777 12TH STREET 3RD FLOOR SACRAMENTO METROPOLITAN SACRAMENTO, CA 95814
AIR QUALITY
MANAGEMENT DISTRICT

STATEMENT OF BASIS
FOR
3rd RENEWAL OF TITLE V FEDERAL OPERATING PERMIT

APPLICATION NO.: TV2016-08-01
DATE: December 11, 2018
REVIEWING ENGINEER: Felix Trujillo, Jr.

A. FACILITY INFORMATION

FACILITY NAME: 28th Street Landfill
Recycling and Solid Waste Division
Department of Public Works
City of Sacramento

LOCATION: 20 28th Street
Sacramento, CA

MAILING ADDRESS: 2812 Meadowview Road
Sacramento, CA 95832

RESPONSIBLE OFFICIAL: Hector Barron, Director
Department of Public Works
City of Sacramento
(916) 808-2669

CONTACT PERSON: John Olesen, Senior Landfill Engineering Technician
Recycling and Solid Waste Division
Department of Public Works
City of Sacramento
(916) 264-7132

John Febbo, Integrated Waste Planning Superintendent
City of Sacramento
(916) 808-3797

Chris Thomas, Program Analyst
City of Sacramento
(916) 808-4833

B. PURPOSE OF THIS STATEMENT OF BASIS

The Title V Federal Operating Permit is intended to be a document containing only enforceable terms and conditions as well as any additional information, such as the identification of emission units, emission points, emission sources and processes that makes the terms meaningful. 40 CFR Part 70.7(a)(5) requires that each Title V permit have an accompanying "...statement that sets forth the legal and factual basis for the draft permit conditions". The purpose of this Statement of Basis is to satisfy the above requirement by providing pertinent details regarding the permit/application data and permit conditions in a more easily understandable format. This report will also include background narrative and explanations of regulatory decisions made by the reviewer. It should be emphasized that this Statement of Basis, while based on information contained in the permit, is a separate document and is not itself an enforceable term and condition of the permit.

C. PERMIT HISTORY

This Statement of Basis is for the third renewal of 28th Street Landfill, City of Sacramento's existing Title V Federal Operating Permit No. TV2011-08-01.

The following permit actions have occurred since the initial Federal Operating Permit was issued:

Permit Action	Date	Permit No.
Initial Permit	03-27-2002	TV1996-08-01
1st Minor Modification	02-03-2004	TV1996-08-02
1st Permit Renewal	03-27-2007	TV2006-08-01
1st Administrative Amendment	10-05-2010	TV-2006-08-01A
2nd Permit Renewal	03-13-2012	TV2011-08-01

This 3rd permit renewal will be assigned the following permit number: TV2016-08-01.

The 28th Street Landfill is requesting to renew the Title V operating permit for its facility, which was issued on 03-13-2012.

The 28th Street Landfill was issued an Authority to Construct for a new flare under A/C 25596 on January 11, 2019. The application was processed under District's enhanced new source review process. This new flare will be incorporated into the Title V permit as an administrative amendment under this renewal process under TV-2016-08-01A and will be listed as a future applicable requirement under the Title V permit.

As part of this permit renewal, the 28th Street Landfill has requested a change in the responsible official from Reina Schwartz (Director of General Services) to Hector Barron (Director of Public Works), a change in departments from Department of General Services to Department of Public Works and to include John Febbo and Chris Thomas as contacts.

C. PERMIT HISTORY (Continued)

In addition, 28th Street Landfill has requested that the following equipment be added to the Title V permit:

Landfill Gas Flare, Perennial, Model No. FL-72-33-E, 600 scfm, 18 MMBtu/hr (P/O 24341)

Furthermore, 28th Street Landfill has requested that the following equipment be removed from the Title V permit since they are no longer in service and their local Permits to Operate have been cancelled:

Land Fill Gas Flare, John Zink, Model No. ZTOF, 1,500 scfm, 41 MMBTU/hr (at 455 BTU/cubic foot of landfill gas) (P/O 9314(Rev01))

Landfill Gas Flare, John Zink, Model No. ZTOF, 2,000 scfm, 54.6 MMBTU/hr (at 455 BTU/cubic foot of landfill gas) (P/O 14749(Rev01))

D. FACILITY DESCRIPTION

The following facility description is for informational purposes only and does not contain any applicable federally enforceable requirements.

The City of Sacramento's 28th Street Landfill is an inactive municipal solid waste landfill located at 28th and A Streets in the City of Sacramento. The site is operated by the City of Sacramento Department of Utilities, Solid Waste Division. The landfill footprint, which is comprised of Waste Management Unit A (WMU-A) and Waste Management Unit B (WMU-B), is approximately 107 acres. The 28th Street Landfill began accepting waste into WMU-A in 1968 and completed filling WMU-A in 1986. The 28th Street Landfill began accepting waste into WMU-B in 1986 and completed filling WMU-B in 1994. The landfill stopped receiving waste in September 1994.

Decomposing waste encapsulated within the landfill produces a gas by-product that is primarily composed of methane, carbon dioxide and non-methane organic compounds (NMOC). Landfill gas (LFG) is primarily emitted through two sources. LFG can be emitted as fugitive gas through cover soils or through a landfill gas collection system.

The City of Sacramento operates the landfill gas collection system that serves the landfill's perimeter wells. The collected landfill gas from the perimeter wells used to be sent to Blue Diamond Almond Growers as fuel for their boiler and/or to one of two landfill gas flares on the landfill site for destruction. That is no longer the case. The Blue Diamond Almond Growers facility is no longer connected to the landfill gas collection system.

This city previously included two flares at the site that were installed in 1990 and 1997. One served as a back up to the other. Due to the age of the flares and lower gas production at the site, the facility replaced the flares with a new 18 MMBtu/hr flare in 2016.

The facility was also issued an Authority to Construct (A/C 25596) for a new flare, that has yet to be installed. This new flare will be incorporated into the Title V permit as a future applicable requirement.

E. SIGNIFICANT EMISSIONS UNIT INFORMATION

LANDFILL AND LANDFILL GAS COLLECTION SYSTEM

SMAQMD P/O No. 12762(Rev02)

The landfill is equipped with a gas collection system consisting of perimeter wells and interior wells. Vacuum is drawn through the wells via a centrifugal blower. The blower moves the collected landfill gas to the flare.

LANDFILL GAS FLARE

SMAQMD P/O No. 24341

The flare is designed to meet a non-methane organic compound destruction efficiency of 98%.

Perennial Energy (PEI), Model No. FL-72-33-E, 600 scfm, 18 MMBTU/hr (at 500 BTU/cubic foot of landfill gas)

LANDFILL GAS FLARE

SMAQMD A/C No. 25596

The flare is designed to meet a non-methane organic compound destruction of 98%.

Aereon or equivalent, Model No. CEB-350, 400 scfm, 9.6 MMBTU/hr

F. INSIGNIFICANT EMISSIONS UNIT INFORMATION

This section contains a list of emissions units operated at the facility that are considered insignificant emission sources and are listed as such in the Title V permit. The basis for determining whether equipment is an insignificant emission unit is made based on the SMAQMD "List and Criteria" document, Part B (List of Title V Insignificant Activities), Section 5 which was last revised on April 26, 2001.

Equipment Description	**Basis for Determination of Insignificant Emissions Unit is made based on SMAQMD "List and Criteria", Part B, Section 5 modified April 2001.**
Vehicles used to transport passengers or freight	I. General criteria for insignificant activities. a. Not subject to a preconstruction permit.
Small internal combustion engines used for welders, compressors and generators.	II.B.2 Any piston-type IC engine with a manufacturer's maximum continuous rating of no more than 50 bhp.
Storage containers for liquefied or compressed gases	II.J Any equipment used exclusively for the storage of liquefied gases in unvented (except for emergency pressure-relief valves) pressure vessels.
Storage containers for diesel fuel, compressor oil or lubricants with a vapor pressure of 0.1 psia or less	II.H.1 Any equipment used exclusively for the storage of unheated organic material with: a. An initial boiling point of 302 degrees F or greater; or b. A vapor pressure of no more than 0.1 psia.
Storage containers for diesel	II.H.3 Any equipment with a capacity of no more than

F. INSIGNIFICANT EMISSIONS UNIT INFORMATION (Continued)

Equipment Description	Basis for Determination of Insignificant Emissions Unit is made based on SMAQMD "List and Criteria", Part B, Section 5 modified April 2001.
fuel, compressor oil or lubricants with a vapor pressure of 1.5 psia or less and a storage capacity of 6076 gallons or less	6,077 gallons used for the storage of unheated organic liquids with a vapor pressure of no more than 1.5 psia.

G. ALTERNATE OPERATING SCENARIOS

None requested by the permit holder

H. RECENT PERMIT ACTIONS

Below is a description of local permit actions that have taken place since the last update to the Title V permit.

Permit Cancellations:

The following Permits to Operate have been cancelled and their reference will be removed from the Title V permit:

Cancelled SMAQMD Rule 201 Permits to Operate			
PO No.	**Date Cancelled**	**Equipment Description**	**Reason for Cancellation**
9314	12/17/2013	LFG Flare (1990)	Removed from service.
14749	08/30/2018	LFG Flare (1997)	Removed from service.

New Permits:

The following permits p have been issued since the last Title V update and will be incorporated into the Title V permit:

New SMAQMD Rule 201 Permits to Operate			
Permit No.	**Date Issued**	**Equipment Description**	**Reason for Permit**
PO 24341	3/16/17	LFG Flare	Newly installed flare to replace existing flares.
AC 25596	1/11/1921	LFG Flare	New flare, yet to be installed

I. FACILITY EMISSIONS

Equipment	Maximum Potential to Emit tons per year						
	VOC	NOx	PM10	SO2	CO	Single HAP	Total HAPs
Landfill and Landfill Gas Collection System	3.2 (A)	0	0	0	0	0.03 (D)	0.17 (D)
Flare (B)	1.8	4.0	1.0	1.4	15.9	0.63 (E)	0.65 (E)
Flare (C)	2.3	2.2	0.6	1.7	6.4	0.42	0.44 (F)
Total	7.3	6.2	1.6	3.1	22.3	1.08	1.26

(A) Based on worst case landfill gas concentration of 822 ppm NMOC in uncollected fugitive landfill gas, 2,353 scfm total landfill gas produced, 24 hours/day, 365 days/year and an 85% collection efficiency for landfill gas by the landfill gas collection system.
(B) Based on the permitted emissions of Permit to Operate 24341.
(C) Based on the permitted emissions of Authority to Construct 25596.
(D)Based on documentation in the initial Title V application.
(E) Based on documentation in the application for Permit to Operate 24341.
(F) Based on documentation in the application for Authority to Construct 25596.

J. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS
1. Facility-wide Requirements

SMAQMD Rule 201 - General Permit Requirements

SIP approved: 07-13-1987 (52 FR 26148)
11-20-1984 rule version SIP approved
08-24-2006 rule version is the current version and is not SIP approved

Rule Description: This rule provides an orderly procedure for the review of new sources of air pollution and of the modification and operation of existing sources through the issuance of permits.

Compliance Status: The permit holder has active permits for all sources that require permits.

The following SMAQMD rule is not an applicable federal requirement but is discussed here to document the non-applicability determination for the record:

SMAQMD Rule 202 - New Source Review

SIP approved: SIP approval of 11-20-1984 rule version was withdrawn on 8-19-2011
08-23-2012 rule version is the current version and is not SIP approved. The equipment permitted at the site (flare) was installed to comply with NSPS requirements and was primarily permitted under this rule. Therefore, the requirements of this rule will be deemed as Federally Enforceable.

Rule Description: This rule sets the procedures for review of new and modified stationary sources and provides the mechanisms for evaluating the applicability of BACT and/or offset requirements.

Compliance Status: New and modified stationary sources at the permit holder's facility have been reviewed pursuant to this rule. BACT and/or emission offsets have been provided as required by the rule.

SMAQMD Rule 207 - Title V Federal Operating Permits

SIP approved: 11-21-2003 (68 FR 65637) (part of Title V program approval)

Rule Description: This rule sets forth the procedures for review, issuance and renewal of Title V operating permits.

Compliance Status: The permit holder has submitted a timely and complete Title V application for permit renewal in this current permitting action and is currently operating under an active Title V permit.

J. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS
1. Facility-wide Requirements

The following SMAQMD rule is not an applicable federal requirement but is discussed here to document the non-applicability determination for the record:

SMAQMD Rule 214 - Federal New Source Review

SIP approved: 08-29-2013 (78 FR 53271)
08-23-2012 rule version is SIP approved

Rule Description: This rule sets the procedures for review of emissions units at new and modified major stationary sources and provides the mechanisms for evaluating the applicability of BACT and/or offset requirements.

Compliance Status: The facility is not classified as a major source. Therefore, it is not subject to the requirements of this rule.

SMAQMD Rule 217 - Public Notice Requirements for Permits

SIP Approved: 08-29-2013 (78 FR 53271)
08-23-2012 rule version is SIP approved.

Rule Description: This rule provides an administrative mechanism for public notification and review of the issuance of authorities to construct and permits to operate at new and modified stationary air pollution sources.

Compliance Status: This is a recently adopted and SIP approved rule. The permit holder's equipment will be reviewed pursuant to this rule, if applicable, for all future permitting actions.

SMAQMD Rule 301 – Permit Fees – Stationary Source

SIP approved: Rule adopted 11-29-71
Latest rule revision 07-25-2017

The rule is not SIP approved but the portions of the rule related to Title V permit fees are applicable because they are part of the SMAQMD Title V Federal Operating Permit program approved by U.S. EPA on 11-21-2003 (68 FR 65637).

