

## Division of Air Quality Permit Application Submittal

Please find attached a permit application for :

[Company Name; Facility Location]

- DAQ Facility ID (for existing facilities only):
- Current 45CSR13 and 45CSR30 (Title V) permits associated with this process (for existing facilities only):

• Type of NSR Application (check all that apply):

- Construction
- Modification
- Class I Administrative Update
- Class II Administrative Update
- Relocation
- Temporary
- Permit Determination

• Type of 45CSR30 (TITLE V) Application:

- Title V Initial
- Title V Renewal
- Administrative Amendment\*\*
- Minor Modification\*\*
- Significant Modification\*\*
- Off Permit Change

**\*\*If the box above is checked, include the Title V revision information as ATTACHMENTS to the combined NSR/Title V application.**

• Payment Type:

- Credit Card (Instructions to pay by credit card will be sent in the Application Status email.)
- Check (Make checks payable to: WVDEP – Division of Air Quality)

Mail checks to:  
WVDEP – DAQ – Permitting  
Attn: NSR Permitting Secretary  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304

**Please wait until DAQ emails you the Facility ID Number and Permit Application Number. Please add these identifiers to your check or cover letter with your check.**

• If the permit writer has any questions, please contact (all that apply):

Responsible Official/Authorized Representative

- Name:
- Email:
- Phone Number:

Company Contact

- Name:
- Email:
- Phone Number:

Consultant

- Name:
- Email:
- Phone Number:

February 15, 2021

Ms. Laura M. Crowder, Director  
West Virginia Department of Environmental Protection  
Division of Air Quality  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304

*RE: Meadowfill Landfill Inc. – Bridgeport, West Virginia  
Title V Operating Permit No. R30-03300128-2016  
Title V Permit Renewal Application*

VIA E-MAIL: [DEPAirQualityPermitting@wv.gov](mailto:DEPAirQualityPermitting@wv.gov)

Dear Ms. Crowder:

Enclosed please find a complete application for the renewal of the Title V Operating Permit (TVOP) referenced above for the Meadowfill Landfill, Inc. (Landfill) in Bridgeport, West Virginia. This facility is located in Harrison County, West Virginia. The Landfill is currently operating in accordance with West Virginia Department of Environmental Protection (WVDEP) Division of Air Quality Title V Operating Permit R30-03300128-2016 issued on August 15, 2016. The Operating Permit expires on August 15, 2021.

The Landfill wishes to inform the WVDEP that the TVOP will need to be updated for consistency with the extensive rule changes within 45 CSR 23, which became effective June 1, 2018.<sup>1</sup> These rule changes were finalized when West Virginia developed an initial State Plan to address the Emission Guidelines (NSPS/EG) Subpart Cf in 2018.

Also, 40 CFR Subpart WWW actually will not apply to the Landfill after September 2021 due to recent NSPS and NESHAP rule changes for landfills. 45 CSR 23 will be the applicable regulation for the Landfill as well as the NESHAP Subpart AAAA as the current NMOC emissions exceed the threshold of 50 Mg/yr.

As discussed during our conversation with the Department on February 8, 2021 the Meadowfill Landfill Title V Permit Renewal is due at the same time as the Title V Permit Modification to address the GCCS Design Plan (TV Permit Condition 4.1.4). It was confirmed during this call that it would be acceptable for this submittal to satisfy both the permit renewal and permit modification submittal requirements.

The Landfill has updated the phases within the recent construction of the site. Please note the request for addition to the Emissions Unit Table. The Tire Shredder (Emission Unit 2S) does not operate at the site. This application documents removal of the shredder as a permitted Emission Unit. Additionally, the Landfill has reviewed the current Title V Operating Permit terms and conditions as part of this renewal application. Due

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<sup>1</sup> Please also note that the public comment period for further rule changes (to 45 CSR 23), based on revisions to the federal performance and emission standards for MSW landfills, ended on July 28, 2020. Once finalized, these additional rule changes will likely need incorporation into this Title V Operating Permit Renewal.

to the apparent insignificant nature of the many tanks listed as Miscellaneous Sources in the Title V Operating Permit, we are requesting that the Department consider removing these sources as formal emission units from within the permit. There are no substantive requirements for these sources within the Operating Permit.

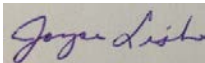
Attached with this cover letter, please find one (1) PDF copy of the complete permit application package, including a signed copy of the required signatory page. This package contains the following:

- > Table of Contents
- > Title V Permit Application Checklist
- > General Application Forms
- > Attachment A – Area Map
- > Attachment B – Plot Plan
- > Attachment C – Process Flow Diagrams
- > Attachment D – Title V Equipment Table
- > Attachment E – Emission Unit Forms
- > Attachment G – Air Pollution Control Device Forms
- > Appendix A – Emission Calculations

If you need further clarification or information on any aspect of the renewal application, please contact me by phone at (412) 737-6568, or via email at [jlsh@trinityconsultants.com](mailto:jlsh@trinityconsultants.com). Thank you for working with us in reviewing this submittal.

Sincerely,

TRINITY CONSULTANTS



Joyce Lish  
Senior Consultant

Enclosures:

CC: Michael Runner, Waste Management (via email)  
Craig Arnold, Waste Management (via email)  
Michael Trupin, Trinity Consultants (via email)  
Nikki Moats, WVDEP  
Richard Boehm, WVDEP

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• **If the permit writer has any questions, please contact (all that apply):**

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- Name:
- Email:
- Phone Number:

**Company Contact**

- Name:
- Email:
- Phone Number:

**Consultant**

- Name:
- Email:
- Phone Number:

# TITLE V RENEWAL

Waste Management – Meadowfill Landfill, Inc.  
Bridgeport Landfill

Title V Permit Renewal Application/ Bridgeport, West  
Virginia

Prepared By:

TRINITY CONSULTANTS  
Pittsburgh Office  
4500 Brooktree Road  
Suite 310  
Wexford, PA 15090  
(724) 935-2611

February 2021



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**TITLE V PERMIT APPLICATION CHECKLIST  
FOR ADMINISTRATIVE COMPLETENESS**

A complete application is demonstrated when all of the information required below is properly prepared, completed and attached. The items listed below are required information which must be submitted with a Title V permit application. Any submittal will be considered incomplete if the required information is not included.*	
	A signed copy of the application (“Certification” page must be signed and dated by a Responsible Official as defined in 45CSR30)
	*Table of Contents (needs to be included but not for administrative completeness)
	Facility information
	Description of process and products, including NAICS and SIC codes, and including alternative operating scenarios
	Area map showing plant location
	Plot plan showing buildings and process areas
	Process flow diagram(s), showing all emission units, control equipment, emission points, and their relationships
	Identification of all applicable requirements with a description of the compliance status, the methods used for demonstrating compliance, and a Schedule of Compliance Form (ATTACHMENT F) for all requirements for which the source is not in compliance
	Listing of all active permits and consent orders (if applicable)
	Facility-wide emissions summary
	Identification of Insignificant Activities
	ATTACHMENT D – Title V Equipment Table completed for all emission units at the facility except those designated as insignificant activities
	ATTACHMENT E – Emission Unit Form completed for each emission unit listed in the Title V Equipment Table (ATTACHMENT D) and a Schedule of Compliance Form (ATTACHMENT F) for all requirements for which the emission unit is not in compliance
	ATTACHMENT G – Air Pollution Control Device Form completed for each control device listed in the Title V Equipment Table (ATTACHMENT D)
	ATTACHMENT H – Compliance Assurance Monitoring (CAM) Plan Form completed for each control device for which the “Is the device subject to CAM?” question is answered “Yes” on the Air Pollution Control Device Form (ATTACHMENT G)
	General Application Forms signed by a Responsible Official
	Confidential Information submitted in accordance with 45CSR31



