.03159E-07</td>
</tr>
</tbody>
</table>

Where:

\(Y_{wf}\) is the applicable calendar monthly average NAD27 UTM northing location of the working face, in meters;

\(Y_{17}\) is the NAD27 UTM Northing coordinate 3688715 meters; and

\(Y_{17}\) is the NAD27 UTM Northing coordinate 3689214.9 meters.
(b) The following landfill operation PM10 impact factors shall be used, as applicable, to calculate the annual PM10 impact from landfill material handling operations:
<table>
<thead>
<tr>
<th>Operation</th>
<th>Operational Status</th>
<th>Operation PM10 Emission Impact Factor $\left( \mu g/m^3 \right)/$ton</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borrow Area A operations</td>
<td>Prior to initial receipt of solid waste</td>
<td>5.98786E-09</td>
</tr>
<tr>
<td>Borrow Area A operations</td>
<td>After initial receipt of solid waste, more than 50,000 tons of landfill footprint excavation per month, and no Borrow Area A excavation.</td>
<td>6.65413E-09</td>
</tr>
<tr>
<td>Borrow Area A operations</td>
<td>After initial receipt of solid waste, less than or equal to 50,000 tons of landfill footprint excavation per month, and no Borrow Area A excavation.</td>
<td>6.57546E-08</td>
</tr>
<tr>
<td>Borrow Area A operations</td>
<td>After initial receipt of solid waste, less than or equal to 50,000 tons of landfill footprint excavation per month, and Borrow Area A excavation.</td>
<td>6.57546E-08</td>
</tr>
<tr>
<td>Borrow Area B operations</td>
<td>Prior to initial receipt of solid waste</td>
<td>6.65413E-09</td>
</tr>
<tr>
<td>Borrow Area B operations</td>
<td>After initial receipt of solid waste, more than 50,000 tons of landfill footprint excavation per month, and no Borrow Area B excavation.</td>
<td>6.41624E-09</td>
</tr>
<tr>
<td>Borrow Area B operations</td>
<td>After initial receipt of solid waste, less than or equal to 50,000 tons of landfill footprint excavation per month, and no Borrow Area B excavation.</td>
<td>4.82543E-08</td>
</tr>
<tr>
<td>Borrow Area B operations</td>
<td>After initial receipt of solid waste, less than or equal to 50,000 tons of landfill footprint excavation per month, and Borrow Area B excavation.</td>
<td>4.82543E-08</td>
</tr>
<tr>
<td>Solid waste deposition operations</td>
<td>$Y_{wf} \leq Y_{17}$</td>
<td>1.50484E-07</td>
</tr>
<tr>
<td>Solid waste deposition operations</td>
<td>$Y_{wf} &gt; Y_{17}$</td>
<td>1.88545E-08</td>
</tr>
<tr>
<td>Working face cover operations</td>
<td>$Y_{wf} \leq Y_{17}$</td>
<td>2.59849E-07</td>
</tr>
<tr>
<td>Working face cover operations</td>
<td>$Y_{wf} &gt; Y_{17}$</td>
<td>4.81104E-08</td>
</tr>
<tr>
<td>Excavation of soil in the Landfill Footprint</td>
<td>Cumulative landfill footprint excavation less than or equal to 6,845,000 tons</td>
<td>2.53733E-07</td>
</tr>
<tr>
<td>Excavation of soil in the Landfill Footprint</td>
<td>Cumulative landfill footprint excavation more than 6,845,000 tons</td>
<td>7.2223E-08</td>
</tr>
<tr>
<td>Excavation of rock in the Landfill Footprint</td>
<td>Cumulative landfill footprint excavation less than or equal to 6,845,000 tons</td>
<td>2.77253E-08</td>
</tr>
<tr>
<td>Excavation of rock in the Landfill Footprint</td>
<td>Cumulative landfill footprint excavation more than 6,845,000 tons</td>
<td>7.6349E-09</td>
</tr>
<tr>
<td>Liner installation operations</td>
<td>Cumulative landfill footprint excavation less than or equal to 6,845,000 tons</td>
<td>1.35867E-06</td>
</tr>
</tbody>
</table>
Liner installation operations & Cumulative landfill footprint excavation more than 6,845,000 tons & 2.01419E-07  
Fill operations in the Landfill Footprint & Cumulative landfill footprint excavation less than or equal to 6,845,000 tons & 3.51871E-07  
Fill operations in the Landfill Footprint & Cumulative landfill footprint excavation more than 6,845,000 tons & 8.17781E-08  
Final cover installation operations & North of Y_{17} & 1.35867E-06  
Final cover installation operations & South of Y_{17} & 2.01419E-07  
Rock crushing in the Landfill Footprint & Cumulative landfill footprint excavation less than or equal to 6,845,000 tons & 9.24688E-08  
Rock crushing in the Landfill Footprint & Cumulative landfill footprint excavation more than 6,845,000 tons & 2.54638E-08  