Rule Description: This rule requires Title V sources to pay specified fees.

Compliance Status: The permit holder complies with the rule requirement

SMAQMD Rule 401 - Ringelmann Chart

SIP approved: 02-01-1984 (49 FR 3987)
04-19-1983 rule version is SIP approved

Rule Description: This rule limits the discharge of air contaminants into the atmosphere by

J. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS
1. Facility-wide Requirements

limiting visible emissions.

Compliance Status: All equipment at the permit holder's facility is expected to comply with the visible emissions requirement.

SMAQMD Rule 403 - Fugitive Dust

SIP approved: 12-05-1984 (49 FR 47490):
08-03-1977 rule version is SIP approved

Rule Description: This rule regulates operations which may cause fugitive dust emissions into the atmosphere.

Compliance Status: The permit holder's facility complies with this rule by taking the necessary precautions to ensure that fugitive dust is not airborne beyond the property line.

SMAQMD Rule 442 - Architectural Coatings

SIP approved: 10-04-2016 (81 FR 68320)
09-24-2015 rule version is SIP approved

Rule Description: This rule limits the quantity of volatile organic compounds in architectural coatings supplied, sold, offered for sale, applied, solicited for application or manufactured for use within the SMAQMD.

Compliance Status: The affected coatings used by the permit holder are received and stored in containers that display the required manufacturer's labels and demonstrate compliance with the rule's requirements.

SMAQMD Rule 466 - Solvent Cleaning

SIP approved: 09-29-2011 (76 FR 60376)
10-28-2010 rule version is SIP approved

Rule Description: This rule reduces the emissions of volatile organic compounds from solvent cleaning operations and activities, and from the storage and disposal of new and spent cleaning solvents.

Compliance Status: The affected architectural coating application equipment solvent cleaning materials used by the facility are received and stored in containers that display the required manufacturer's labels and demonstrate compliance with the rule's requirements.

J. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS
1. Facility-wide Requirements

40 CFR 68 (begin at 68.1) - Chemical Accident Prevention Provisions

Promulgated: 01-31-1994 (59 FR 4493)
[04-09-2004 (69 FR 18831) most recent amendment]

Rule Description: This regulation specifies requirements for owners or operators of stationary sources concerning the prevention of accidental chemical releases.

An owner or operator of a stationary source that has more than a threshold quantity of a regulated substance in a process, as determined under 40 CFR 68.115, must comply with the requirements of 40 CFR Part 68.

40 CFR 68.215 requires that the air permitting authority include in the Title V permit for a facility specified statements regarding the regulation. Those statements are included in the Federally Enforceable Requirements - General section of the permit.

Compliance Status: The permit holder does not store regulated substances in quantities exceeding the thresholds specified in 40 CFR 68 and is in compliance with the requirements of the regulation.

40 CFR 82 Subpart F (begin at 82.150) - Protection of Stratospheric Ozone - Recycling and Emissions Reduction:

Promulgated: 05-14-1993 (58 FR 28712)
[08-11-2011 most recent amendment]

Rule Description: The purpose of this subpart is to reduce emissions of class I and class II refrigerants and their substitutes to the lowest achievable level by maximizing the recapture and recycling of such refrigerants during the service, maintenance, repair and disposal of appliances and restricting the sale of refrigerants consisting in whole or in part of a class I and class II ODS in accordance with Title VI of the Clean Air Act.

This subpart applies to any person servicing, maintaining or repairing appliances. This subpart also applies to persons disposing of appliances, including small appliances and motor vehicle air conditioners. In addition, this subpart applies to refrigerant reclaimers, technician certifying programs, appliance owners and operators, manufacturers of appliances, manufacturers of recycling and recovery equipment, approved recycling and recovery equipment testing organizations, persons selling class I or class II refrigerants or offering class I or class II refrigerants for sale and persons purchasing class I or class II refrigerants.

As indicated in 40 CFR 70.6, Title V permits need to assure compliance with all applicable requirements at the time of permit issuance. Part 70

J. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS
1. Facility-wide Requirements

defines as an applicable requirement, "Any standard or other requirement of the regulations promulgated to protect stratospheric ozone under Title VI of the Act, unless the Administrator has determined that such requirements need not be contained in a Title V permit." [40 CFR 70.2(12)]. The applicable requirements of Title VI are included in the Federally Enforceable Requirements - General section of the permit.

Compliance Status: The permit holder employs qualified contractors to maintain equipment that contains class I or class II refrigerants. All of the permit holder's equipment is expected to comply with the requirements of this NESHAP.

J. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS
1. Equipment Specific Requirements
a. Combustion Sources Only
(2) Flares, LFG

SMAQMD Rule 406 - Specific Contaminants

SIP approved: 12-05-84 (49 FR 47490)
12-06-1978 rule version is SIP approved

Rule Description: This rule regulates emissions of sulfur compounds and combustion contaminants by limiting emission concentrations. The rule limits the emission of sulfur compounds, calculated as SO2 to 0.2% by volume. The rule limits particulate matter to 0.1 grains/dscf at 12% CO2.

Compliance Status: The emissions from the flare at the 28th Street Landfill complies with the requirements of the rule (see Attachment C for compliance demonstration).

SMAQMD Rule 420 - Sulfur Content of Fuels

SIP approved: 12-05-1984 (49 FR 47490):
08-13-1981 rule version is SIP approved

Rule Description: This rule regulates emissions of sulfur compounds from combustion of fuels. This rule limits the sulfur content of gaseous fuels to less than 50 grains per 100 cubic feet (as H_2S) and the sulfur content of liquid fuels to less than 0.5 percent by weight.

Compliance Status: The sulfur content of the landfill gas fueling the flare is limited to 51.5 ppmv as H_2S, which is equivalent to 3.18 grains per 100 cubic foot (see Appendix D for compliance demonstration). Therefore, the flare is in compliance with the requirements of this rule.

K. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS
1. Equipment Specific Requirements:
a. Landfill and Landfill Gas Collection System

40 CFR 60 Subpart WWW (begin at 60.750) - Standards of Performance for Municipal Solid Waste Landfills:

Promulgated: 03-12-1996 (61 FR 9919)

Rule Description: Subpart WWW limits emissions of NMOC from municipal solid waste landfills with a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters and with NMOC emissions greater than 50 megagrams/year where construction, reconstruction or modification was commenced on or after May 30, 1991.

There was a modification at the 28th Street Landfill (as defined in 40 CFR 60.751) on or after May 30, 1991. The volume design capacity of the landfill was increased by the modification of the permit issued by the California Regional Water Quality Control Board, Central Valley Region, dated September 25, 1995. Therefore 40 CFR 60 Subpart WWW and not Subpart Cc (Emission Guidelines) applies to the Landfill and Landfill Gas Collection System.

Subpart WWW requirements for the Landfill and Landfill Gas Collection System include:

1. Collection of landfill gas by the use of wells in the landfill.
2. The wells must collect the landfill gas at a rate that does not allow methane concentration at the surface of the landfill to exceed 500 ppmv above background.
3. The collected landfill gas must be directed to an air pollution control device or landfill gas treatment system.
4. Wells must be monitored monthly for temperature and oxygen concentration.
5. The surface of the landfill must be monitored quarterly for methane, except that closed landfills may monitor yearly under certain circumstances.
6. Recordkeeping for operational parameters.
7. Reporting of monitored data and exceedances of operating parameters.

Compliance Status: The Landfill and Landfill Gas Collection System is currently in compliance with the requirements of 40 CFR 60 Subpart WWW.

K. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS
1. Equipment Specific Requirements:
a. Landfill and Landfill Gas Collection System

The following SMAQMD rule is not an applicable federal requirement but is discussed here to document the non-applicability determination for the record:

SMAQMD Rule 485 - Municipal Landfill Gas

SIP approved: Rule 485 was approved September 23, 1999 (64 FR 51447), with an effective date of November 22, 1999, as part of the California State Plan for implementing the Emission Guidelines (40 CFR 60 Subpart Cc) applicable to existing municipal solid waste landfills (also known as a Federal Clean Air Act 111(d) plan).

Rule Description: This rule limits emissions of NMOC from municipal solid waste landfills with NMOC emissions greater than 50 megagrams/year. The rule requirements incorporate the requirements of the Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills 40 CFR 60 Subpart Cc.

SMAQMD Rule 485 Section 110 provides an exemption from the requirements of the rule for "any MSW landfill that is subject to the requirements of the New Source Performance Standard Subpart WWW - Standards of Performance for Municipal Solid Waste Landfills (40 CFR 60.750)...".

Compliance Status: The 28th Street Landfill and Landfill Gas Collection System is subject to 40 CFR 60 Subpart WWW and is therefore exempt from SMAQMD Rule 485.

The following federal regulation is not an applicable federal requirement but is discussed here to document the non-applicability determination for the record:

40 CFR 60 Subpart Cc (begin at 60.30c) - Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills:

Promulgated: 03-12-1996 (61 FR 9919)

Rule Description: Subpart Cc limits emissions of NMOC from existing municipal solid waste landfills with a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters and with NMOC emissions greater than 50 megagrams/year where **no** construction, reconstruction or modification was commenced on or after May 30, 1991.

Compliance Status: There has been a modification at the 28th Street Landfill (as defined in 40 CFR 60.751) on or after May 30, 1991. The volume design capacity of the landfill was increased by the modification of the permit issued by the California Regional Water Quality Control Board, Central Valley Region, dated September 25, 1995. Therefore Subpart Cc does not apply to the

K. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS
1. Equipment Specific Requirements:
a. Landfill and Landfill Gas Collection System

Landfill and Landfill Gas Collection System.

The following federal regulation is not an applicable federal requirement at this time but is discussed here to document the non-applicability determination for the record:

40 CFR 60 Subpart Cf (begin at 60.30f) - Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills:

Promulgated: 08-29-2016 (81 FR 59313)

Rule Description: Subpart Cf limits emissions of NMOC from existing municipal solid waste landfills with a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters and with NMOC emissions greater than 50 megagrams/year for closed landfills where **no** construction, reconstruction or modification was commenced on or after July 17, 2014.

Compliance Status: This rule requires the Administrator of an air quality program to submit a state plan to EPA by May 30, 2017 to show how compliance with this regulation will be met. The California Air Resources Board (CARB) has submitted a state plan to EPA by the required date. EPA extended the deadline to August 29, 2017. On October 20, 2018, EPA issued a proposal to extend the deadline to August 29, 2019. CARB proposes to comply with these emission guidelines through the State's Landfill Methane Regulation (LMR). This landfill is already subject to the State's LMR and is in compliance with the requirements of this regulation. Upon approval of the State plan, the landfill will be in compliance with the requirements of this regulation.

The following federal regulation is not an applicable federal requirement but is discussed here to document the non-applicability determination for the record:

40 CFR 60 Subpart XXX (begin at 60.760) – Standards of Performance for Municipal Solid Waste Landfills that Commenced Construction, Reconstruction, or Modification After July 17, 2014.

Promulgated: 08-29-2016 (81 FR 59368)

Rule Description: The provisions of this subpart apply to each MSW landfill that commenced Construction, reconstruction, or modification after July 17, 2014. Physical or operational changes made to an MSW landfill solely to comply with subparts Cc, Cf or WWW of this part are not considered construction, reconstruction or modification for this purposes of this section. Section 60.761 (Definitions) defines a modification as an increase in the permitted volume of the landfill by either lateral or vertical expansion.

K. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS
1. Equipment Specific Requirements:
a. Landfill and Landfill Gas Collection System

Compliance Status: The landfill is a closed landfill and has not expanded the landfill after July 17, 2014. Therefore, the landfill is exempt from 40 CFR 60 Subpart XXX.

SMAQMD Permit to Operate No. 12762(Rev02):

Permit Conditions No. 1 through No. 5 and 27 are not federally enforceable. All other conditions of the permit are federally enforceable since they are requirements of SIP approved rules and/or federal NSPS and NESHAP regulations. The Landfill and Landfill Gas Collection System is currently in compliance with all the conditions of SMAQMD Permit to Operate No. 12762(Rev02).

K. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS
1. Equipment Specific Requirements:
b. (2) Landfill Gas Flares

40 CFR 60 Subpart WWW (begin at 60.750) - Standards of Performance for Municipal Solid Waste Landfills:

Promulgated: 03-12-1996 (61 FR 9919)

Rule Description: Subpart WWW limits emissions of NMOC from municipal solid waste landfills with a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters and with NMOC emissions greater than 50 megagrams/year where construction, reconstruction or modification was commenced on or after May 30, 1991.

There was a modification at the 28th Street Landfill (as defined in 40 CFR 60.751) on or after May 30, 1991. The volume design capacity of the landfill was increased by the modification of the permit issued by the California Regional Water Quality Control Board, Central Valley Region, dated September 25, 1995. Therefore 40 CFR 60 Subpart WWW and not Subpart Cc (Emission Guidelines) applies to the Landfill and Landfill Gas Collection System.

40 CFR 60 Subpart WWW requirements for the Landfill Gas Flare include:

1. Landfill gas destruction must be 98% or greater or emissions must be less than 20 ppmvd as hexane at 3% O2.

2. A temperature monitoring device at a specific location in the flare exhaust and operation of the flare at a minimum temperature determined by source testing.

3. Recordkeeping for operational parameters.

4. Reporting of monitored data and exceedances of operating parameters.

Compliance Status: The Landfill gas Flare is currently in compliance with the requirements of 40 CFR 60 Subpart WWW.