**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL  
PROTECTION  
DIVISION OF AIR QUALITY**

601 57<sup>th</sup> Street SE  
Charleston, WV 25304  
Phone: (304) 926-0475  
[www.dep.wv.gov/daq](http://www.dep.wv.gov/daq)

Received  
February 15, 2021  
WV DEP/Div of Air Quality

**INITIAL/RENEWAL TITLE V PERMIT APPLICATION - GENERAL FORMS**

**Section 1: General Information**

<p><b>1. Name of Applicant (As registered with the WV Secretary of State's Office):</b> Meadowfill Landfill, Inc.</p>	<p><b>2. Facility Name or Location:</b> Bridgeport, WV</p>
<p><b>3. DAQ Plant ID No.:</b>  0 3 3 — 0 0 1 2 8</p>	<p><b>4. Federal Employer ID No. (FEIN):</b>  3 1 1 5 0 9 7 0 1</p>
<p><b>5. Permit Application Type:</b></p> <p><input type="checkbox"/> Initial Permit    When did operations commence? MM/DD/1991</p> <p><input checked="" type="checkbox"/> Permit Renewal    What is the expiration date of the existing permit? 08/15/2021</p> <p><input type="checkbox"/> Update to Initial/Renewal Permit Application</p>	
<p><b>6. Type of Business Entity:</b></p> <p><input checked="" type="checkbox"/> Corporation      <input type="checkbox"/> Governmental Agency      <input type="checkbox"/> LLC <input type="checkbox"/> Partnership      <input type="checkbox"/> Limited Partnership</p>	<p><b>7. Is the Applicant the:</b></p> <p><input type="checkbox"/> Owner      <input type="checkbox"/> Operator      <input checked="" type="checkbox"/> Both</p> <p>If the Applicant is not both the owner and operator, please provide the name and address of the other party.</p> <p>_____</p>
<p><b>9. Governmental Code:</b></p> <p><input checked="" type="checkbox"/> Privately owned and operated; 0                      <input type="checkbox"/> County government owned and operated; 3 <input type="checkbox"/> Federally owned and operated; 1                      <input type="checkbox"/> Municipality government owned and operated; 4 <input type="checkbox"/> State government owned and operated; 2                      <input type="checkbox"/> District government owned and operated; 5</p>	
<p><b>10. Business Confidentiality Claims</b></p> <p>Does this application include confidential information (per 45CSR31)?      <input type="checkbox"/> Yes      <input checked="" type="checkbox"/> No</p> <p>If yes, identify each segment of information on each page that is submitted as confidential, and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's "PRECAUTIONARY NOTICE-CLAIMS OF CONFIDENTIALITY" guidance.</p>	



<b>11. Mailing Address</b>		
<b>Street or P.O. Box:</b> 1488 Dawson Drive		
<b>City:</b> Bridgeport	<b>State:</b> WV	<b>Zip:</b> 25427-
<b>Telephone Number:</b> (888) 964-9724	<b>Fax Number:</b> (304) 842-4613	

<b>12. Facility Location</b>		
<b>Street:</b> 1488 Dawson Drive	<b>City:</b> Bridgeport	<b>County:</b> Harrison
<b>UTM Easting:</b> 564.04 km	<b>UTM Northing:</b> 4,3854.44 km	<b>Zone:</b> <input checked="" type="checkbox"/> 17 or <input type="checkbox"/> 18
<b>Directions:</b> From I-79 take exit 121 (Meadowbrook Road). Turn west onto Meadowbrook Road. Go approximately 1.5 miles and turn right onto Dawson Drive. Follow Dawson Drive approximately 1.5 miles to the landfill entrance.		
<b>Portable Source?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
<b>Is facility located within a nonattainment area?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>If yes, for what air pollutants?</b>	
<b>Is facility located within 50 miles of another state?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>If yes, name the affected state(s).</b> Pennsylvania Maryland	
<b>Is facility located within 100 km of a Class I Area<sup>1</sup>?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>If yes, name the area(s).</b> Dolly Sods Wilderness Area Otter Creek Wilderness Area	
<b>If no, do emissions impact a Class I Area<sup>1</sup>?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No		
<sup>1</sup> Class I areas include Dolly Sods and Otter Creek Wilderness Areas in West Virginia, and James River Face Wilderness Area in Virginia		

<b>13. Contact Information</b>		
<b>Responsible Official:</b> Adam Finley		<b>Title:</b> Director of Disposal Operations Senior District Manager
<b>Street or P.O. Box:</b> 100 Rangos Lane		
<b>City:</b> Washington	<b>State:</b> PA	<b>Zip:</b> 15301-
<b>Telephone Number:</b> (724)206-7940	<b>Fax Number:</b>	
<b>E-mail address:</b> afinley@wm.com		
<b>Environmental Contact:</b> Michael Runner		<b>Title:</b> Mgr. Environmental Protection
<b>Street or P.O. Box:</b> 1488 Dawson Drive, Suite 101		
<b>City:</b> Bridgeport	<b>State:</b> WV	<b>Zip:</b> 26330-
<b>Telephone Number:</b> (681) 758-5719	<b>Fax Number:</b>	
<b>E-mail address:</b> mrunner@wm.com		
<b>Application Preparer:</b> Joyce Lish		<b>Title:</b> Senior Consultant
<b>Company:</b> Trinity Consultants, Inc.		
<b>Street or P.O. Box:</b> 4500 Brooktree Road, Suite 310		
<b>City:</b> Wexford	<b>State:</b> PA	<b>Zip:</b> 15090-
<b>Telephone Number:</b> (412)737-6568	<b>Fax Number:</b>	
<b>E-mail address:</b> jlish@trinityconsultants.com		

**14. Facility Description**

List all processes, products, NAICS and SIC codes for normal operation, in order of priority. Also list any process, products, NAICS and SIC codes associated with any alternative operating scenarios if different from those listed for normal operation.

Process	Products	NAICS	SIC
Sanitary Landfill	Waste disposal	562212	4953

**Provide a general description of operations.**

Meadowfill Landfill is a municipal solid waste landfill that began operation in 1994. The landfill has the potential to receive approximately 30,000 tons of waste per month on the approximate 177.7 acre site. Waste is brought to the landfill by truck and disposed. The waste is spread and compacted with soil placed over the active area each day for cover. The landfill also has a flare for odor control and above ground tanks which are used for leachate treatment and storage. The flare and associated gas collection system will be used (in the future) for the purposes of satisfying the substantive requirement of the NSPS and NESHAP Rules (along with 45 CSR 23).

- 15. Provide an **Area Map** showing plant location as **ATTACHMENT A**.
- 16. Provide a **Plot Plan(s)**, e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is located as **ATTACHMENT B**. For instructions, refer to "Plot Plan - Guidelines."
- 17. Provide a detailed **Process Flow Diagram(s)** showing each process or emissions unit as **ATTACHMENT C**. Process Flow Diagrams should show all emission units, control equipment, emission points, and their relationships.