Where:

Y_{wf} is the applicable calendar monthly average NAD27 UTM Northing location of the working face, in meters; and

Y_{17} is the NAD27 UTM Northing coordinate 3688715 meters.

(c) The following flare PM10 emission impact factor shall be used to calculate the PM10 impact from the landfill gas flares: 3.06863E-05 (μg/m³)/MMwscf

(d) For each calendar month, the Permittee shall calculate the PM10 emission impact for the Main Entrance Road, internal bulk material haul roads, internal waste haul roads, cover and bulk material haul roads, Borrow Area A Haul Road, and Borrow Area B Haul Road by multiplying the applicable vehicle PM10 emission impact factor for the operation and operational status in Subsection (a) of this condition by the applicable monthly vehicle PM10 emission factor calculated pursuant to this Authority to Construct.

(e) For each calendar month, the Permittee shall calculate the PM10 emission impact for Borrow Area A operations, Borrow Area B operations, solid waste deposition operations, working face cover operations, excavation of soil in the Landfill Footprint, excavation of rock in the Landfill Footprint, liner installation operations, fill operations in the Landfill Footprint, final cover installation operations north of NAD27 UTM Northing coordinate 3688715, final cover installation operations south of NAD27 UTM Northing coordinate 3688715, and rock crushing in the Landfill Footprint by multiplying the applicable operation PM10 emission impact factor for the operation and operational status in Subsection (b) of this condition by the applicable monthly weight of material handled, in tons, for each operation calculated pursuant to this Authority to Construct.

(f) For each calendar month, the Permittee shall calculate the PM10 emission impact for the flares by multiplying the emission impact factor in Subsection (c) of this condition by the total volume of landfill gas collected at the flare station during the
calendar month, in MMwscf, as measured and calculated pursuant to this Authority to Construct.

(g) For each calendar month, the Permittee shall calculate the total PM10 emission impact for the calendar month by summing all the individual PM10 impacts calculated pursuant to Subsections (d), (e), and (f) of this condition.

(h) For each calendar year, the Permittee shall calculate the total PM10 emission impact for the calendar year by summing all the individual monthly impacts for each month in the calendar year calculated pursuant to Subsection (g) of this condition and adding the applicable PM10 impact for the operational status from the table in this Subsection (h).

<table>
<thead>
<tr>
<th>Operational Status</th>
<th>Additional Annual PM10 Emission Impact, μg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumulative landfill footprint excavation less than or equal to 6,845,000 tons</td>
<td>0.1343</td>
</tr>
<tr>
<td>Cumulative landfill footprint excavation more than 6,845,000 tons but less than or equal to 13,690,000 tons</td>
<td>0.0484</td>
</tr>
<tr>
<td>Cumulative landfill footprint excavation more than 13,690,000 tons</td>
<td>0.0050</td>
</tr>
<tr>
<td>After closure of the landfill to receipt of solid waste</td>
<td>0.14</td>
</tr>
</tbody>
</table>

(i) Reserved.