40 CFR 63 Subpart AAAA (begin at 63.1930) - National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills:

Promulgated: 03-12-1996 (61 FR9919)

Rule Description: 40 CFR 63 Subpart AAAA limits emissions of hazardous air pollutants (HAP) from municipal solid waste landfills that are a major source of HAP (i.e. greater than 10 tons/year of a single HAP or greater than 25 tons/year of total HAP).

K. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS
1. Equipment Specific Requirements:
b. (2) Landfill Gas Flares

40 CFR 63 Subpart AAAA requirements for the Landfill Gas Flare are the same as 40 CFR 60 Subpart WWW requirements but also include:

1. The development of a Startup, Shutdown and Malfunction (SSM) Plan.
2. Taking actions specified in the SSM Plan when applicable.
3. Recordkeeping related to the SSM Plan.
4. Reporting related to the SSM Plan.

Compliance Status: The Landfill Gas Flare is currently in compliance with the requirements of 40 CFR 63 Subpart AAAA.

The following SMAQMD rule is not an applicable federal requirement but is discussed here to document the non-applicability determination for the record:

SMAQMD Rule 485 - Municipal Landfill Gas

SIP approved: Rule 485 was approved September 23, 1999 (64 FR 51447), with an effective date of November 22, 1999, as part of the California State Plan for implementing the Emission Guidelines (40 CFR 60 Subpart Cc) applicable to existing municipal solid waste landfills (also known as a Federal Clean Air Act 111(d) plan).

Rule Description: This rule limits emissions of NMOC from municipal solid waste landfills with NMOC emissions greater than 50 megagrams/year. The rule requirements incorporate the requirements of the Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills 40 CFR 60 Subpart Cc.

SMAQMD Rule 485 Section 110 provides an exemption from the requirements of the rule for "any MSW landfill that is subject to the requirements of the New Source Performance Standard Subpart WWW - Standards of Performance for Municipal Solid Waste Landfills (40 CFR 60.750)...".

Compliance Status: The Landfill Gas Flare is subject to 40 CFR 60 Subpart WWW and is therefore exempt from SMAQMD Rule 485.

K. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS
1. Equipment Specific Requirements:
b. (2) Landfill Gas Flares

The following federal regulation is not an applicable federal requirement but is discussed here to document the non-applicability determination for the record:

40 CFR 60 Subpart Cc (begin at 60.30c) - Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills:

Promulgated: 03-12-1996 (61 FR 9919)

Rule Description: Subpart Cc limits emissions of NMOC from existing municipal solid waste landfills with a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters and with NMOC emissions greater than 50 megagrams/year where **no** construction, reconstruction or modification was commenced on or after May 30, 1991.

Compliance Status: There has been a modification at the 28th Street Landfill (as defined in 40 CFR 60.751) on or after May 30, 1991. The volume design capacity of the landfill was increased by the modification of the permit issued by the California Regional Water Quality Control Board, Central Valley Region, dated September 25, 1995. Therefore Subpart Cc does not apply to the Landfill Gas Flare.

The following federal regulation is not an applicable federal requirement at this time but is discussed here to document the non-applicability determination for the record:

40 CFR 60 Subpart Cf (begin at 60.30f) - Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills:

Promulgated: 08-29-2016 (81 FR 59313)

Rule Description: Subpart Cf limits emissions of NMOC from existing municipal solid waste landfills with a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters and with NMOC emissions greater than 50 megagrams/year for closed landfills where **no** construction, reconstruction or modification was commenced on or after July 17, 2014.

Compliance Status: This rule requires the Administrator of an air quality program to submit a state plan to EPA by May 30, 2017 to show how compliance with this regulation will be met. The California Air Resources Board (CARB) has submitted a state plan to EPA by the required date. EPA extended the deadline to August 29, 2017. On October 20, 2018, EPA issued a proposal to extend the deadline to August 29, 2019. CARB proposes to comply with these emission guidelines through the State's Landfill Methane Regulation (LMR). This landfill is already subject to the State's LMR and is in compliance with the requirements of this regulation. Upon approval of the

K. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS
1. Equipment Specific Requirements:
b. (2) Landfill Gas Flares

State plan, the landfill flare will be in compliance with the requirements of this regulation.

The following federal regulation is not an applicable federal requirement but is discussed here to document the non-applicability determination for the record:

40 CFR 60 Subpart XXX (begin at 60.760) – Standards of Performance for Municipal Solid Waste Landfills that Commenced Construction, Reconstruction, or Modification After July 17, 2014.

Promulgated: 08-29-2016 (81 FR 59368)

Rule Description: The provisions of this subpart apply to each MSW landfill that commenced Construction, reconstruction, or modification after July 17, 2014. Physical or operational changes made to an MSW landfill solely to comply with subparts Cc, Cf or WWW of this part are not considered construction, reconstruction or modification for this purposes of this section. Section 60.761 (Definitions) defines a modification as an increase in the permitted volume of the landfill by either lateral or vertical expansion.

Compliance Status: The landfill is a closed landfill and has not expanded the landfill after July 17, 2014. Therefore, the landfill flare is exempt from 40 CFR 60 Subpart XXX.

The following federal regulation is not an applicable federal requirement but is discussed here to document the non-applicability determination for the record:

40 CFR 64 (begin at 64.1) Compliance Assurance Monitoring:

Promulgated: 10-22-1997 (52 FR 54940)

Rule Description: The Compliance Assurance Monitoring regulation applies to pollutant-specific emissions units at a major source if the unit satisfies all of the following criteria:

> "The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or surrogate thereof), other than an emission limitation or standard that is exempt under paragraph (b)(1) of this section;"
> [40 CFR 64.2(a)(1)]
>
> "The unit uses a control device to achieve compliance with any such emission limitation or standard; and"
> [40 CFR 64.2(a)(2)]
>
> "The unit has potential pre-control device emissions of the

K. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS
1. Equipment Specific Requirements:
b. (2) Landfill Gas Flares

applicable regulated air pollutant that are equal to or greater than 100 percent of the amount to be classified as a major source. For purposes of this paragraph, "potential pre-control device emissions' shall have the same meaning as "potential to emit," as defined in §64.1, except that emission reductions achieved by the applicable control device shall not be taken into account."
[40 CFR 64.2(a)(3)]

Section 64.2(b)(i) states that the requirements of this part shall not apply to any emission limitations or standards proposed after November 15, 1990 pursuant to section 111 or 112 of the Act. Emission limitation or standard means any applicable requirements that constitute an emission limitation, emission standard, standard of performance or means of emission limitation under the Act.

Compliance Status: The flare is subject to 40 CFR Subpart WWW, which was promulgated in 1996. Therefore, the flare is exempt from 40 CFR Part 64.

The following state regulation is not an applicable federal requirement at this time but is discussed here to document the non-applicability determination for the record:

California Code of Regulations, Title 17, Section 95460, Methane Emissions from Municipal Solid Waste Landfills

SIP approved: Not SIP approved
06-25-2009 - adopted by California Air Resources Board

Rule Description : The purpose of this rule is to reduce methane emissions from MSW landfills pursuant to the California Global Warming Solutions Act of 2006. This regulation is applicable to MSW landfills that received solid waste after January 1, 1977.

Rule Compliance: This regulation requires MSW landfills with greater than or equal to 450,000 tons of waste-place and landfill gas heat input capacity of greater than or equal to 3.0 MMBtu/hr to install a gas collection system and vent the landfill gas to an enclosed flare capable of achieving a methane destruction efficiency of at least 99% by weight. The landfill has an existing gas collection system and is served by an enclosed flare. The flare has been tested and shown to meet the destruction efficiency. The landfill is in compliance with the requirements of this regulation. This regulation has been submitted to EPA as part of the State's plan to comply with the new emission guidelines under 40 CFR Subpart cf. Therefore, this regulation will not be Federally Enforceable until the State plan is approved by EPA.

K. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

1. Equipment Specific Requirements:

b. (2) Landfill Gas Flares

SMAQMD Permit to Operate No. 24341:

Permit Conditions No. 1 through No. 6, No. 12, No. 18, No. 19, No. 22 and No. 24 are not federally enforceable. All other conditions of the permit are federally enforceable since they are requirements of SIP approved rules and/or federal NSPS and NESHAP. The Landfill Gas Flare is currently in compliance with all the conditions of SMAQMD Permit to Operate No. 24341.

SMAQMD Authority to Construct No. 25596:

Permit Conditions No. 1 through No. 5, No. 11, No. 18, No. 19, No. 22 and No. 24 are not federally enforceable. All other conditions of the permit are federally enforceable since they are requirements of SIP approved rules and/or federal NSPS and NESHAP.

L. PERMIT SHIELD

None requested by the applicant.

M. TITLE V PERMIT RENEWAL AND PERMIT CONDITIONS

It is recommended that the 28th Street Landfill, City of Sacramento Title V Federal Operating Permit be renewed.

See proposed Title V Federal Operating Permit No. TV2016-08-01 for permit conditions.

Approved by: _____ **Date:** _____

ATTACHMENT A

SMAQMD RULES THAT ARE

"APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS"

FOR THE 28TH STREET LANDFILL

SMAQMD RULES THAT ARE "APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS" FOR THE 28TH STREET LANDFILL

Rule is Applicable	Rule is SIP Approved	Rule No.	Rule Title	Is the Rule an "Applicable Federally Enforceable Requirement"?
●	●	101	General Provisions and Definitions 10-27-2011 version	**Yes** - No related conditions are included in the permit because of general nature of the rule.
●	●	102	Circumvention 11-29-1983 version	**Yes** - No related conditions are included in the permit because of general nature of the rule.
	●	103	Exceptions 11-29-1983 version	**No** - Source does not operate the type of equipment described in this rule.
	●	104	General Conformity 11-03-1994 version	**No** - The rule's purpose is to have the SMAQMD review federal conformity findings.
●	●	105	Emission Statement 09-05-1996 version	**No** - Actual facility emissions of VOC and NOx are less than 25 tons/year.
		107	Alternative Compliance	**No** - It is not a SIP approved rule.
●		108	Minor Violations	**No** - It is not a SIP approved rule.
●	●	201	General Permit Requirements 11-20-1984 version 08-24-2006 version is not SIP approved	**Yes** - No related conditions are included in the permit because of the general nature of the rule.

SMAQMD RULES THAT ARE "APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS" FOR THE 28TH STREET LANDFILL

Rule is Applicable	Rule is SIP Approved	Rule No.	Rule Title	Is the Rule an "Applicable Federally Enforceable Requirement"?
●		202	New Source Review 8-23-2012 version	**No** - SIP approved version (11-20-1984) was withdrawn from SIP approval on 8-19-2011. Current version (8-23-2012) is not SIP approved.
	●	203	Prevention of Significant Deterioration	**Yes** - Rule became effective on 8-19-2011. Projects processed after this date are evaluated under this rule.
		204	Emission Reduction Credits	**No** - It is not a SIP approved rule.
		205	Community Bank and Priority Reserve Bank	**No** - It is not a SIP approved rule.
		206	Mobile and Transportation Source Emission Reduction Credits	**No** - It is not a SIP approved rule.
●	*	207	Title V Federal Operating Permit Program 7-28-2011 version	**Yes** - Related conditions are included in the permit. (*Although this is not a SIP approved rule, it is applicable because it is part of the approved SMAQMD Title V Permit Program.)
		208	Acid Rain	**No** - It is not a SIP approved rule.
		209	Limiting Potential to Emit	**No** - It is not a SIP approved rule.

SMAQMD RULES THAT ARE "APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS" FOR THE 28TH STREET LANDFILL

Rule is Applicable	Rule is SIP Approved	Rule No.	Rule Title	Is the Rule an "Applicable Federally Enforceable Requirement"?
		210	Synthetic Minor Source Status	**No** - It is not a SIP approved rule.
●		211	MACT at Major Sources of Hazardous Air Pollutants	**No** - It is not a SIP approved rule, but the requirements of this rule are also contained in the CAA. Per EPA guidance, the MACT requirements for boilers are applicable.
●		213	Federal Major Modifications	**No** - It is not a SIP approved rule but the requirements within it are part of EPA's NSR reform and are thus federally applicable
●	●	214	Federal New Source Review 08-23-2012 version	**No** - Rule became effective on 8-19-11. This facility is not a Major Source for any pollutant, therefore, this rule is not applicable.
		215	Agricultural Permit Requirements and New Agricultural Permit Review	**No -** It is not a SIP approved rule.
●	●	217	Public Notice Requirements for Permits 08-23-2012 version	**Yes** - no related conditions are included in the permit because of the general nature of the rule.

SMAQMD RULES THAT ARE "APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS" FOR THE 28TH STREET LANDFILL

Rule is Applicable	Rule is SIP Approved	Rule No.	Rule Title	Is the Rule an "Applicable Federally Enforceable Requirement"?
		250	Sacramento Carbon Exchange Program	**No -** It is not a SIP approved rule.
●	*	301	Stationary Source Permit Fees	**Yes** - Related conditions are included in the permit. (*Although this is not a SIP approved rule it is applicable because it is part of the approved SMAQMD Title V Permit Program.)
●		302	Hearing Board Fees	**No** - It is not a SIP approved rule.
		303	Agricultural Burning Permit Fees	**No** - It is not a SIP approved rule.
		304	Plan Fees	**No** - It is not a SIP approved rule.
		305	Environmental Document Preparation and Processing Fees	**No** - It is not a SIP approved rule.
●		306	Air Toxics Fees	**No** - It is not a SIP approved rule.
●	●	307	Clean Air Act Fees 09-26-2002 version	**No** - This source is not classified as a major source.