**Section 2: Applicable Requirements**

<b>18. Applicable Requirements Summary</b>	
Instructions: Mark all applicable requirements.	
<input type="checkbox"/> SIP	<input type="checkbox"/> FIP
<input type="checkbox"/> Minor source NSR (45CSR13)	<input type="checkbox"/> PSD (45CSR14)
<input checked="" type="checkbox"/> NESHAP (45CSR34)	<input type="checkbox"/> Nonattainment NSR (45CSR19)
<input checked="" type="checkbox"/> Section 111 NSPS	<input checked="" type="checkbox"/> Section 112(d) MACT standards
<input type="checkbox"/> Section 112(g) Case-by-case MACT	<input type="checkbox"/> 112(r) RMP
<input type="checkbox"/> Section 112(i) Early reduction of HAP	<input type="checkbox"/> Consumer/commercial prod. reqts., section 183(e)
<input type="checkbox"/> Section 129 Standards/Reqts.	<input type="checkbox"/> Stratospheric ozone (Title VI)
<input type="checkbox"/> Tank vessel reqt., section 183(f)	<input type="checkbox"/> Emissions cap 45CSR§30-2.6.1
<input type="checkbox"/> NAAQS, increments or visibility (temp. sources)	<input type="checkbox"/> 45CSR27 State enforceable only rule
<input checked="" type="checkbox"/> 45CSR4 State enforceable only rule	<input type="checkbox"/> Acid Rain (Title IV, 45CSR33)
<input type="checkbox"/> Emissions Trading and Banking (45CSR28)	<input type="checkbox"/> Compliance Assurance Monitoring (40CFR64)
<input type="checkbox"/> CAIR NO <sub>x</sub> Annual Trading Program (45CSR39)	<input type="checkbox"/> CAIR NO <sub>x</sub> Ozone Season Trading Program (45CSR40)
<input type="checkbox"/> CAIR SO <sub>2</sub> Trading Program (45CSR41)	

<b>19. Non Applicability Determinations</b>
<p><b>List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies.</b></p> <p>40CFR60.757(a)(3) and corresponding State Regulation. The design capacity of this facility is greater than 2.5 million megagrams and 2.5 million cubic meters. Therefore, amended design capacity reports are not required.</p> <p>40 C.F.R. 64 – Compliance Assurance Monitoring. The landfill NSPS and NESHAP were established after 11/15/1990. Therefore, the landfill is exempt from the CAM Rule.</p> <p>40 CFR 60, Subpart Kb – All of the tanks at this facility were constructed after July 23, 1984 but have a design capacity less than 75 m3. Therefore, none of the tanks at this facility are subject to 40 C.F.R. 60 Subpart Kb. Due to the Vp threshold in Subpart Kb, the leachate tanks are not Subpart Kb applicable.</p>
<input checked="" type="checkbox"/> Permit Shield

**19. Non Applicability Determinations (Continued)** - Attach additional pages as necessary.

List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies.

Permit Shield

## 20. Facility-Wide Applicable Requirements

List all facility-wide applicable requirements. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements).

45CSR§6-3.1. – Open burning  
45CSR§6-3.2. – Open burning exemptions  
40 C.F.R. §61.145(b) and 45CSR34 – Asbestos  
45CSR§4-3.1. State-Enforceable only – Odor  
45CSR§11-5.2. – Standby plan for reducing emissions  
W.Va. Code § 22-5-4(a)(14) – Emission inventory  
40 C.F.R. 82, Subpart F – Ozone-depleting substances  
40 C.F.R. 68 – Risk Management Plan  
45CSR§17-3.1. – Fugitive particulate matter  
45CSR§17-3.2. & 4.1. – Fugitive particulate matter control

Permit Shield

For all facility-wide applicable requirements listed above, provide monitoring/testing / recordkeeping / reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

W.Va. Code § 22-5-4(a)(15) and 45CSR13 – Stack testing  
45CSR§30-5.1.c.2.A, 45CSR13, R13-2666, 4.4.1., R13-2596, 4.4.1.. – Monitoring information  
45CSR§30-5.1.c.2.B. – Retention of records  
45CSR§30-5.1.c. State-Enforceable only – Odors  
45CSR§30-5.1.c. Monitor dust control systems and maintain records of dust control  
45CSR§§30-4.4. and 5.1.c.3.D. – Responsible official  
45CSR§30-5.1.c.3.E. – Reporting requirements for confidential information  
45CSR§30-8. – Certified emissions statement  
45CSR§30-5.3.e. – Compliance certification  
45CSR§30-5.1.c.3.A. – Semi-annual monitoring reports  
45CSR§30-5.1.c.3.C. - Deviations  
45CSR§30-5.1.c.3.B. – Reporting of deviations  
45CSR§30-4.3.h.1.B. – New applicable requirements

Are you in compliance with all facility-wide applicable requirements?  Yes  No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

**20. Facility-Wide Applicable Requirements (Continued) - Attach additional pages as necessary.**

List all facility-wide applicable requirements. For each applicable requirement, include the rule citation and/or permit with the condition number.

For all facility-wide applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Are you in compliance with all facility-wide applicable requirements?  Yes  No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

<b>21. Active Permits/Consent Orders</b>		
Permit or Consent Order Number	Date of Issuance MM/DD/YYYY	List any Permit Determinations that Affect the Permit <i>(if any)</i>
R13-2666A	11/30/2009	NA
R13-2596A	06/07/2016	NA
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**22. Inactive Permits/Obsolete Permit Conditions**

Permit Number	Date of Issuance	Permit Condition Number
None	MM/DD/YYYY	
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**Section 3: Facility-Wide Emissions**

<b>23. Facility-Wide Emissions Summary [Tons per Year]</b>	
Criteria Pollutants	Potential Emissions
Carbon Monoxide (CO)	192.92
Nitrogen Oxides (NO <sub>x</sub> )	42.32
Lead (Pb)	
Particulate Matter (PM <sub>2.5</sub> ) <sup>1</sup>	26.48
Particulate Matter (PM <sub>10</sub> ) <sup>1</sup>	37.33
Total Particulate Matter (TSP)	198.61
Sulfur Dioxide (SO <sub>2</sub> )	9.59
Volatile Organic Compounds (VOC)	96.18
Hazardous Air Pollutants <sup>2</sup>	Potential Emissions
Total HAPs	22.78
HCl	1.05
Toluene	7.83
Xylenes	2.78
Methylene Chloride	2.63
Perchloroethylene	1.34
Hexane	1.22
Ethylbenzene	1.06
Regulated Pollutants other than Criteria and HAP	Potential Emissions
Methane	38,650
Carbon Dioxide (CO <sub>2</sub> )	108,314
Non-Methane Organic Compounds (NMOC)	226.5 Mg
<sup>1</sup> PM <sub>2.5</sub> and PM <sub>10</sub> are components of TSP. <sup>2</sup> For HAPs that are also considered PM or VOCs, emissions should be included in both the HAPs section and the Criteria Pollutants section.	