218. Beginning with the date the facility commences construction and ending on the date that the final cover is completely in place and the landfill is closed, the Permittee shall calculate and record the PM10 emissions for each calendar month within 10 days of the end of that month and calculate and record the annual PM10 emissions for each calendar year before March 1 of the next calendar year. The Permittee shall maintain records of the calculations and all supporting information used in the calculations for each calendar month and each calendar year. The annual PM10 emissions for each calendar month and each calendar year shall be calculated by the following procedure:

(a) The following vehicle PM10 emission factors shall be used, as applicable, to calculate the PM10 emissions from vehicle travel on roads:
<table>
<thead>
<tr>
<th>Road</th>
<th>Operational Status</th>
<th>Vehicle PM10 Emission Factor, lb/ton[^1.5] for the Main Entrance Road, lb/ton[^0.7] for all other roads</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Entrance Road</td>
<td>Prior to initial receipt of waste</td>
<td>6.99702E-04</td>
</tr>
<tr>
<td>Main Entrance Road</td>
<td>After to initial receipt of waste</td>
<td>6.99702E-04</td>
</tr>
<tr>
<td>Internal bulk material haul roads</td>
<td>Prior to initial receipt of waste</td>
<td>4.23533E-03</td>
</tr>
<tr>
<td>Internal waste haul roads</td>
<td>$Y_{wf} \leq Y_{17}$</td>
<td>3.06889E-02</td>
</tr>
<tr>
<td>Internal waste haul roads</td>
<td>$Y_{wf} &gt; Y_{17}$</td>
<td>3.83612E-02</td>
</tr>
<tr>
<td>Cover and bulk material haul roads</td>
<td>At all times</td>
<td>1.50690E-02</td>
</tr>
<tr>
<td>Borrow Area A Haul Road</td>
<td>Prior to initial receipt of waste</td>
<td>2.15806E-02</td>
</tr>
<tr>
<td>Borrow Area A Haul Road</td>
<td>After initial receipt of waste and $Y_{wf} \leq Y_{17}$</td>
<td>2.16240E-02</td>
</tr>
<tr>
<td>Borrow Area A Haul Road</td>
<td>After initial receipt of waste and $Y_{wf} &gt; Y_{17}$ and $Y_{wf} \leq Y_{17}$</td>
<td>5.47647E-02</td>
</tr>
<tr>
<td>Borrow Area A Haul Road</td>
<td>After initial receipt of waste $Y_{wf} &gt; Y_{17}$</td>
<td>7.13351E-02</td>
</tr>
<tr>
<td>Borrow Area A Haul Road</td>
<td>After closure of the landfill to receipt of solid waste</td>
<td>7.13351E-02</td>
</tr>
<tr>
<td>Borrow Area B Haul Road</td>
<td>Prior to initial receipt of waste</td>
<td>4.00696E-02</td>
</tr>
<tr>
<td>Borrow Area B Haul Road</td>
<td>After initial receipt of waste and $Y_{wf} \leq Y_{17}$</td>
<td>3.31407E-02</td>
</tr>
<tr>
<td>Borrow Area B Haul Road</td>
<td>After initial receipt of waste and $Y_{wf} &gt; Y_{17}$</td>
<td>3.31407E-02</td>
</tr>
<tr>
<td>Borrow Area B Haul Road</td>
<td>After closure of the landfill to receipt of solid waste</td>
<td>3.31407E-02</td>
</tr>
</tbody>
</table>

Where:

$Y_{wf}$ is the applicable calendar monthly average NAD27 UTM northing location of the working face, in meters;

$Y_{17}$ is the NAD27 UTM Northing coordinate 3688715 meters; and

$Y_{17}$ is the NAD27 UTM Northing coordinate 3689214.9 meters.