SMAQMD RULES THAT ARE "APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS" FOR THE 28TH STREET LANDFILL

Rule is Applicable	Rule is SIP Approved	Rule No.	Rule Title	Is the Rule an "Applicable Federally Enforceable Requirement"?
		310	Permit Fees - Agricultural Source	**No** - It is not a SIP approved rule
		311	Registration Fee for Agricultural Compression Ignition Engines	**No -** It is not a SIP approved rule.
		350	Greenhouse Gas Program Fees	**No -** It is not a SIP approved rule.
●	●	401	Ringelmann Chart 04-05-1983 version	**Yes** - Related conditions are included in the permit.
●		402	Nuisance	**No** - It is not a SIP approved rule.
●	●	403	Fugitive Dust 11-29-1983 version	**Yes** - Related conditions are included in the permit.
●	●	404	Particulate Matter 11-20-1984 version	**Yes** - Related conditions are included in the permit.
	●	405	Dust and Condensed Fumes 11-29-1983 version	**No** - The source does not operate such a process.

SMAQMD RULES THAT ARE "APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS" FOR THE 28TH STREET LANDFILL

Rule is Applicable	Rule is SIP Approved	Rule No.	Rule Title	Is the Rule an "Applicable Federally Enforceable Requirement"?
●	●	406	Specific Contaminants 11-29-1983 version	**Yes** - Related conditions are included in the permit. (see discussion of streamlining applicable requirements)
●	●	407	Open Burning 11-29-1983 version	**Yes** - No related conditions are included in the permit because the source does not conduct open burning.
	●	408	Incinerator Burning 11-29-1983 version	**No** - The source does not operate an incinerator.
	●	409	Orchard Heaters 11-29-1983 version	**No** - The source does not operate orchard heaters.
	●	410	Reduction of Animal Matter 11-29-1983 version	**No** - The source does not operate equipment for the reduction of animal matter.
●	●	411	Boiler NOx 08-23-2007 version	**No** - The source does not operate a boiler subject to this rule.
	●	412	Stationary IC Engines at Major Stationary Sources of NOx 06-01-1995 version	**No** - The source does not operate an IC engine and is not a major source.

SMAQMD RULES THAT ARE "APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS" FOR THE 28TH STREET LANDFILL

Rule is Applicable	Rule is SIP Approved	Rule No.	Rule Title	Is the Rule an "Applicable Federally Enforceable Requirement"?
●	●	413	Stationary Gas Turbines 03-24-2005 version	**No** - The source does not operate a gas turbine.
●	●	414	Natural Gas Fired Water Heaters 08-01-1996 version 03-25-2010 version is not SIP approved	**No** - The source does not operate natural gas fired water heaters.
	●	417	Wood Burning Appliances	**No -** The source does not operate any wood burning appliances.
		419	NOx from Miscellaneous Combustion Units	**No** - It is not a SIP approved rule.
●	●	420	Sulfur Content of Fuels 11-29-1983 version	**Yes** - Related conditions are included in the permit.
	●	421	Mandatory Episodic Curtailment of Wood and Other Solid Fuel Burning	**No -** The source does not operate any equipment subject to this rule
●	●	441	Organic Solvents 11-29-1983 version	**Yes** - No related conditions are included in the permit because of limited applicability.
●	●	442	Architectural Coatings 09-24-2015 version	**Yes** - Related conditions are included in the permit.

SMAQMD RULES THAT ARE "APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS" FOR THE 28TH STREET LANDFILL

Rule is Applicable	Rule is SIP Approved	Rule No.	Rule Title	Is the Rule an "Applicable Federally Enforceable Requirement"?
	●	443	Leaks from Synthetic Organic Chemical and Polymer Manufacturing 09-05-1996 version	**No** - The source does not operate synthetic organic chemical or polymer manufacturing equipment.
	●	444	Petroleum Solvent Dry Cleaning 08-13-1981 version	**No** - The source does not operate petroleum solvent dry cleaning equipment.
	●	446	Storage of Petroleum Products 11-16-1993 version	**No** - The source does not store affected petroleum products.
	●	447	Organic Liquid Loading 04-02-1998 version	**No** - The source does not operate organic liquid loading equipment.
	●	448	Gasoline Transfer into Stationary Storage Containers 02-26-2009 version	**No** - The source does not operate gasoline transfer equipment.
	●	449	Transfer of Gasoline into Vehicle Fuel Tanks 02-26-2009 version	**No** - The source does not operate gasoline transfer equipment.
	●	450	Graphic Arts Operations 10-24-2008 version	**No** - The source does not operate a graphic arts process as defined in the rule.

SMAQMD RULES THAT ARE "APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS" FOR THE 28TH STREET LANDFILL

Rule is Applicable	Rule is SIP Approved	Rule No.	Rule Title	Is the Rule an "Applicable Federally Enforceable Requirement"?
●	●	451	Surface Coating of Miscellaneous Metal Parts and Products 10-28-2010 version	**Yes** - No related conditions are included in the permit because of limited applicability.
	●	452	Can Coating 09-25-2008 version	**No** - The source does not operate a can coating process.
	●	453	Cutback and Emulsified Asphalt Paving Materials 11-29-1983 version	**No** - The source does not manufacture or apply cutback or emulsified asphalt paving materials.
	●	454	Degreasing Operations 09-25-2008 version	**No** - The source does not operate degreasers that are subject to this rule.
	●	455	Pharmaceuticals Manufacturing 11-29-1983 version 09-05-1996 version is not SIP approved	**No** - The source does not manufacture pharmaceuticals.
	●	456	Aerospace Coating Operations 10-23-2008 version	**No** - The source does not coat aerospace parts.
		457	Methanol Compatible Tanks	**No** - It is not a SIP approved rule.

SMAQMD RULES THAT ARE "APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS" FOR THE 28TH STREET LANDFILL

Rule is Applicable	Rule is SIP Approved	Rule No.	Rule Title	Is the Rule an "Applicable Federally Enforceable Requirement"?
	●	458	Large Commercial Bread Bakeries 09-05-1996 version	**No** - The source does not produce bread products.
	●	459	Automotive, Truck and Heavy Equipment Refinishing Operations 08-25-2011 version	**No** - The source does not refinish vehicles.
●		460	Adhesives and Sealants	**No** - It is not a SIP approved rule.
	●	463	Wood Products Coatings 09-25-2008 version	**No** - The source does not coat wood products.
	●	464	Organic Chemical Manufacturing Operations 09-25-2008 version	**No** - The source does not manufacture organic chemicals.
	●	465	Polyester Resin Operations 09-25-2008 version	**No** - The source does not have a polyester resin operation.
●	●	466	Solvent Cleaning 10-28-2010 version	**Yes** - Related conditions are included in the permit.
		468	Surface Coating of Plastic Parts and Products	**No** - It is not a SIP approved rule.

SMAQMD RULES THAT ARE "APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS" FOR THE 28TH STREET LANDFILL

Rule is Applicable	Rule is SIP Approved	Rule No.	Rule Title	Is the Rule an "Applicable Federally Enforceable Requirement"?
		485	Municipal Landfill Gas	**No** - It is not a SIP approved rule.
		496	Large Confined Animal Facilities	**No** - It is not a SIP approved rule.
	●	501	Agricultural Burning 12-06-1978 version	**No** - The source does not conduct agricultural burning.
●		601	Procedure before the Hearing Board	**No** - It is not a SIP approved rule.
●		602	Breakdown Conditions: Emergency Variance	**No** - It is not a SIP approved rule.
●	●	701	Emergency Episode Plan 05-27-1999 version	**Yes** - At this time the source emissions are below the rule's applicability level.
●		801	New Source Performance Standards	**No** - It is not a SIP approved rule. *Note: there are equivalent federal regulations.*
		901	General Requirements	**No** - It is not a SIP approved rule. *Note: there are equivalent federal regulations.*
		902	Asbestos	**No** - It is not a SIP approved rule. *Note: there is an equivalent federal regulation.*

SMAQMD RULES THAT ARE "APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS" FOR THE 28TH STREET LANDFILL

Rule is Applicable	Rule is SIP Approved	Rule No.	Rule Title	Is the Rule an "Applicable Federally Enforceable Requirement"?
		903	Mercury	**No** - It is not a SIP approved rule. *Note: there is an equivalent federal regulation.*
●		904	Airborne Toxic Control Measures	**No** - It is not a SIP approved rule. *Note: there are equivalent federal regulations for some of the listed ATCMs.*
		1002	Fleet Inventory	**No** - It is not a SIP approved rule.
		1003	Reduced-Emission Fleet Vehicles/Alternative Fuels	**No** - It is not a SIP approved rule.
		1005	Mobile Source Emission Reduction Credits/Banking	**No** - It is not a SIP approved rule.
		1006	Transportation Conformity	**No** - It is not a SIP approved rule.

ATTACHMENT B

SMAQMD RULE 201
PERMITS TO OPERATE

777 12TH STREET, 3RD FLOOR
SACRAMENTO, CA 95814-1908

(916) 874-4800
FAX (916) 874-4899

SACRAMENTO METROPOLITAN
AIR QUALITY
MANAGEMENT DISTRICT

PERMIT TO OPERATE

ISSUED TO: **28TH STREET LANDFILL, RECYCLING & SOLID WASTE DIVISION, CITY OF SACRAMENTO**

EQUIPMENT LOCATION: **20 28TH STREET, SACRAMENTO, CA 95816**

PERMIT NO.	EQUIPMENT DESCRIPTION
12762	Landfill and landfill gas collection system consisting of: 1. Landfill area designated as WMU-A and WMU-B. 2. Perimeter wells. 3. Interior wells 4. Piping system to collect landfill gas from perimeter and interior wells and direct it to the LFG flares (P/O 24341). 5. Landfill gas blower.

SUBJECT TO THE FOLLOWING CONDITIONS:

GENERAL

1. The equipment must be properly maintained and operated in accordance with the information submitted with the application and the manufacturer's recommendations at all times.
   [Basis: SMAQMD Rule 201, Section 405 and Rule 202, Section 408.1]

2. The Air Pollution Control Officer and/or authorized representatives must be permitted to do all of the following:
   A. Enter the source premises or any location which any records required by this Permit to Operate are kept.
   B. Access and copy any records required by this Permit to Operate.
   C. Inspect or review any equipment, operation, or method required under this Permit to Operate.
   D. Sample emissions from the source or require samples to be taken.
   [Basis: SMAQMD Rule 201, Section 405]

DATE ISSUED: 03-26-2001
DATE REVISED: 03-28-2019
DATE EXPIRES: 09-01-2017 (UNLESS RENEWED)

LARRY GREENE
AIR POLLUTION CONTROL OFFICER

BY: _____

PERMIT NO.: 12762(Rev02)

REVOCABLE AND NON-TRANSFERABLE

SPL-V1

777 12TH STREET, 3RD FLOOR
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SACRAMENTO METROPOLITAN
AIR QUALITY MANAGEMENT DISTRICT

3. This Permit to Operate does not authorize the emission of air contaminants in excess of those allowed by Division 26, Part 4, Chapter 3, of the California Health and Safety Code or the SMAQMD Rules and Regulations.
[Basis: SMAQMD Rule 201, Sections 303.1, 405]

4. The facility may not discharge air contaminants or other materials that cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.
[Basis: SMAQMD Rule 402, Section 301]

5. A legible copy of this Permit to Operate must be maintained on the premises with the equipment.
[Basis: SMAQMD Rule 201, Section 401]

EMISSIONS LIMITATIONS

6. The landfill gas collection system must operate such that the methane concentration is less than 500 ppmv above background at the surface of the landfill.
[40 CFR 60.753(d)]

7. The fugitive emissions from the landfill must not exceed the following:
[Basis: SMAQMD Rule 201, Section 405]

Pollutant	Maximum Allowable Emissions (A) lb/quarter
VOC	1,601

(A) Emissions are based on the following assumptions:
1. The landfill gas collection system captures 85% of the generated landfill gas. This results in 353 scfm of landfill gas released as a fugitive emission.
2. The landfill gas contains an average NMOC concentration of 822 ppm (as methane).
3. The collection system operates 24 hours/day and 92 days/quarter.
4. As a conservative assumption, all NMOC is treated as VOC. The City of Sacramento may speciate NMOC to account for and exclude exempt (non-VOC) compounds when determining compliance with this condition.

EQUIPMENT OPERATION REQUIREMENTS

8. The maximum design capacity of the 28th Street Landfill must not exceed 6.514 million cubic yards.
[Basis: SMAQMD Rule 201, Section 405]

9. The landfill gas collection system must be designed to handle the maximum expected gas flow rate from that portion of the landfill that warrants control over the intended use period of the landfill gas control system.
[40 CFR 60.752(b)(2)(ii)(A)(*1*)]

10. Landfill gas must be collected from each area, cell or group of cells in the landfill in which the initial solid waste has been placed for a period of 5 years or more if active or 2 years or more if closed or at final grade.
[40 CFR 60.753(a)]

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SACRAMENTO METROPOLITAN
AIR QUALITY MANAGEMENT DISTRICT

11. Landfill gas must be collected at a sufficient extraction rate.
[40 CFR 60.752(b)(2)(ii)(A)(*3*)]

12. The landfill gas collection system must be designed to minimize off-site migration of subsurface landfill gas.
[40 CFR 60.752(b)(2)(ii)(A)(*4*)]

13. The landfill gas collection system must operate such that all collected gases are vented to the flare. In the event the collection or control system is inoperable, the gas mover system must be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere must be closed within 1 hour.
[40 CFR 60.753(e)]

14. A sampling port and a temperature measuring device or an access port for temperature measurements must be installed at each landfill gas wellhead.
[40 CFR 60.756(a)]

15. The landfill gas collection system must operate such that each landfill gas wellhead exhibits negative pressure except under the following conditions:

    A. A fire or increased well temperature. The owner or operator must record instances when positive pressure occurs in efforts to avoid a fire.