**Section 4: Insignificant Activities**

<b>24. Insignificant Activities (Check all that apply)</b>	
<input checked="" type="checkbox"/>	1. Air compressors and pneumatically operated equipment, including hand tools.
<input checked="" type="checkbox"/>	2. Air contaminant detectors or recorders, combustion controllers or shutoffs.
<input checked="" type="checkbox"/>	3. Any consumer product used in the same manner as in normal consumer use, provided the use results in a duration and frequency of exposure which are not greater than those experienced by consumer, and which may include, but not be limited to, personal use items; janitorial cleaning supplies, office supplies and supplies to maintain copying equipment.
<input checked="" type="checkbox"/>	4. Bathroom/toilet vent emissions.
<input checked="" type="checkbox"/>	5. Batteries and battery charging stations, except at battery manufacturing plants.
<input checked="" type="checkbox"/>	6. Bench-scale laboratory equipment used for physical or chemical analysis, but not lab fume hoods or vents. Many lab fume hoods or vents might qualify for treatment as insignificant (depending on the applicable SIP) or be grouped together for purposes of description.
<input checked="" type="checkbox"/>	7. Blacksmith forges.
<input checked="" type="checkbox"/>	8. Boiler water treatment operations, not including cooling towers.
<input checked="" type="checkbox"/>	9. Brazing, soldering or welding equipment used as an auxiliary to the principal equipment at the source.
<input checked="" type="checkbox"/>	10. CO <sub>2</sub> lasers, used only on metals and other materials which do not emit HAP in the process.
<input checked="" type="checkbox"/>	11. Combustion emissions from propulsion of mobile sources, except for vessel emissions from Outer Continental Shelf sources.
<input checked="" type="checkbox"/>	12. Combustion units designed and used exclusively for comfort heating that use liquid petroleum gas or natural gas as fuel.
<input checked="" type="checkbox"/>	13. Comfort air conditioning or ventilation systems not used to remove air contaminants generated by or released from specific units of equipment.
<input checked="" type="checkbox"/>	14. Demineralized water tanks and demineralizer vents.
<input checked="" type="checkbox"/>	15. Drop hammers or hydraulic presses for forging or metalworking.
<input type="checkbox"/>	16. Electric or steam-heated drying ovens and autoclaves, but not the emissions from the articles or substances being processed in the ovens or autoclaves or the boilers delivering the steam.
<input type="checkbox"/>	17. Emergency (backup) electrical generators at residential locations.
<input checked="" type="checkbox"/>	18. Emergency road flares.
<input checked="" type="checkbox"/>	19. Emission units which do not have any applicable requirements and which emit criteria pollutants (CO, NO <sub>x</sub> , SO <sub>2</sub> , VOC and PM) into the atmosphere at a rate of less than 1 pound per hour and less than 10,000 pounds per year aggregate total for each criteria pollutant from all emission units.  Please specify all emission units for which this exemption applies along with the quantity of criteria pollutants emitted on an hourly and annual basis:  <u>Chippers</u> <u>Rock crushers</u> <u>Portable compressors</u>  _____  _____  _____  _____  _____

<b>24. Insignificant Activities (Check all that apply)</b>	
<input type="checkbox"/>	<p>20. Emission units which do not have any applicable requirements and which emit hazardous air pollutants into the atmosphere at a rate of less than 0.1 pounds per hour and less than 1,000 pounds per year aggregate total for all HAPs from all emission sources. This limitation cannot be used for any source which emits dioxin/furans nor for toxic air pollutants as per 45CSR27.</p> <p>Please specify all emission units for which this exemption applies along with the quantity of hazardous air pollutants emitted on an hourly and annual basis:</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
<input checked="" type="checkbox"/>	21. Environmental chambers not using hazardous air pollutant (HAP) gases.
<input checked="" type="checkbox"/>	22. Equipment on the premises of industrial and manufacturing operations used solely for the purpose of preparing food for human consumption.
<input checked="" type="checkbox"/>	23. Equipment used exclusively to slaughter animals, but not including other equipment at slaughterhouses, such as rendering cookers, boilers, heating plants, incinerators, and electrical power generating equipment.
<input checked="" type="checkbox"/>	24. Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.
<input checked="" type="checkbox"/>	25. Equipment used for surface coating, painting, dipping or spray operations, except those that will emit VOC or HAP.
<input checked="" type="checkbox"/>	26. Fire suppression systems.
<input checked="" type="checkbox"/>	27. Firefighting equipment and the equipment used to train firefighters.
<input checked="" type="checkbox"/>	28. Flares used solely to indicate danger to the public.
<input checked="" type="checkbox"/>	29. Fugitive emission related to movement of passenger vehicle provided the emissions are not counted for applicability purposes and any required fugitive dust control plan or its equivalent is submitted.
<input checked="" type="checkbox"/>	30. Hand-held applicator equipment for hot melt adhesives with no VOC in the adhesive formulation.
<input checked="" type="checkbox"/>	31. Hand-held equipment for buffing, polishing, cutting, drilling, sawing, grinding, turning or machining wood, metal or plastic.
<input type="checkbox"/>	32. Humidity chambers.
<input checked="" type="checkbox"/>	33. Hydraulic and hydrostatic testing equipment.
<input checked="" type="checkbox"/>	34. Indoor or outdoor kerosene heaters.
<input checked="" type="checkbox"/>	35. Internal combustion engines used for landscaping purposes.
<input checked="" type="checkbox"/>	36. Laser trimmers using dust collection to prevent fugitive emissions.
<input checked="" type="checkbox"/>	37. Laundry activities, except for dry-cleaning and steam boilers.
<input checked="" type="checkbox"/>	38. Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.
<input checked="" type="checkbox"/>	39. Oxygen scavenging (de-aeration) of water.
<input checked="" type="checkbox"/>	40. Ozone generators.

<b>24. Insignificant Activities (Check all that apply)</b>	
<input checked="" type="checkbox"/>	41. Plant maintenance and upkeep activities (e.g., grounds-keeping, general repairs, cleaning, painting, welding, plumbing, re-tarring roofs, installing insulation, and paving parking lots) provided these activities are not conducted as part of a manufacturing process, are not related to the source's primary business activity, and not otherwise triggering a permit modification. (Cleaning and painting activities qualify if they are not subject to VOC or HAP control requirements. Asphalt batch plant owners/operators must still get a permit if otherwise requested.)
<input checked="" type="checkbox"/>	42. Portable electrical generators that can be moved by hand from one location to another. "Moved by Hand" means that it can be moved without the assistance of any motorized or non-motorized vehicle, conveyance, or device.
<input checked="" type="checkbox"/>	43. Process water filtration systems and demineralizers.
<input checked="" type="checkbox"/>	44. Repair or maintenance shop activities not related to the source's primary business activity, not including emissions from surface coating or de-greasing (solvent metal cleaning) activities, and not otherwise triggering a permit modification.
<input checked="" type="checkbox"/>	45. Repairs or maintenance where no structural repairs are made and where no new air pollutant emitting facilities are installed or modified.
<input type="checkbox"/>	46. Routing calibration and maintenance of laboratory equipment or other analytical instruments.
<input type="checkbox"/>	47. Salt baths using nonvolatile salts that do not result in emissions of any regulated air pollutants. Shock chambers.
<input type="checkbox"/>	48. Shock chambers.
<input type="checkbox"/>	49. Solar simulators.
<input checked="" type="checkbox"/>	50. Space heaters operating by direct heat transfer.
<input checked="" type="checkbox"/>	51. Steam cleaning operations.
<input type="checkbox"/>	52. Steam leaks.
<input type="checkbox"/>	53. Steam sterilizers.
<input type="checkbox"/>	54. Steam vents and safety relief valves.
<input checked="" type="checkbox"/>	55. Storage tanks, reservoirs, and pumping and handling equipment of any size containing soaps, vegetable oil, grease, animal fat, and nonvolatile aqueous salt solutions, provided appropriate lids and covers are utilized.
<input checked="" type="checkbox"/>	56. Storage tanks, vessels, and containers holding or storing liquid substances that will not emit any VOC or HAP. Exemptions for storage tanks containing petroleum liquids or other volatile organic liquids should be based on size limits such as storage tank capacity and vapor pressure of liquids stored and are not appropriate for this list.
<input checked="" type="checkbox"/>	57. Such other sources or activities as the Director may determine.
<input checked="" type="checkbox"/>	58. Tobacco smoking rooms and areas.
<input checked="" type="checkbox"/>	59. Vents from continuous emissions monitors and other analyzers.

**Section 5: Emission Units, Control Devices, and Emission Points**

<b>25. Equipment Table</b>
Fill out the <b>Title V Equipment Table</b> and provide it as <b>ATTACHMENT D</b> .
<b>26. Emission Units</b>
For each emission unit listed in the <b>Title V Equipment Table</b> , fill out and provide an <b>Emission Unit Form</b> as <b>ATTACHMENT E</b> .
For each emission unit not in compliance with an applicable requirement, fill out a <b>Schedule of Compliance Form</b> as <b>ATTACHMENT F</b> .
<b>27. Control Devices</b>
For each control device listed in the <b>Title V Equipment Table</b> , fill out and provide an <b>Air Pollution Control Device Form</b> as <b>ATTACHMENT G</b> .
For any control device that is required on an emission unit in order to meet a standard or limitation for which the potential pre-control device emissions of an applicable regulated air pollutant is greater than or equal to the Title V Major Source Threshold Level, refer to the <b>Compliance Assurance Monitoring (CAM) Form(s)</b> for CAM applicability. Fill out and provide these forms, if applicable, for each Pollutant Specific Emission Unit (PSEU) as <b>ATTACHMENT H</b> .