(b) The following landfill operation PM10 emission factors shall be used, as applicable, to calculate the annual PM10 emissions from landfill material handling operations:
<table>
<thead>
<tr>
<th>Operation</th>
<th>Operational Status</th>
<th>Operation Emission Factor lb/ton</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borrow Area A operations</td>
<td>Prior to initial receipt of solid waste</td>
<td>1.48886E-03</td>
</tr>
<tr>
<td>Borrow Area A operations</td>
<td>After initial receipt of solid waste, more than 50,000 tons of landfill footprint excavation per month, and no Borrow Area A excavation has occurred.</td>
<td>1.48886E-03</td>
</tr>
<tr>
<td>Borrow Area A operations</td>
<td>After initial receipt of solid waste, less than or equal to 50,000 tons of landfill footprint excavation per month, and no Borrow Area A excavation has occurred.</td>
<td>9.60955E-03</td>
</tr>
<tr>
<td>Borrow Area A operations</td>
<td>After initial receipt of solid waste, less than or equal to 50,000 tons of landfill footprint excavation per month, and Borrow Area A excavation has occurred.</td>
<td>9.60955E-03</td>
</tr>
<tr>
<td>Borrow Area B operations</td>
<td>Prior to initial receipt of solid waste</td>
<td>1.48886E-03</td>
</tr>
<tr>
<td>Borrow Area B operations</td>
<td>After initial receipt of solid waste, more than 50,000 tons of landfill footprint excavation per month, and no Borrow Area B excavation has occurred.</td>
<td>4.37131E-04</td>
</tr>
<tr>
<td>Borrow Area B operations</td>
<td>After initial receipt of solid waste, less than or equal to 50,000 tons of landfill footprint excavation per month, and no Borrow Area B excavation has occurred.</td>
<td>1.17517E-02</td>
</tr>
<tr>
<td>Borrow Area B operations</td>
<td>After initial receipt of solid waste, less than or equal to 50,000 tons of landfill footprint excavation per month, and Borrow Area B excavation has occurred.</td>
<td>1.17517E-02</td>
</tr>
<tr>
<td>Solid waste deposition operations</td>
<td>$Y_{wf} \leq Y_{17}$</td>
<td>2.82744E-03</td>
</tr>
<tr>
<td>Solid waste deposition operations</td>
<td>$Y_{wf} &gt; Y_{17}$</td>
<td>2.82744E-03</td>
</tr>
<tr>
<td>Working face cover operations</td>
<td>No borrow area excavation has occurred</td>
<td>4.88228E-03</td>
</tr>
<tr>
<td>Working face cover operations</td>
<td>Borrow area excavation has occurred</td>
<td>7.21468E-03</td>
</tr>
<tr>
<td>Excavation of soil in the Landfill Footprint</td>
<td>Cumulative landfill footprint excavation less than or equal to 6,845,000 tons</td>
<td>9.20485E-03</td>
</tr>
<tr>
<td>Excavation of soil in the Landfill Footprint</td>
<td>Cumulative landfill footprint excavation more than 6,845,000 tons</td>
<td>9.20485E-03</td>
</tr>
<tr>
<td>Excavation of rock in the Landfill Footprint</td>
<td>Cumulative landfill footprint excavation less than or equal to 6,845,000 tons</td>
<td>8.93279E-04</td>
</tr>
<tr>
<td>Excavation of rock in the Landfill Footprint</td>
<td>Cumulative landfill footprint excavation more than 6,845,000 tons</td>
<td>8.93279E-04</td>
</tr>
<tr>
<td>Liner installation operations</td>
<td>Cumulative landfill footprint excavation less than or equal to 6,845,000 tons</td>
<td>2.98812E-02</td>
</tr>
<tr>
<td>Liner installation operations</td>
<td>Cumulative landfill footprint excavation more than 6,845,000 tons</td>
<td>2.98812E-02</td>
</tr>
</tbody>
</table>
Where:

\( Y_{wf} \) is the applicable calendar monthly average NAD27 UTM northing location of the working face, in meters;

\( Y_{17} \) is the NAD27 UTM Northing coordinate 3688715 meters; and

(c) The following flare PM10 emission factor shall be used to calculate the annual PM10 emissions from the landfill gas flares: 6 lb/MMwscf

(d) For each calendar month, the Permittee shall calculate the PM10 emissions in pounds for the Main Entrance Road, internal bulk material haul roads, internal waste haul roads, cover and bulk material haul roads, Borrow Area A Haul Road, and Borrow Area B Haul Road by multiplying the applicable vehicle PM10 emission factor for the operation and operational status in Subsection (a) of this condition by the applicable monthly vehicle PM10 emission factor calculated pursuant to this Authority to Construct.