    B. Use of a geomembrane or synthetic cover.

    C. A decommissioned well.

    D. The gas migration well is not placed in refuse (migration control well).

    E. A well is temporarily shut-off or disconnected to prevent a fire.
    [40 CFR 60.753(b)]

16. A. The landfill gas collection system must operate such that each interior landfill gas wellhead achieves the following:
        i. A landfill gas temperature less than 55°C and
        ii. Either a nitrogen level less than 20 percent or an oxygen level less than 5 percent.

    B. The owner or operator may establish a higher operating temperature, nitrogen or oxygen value at a particular well. A higher operating value demonstration must show supporting data that the elevated parameter does not cause fires or significantly inhibit anaerobic decomposition by killing methanogens.
    [40 CFR 60.753(c)]

REVOCABLE AND NON-TRANSFERABLE

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SACRAMENTO METROPOLITAN
AIR QUALITY MANAGEMENT DISTRICT

MONITORING AND CORRECTIVE ACTION REQUIREMENTS

17. A device must be installed that records flow to or bypass of the flare. The owner or operator must either:

    A. Install, calibrate and maintain a landfill gas flow rate measuring device that must record the flow to the flare at least every 15 minutes; or

    B. Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. **[40 CFR 60.756(b)(2)]**

18. If applicable, a visual inspection of the seal or closure mechanism on the landfill gas bypass valve for the flare or landfill gas treatment system must be conducted at least once every month to ensure that the valve is maintained in the closed position and that the landfill gas flow is not diverted through the bypass line. **[40 CFR 60.756(b)(2)(ii)]**

19. Gauge pressure must be measured monthly in the landfill gas collection header at each individual wellhead.

    A. If a positive pressure exists, action must be initiated to correct the exceedance within 5 calendar days, except for the conditions allowed under Condition No. 14. If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement, the gas collection system must be expanded to correct the exceedance within 120 days of the initial measurement of positive pressure.

    B. Any attempted corrective measure must not cause exceedances of other operational or performance standards.
    [40 CFR 60.755(a)(3) and 40 CFR 60.756(a)(1)]

20. Temperature and either the nitrogen concentration (%) or the oxygen concentration (%) must be measured monthly for each interior well.

    A. The nitrogen level must be determined using U.S. EPA Method 3C unless an alternative method is established as allowed by 40 CFR 60.752(b)(2)(i).

    B. The oxygen level must be determined using U.S. EPA Method 3A or 3C unless an alternative method is established as allowed by 40 CFR 60.752(b)(2)(i).

    C. If a well exceeds the operating parameters stated in Condition No. 15, action must be initiated to correct the exceedance within 5 calendar days. If correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the gas collection system must be expanded to correct the exceedance within 120 days of the initial exceedance.

    D. Any attempted corrective measure must not cause exceedances of other operation or performance standards.
    [40 CFR 60.753(c)(1), 40 CFR 60.753(c)(2), 40 CFR 60.755(a)(5), 40 CFR 60.756(a)(2), 40 CFR 60.756(a)(3)]

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21. Surface concentrations of methane must be measured quarterly around the perimeter of the collection area, along a pattern that traverses the landfill at 30 meter intervals (or a site specific established spacing) and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The owner or operator may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan must be developed that includes a topographical map with the monitoring route and the rationale for any site specific deviations from the 30 meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing.

Any closed landfill that has no monitored exceedances of the operational standard in three consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500 ppm or more above background detected during the annual monitoring returns the frequency to quarterly monitoring.
[40 CFR 60.756(f)]

A. Each area must be monitored using an organic vapor analyzer, flame ionization detector or other portable monitor.

B. The organic vapor analyzer, flame ionization detector or other portable monitor must meet the following specifications:
   i. The portable analyzer must meet the instrument specifications provided in Section 3 of U.S. EPA Method 21, except that "methane" must replace all references to VOC.
   ii. The calibration gas must be methane, diluted to a nominal concentration of 500 ppmv in air.
   iii. To meet the performance evaluation requirements in Section 3.1.3 of U.S. EPA Method 21, the instrument evaluation procedures of Section 4.4 of U.S. EPA Method 21 must be used.
   iv. The calibration procedures provided in Section 4.2 of U.S. EPA Method 21 must be followed immediately before commencing a surface monitoring survey.

C. The background concentration must 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.

D. Surface emission monitoring must be performed in accordance with Section 4.3.1 of U.S. EPA Method 21, except that the probe inlet must be placed within 5 to 10 centimeters of the ground. Monitoring must be performed during typical meteorological conditions.

E. Any reading of 500 ppmv or more of methane above background at any location must be recorded as a monitored exceedance and the following actions must be taken. As long as the specified actions listed in subsections i. through v. below are taken, the exceedance is not a violation of Condition No. 5.
   i. The location of each monitored exceedance must be marked and the location recorded.
   ii. Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance must be made and the location must be re-monitored within 10 calendar days of detecting the exceedance.
   iii. If the re-monitoring of the location shows a second exceedance, additional corrective action must be taken and the location must be monitored again within 10 days of the second exceedance. If the re-monitoring shows a third exceedance for the same location, the action specified in subsection v. below must be taken, and no further monitoring of that location is required until the action specified in subsection v. below has been taken.

iv. Any location that initially showed an exceedance but has a methane concentration less than 500 ppmv methane above background at the 10-day re-monitoring specified in subsection ii. or iii. above must be re-monitored 1 month from the initial exceedance. If the 1-month remonitoring shows a concentration less than 500 ppmv methane above background, no further monitoring of that location is required until the next quarterly monitoring period. If the 1-month remonitoring shows an exceedance, the actions specified in subsection iii. above or v. below must be taken.

v. 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 must be installed within 120 calendar days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding timeline for installation may be submitted to the Air Pollution Control Officer for approval.

[40 CFR 60.753(d), 40 CFR 60.755(c)]

22. A program must be implemented to monitor for cover integrity and implement cover repairs as necessary on a monthly basis.
[40 CFR 60.755(c)(5)]

RECORDKEEPING AND REPORTING REQUIREMENTS

23. The following records must be continuously maintained onsite for the most recent five year period and must be made available to the Air Pollution Control Officer upon request. Monthly and quarterly records must be made available within 30 days of the end of the reporting period.

Frequency	Information to be recorded
At all times	A. The design capacity report which is the basis for this facility being subject to the provisions of 40 CFR 60.752(b), the current amount of solid waste in-place and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable. **[40 CFR 60.758(a)]** B. The maximum expected gas generation flow rate as calculated using the methodology in 40 CFR 60.755(a)(1). **[40 CFR 60.758(b)(1)(i)]** C. The density of wells, horizontal collectors, surface collectors or other gas extraction devices determined using the procedures in 40 CFR 60.759(a)(1). **[40 CFR 60.758(b)(1)(ii)]** D. Continuous record of either: i. The indication of landfill gas flow to the flare or the indication of landfill gas bypass flow, or ii. Monthly inspections of car-seals or lock-and-key configurations used to seal landfill gas bypass lines. **[40 CFR 60.758(c)(2)]**

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Frequency	Information to be recorded
	E. Record of all collection system exceedances of the following operational standards **at each individual well**: i. Landfill gas collection wellhead gauge pressure - Condition No. 15. ii. Landfill gas temperature - Condition No. 16.A. iii. Either nitrogen or oxygen concentration - Condition No. 16.A. iv. Surface methane concentrations - Condition No. 6. Where there is an exceedance, the reading in the subsequent month must be recorded and whether or not the second reading is an exceedance and the location of the exceedance. **[40 CFR 60.758(e)]** F. Plot map showing each existing and planned landfill gas collector in the system and providing a unique identification location label for each collector. **[40 CFR 60.758(d)]** G. Record of the installation date and location of all newly installed landfill gas collectors. **[40 CFR 60.758(d)(1)]** H. If applicable, documentation of the nature, date of deposition, amount and location of asbestos-containing or non-degradable waste excluded from collection as well as any non-productive areas excluded from collection. **[40 CFR 60.758(d)(2)]**
Monthly	I. Record of the following equipment operating parameters specified to be monitored at each individual well: i. Landfill gas well head gauge pressure - Condition No. 15. ii. Landfill gas temperature - Condition No. 16.A. iii. Either nitrogen or oxygen level - Condition No. 16.A. **[40 CFR 60.758(c)]** J. Record of monitoring for cover integrity and any cover repairs implemented.
Quarterly	K. Record of the following: i. Surface methane concentrations - Condition No. 6. **[40 CFR 60.758(c)]**

24. A written report must be submitted to the Air Pollution Control Officer by the date indicated and must contain the following information.

Frequency	Information to be submitted
Report by: (1) July 30 of each year for	A. Value and length of time for exceedance of the following parameters **at each individual well**: i. Landfill gas well head gauge pressure - Condition No. 15 a. Identify instances when positive pressure occurs in efforts to avoid a fire.

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Frequency	Information to be submitted
the six month period: Jan. – June **and** (2) February 28 of each year for the six month period: July - Dec. **[40 CFR 63.1980(a)]**	ii. Landfill gas temperature - Condition No. 16.A. iii. Either nitrogen or oxygen concentration - Condition No. 16.A. iv. Surface methane concentrations - Condition No. 6. **[40 CFR 60.757(f)(1)]** B. If applicable, description and duration of all periods when the landfill gas stream is diverted from the flare through a landfill gas bypass line or the indication of bypass flow as specified to be monitored in Condition No. 17. **[40 CFR 60.757(f)(2)]** C. If applicable, the results of visual inspection of the seal or closure mechanism on the landfill gas valve bypassing the flare, as specified to be monitored in Condition No. 18, to ensure that the valve is maintained in the closed position and that the landfill gas flow is not diverted through the bypass line. **[40 CFR 60.757(f)(2)]** D. Description, date and duration of all periods when the control device was not operating for a period of at least one hour. **[40 CFR 60.757(f)(3)]** E. All periods when the collection system was not operating in excess of 5 days. **[40 CFR 60.757(f)(4)]** F. The location of each exceedance of the 500 ppmv methane concentration limit pursuant to Condition No. 21 and the concentration recorded at each location for which an exceedance was recorded in the previous month. **[40 CFR 60.757(f)(5)]** G. The date of installation and the location of each well or collection system expansion added pursuant to Condition Nos. 20.C and 221.E.v. **[40 CFR 60.757(f)(6)]**
Within 30 days of the landfill closing and waste acceptance cessation	H. Each owner or operator of a controlled landfill must submit a closure report within 30 days of waste acceptance cessation. I. The Air Pollution Control Officer may request additional information as may be necessary to verify that permanent closure has taken place in accordance with 40 CFR 258.60. J. If a closure report has been submitted to the Air Pollution Control Officer, no additional wastes may be placed into the landfill without filing a notification of modification as described under 40 CFR 60.7(a)(4). **[40 CFR 60.757(d)]**
30 days prior to the	K. Each owner or operator of a controlled landfill must submit an equipment removal report 30 days prior to removal or cessation of operation of the control equipment.

Frequency	Information to be submitted
removal or cessation of control equipment operation	L. The equipment removal report must contain all of the following items: i. A copy of the closure report submitted in accordance with 40 CFR 60.757(d). ii. A copy of the initial performance test report demonstrating that the 15 year minimum control period has expired. iii. Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 megagrams or greater of NMOC per year. M. The Air Pollution Control Officer may request such additional information as may be necessary to verify that all of the conditions for removal in 40 CFR 60.752(b)(2)(v) have been met. **[40 CFR 60.757(e)]**

25. Startup, Shutdown and Malfunction (SSM) Periodic and Immediate Reports

A. Periodic Reports
   i. If actions taken during a SSM event are consistent with the procedures specified in the SSM Plan the permittee must state such information in a SSM Report.
   ii. The SSM Report must be submitted by February 28 and July 30 of each year but is only required if a SSM event occurred during the reporting period January 01 - June 30 and July 01 - December 31 of each year.
   iii. The SSM Report must contain:
      (a) Number, duration and a brief description of each SSM event.
      (b) A letter containing the name, title and signature of the responsible official who is certifying the accuracy of the report.

[40 CFR 63.1955(b), 40 CFR 63.1980(b), 40 CFR 63.10(d)(5)(i)]

B. Immediate Reports
   i. If actions taken during a SSM event are not consistent with the procedures specified in the SSM Plan the permittee must:
      (a) Report to the Air Pollution Control Officer, by telephone call or facsimile (FAX), within 2 working days after commencing actions inconsistent with the SSM Plan.
      (b) Follow with a letter to the Air Pollution Control Officer within 7 working days after the end of the SSM event that:
         (i) Contains the name, title and signature of the responsible official who is certifying the accuracy of the report.
         (ii) Explains the circumstances of the event.
         (iii) Explains the reasons for not following the SSM Plan
         (iv) Explains whether any excess emissions and/or parameter monitoring exceedances are believed to have occurred.