**Section 6: Certification of Information**

**28. Certification of Truth, Accuracy and Completeness and Certification of Compliance**

*Note: This Certification must be signed by a responsible official. The **original**, signed in **blue ink**, must be submitted with the application. Applications without an **original** signed certification will be considered as incomplete.*

**a. Certification of Truth, Accuracy and Completeness**

I certify that I am a responsible official (as defined at 45CSR§30-2.38) and am accordingly authorized to make this submission on behalf of the owners or operators of the source described in this document and its attachments. I certify under penalty of law that I have personally examined and am familiar with the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine and/or imprisonment.

**b. Compliance Certification**

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

**Responsible official (type or print)**

Name: Adam Finley

Title: Director of Disposal Operations

**Responsible official's signature:**

Signature: \_\_\_\_\_

Signature Date: \_\_\_\_\_

2/10/21

(Must be signed and dated in blue ink)

Received  
February 15, 2021  
WV DEP/Div of Air Quality

**Note: Please check all applicable attachments included with this permit application:**

<input checked="" type="checkbox"/>	ATTACHMENT A: Area Map
<input checked="" type="checkbox"/>	ATTACHMENT B: Plot Plan(s)
<input checked="" type="checkbox"/>	ATTACHMENT C: Process Flow Diagram(s)
<input checked="" type="checkbox"/>	ATTACHMENT D: Equipment Table
<input checked="" type="checkbox"/>	ATTACHMENT E: Emission Unit Form(s)
<input type="checkbox"/>	ATTACHMENT F: Schedule of Compliance Form(s)
<input checked="" type="checkbox"/>	ATTACHMENT G: Air Pollution Control Device Form(s)
<input type="checkbox"/>	ATTACHMENT H: Compliance Assurance Monitoring (CAM) Form(s)

**All of the required forms and additional information can be found and downloaded from, the DEP website at [www.dep.wv.gov/dag](http://www.dep.wv.gov/dag), requested by phone (304) 926-0475, and/or obtained through the mail.**

**ATTACHMENT A**  
**Area Map**





Title:

# **ATTACHMENT B**

## **Plot Plan(s)**

**PREPARED BY**  
**TRINITY CONSULTANTS**

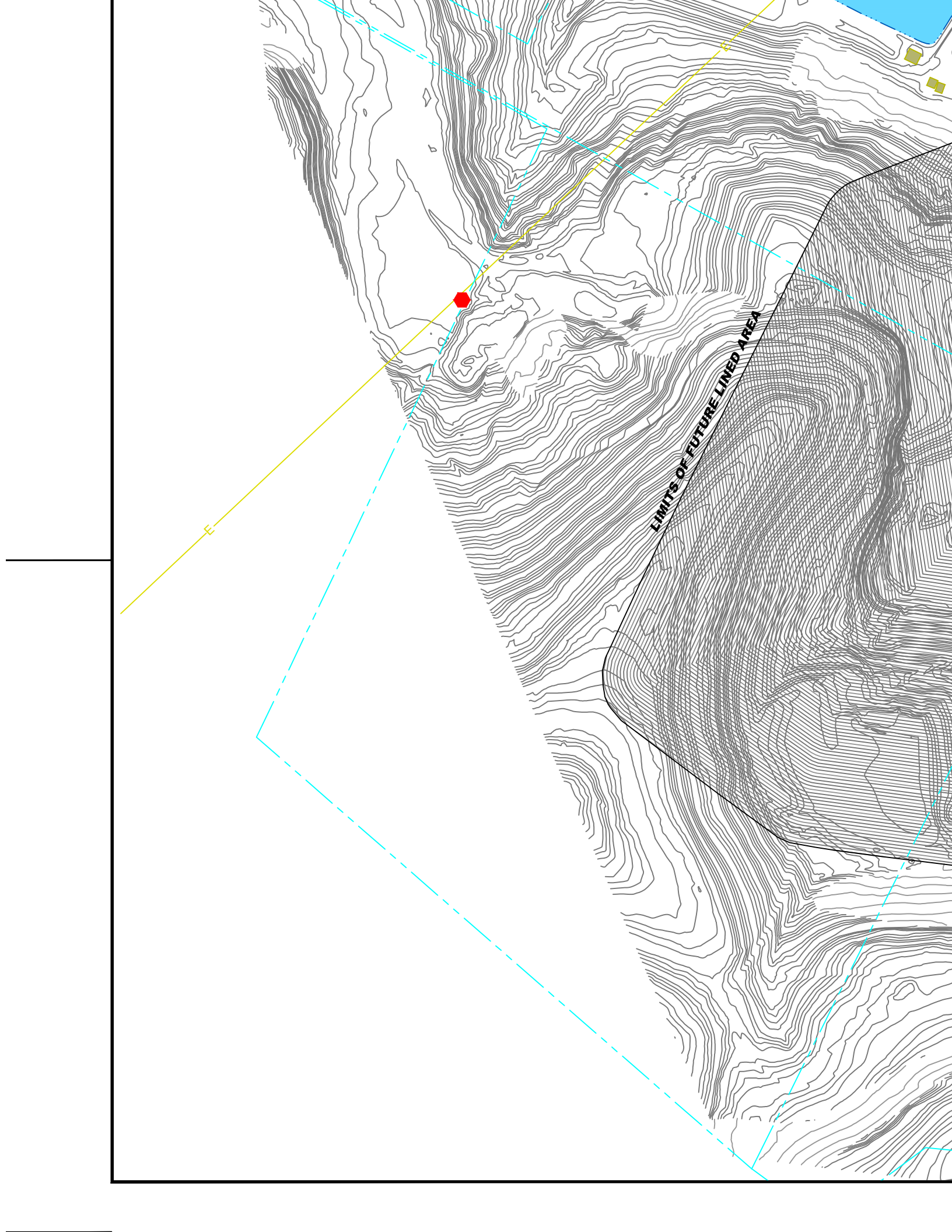
**Waste Management - Meadowfill Landfill, Inc.**  
**Bridgeport West Virginia**