(e) For each calendar month, the Permittee shall calculate the PM10 emissions in pounds for Borrow Area A operations, Borrow Area B operations, solid waste deposition operations, working face cover operations, excavation of soil in the Landfill Footprint, excavation of rock in the Landfill Footprint, liner installation operations, fill operations in the Landfill Footprint, final cover installation operations north of NAD27 UTM Northing coordinate 3688715, final cover installation operations south of NAD27 UTM Northing coordinate 3688715, rock crushing in the Landfill Footprint, and rock crushing in Borrow Area B by multiplying the applicable operation PM10 emission factor for the operation and operational status in Subsection (b) of this condition by the applicable monthly weight of material handled, in tons, for each operation calculated pursuant to this Authority to Construct.

(f) For each calendar month, the Permittee shall calculate the PM10 emissions in pounds for the flares by multiplying the applicable operation PM10 emission factor for the operation and operational status in Subsection (c) of this condition by the total
volume of landfill gas collected at the flare station during the calendar month, in MMwscf, as measured and calculated pursuant to this Authority to Construct.

(g) For each calendar month, the Permittee shall calculate the total PM10 emissions in pounds for the calendar month by summing all the individual PM10 emissions calculated pursuant to Subsections (d), (e), and (f) of this condition.

(h) For each 12-month period, the Permittee shall calculate the total PM10 emissions for the 12-month period in tons by summing all the individual monthly PM10 emissions for each month in the 12-month period calculated pursuant to Subsection (g) of this condition, multiplying by 0.0005, to covert from pounds to tons, and adding the applicable PM10 emissions for the operational status from the table in this Subsection (h).

<table>
<thead>
<tr>
<th>Operational Status</th>
<th>Additional Annual PM10 Emissions, tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumulative landfill footprint excavation less than or equal to 6,845,000 tons</td>
<td>12.87</td>
</tr>
<tr>
<td>Cumulative landfill footprint excavation more than 6,845,000 tons but less than or equal to 13,690,000 tons</td>
<td>20.32</td>
</tr>
<tr>
<td>Cumulative landfill footprint excavation more than 13,690,000 tons</td>
<td>3.92</td>
</tr>
<tr>
<td>After closure of the landfill to receipt of solid waste</td>
<td>21.19</td>
</tr>
</tbody>
</table>

(i) Reserved.

219. Beginning with the date the facility commences construction and ending on the date that the final cover is completely in place and the landfill is closed, the Permittee shall calculate and record the 24-hour PM10 emission impact for each calendar day for Borrow Area A and Borrow Area B. The Permittee shall calculate and record the 24-hour PM10 emission impact for each calendar day before the end of the next calendar day unless the facility is not open for business on the next calendar day in which case the Permittee shall calculate the 24-hour PM10 emission impact before the end of the next calendar day the facility is open for business. The Permittee shall maintain records of the calculations and all supporting information used in the calculations for each calendar day. The 24-hour PM10 emission impact for each calendar day shall be calculated by the following procedure:

(a) The following vehicle PM10 emission impact factors shall be used, as applicable, to calculate the 24-hour PM10 emission impact from vehicle travel on borrow area roads:
The following landfill operation PM10 impact factors shall be used, as applicable, to calculate the 24-hour PM10 impact from borrow area material handling operations:

<table>
<thead>
<tr>
<th>Operation</th>
<th>Operational Status</th>
<th>Operation PM10 Emission Impact Factor, $\left(\mu g/m^3\right)/ton^{0.7}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borrow Area A operations</td>
<td>Unloading landfill soil</td>
<td>4.39082E-04</td>
</tr>
<tr>
<td>Borrow Area A operations</td>
<td>Loading stored landfill soil</td>
<td>9.24340E-04</td>
</tr>
<tr>
<td>Borrow Area A operations</td>
<td>Excavating and loading borrow area soil</td>
<td>2.83397E-03</td>
</tr>
<tr>
<td>Borrow Area B operations</td>
<td>Unloading landfill soil</td>
<td>1.47924E-03</td>
</tr>
<tr>
<td>Borrow Area B operations</td>
<td>Loading stored landfill soil</td>
<td>3.11405E-03</td>
</tr>
<tr>
<td>Borrow Area B operations</td>
<td>Excavating and loading borrow area soil</td>
<td>1.16758E-02</td>
</tr>
</tbody>
</table>

Reserved.

For each calendar day, the Permittee shall separately calculate the 24-hour PM10 emission impact for the Borrow Area A Haul Road, and the Borrow Area B Haul Road by multiplying the applicable vehicle PM10 emission impact factor for the operation and operational status in Subsection (a) of this condition by the applicable daily vehicle PM10 emission factor calculated pursuant to this Authority to Construct.
(e) For each calendar day, the Permittee shall separately calculate the 24-hour PM10 emission impact for Borrow Area A operations and Borrow Area B operations by multiplying the applicable operation PM10 emission impact factor for the operation and operational status in Subsection (b) of this condition by the applicable daily weight of material handled, in tons, for each operation calculated pursuant to this Authority to Construct.

(f) Reserved

(g) For each calendar day, the Permittee shall separately calculate the total 24-hour PM10 emission impact for the calendar day for Borrow Area A and Borrow Area B by summing all the individual PM10 impacts calculated pursuant to Subsections (d) and (e) of this condition and adding the applicable 24-hour PM10 impact for the operational status from the table in this Subsection (g).

<table>
<thead>
<tr>
<th>Operation</th>
<th>Operational Status</th>
<th>Additional 24-hour PM10 Emission Impact, μg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borrow Area A operations</td>
<td>Cumulative landfill footprint excavation less than or equal to 6,845,000 tons</td>
<td>41.01</td>
</tr>
<tr>
<td>Borrow Area A operations</td>
<td>Cumulative landfill footprint excavation more than 6,845,000 tons but less than or equal to 13,690,000 tons</td>
<td>37.78</td>
</tr>
<tr>
<td>Borrow Area A operations</td>
<td>Cumulative landfill footprint excavation more than 13,690,000 tons</td>
<td>37.78</td>
</tr>
<tr>
<td>Borrow Area A operations</td>
<td>After closure of the landfill to receipt of solid waste</td>
<td>37.78</td>
</tr>
<tr>
<td>Borrow Area B operations</td>
<td>Cumulative landfill footprint excavation less than or equal to 6,845,000 tons</td>
<td>17.44</td>
</tr>
<tr>
<td>Borrow Area B operations</td>
<td>Cumulative landfill footprint excavation more than 6,845,000 tons but less than or equal to 13,690,000 tons</td>
<td>27.52</td>
</tr>
<tr>
<td>Borrow Area B operations</td>
<td>Cumulative landfill footprint excavation more than 13,690,000 tons</td>
<td>26.9</td>
</tr>
<tr>
<td>Borrow Area B operations</td>
<td>After closure of the landfill to receipt of solid waste</td>
<td>26.9</td>
</tr>
</tbody>
</table>

(h) Reserved.

220. Reserved.
221. The permittee shall prepare topographic maps of the existing topography of Borrow Area A and Borrow Area B in a format and with an accuracy specified by the District and submit them to the District prior to commencement of construction of the landfill.

222. Any removal of material below the elevation of Borrow Area A or Borrow Area B as it exists on the date landfill construction commences is considered borrow area excavation of the applicable borrow area. For each borrow area, the Permittee, shall notify the District within 10 days of the end of the calendar month in which excavation first occurs. On after the date the excavation first occurs in a borrow area, all material removed from that borrow area shall be considered excavation for purposes of calculation PM10 emissions and PM10 emission impacts.