[40 CFR 63.1955(b), 40 CFR 63.1980(b), 40 CFR 63.10(d)(5)(ii)]

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26. The permittee must maintain files of all required information (including all reports and notifications) recorded in a form suitable and readily available for expeditious inspection and review. The files must be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report or record. At a minimum, the most recent 2 years of data must be retained on site. The remaining 3 years of data may be retained off site. Such files may be maintained on microfilm, on a computer, on computer floppy disks, on magnetic tape disks or on microfiche.
[40 CFR 63.1955(b), 40 CFR 63.1980(b), 40 CFR 63.10(d)(5)(ii)]

Frequency	Information to be recorded
At all times	A. The occurrence and duration of each startup, shutdown or malfunction of operation (i.e., process equipment). 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 (including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation) when such actions are different from the procedures specified in the affected source's Startup, Shutdown and Malfunction Plan. E. All information necessary to demonstrate conformance with the affected source's Startup, Shutdown and Malfunction Plan when all actions taken during periods of startup, shutdown and malfunction (including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation) are consistent with the procedures specified in such plan. (The information needed to demonstrate conformance with the Startup, Shutdown and Malfunction Plan may be recorded using a ``checklist" or some other effective form of recordkeeping, in order to minimize the recordkeeping burden for conforming events)

27. The permit holder must, 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.)
[Basis: SMAQMD Rule 201, Section 303.1]

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Your application for this air quality Permit to Operate was evaluated for compliance with Sacramento Metropolitan Air Quality Management District (SMAQMD), state and federal air quality rules. The following list identifies the rules that most commonly apply to the operation of your equipment. Other rules may also be applicable.

SMAQMD RULE NO.	RULE TITLE
201	GENERAL PERMIT REQUIREMENTS (8-24-06)
202	NEW SOURCE REVIEW (8-23-12)
401	RINGELMANN CHART (4-19-83)
402	NUISANCE (8-3-77)
FEDERAL	**REGULATION TITLE**
40 CFR PART 60 SUBPART WWW	NEW SOURCE PERFORMANCE STANDARDS: MUNICIPAL SOLID WASTE LANDFILLS
40 CFT PART 63 SUBPART AAAA	NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS: MUNICIPAL SOLID WASTE LANDFILLS

The conditions on this Permit to Operate reflect some, but not all, of the requirements of these rules. Because other rule requirements may apply to the operation, the permit holder should be familiar with all of the rules and related requirements. In addition, because future changes in prohibitory rules may establish more stringent requirements that may supersede the conditions listed here, the permit holder should monitor proposed rules and rule adoption actions at SMAQMD.

For further information please consult your SMAQMD rulebook or contact the SMAQMD for assistance.

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SACRAMENTO METROPOLITAN
AIR QUALITY
MANAGEMENT DISTRICT

PERMIT TO OPERATE

ISSUED TO: **28TH STREET LANDFILL, RECYCLING & SOLID WASTE DIVISION, CITY OF SACRAMENTO**

EQUIPMENT LOCATION: **20 28TH STREET, SACRAMENTO, CA 95816**

PERMIT NO.	EQUIPMENT DESCRIPTION
24341	FLARE, MAKE: PERENNIAL ENERGY (PEI), MODEL: FL-72-33-E, SERIAL NUMBER: FL-1754, 18 MMBTU/HR CAPACITY, LANDFILL GAS FIRED WITH A 0.04 MMBTU/HR PROPANE FIRED PILOT BURNER.

SUBJECT TO THE FOLLOWING CONDITIONS:

GENERAL

1. The permit holder agrees to indemnify and defend SMAQMD, its officers, agents, and employees if this permit or CEQA or NEPA is challenged in state or federal court. This indemnification includes attorney fees awarded against SMAQMD, as well as attorney fees, court costs, legal fees, and other expenses incurred in defending the challenge. The District will provide written notice to the permit holder within 5 days if it receives a petition, complaint or other legal notice by a third party challenging this Permit to Operate or CEQA or NEPA. The permit holder may, within 10 days of notification, request cancellation of the Permit to Operate. If the permit holder requests cancellation, SMAQMD will cancel the permit within 5 days, and will notify the plaintiffs of the cancellation and request dismissal of the litigation.
   [Basis: SMAQMD Rule 201, Section 405]

2. The equipment must be properly maintained and operated in accordance with the information submitted with the application and the manufacturer's recommendations at all times.
   [Basis: SMAQMD Rule 201, Section 405 and Rule 202, Section 408.1]

3. The Air Pollution Control Officer and/or authorized representatives must be permitted to do all of the following:
   A. Enter the source premises or any location which any records required by this Permit to Operate are kept.

DATE ISSUED: 03-16-2017
DATE REVISED: 03-28-2019
DATE EXPIRES: 09-01-2017 (UNLESS RENEWED)

LARRY GREENE
AIR POLLUTION CONTROL OFFICER

BY: _____

REVOCABLE AND NON-TRANSFERABLE

B. Access and copy any records required by this Permit to Operate.
C. Inspect or review any equipment, operation, or method required under this Permit to Operate.
D. Sample emissions from the source or require samples to be taken.
[Basis: SMAQMD Rule 201, Section 405]

4. This Permit to Operate does not authorize the emission of air contaminants in excess of those allowed by Division 26, Part 4, Chapter 3, of the California Health and Safety Code or the SMAQMD Rules and Regulations.
[Basis: SMAQMD Rule 201, Sections 303.1, 405]

5. The facility may not discharge air contaminants or other materials that cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.
[Basis: SMAQMD Rule 402, Section 301]

6. A legible copy of this Permit to Operate must be maintained on the premises with the equipment.
[Basis: SMAQMD Rule 201, Section 401]

EMISSIONS LIMITATIONS

7. The flare must not discharge into the atmosphere any visible air contaminant other than uncombined water vapor for a period or periods aggregating more than three minutes in any one hour which is as dark or darker than Ringelmann No. 1 or equivalent to or greater than 20% opacity.
[Basis: SMAQMD Rule 401, Section 301]

8. Emissions from the Landfill Gas Flare must not exceed the following standards (verified by initial source test performed on 1/26/16):
[Basis: SMAQMD Rule 202, Section 408.2.a]

Pollutant	Emission Standard
VOC	2% of inlet NMOC (equivalent to a 98% NMOC destruction efficiency by weight) (A) Or 9.1 ppmvd at 3% O_2 measured as hexane
NOx (BACT)	0.05 lb/MMBTU (high heating value)
SOx	Sulfur content of the landfill gas combusted in the Landfill Gas Flare must not exceed 51.5 ppmv as H_2S
PM10/PM2.5 (BACT)	6.1 lb/MMcf of Landfill Gas (LFG)
CO	0.2 lb/MMBTU (high heating value)

(A) NMOC is non-methane organic compounds.

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9. Emissions from the Landfill Gas Flare must not exceed the following:
[Basis: SMAQMD Rule 202, Section 408.2]

Pollutant	Emission Factors (A) (lb/MMcf)	Emission Limits (B)		
		lb/day	lb/quarter	lb/year
VOC	11.5	9.9	911	3,614
NOx	25	21.6	1,987	7,884
SOx	8.56	7.4	681	2,724
PM10	6.1	5.3	488	1,935
PM2.5	6.1	5.3	488	1,935
CO	100	86.4	7,949	31,536
Lead	NA	NA	NA	NA

(A) Emission factors for VOC, NOx, SOx, PM10 and PM2.5 are based on BACT. The CO emission factor is based on the manufacturer's guarantee. The PM2.5 emission factor is assumed to be equal to PM10. The SOx emission factor is based on a fuel sulfur content of 51.5 ppmv as H_2S.
(B) Emissions are based on 600 scfm landfill gas combustion rate, 24 hours/day, 92 days/quarter and 365 days/year.

10. Emissions from the pilot must not exceed the following:
[Basis: SMAQMD Rule 201, Section 405]

Pollutant	Emission Factor (A) lb/Mgal	Emission Limits (B)		
		lb/day	lb/quarter	lb/year
VOC	1	0.01	1	4
NOx	13	0.1	13	50
SOx	1.5	0.02	1	6
PM10	0.7	0.01	1	3
PM2.5	0.7	0.01	1	3
CO	7.5	1.4	72	287
Lead	NA	NA	NA	NA

(A) Emission factors are from AP-42, Table 1.5-1 (7/08). The sulfur concentration (15 gr/100 scf) is based on Gas Processors Association Engineering Data Book (Ninth Edition, 1972), Figure 15-50 (GPA Liquefied Petroleum Gas Specifications, rev. 1979) for commercial propane.
(B) Based on the maximum capacity of 0.04 MMBtu/hr, 91,500 Btu/gal (AP-42, Table 1.5-1 (7-08) footnote a), 24 hours/day, 92 days/quarter, and the corresponding emission factors in this table.

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EQUIPMENT OPERATION AND MONITORING REQUIREMENTS:

11. The amount of landfill gas combusted by the Landfill Gas Flare must not exceed the following limit:
[Basis: SMAQMD Rule 201, Section 405]

Flare Identifier	Maximum Allowable Landfill Gas Combusted by Landfill Gas Flare (A) million cubic feet/quarter
Landfill Gas Flare	79.5

(A) Based on the flare operating at maximum capacity of 600 scfm, 24 hours/day and 92 days/quarter.

12. The Landfill Gas Flare must meet the following requirements:
    A. Achieve a methane destruction efficiency of at least 99 percent by weight.
    B. Be equipped with automatic dampers, an automatic shutdown device, a flame arrester and continuous recording temperature sensors.
    C. During restart or startup there must be a sufficient flow of propane or commercial natural gas to the burners to prevent unburned collected methane from being emitted to the atmosphere.
    D. The flare must be operated within the parameter ranges established during the initial or most recent source test.
    [Basis: 17 CCR Section 95464(b)(2)(A)]

13. A sampling port, or other method approved by the Air Pollution Control Officer, must be installed at the inlet gas line to the Landfill Gas Flare. The sampling port must be located so that an accurate volume flow measurement can be performed.
[Basis: SMAQMD Rule 201, Section 303.2]

14. The Landfill Gas Flare exhaust sample ports must be permanent, accessible and located and constructed as per applicable U.S. EPA, CARB and U.S. OSHA requirements.
[Basis: SMAQMD Rule 201, Section 303.2]

15. A landfill gas flow rate measuring device that provides a measurement of landfill gas flow to the landfill gas flare must be installed, calibrated and maintained.
    A. The landfill gas flow rate measuring device must record the flow to landfill gas flare at least every 15 minutes.
    B. The owner or operator must submit to the SMAQMD Air Pollution Control Officer for approval a description of the landfill gas flow rate measuring device calibration procedure and schedule of calibration.
    [Basis: SMAQMD Rule 201, Section 303.2, CFR 60.756(b)(2)(i) and 17 CCR, Section 95469(b)(1)(A)]

16. The Landfill Gas Flare must be equipped with a temperature monitoring device.
    A. The thermocouple used to measure the flare temperature must be located at a distance that is greater than the distance equivalent to 0.6 seconds at the maximum flow rate downstream of the burner.
    B. The temperature monitoring device must be equipped with a continuous recorder.
    C. The temperature monitoring device must have an accuracy of ±1 percent of the temperature being measured expressed in degrees Celsius or ±0.5 degrees C, whichever is greater.

D. The temperature monitoring device is not precluded from expressing measurements in degrees Fahrenheit as long as the aforementioned accuracy is met.
E. The owner or operator must submit to the Air Pollution Control Officer for approval a description of the temperature monitoring device calibration procedure and schedule of calibration.
[Basis: SMAQMD Rule 201, Section 303.2, CFR 60.756(b)(1) and 17 CCR, Section 95469(b)(1)(B)]

17. The Landfill Gas Flare must operate at a minimum combustion zone temperature equal to the 3-hour average temperature (measured by the thermocouple specified in Condition No. 16) as determined during the most recent complying source test minus 28 degrees C (50 degrees F).
[Basis: SMAQMD Rule 201, Section 303.2]

(The data from the most recent source test is summarized in Attachment A indicating the 3-hour average temperature measured by the thermocouple in Condition No. 16).

A. The minimum combustion zone temperature must not be in effect for a maximum of five days in each calendar year when emissions testing is being performed to determine if the required NMOC destruction efficiency or NMOC exhaust concentration can be met at a lower combustion zone temperature.