**PROJECT**  
**213101.0013**

**DATE**  
February 2021

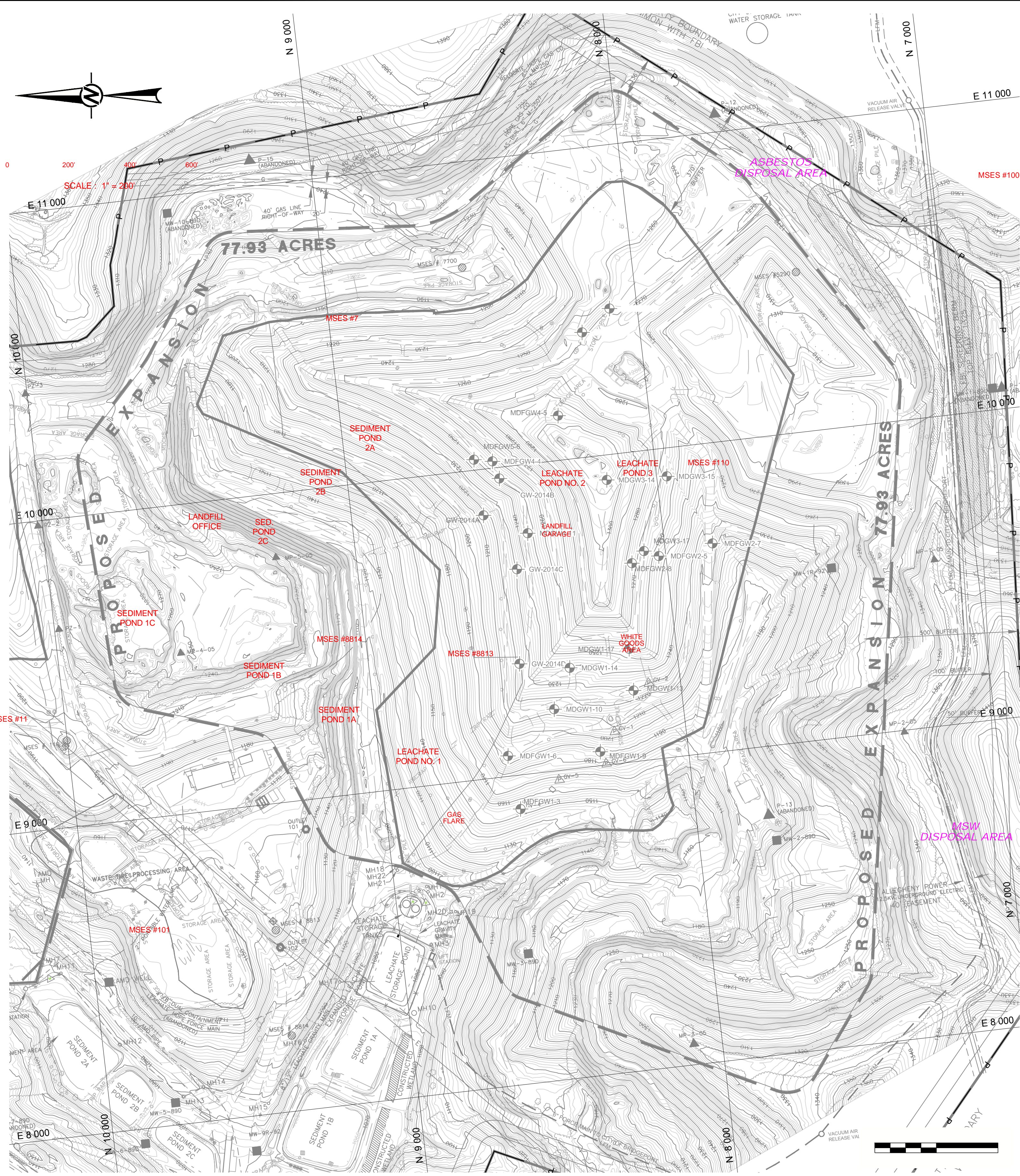
**SHEET**  
**1 of 1**

**REV**  
**001**

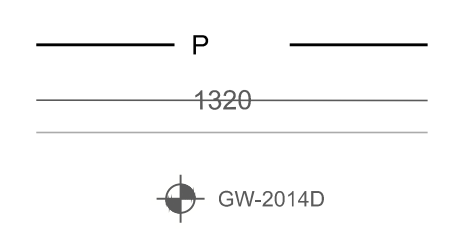


LIMITS OF FUTURE LINED AREA

Path: \\bristol\CompleteData\Waste Management\Meadowfill\20138662 - Meadowfill GCCS Update\001\_Updated GCCS\Active | File Name: 20138662-001-01 - Overall Site Plan.dwg | Last Edited By: chchan Date: 2020-09-23 Time 3:08:36 PM | Printed By: CHChan Date: 2020-09-25 Time 10:20:33 AM  
 CADD FILE NO. 17-240 MSW Stability Evaluation Site Plan



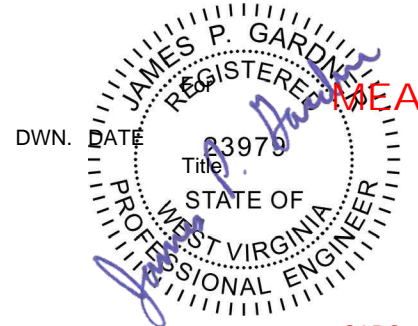
- PROPERTY LINE
- DISPOSAL CELL LIMITS
- TOP OF COLLECTION PROTECTION CONTOUR
- EXISTING SUBSIDENCE CRACK
- CONCRETE MONUMENT
- BUILDING
- CAPPED DISPOSAL AREA
- APPROXIMATE DISPOSAL AREA AS KNOWN (PRE-1988)
- LINED AREA
- CELL LIMITS THAT BEEN OVERLAID BY LATER CELL CONSTRUCTION (SEE NOTE)
- SALT CELL LIMITS
- SMOOTH HDPE LINED AREA
- POND



**NOTE**

PHASES 7A, 7B, 7C, 10A, 11A, AND SALT CELL ARE SYNTHETIC LINES BUILT OVER EXISTING PHASES AT ELEVATION IN THE WASTE FILL TO ISOLATE SPECIAL WASTES FROM INTERFERENCE WITH MUNICIPAL SOLID WASTE.

NO.	DESCRIPTION	REVISIONS



MEADOWFILL LANDFILL INC.  
 MEADOWFILL LANDFILL  
 GAS COLLECTION AND CONTROL SYSTEM  
 OVERALL SITE PLAN

Drawn: SARC 12/17 Scale: AS SHOWN  
 Engineer: CHM 12/17 Dwg. No. 1  
 Checked: CHM 12/17

REV.	DATE	ISSUED WITH	DESCRIPTION
0	2020-09-25	ISSUED WITH GCCS DESIGN PLAN	DESIGNED PREPARED REVIEWED APPROVED

CLIENT: MEADOWFILL LANDFILL  
 BRIDGEPORT, HARRISON COUNTY,  
 WEST VIRGINIA  
 CONSULTANT: GOLDER  
 10 CANAL STREET, SUITE 217  
 BRISTOL, PENNSYLVANIA  
 USA  
 (215) 826-1580  
 www.golder.com

PROJECT NO. 20138662  
 CONTROL 0001-001  
 MEADOWFILL LANDFILL INC.

1 in IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI D

LEGEND

- PROPERTY BOUNDARY
- EXISTING CONTOURS
- EXISTING VERTICAL GAS EXTRACTION WELL

MDFGW3-7  
MDGW3-11

0 200 400  
1" = 200' FEET

ATTACHMENT C

REFERENC(S)



1. BASE TOPOGRAPHY TAKEN FROM AERIAL MAPPING COMPILED BY SOUTHERN RESOURCES MAPPING CORPORATION DATED APRIL 2019 (FLOWN MARCH 27, 2019).

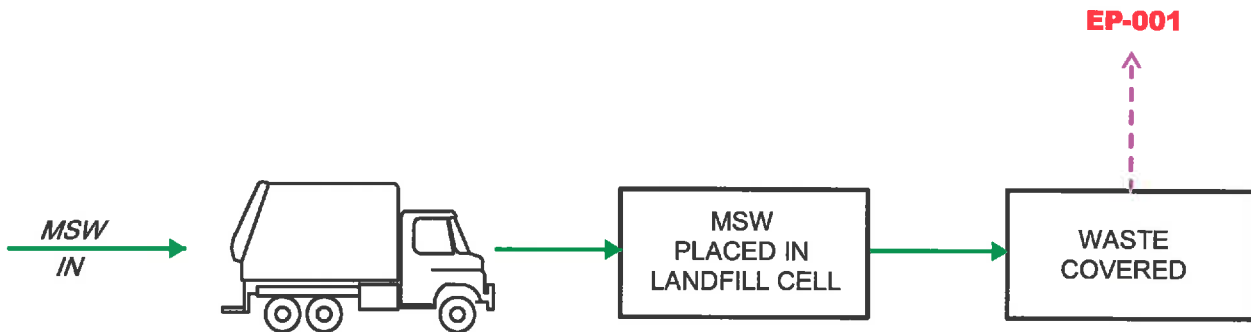
NOTE(S)

1. HORIZONTAL COORDINATES ARE LOCAL BASED ON STATE PLANE COORDINATE SYSTEM, WEST VIRGINIA, NORTH ZONE, NAD83.
2. VERTICAL DATUM BASED ON NAVD88.