18. The landfill must comply with the requirements of the Methane Emissions from Municipal Solid Waste Landfills Rule.
[Basis: 17 CCR, Section 95460]

19. The owner or operator must operate the gas collection and control system (flares) continuously except during maintenance, repairs and temporary shutdowns as allowed pursuant to Section 95454(e).
[Basis: 17 CCR, Section 95460(b)(1)(A)]

RECORD KEEPING AND REPORTING REQUIREMENTS:

20. The following record must be continuously maintained on site for the most recent 5 year period, except as noted, and must be made available to the Air Pollution Control Officer upon request. Quarterly records must be made available within 30 days of the end of the reporting period.
[Basis: SMAQMD Rule 201, Section 405, 40 CFR 60.758 and 17 CCR, Section 95470]

Frequency	Information to be recorded
At all times	A. The following information measured during the initial performance test must be maintained for the life of the Landfill Gas Flare. Records of subsequent tests or monitoring must be maintained for a minimum of 5 years. **[40 CFR 60.758(b)]** i. The average combustion temperature of the Landfill Gas Flare measured at least every 15 minutes and averaged over the same time period as the performance test. **[40 CFR 60.758(b)(2)(i) and 17 CCR, Section 95470(a)1)(K)]** ii. The percent reduction of NMOC, determined as specified in 40CFR60.752(b)(2)(iii)(B), achieved by the Landfill Gas Flare. **[40 CFR 60.758(b)(2)(ii)]** B. Continuously monitored landfill gas flow rate to the landfill gas flare as required by

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SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

Frequency	Information to be recorded
	Condition No. 16. **[Basis: 17 CCR, Section 95470(a)(1)(K)]** C. All 3 hour periods of operation during which the Landfill Gas Flare average combustion temperature was below the limit established in Condition No. 16. **[40 CFR 60.758(c)(1)(i) and 17 CCR, Section 95470(a)(1)(K)(1)]** D. 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. **[Basis: 17 CCR, Section 95470(a)(1)(B)]** E. Results of any source tests conducted to show compliance with Condition No. 24. **[Basis: 17 CCR, Section 95470(a)(1)(H)]** F. All deviations that occur in continuous parameter monitoring data: **[40 CFR 63.1960]** i. Deviation is defined as when 1 hour or more of the hours during the 3 hour block averaging period does not constitute a valid hour of data. **[40 CFR 63.1965(b)]** ii. A valid hour of data must have measured values for at least three 15 minute monitoring periods within the hour. **[40 CFR 63.1965(b)]** iii. Continuous parameter monitoring data collected during the following events are not to be included in any 3 hour block average: **[40 CFR 63.1975(a) - (d)]** (a) Monitoring system breakdowns, repairs, calibration checks and zero (low level) and high level adjustments. (b) Startups. (c) Shutdowns. (d) Malfunctions G. Record of calibration reports for the temperature monitoring device. **[Basis: SMAQMD Rule 201, Section 405]**
Quarterly	H. The amount of landfill gas consumed in the Landfill Gas Flare. (cubic feet/quarter) **[Basis: SMAQMD Rule 201, Section 405]**

21. A written report must be submitted to the Air Pollution Control Officer annually by the date indicated and must contain the following information.
[Basis: SMAQMD Rule 201, Section 405 and 40 CFR 60.758]

Frequency	Information to be submitted
Annually by: February 28 for the previous calendar year	A. All 3-hour periods of operation during which the average Landfill Gas Flare combustion temperature was more than 50 degrees F (28 degrees C) below the 3-hour average Landfill Gas Flare combustion temperature during the most recent performance test at which compliance with 40 CFR 60.752(b)(2)(iii) was determined. **[40 CFR 60.758(c)(1)(i)]**

777 12TH STREET, 3RD FLOOR
SACRAMENTO, CA 95814-1908

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SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

Frequency	Information to be submitted
	B. All deviations that occur in continuous parameter monitoring data. **[40 CFR 63.1960]** C. Description and duration of all periods when the Landfill Gas Flare was not operating for a period exceeding 1 hour and length of time the Landfill Gas Flare was not operating. **[40 CFR 60.757(f)(3)]**

22. The permit holder must, 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.)
[Basis: SMAQMD Rule 201, Section 303.1]

EMISSION TESTING REQUIREMENTS

23. An emission test of the Landfill Gas Flare must be conducted each calendar year to demonstrate compliance with Condition Nos. 8, 9, and 17 (initial test performed on 1/26/16):
[Basis: SMAQMD Rule 201, Section 303.2]

A. Submit a source test plan to the Air Pollution Control Officer for approval at least 30 days before the source test is to be performed.
B. Notify the Air Pollution Control Officer at least 7 days prior to the source test date.
C. Submit the source test report to the Air Pollution Control Officer within 60 days from the completion of the source test.
D. The source test must be conducted at the inlet and the exhaust of the Landfill Gas Flare and must include a test for:
   i. Either
      a. NMOC destruction efficiency, or
      b. Total NMOC (VOC)(ppmvd at 3% O_2 measured as hexane, exhaust only)
   ii. Oxides of nitrogen, NOx (exhaust only)
   iii. Carbon monoxide, CO (exhaust only)
   iv. Particulate matter, PM10 (exhaust only)
   v. Hydrogen sulfide, H_2S (inlet only)
   vi. Combustion zone temperature
   vii. Landfill gas flow rate

24. The owner or operator must conduct an annual source test for methane to show compliance with Condition No. 12.A using the test methods identified in Section 95471(f) of the Methane Emissions from Municipal Solid Waste Landfills Rule. The source test must be conducted no later than 45 days after the anniversary date of the initial source test. If the flare remains in compliance after three consecutive source tests the owner or operator may conduct the source test every three years. If a subsequent source test shows the gas collection and control system is out of compliance the source testing frequency will return to annual.
[Basis: 17 CCR, Section 95464(b)(4)(A)]

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SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

Your application for this air quality Permit to Operate was evaluated for compliance with Sacramento Metropolitan Air Quality Management District (SMAQMD), state and federal air quality rules. The following list identifies the rules that most commonly apply to the operation of your equipment. Other rules may also be applicable.

SMAQMD RULE NO.	RULE TITLE
201	GENERAL PERMIT REQUIREMENTS (8-24-06)
202	NEW SOURCE REVIEW (8-23-12)
401	RINGELMANN CHART (4-19-83)
402	NUISANCE (8-3-77)
406	SPECIFIC CONTAMINANTS (12-6-78)
420	SULFUR CONTENT OF FUELS (8-13-81)

STATE	REGULATION TITLE
TITLE 17 CCR SECTION 95460	METHANE EMISSIONS FROM MUNICIPAL SOLID WASTE LANDFILLS

FEDERAL	REGULATION TITLE
40 CFR PART 60 SUBPART WWW	NEW SOURCE PERFORMANCE STANDARDS: MUNICIPAL SOLID WASTE LANDFILLS
40 CFT PART 63 SUBPART AAAA	NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS: MUNICIPAL SOLID WASTE LANDFILLS

The conditions on this Permit to Operate reflect some, but not all, of the requirements of these rules. Because other rule requirements may apply to the operation, the permit holder should be familiar with all of the rules and related requirements. In addition, because future changes in prohibitory rules may establish more stringent requirements that may supersede the conditions listed here, the permit holder should monitor proposed rules and rule adoption actions at SMAQMD.

For further information please consult your SMAQMD rulebook or contact the SMAQMD for assistance.

777 12TH STREET, 3RD FLOOR SACRAMENTO METROPOLITAN SACRAMENTO, CA 95814-1908

AIR QUALITY
MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

A/C NO.: 25596

ISSUED BY: JORGE DEGUZMAN

DATE ISSUED: JANUARY 11, 2019

DATE REVISED: MARCH 28, 2019

DATE EXPIRES: JANUARY 11, 2021

ISSUED TO: 28TH STREET LANDFILL, SOLID WASTE DIVISION, CITY OF SACRAMENTO

LOCATION: 20 28TH STREET, SACRAMENTO, CA 95816

DESCRIPTION: FLARE, MAKE: AEREON OR EQUIVALENT, MODEL: CEB-350, SERIAL NUMBER: TBD, 9.6 MMBTU/HR CAPACITY, LANDFILL GAS FIRED WITH A 0.1 MMBTU/HR LPG/PROPANE FIRED PILOT BURNER.

AUTHORITY TO CONSTRUCT CONDITIONS

START-UP REQUIREMENTS

S1. After completing the equipment installation authorized under this Authority to Construct (ATC), the permit holder must contact the Sacramento Metropolitan Air Quality Management District (SMAQMD) to arrange a start-up inspection. SMAQMD may be contacted at (916) 874-4800.
[Basis: SMAQMD Rule 201, Section 405]

S2. This Authority to Construct may serve as a temporary Permit to Operate provided that:
A. The permit holder has notified SMAQMD that the equipment installation is complete and the facility is ready for a start-up inspection,
B. The equipment installed matches the equipment authorized in this Authority to Construct,
C. The equipment is operated in compliance with all conditions in this Authority to Construct, and
D. The equipment and its operation complies with SMAQMD, state and federal laws and regulations.
[Basis: SMAQMD Rule 201, Section 303.1, 405]

S3. The permit holder agrees to indemnify and defend SMAQMD, its officers, agents, and employees if this permit, or the environmental review of the permit under the California Environmental Quality Act (CEQA) or the National Environmental Policy Act (NEPA), including any exemption determination, is challenged in state or federal court. This indemnification includes attorney fees awarded against SMAQMD, as well as attorney fees, court costs, legal fees, and other expenses incurred in defending the challenge. The District will provide written notice to the permit holder within 5 days if it receives a petition, complaint or other legal notice by a third party challenging this Authority to Construct (ATC) or the environmental review of the ATC. The permit holder may, within 10 days of notification, request cancellation of the ATC. If the permit holder requests cancellation, SMAQMD will cancel the permit within 5 days, and will notify the plaintiffs of the cancellation and request dismissal of the litigation.
[Basis: SMAQMD Rule 201, Section 405]

AUTHORITY TO CONSTRUCT

S4. This Authority to Construct has been reviewed through an enhanced new source review process in accordance with the procedural requirements of Section 401 through 408 of Rule 207 Title V – Federal Operating Permit Program.
[Basis: SMAQMD Rules 201, Section 405 and Rule 202, Section 404]

S5. The owner or operator of a stationary source must submit to the Air Pollution Control Officer an application to modify the Title V permit with an Administrative Title V permit amendment prior to commencing operation with modifications authorized by this Authority to Construct.
[Basis: SMAQMD Rule 207, Section 301.5]

GENERAL

1. The equipment must be properly maintained and operated in accordance with the information submitted with the application and the manufacturer's recommendations at all times.
[Basis: SMAQMD Rule 201, Section 405 and Rule 202, Section 408.1]

2. The Air Pollution Control Officer and/or authorized representatives must be permitted to do all of the following:
   A. Enter the source premises or any location at which any records required by this ATC are kept.
   B. Access and copy any records required by this ATC.
   C. Inspect or review any equipment, operation, or method required under this ATC.
   D. Sample emissions from the source or require samples to be taken.
   [Basis: SMAQMD Rule 201, Section 405]

3. This ATC does not authorize the emission of air contaminants in excess of those allowed by Division 26, Part 4, Chapter 3, of the California Health and Safety Code or the SMAQMD Rules and Regulations.
[Basis: SMAQMD Rule 201, Sections 303.1, 405]

4. The facility may not discharge air contaminants or other materials that cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.
[Basis: SMAQMD Rule 402, Section 301]

5. A legible copy of this ATC must be maintained on the premises with the equipment.
[Basis: SMAQMD Rule 201, Section 401]

EMISSION LIMITATIONS

6. The flare must not discharge into the atmosphere any visible air contaminant other than uncombined water vapor for a period or periods aggregating more than three minutes in any one hour if the discharge is as dark or darker than Ringelmann No. 1 or is equal to or greater than 20% opacity.
[Basis: SMAQMD Rule 401, Section 301]

AUTHORITY TO CONSTRUCT

7. The flare must meet the following standards:
[Basis: SMAQMD Rule 202, Section 408.2.a]

Pollutant	Maximum Allowable Emissions
VOC (A)	98% NMOC destruction efficiency or 20 ppmvd NMOC @ 3% O2 as Hexane and use of a natural gas or LPG/propane fired pilot (C)
NOx (A)	0.05 lb/MMBtu and use of a natural gas or LPG/propane fired pilot
SOx (A)	0.04 lb/MMBtu and use of a natural gas or LPG/propane fired pilot
CO (B)	0.15 lb/MMBtu and use of a natural gas or LPG/propane fired pilot
PM10/PM2.5 (A)	6.1 lb/MMcf and use of a natural gas or LPG/propane fired pilot

(A) BACT standards are based on BACT #198.
(B) Proposed by applicant.
(C) NMOC is non-methane organic compounds.

8. The emissions from the flare must not exceed the following:
[Basis: SMAQMD Rules 201, Section 405 and 202, Section 408.2]

Pollutant	Emission Factors (A) (lb/MMcf)	Emission Limits (B)		
		lb/day	lb/quarter	lb/year
VOC	22.0	12.7	1,168	4,636
NOx	20	11.5	1,058	4,198
SOx	16	9.2	846	3,358
PM10	6.1	3.5	322	1,278
PM2.5	6.1	3.5	322	1,278
CO	60	34.6	3,183	12,629

(A) Emission factors for VOC, NOx, SOx, CO, PM10 and PM2.5 are based on BACT. Emission factors in lb/MMBtu were converted to lb/MMcf based on a landfill gas heat content of 400 Btu/scf. The VOC emission factor was converted from 20 ppmvd @ 3% O2 as hexane using a landfill gas F-Factor of 10,509 dscf/MMBtu (avg. of three runs from source test performed on flare permitted under P/O 24341 on 1/26/16) and landfill gas heat content of 400 Btu/scf.
(B) Emissions are based on 400 scfm landfill gas combustion rate, 24 hours/day, 92 days/quarter and 365 days/year.

AUTHORITY TO CONSTRUCT

9. Emissions from the pilot must not exceed the following:
[Basis: SMAQMD Rules 201, Section 405 and 202, Section 408.2]

Pollutant	Emission Factor (A) lb/Mgal	Emission Limits (B)		
		lb/day	lb/quarter	lb/year
VOC	1	0.0	2	10
NOx	13	0.3	31	124
SOx	1.5	0.0	4	14
PM10	0.7	0.0	2	7
PM2.5	0.7	0.0	2	7
CO	7.5	0.2	18	72

(A) Emission factors are from AP-42, Table 1.5-1 (7/08). The sulfur concentration (15 gr/100 scf) is based on Gas Processors Association Engineering Data Book (Ninth Edition, 1972), Figure 15-50 (GPA Liquefied Petroleum Gas Specifications, rev. 1979) for commercial propane.
(B) Based on the maximum capacity of 0.1 MMBtu/hr, 91,500 Btu/gal (AP-42, Table 1.5-1 (7-08) footnote a), 24 hours/day, 92 days/quarter, and the corresponding emission factors in this table.