SEAL

**LEGEND**

-  PROCESS FLOW
-  FUGITIVE EMISSIONS
- EP-001** EMISSION POINT



**MEADOWFILL LANDFILL, INC.**

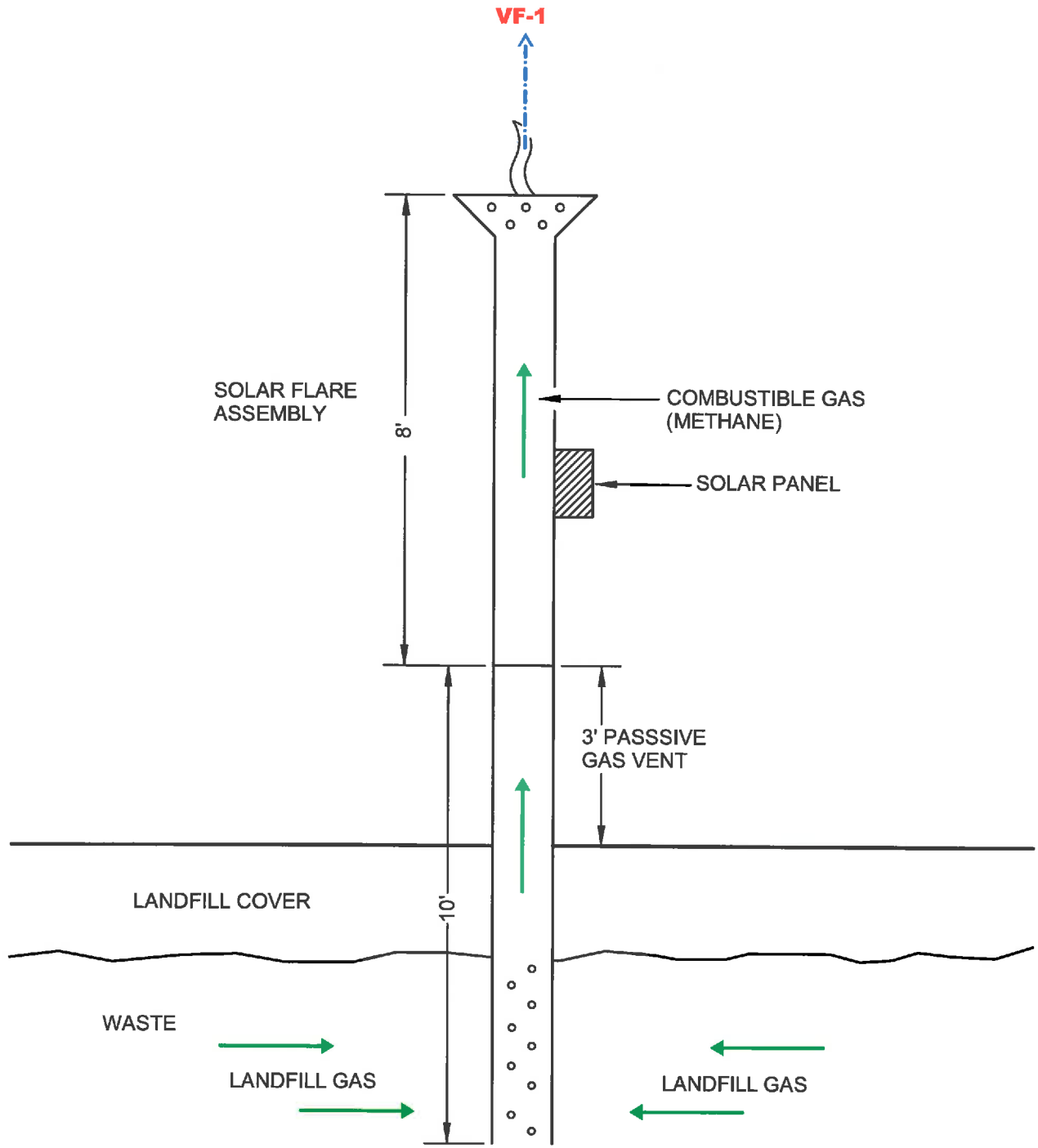
**Regulation 30 Permit Application  
Facility Process Flow Diagram**

Drawn by	<u>RLR / SARC</u>	11/10
Engineer	<u>JJK / LLS</u>	11/10
Checked by	<u>JJK / LLS</u>	11/10
		Date

Scale NONE

**Attachment C  
FIGURE 3**

Prepared by **MSES consultants, inc.**



**LEGEND**

- PROCESS FLOW
- AIR EMISSION FLOW
- VF-1** EMISSION POINT

**MEADOWFILL LANDFILL, INC.**

**Regulation 30 Permit Application  
Vent Flares Process Flow Diagram**

Drawn by	LFL / SARC	11/10
Engineer	JJK / LLS	11/10
Checked by	JJK / LLS	11/10
		Date

Scale NONE

Prepared by **MSES consultants, inc.**

**FIGURE 5**

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**ATTACHMENT D - Emission Units Table**  
**(includes all emission units at the facility except those designated as insignificant activities in Section 4, Item 24 of the General Forms)**

Emission Unit ID <sup>1</sup>	Emission Point ID <sup>1</sup>	Emission Unit Description	Year Installed/Modified	Design Capacity	Control Device <sup>1</sup>
Phase 1	Cell 1-A	Phase 1 Cell 1-A	1994	180,374 Mg	None
Phase 1	Cell 1-B	Phase 1 Cell 1-B	1994	223,581 Mg	None
Phase 2	Cell 2-A	Phase 2 Cell 2-A	1995	160,028 Mg	None
Phase 2	Cell 2-B	Phase 2 Cell 2-B	1996	551,581 Mg	None
Phase 3	Cell 3-A	Phase 3 Cell 3-A	1997	519,633 Mg	None
Phase 3	Cell 3-B	Phase 3 Cell 3-B	1998	229,125 Mg	None
Phase 3	Cell 3-C	Phase 3 Cell 3-C	1999	449,106 Mg	None
Phase 4	Cell 4-A	Phase 4 Cell 4-A	2000	410,357 Mg	None
Phase 4	Cell 4-B	Phase 4 Cell 4-B	2001	331,267 Mg	None
Phase 4	Cell 4-C	Phase 4 Cell 4-C	2002	338,495 Mg	None
Phase 4	Cell 4-D	Phase 4 Cell 4-D	2003	348,131 Mg	None
Phase 5	Cell 5-A	Phase 5 Cell 5-A	2005	649,283 Mg	None
Phase 5	Cell 5-B	Phase 5 Cell 5-B	2005	357,768 Mg	None
Phase 6	Cell6-A	Phase 6 Cell 6-A	2008	314,340 Mg	None
Phase 7	NA	Phase 7	2012	278,562 Mg	None
Phase 8	NA	Phase 8	2011	290,299 Mg	None
Phase 9	NA	Phase 9	2015	367,954 Mg	None
Phase 10	NA	Phase 10	2015	683,563 Mg	None
Phase 11	NA	Phase 11	2017	726,749 Mg	None
Phase 12	NA	Phase 12	2019	169,053 Mg	None
Phase 13	NA	Phase 13	2020	493,171 Mg	None
Pre-existing	NA	Inactive 12.20 Acres	1975	347,753 Mg	None
Phase A1	Cell A1-A	Asbestos/C&D Phase A1 Cell A1-A	1992	64,613 Mg	None
Phase A1	Cell A1-B	Asbestos/C&D Phase A1 Cell A1-B	1997	42,041 Mg	None
Phase A2	Cell A2-A	Asbestos/C&D Phase A1 Cell A2-A	2003	23,394 Mg	None
Phase A2	NA	Asbestos/C&D Phase A2 Remainder	NA	151,467 Mg	None
Pre-1990	NA	Asbestos/C&D Pre-Existing	Pre-1990	486,495 Mg	None