EQUIPMENT OPERATION

10. The amount of landfill gas combusted by the Landfill Gas Flare must not exceed the following limit:
[Basis: SMAQMD Rule 201, Section 405]

Flare Identifier	Maximum Allowable Landfill Gas Combusted by Landfill Gas Flare (A) million cubic feet/quarter
Landfill Gas Flare	53.0

(A) Based on the flare operating at maximum capacity of 400 scfm, 24 hours/day and 92 days/quarter.

11. Landfill Gas Flare must meet following requirements:
A. Achieve a methane destruction efficiency of at least 99 percent by weight.
B. Be equipped with automatic dampers, an automatic shutdown device, a flame arrester and continuous recording temperature sensors.
C. During restart or startup there must be a sufficient flow of propane or commercial natural gas to the burners to prevent unburned collected methane from being emitted to the atmosphere.
D. The flare must be operated within the parameter ranges established during the initial or most recent source test.
[Basis: 17 CCR Section 95464(b)(2)(A)]

12. The sulfur content of the landfill gas combusted in the Landfill Gas Flare must not exceed 96.3 ppmv as H_2S (equivalent to BACT).
[Basis: SMAQMD Rules 201, Section 405 and 202, Section 301]

AUTHORITY TO CONSTRUCT

13. A sampling port, or other method approved by the Air Pollution Control Officer, must be installed at the inlet gas line to the Landfill Gas Flare. The sampling port must be located so that an accurate volume flow measurement can be performed.
[Basis: SMAQMD Rule 201, Section 303.2]

14. The Landfill Gas Flare exhaust sample ports must be permanent, accessible and located and constructed as per applicable U.S. EPA, CARB and U.S. OSHA requirements.
[Basis: SMAQMD Rule 201, Section 303.2]

15. A landfill gas flowrate measuring device that provides a measurement of landfill gas flow to the landfill gas flare must be installed, calibrated and maintained.
    A. The landfill gas flowrate measuring device must record the flow to landfill gas flare at least every 15 minutes.
    B. The owner or operator must submit to the SMAQMD Air Pollution Control Officer for approval a description of the landfill gas flowrate measuring device calibration procedure and schedule of calibration.
[Basis: SMAQMD Rule 201, Section 303.2, CFR 60.756(b)(2)(i) and 17 CCR, Section 95469(b)(1)(A)]

16. The Landfill Gas Flare must be equipped with a temperature monitoring device.
    A. The thermocouple used to measure the flare temperature must be located at a distance that is greater than the distance equivalent to 0.6 seconds at the maximum flow rate downstream of the burner.
    B. The temperature monitoring device must be equipped with a continuous recorder.
    C. The temperature monitoring device must have an accuracy of ±1 percent of the temperature being measured expressed in degrees Celsius or ±0.5 degrees C, whichever is greater.
    D. The temperature monitoring device is not precluded from expressing measurements in degrees Fahrenheit as long as the aforementioned accuracy is met.
    E. The owner or operator must submit to the Air Pollution Control Officer for approval a description of the temperature monitoring device calibration procedure and schedule of calibration.
[Basis: SMAQMD Rule 201, Section 303.2, CFR 60.756(b)(1) and 17 CCR, Section 95469(b)(1)(B)]

17. The Landfill Gas Flare must operate at a minimum combustion zone temperature equal to the 3-hour average temperature (measured by the thermocouple specified in Condition No. 16) as determined during the most recent complying source test minus 28 degrees C (50 degrees F).
[Basis: SMAQMD Rule 201, Section 303.2]

    (The data from the most recent source test is summarized in Attachment A indicating the 3-hour average temperature measured by the thermocouple in Condition No. 16).

    A. The minimum combustion zone temperature must not be in effect for a maximum of five days in each calendar year when emissions testing is being performed to determine if the required NMOC destruction efficiency or NMOC exhaust concentration can be met at a lower combustion zone temperature.

18. The landfill must comply with the requirements of the Methane Emissions from Municipal Solid Waste Landfills Rule.
[Basis: 17 CCR, Section 95460]

AUTHORITY TO CONSTRUCT

19. The owner or operator must operate the gas collection and control system (flare) continuously except during maintenance, repairs and temporary shutdowns as allowed pursuant to Section 95454(e).
[Basis: 17 CCR, Section 95460(b)(1)(A)]

RECORD KEEPING AND REPORTING REQUIREMENTS:

20. The following record must be continuously maintained on site for the most recent 5 year period, except as noted, and must be made available to the Air Pollution Control Officer upon request. Quarterly records must be made available within 30 days of the end of the reporting period.
[Basis: SMAQMD Rule 201, Section 405, 40 CFR 60.758 and 17 CCR, Section 95470]

Frequency	Information to be Recorded
At all times	A. The following information measured during the initial performance test must be maintained for the life of the Landfill Gas Flare. Records of subsequent tests or monitoring must be maintained for a minimum of 5 years. **[40 CFR 60.758(b)]** i. The average combustion temperature of the Landfill Gas Flare measured at least every 15 minutes and averaged over the same time period as the performance test. **[40 CFR 60.758(b)(2)(i) and 17 CCR, Section 95470(a)1)(K)]** ii. The percent reduction of NMOC, determined as specified in 40CFR60.752(b)(2)(iii)(B), achieved by the Landfill Gas Flare. **[40 CFR 60.758(b)(2)(ii)]** B. Continuously monitored landfill gas flowrate to the landfill gas flare as required by Condition No. 14. **[Basis: 17 CCR, Section 95470(a)(1)(K)]** C. All 3 hour periods of operation during which the Landfill Gas Flare average combustion temperature was below the limit established in Condition No. 17. **[40 CFR 60.758(c)(1)(i) and 17 CCR, Section 95470(a)(1)(K)(1)]** D. 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. **[Basis: 17 CCR, Section 95470(a)(1)(B)]** E. Results of any source tests conducted to show compliance with Condition No. 24. **[Basis: 17 CCR, Section 95470(a)(1)(H)]** F. All deviations that occur in continuous parameter monitoring data: **[40 CFR 63.1960]** i. Deviation is defined as when 1 hour or more of the hours during the 3 hour block averaging period does not constitute a valid hour of data. **[40 CFR 63.1965(b)]** ii. A valid hour of data must have measured values for at least three 15 minute monitoring periods within the hour. **[40 CFR 63.1965(b)]**

Frequency	Information to be Recorded
At all times	iii. Continuous parameter monitoring data collected during the following events are not to be included in any 3 hour block average: **[40 CFR 63.1975(a) - (d)]** (a) Monitoring system breakdowns, repairs, calibration checks and zero (low level) and high level adjustments. (b) Startups. (c) Shutdowns. (d) Malfunctions G. Record of calibration reports for the temperature monitoring device. **[Basis: SMAQMD Rule 201, Section 405]**
Quarterly	H. The amount of landfill gas consumed in the Landfill Gas Flare. (cubic feet/quarter) **[Basis: SMAQMD Rule 201, Section 405]**

21. A written report must be submitted to the Air Pollution Control Officer annually by the date indicated and must contain the following information.
[Basis: SMAQMD Rule 201, Section 405 and 40 CFR 60.758]

Frequency	Information to be Submitted
Annually by: February 28 for the previous calendar year	A. All 3-hour periods of operation during which the average Landfill Gas Flare combustion temperature was more than 50 degrees F (28 degrees C) below the 3-hour average Landfill Gas Flare combustion temperature during the most recent performance test at which compliance with 40 CFR 60.752(b)(2)(iii) was determined. **[40 CFR 60.758(c)(1)(i)]** B. All deviations that occur in continuous parameter monitoring data. **[40 CFR 63.1960]** C. Description and duration of all periods when the Landfill Gas Flare was not operating for a period exceeding 1 hour and length of time the Landfill Gas Flare was not operating. **[40 CFR 60.757(f)(3)]**

22. The permit holder must, 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.)
[Basis: SMAQMD Rule 201, Section 303.1]

AUTHORITY TO CONSTRUCT

EMISSION TESTING REQUIREMENTS

23. An emission test of the Landfill Gas Flare must be conducted each calendar year to demonstrate compliance with Condition Nos. 7, 12 and 17:
[Basis: SMAQMD Rule 201, Section 303.2]

    A. Submit a source test plan to the Air Pollution Control Officer for approval at least 30 days before the source test is to be performed.
    B. Notify the Air Pollution Control Officer at least 7 days prior to the source test date.
    C. Submit the source test report to the Air Pollution Control Officer within 60 days from the completion of the source test.
    D. The source test must be conducted at the inlet and the exhaust of the Landfill Gas Flare and must include a test for:
        i. Either
            a. NMOC destruction efficiency, or
            b. Total NMOC (VOC)(ppmvd at 3% O_2 measured as hexane, exhaust only)
        ii. Oxides of nitrogen (exhaust only)
        iii. Carbon monoxide (exhaust only)
        iv. Particulate matter, PM10 (exhaust only)
        v. Hydrogen sulfide (inlet only)
        vi. Combustion zone temperature
        vii. Landfill gas flow rate

24. The owner or operator must conduct an annual source test for methane to show compliance with Condition No. 11.A using the test methods identified in Section 95471(f) of the Methane Emissions from Municipal Solid Waste Landfills Rule. The source test must be conducted no later than 45 days after the anniversary date of the initial source test. If the flare remains in compliance after three consecutive source tests the owner or operator may conduct the source test every three years. If a subsequent source test shows the gas collection and control system is out of compliance the source testing frequency will return to annual.
[Basis: 17 CCR, Section 95464(b)(4)(A)]

AIR QUALITY
MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

Your application for this air quality Authority to Construct was evaluated for compliance with Sacramento Metropolitan Air Quality Management District (SMAQMD), state and federal air quality rules. The following list identifies the rules that most commonly apply to the operation of your equipment. Other rules may also be applicable.

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STATE	REGULATION TITLE
TITLE 17 CCR SECTION 95460	METHANE EMISSIONS FROM MUNICIPAL SOLID WASTE LANDFILLS
FEDERAL	REGULATION TITLE
40 CFR PART 60 SUBPART WWW	NEW SOURCE PERFORMANCE STANDARDS: MUNICIPAL SOLID WASTE LANDFILLS
40 CFT PART 63 SUBPART AAAA	NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS: MUNICIPAL SOLID WASTE LANDFILLS

The conditions on this Authority to Construct reflect some, but not all, of the requirements of these rules. Because other rule requirements may apply to the operation, the permit holder should be familiar with all of the rules and related requirements. In addition, because future changes in prohibitory rules may establish more stringent requirements that may supersede the conditions listed here, the permit holder should monitor proposed rules and rule adoption actions at SMAQMD.

For further information please consult your SMAQMD rulebook or contact the SMAQMD for assistance.

ATTACHMENT C

SMAQMD RULE 406
COMPLIANCE CALCULATIONS FOR FLARE

Calculation of SO_2 and PM Emission Concentrations from Flare

Landfill gas F-factor	=	10,349.8 dscf/MMBtu at 0% O2 (based on source test average results performed on the flare under P/O 24341 on 1/26/16)
Molecular Weight of SO2	=	64 grams/mol
Standard Molar Volume	=	0.8493 dscf/mol (at 68 degrees F and 1 atm)
SO2 Emission Factor	=	8.56 lb/MMscf LFG
PM Emission Factor	=	6.1 lb/MMscf LFG
Outlet Oxygen	=	12.5% (assumed)
Outlet Carbon Dioxide	=	7% (assumed)

PM10 concentration (combustion contaminants)**:**

= Flare PM10 mass emission rate (grains/min)
Flare volumetric Exhaust Gas flow rate (dscf EG/min)

= (6.1 lb PM10/MMscf LFG) (7000 grains/lb) (600 scf LFG/min)
(600 scf LFG/min) (500 BTU/scf LFG) (10,349.8 dscf EG/MMBTU)

= 26 grains PM10/min
3,105dscf EG/min **at 0% O2 based on definition of Fd Factor**

= 26 grains PM10/min
7,726 dscf EG/min **recalculated at 12.5% O2**

= 0.0034 grains PM10/dscf EG **assumed at 7% CO2**

= 0.006 grains PM10/dscf EG **recalculated at 12% CO2**

SO2 Concentration (%SO2 by volume):

= Flare volumetric SO2 emission rate (scf SO2/min)
Flare volumetric combustion gas emission rate (dscf EG/min)

= (8.56 lb SO2/MMscf LFG) (453.6 grams/lb) (600 scf LFG/min) (0.8493 ft3/mole) (1 mole/64 grams)
(600 scf LFG/min) (500 BTU/scf LFG) (10,349.8 dscf EG/MMBTU)

= 0.03 scf SO2/min
3,105 dscf EG/min **at 0% O2 based on definition of Fd Factor**

= 0.03 scf SO2/min
7,726 dscf EG/min **recalculated at 12.5% O2**

= 0.0004% SO2 by volume

ATTACHMENT D

SMAQMD RULE 420
COMPLIANCE CALCULATIONS FOR FLARE

SOx Emission Factor Calculations (gr/100 scf)

Molecular Wt. for H_2S = 34 lb/lb-mole

District Standard Conditions are: Temp = 68 °F, Pressure = 14.7 psia

Molar Specific Volume of a gas at 68 °F = T * R/P

= [(459.6 + 68 °F) * (10.7316 ft^3 * psi/°R * lb-mol)]/14.7 psi

= 385.2 scf/lb-mole

gr/100 cf Conversion:

gr H_2S/100 cf as H_2S = (51.5 cf H_2S/MMcf Fuel) x (MMcf Fuel/10^4 100 cf Fuel) x (7000 gr/H_2S/lb H_2S) x (34 lb H_2S/lb-mole H_2S) x (lb-mole H_2S/385.2 cf H_2S)

= 3.18