LGF-1      LGF-1      Landfill Gas Flare      2010      3,000 scfm      Flare

GV-1	VF-1	Solar Spark Vent Flare CF5	2006	140 cfm	None
GV-2	VF-2	Solar Spark Vent Flare CF5	2006	140 cfm	None
GV-3	VF-3	Solar Spark Vent Flare CF5	2006	140 cfm	None
GV-4	VF-4	Solar Spark Vent Flare CF5	2006	140 cfm	None
GV-5	VF-5	Solar Spark Vent Flare CF5	2006	140 cfm	None
GV-6	VF-6	Solar Spark Vent Flare CF5	2006	140 cfm	None
GV-7	VF-7	Solar Spark Vent Flare CF5	2006	140 cfm	None
GV-8	VF-8	Solar Spark Vent Flare CF5	2006	140 cfm	None
GV-9	VF-9	Solar Spark Vent Flare CF5	2006	140 cfm	None
GV-10	VF-10	Solar Spark Vent Flare CF5	2006	140 cfm	None
GV-11	VF-11	Solar Spark Vent Flare CF5	2006	140 cfm	None
GV-12	VF-12	Solar Spark Vent Flare CF5	2006	140 cfm	None
LST001	LST001	Leachate Storage Tank	Post 1984	125,000 gal	None
LST002	LST002	Leachate Storage Tank	Post 1984	125,000 gal	None
T1	T1	Sanitary Waste Water Tank	1999	1,000 gal	None
T10	T10	Diesel Tank	2001	1,200 gal	None
T10b	T10b	New/Lube Oil Tank (15W40)	2001	200 gal	None
T10c	T10c	New/Lube Oil Tank (10W)	2001	200 gal	None
T11	T11	Truck Wash Water Tank	2000	1,500 gal	None
T2	T2	Sanitary Waste Water Tank	1991	1,000 gal	None
T3	T3	MSW Leachate Tank	1993	1,000 gal	None
T3a	T3a	Oil/Water Tank	1993	1,000 gal	None
T3b	T3b	Oil/Water Tank	2003	1,000 gal	None
T4a	T4a	Waste Oil/Used Oil Tank	1993	2,000 gal	None
T4b	T4b	New/Lube Oil (15W40) Tank	1993	500 gal	None
T4c	T4c	Hydraulic Oil/Fluid Tank	1993	500 gal	None
T4d	T4d	New/Lube Oil Tank	1993	275 gal	None

T5	T5	Unleaded Gasoline Tank	1997	1,000 gal	None
T6	T6	Leachate Sump Tank	1995	2,250 gal	None
T7	T7	Leachate Sump Tank	1993	2,250 gal	None
T8	T8	Leachate Sump Tank	1995	2,250 gal	None
T9	T9	Waste Oil/Used Oil Tank	1992	1,200 gal	None
T9f	T9f	New/Lube Oil (15W40) Tank	1997	550 gal	None
T9h	T9h	Waste Oil/Used Oil Tank	1997	205 gal	None
01-SP	Fugitive	Solidification Pit	2010	10,000 ft <sup>2</sup>	None

<sup>1</sup>For 45CSR13 permitted sources, the numbering system used for the emission points, control devices, and emission units should be consistent with the numbering system used in the 45CSR13 permit. For grandfathered sources, the numbering system should be consistent with registrations or emissions inventory previously submitted to DAQ. For emission points, control devices, and emissions units which have not been previously labeled, use the following 45CSR13 numbering system: 1S, 2S, 3S,... or other appropriate description for emission units; 1C, 2C, 3C,... or other appropriate designation for control devices; 1E, 2E, 3E, ... or other appropriate designation for emission points.

**ATTACHMENT E**  
**EMISSION UNIT FORMS**



## ATTACHMENT E - Emission Unit Form

**Emission Unit Description**

<b>Emission unit ID number:</b> Phase 1 through 7, Pre-existing, Phase A1 and A2, and Pre-1990	<b>Emission unit name:</b> Landfill Operations	<b>List any control devices associated with this emission unit:</b> None
--	---	---

**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**  
 Pre-existing (closed and capped) landfill area (Inactive 12.20 acres and Pre-existing Asbestos/C&D) Active (working) landfill area (Cells 1-A, 1-B, 2-A, 2-B, 3-A, 3-B, 3-C, 4-A, 4-B, 4-C, 4-D, 5-A, 5-B, 6-A, (Phase 7,8,9,10,11,12,13) Future Asbestos/C&D area (Phase A2 Remainder)

<b>Manufacturer:</b> NA	<b>Model number:</b> NA	<b>Serial number:</b> NA
----------------------------	----------------------------	-----------------------------

<b>Construction date:</b> 1975, 1994	<b>Installation date:</b> MM/DD/YYYY	<b>Modification date(s):</b> MM/DD/YYYY
---	---	--

**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):** approximately 6,457,394 Mg

<b>Maximum Hourly Throughput:</b>	<b>Maximum Annual Throughput:</b> 360,000 tons of waste disposed	<b>Maximum Operating Schedule:</b> 24 hr/day, 365 days/year
-----------------------------------	---	--

**Fuel Usage Data (fill out all applicable fields)**

<b>Does this emission unit combust fuel?</b> ___Yes ___ <u>X</u> No	<b>If yes, is it?</b> ___ Indirect Fired ___ Direct Fired
---	--

<b>Maximum design heat input and/or maximum horsepower rating:</b> NA	<b>Type and Btu/hr rating of burners:</b> NA
--	---

**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

NA

**Describe each fuel expected to be used during the term of the permit.**

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

<b><i>Emissions Data</i></b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO <sub>x</sub> )		
Lead (Pb)		
Particulate Matter (PM <sub>2.5</sub> )		16.00
Particulate Matter (PM <sub>10</sub> )		26.71
Total Particulate Matter (TSP)		187.82
Sulfur Dioxide (SO <sub>2</sub> )		
Volatile Organic Compounds (VOC)		91.56
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Total HAPs including below		21.10
Toluene		7.61
Xylenes		2.70
Methylene Chloride		2.55
Perchloroethylene		1.30
Hexane		1.19
Ethylbenzene		1.03
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
Carbon Dioxide		106,048
Methane		38,650
Non Methane Organic Compounds (NMOC)		226.5 Mg
<p><b>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</b></p> <p>USEPA LandGEM 3.02 software with regulatory default values, and AP-42 Chapters 2.4, 11.9.1, 13.2.1, 11.2.2, and 11.2.4.</p>		



**Applicable Requirements**

**List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.**

45CSR23, 40CFR60.757, and 40CFR60.754(a)(3). Requirements When Reported NMOC Emission Rate is  $\geq$  50 Mg/yr.

45CSR23, 40CFR60.757, and 40CFR60.754(a)(4). Requirements When Reported NMOC Emission Rate is  $\geq$  50 Mg/yr. (when using site specific  $C_{NMOC}$ )

45CSR23, 40CFR60.752, and 40CFR60.753. Standards for Landfill and Gas Collection and Control. Design parameters for a landfill gas collection and control system which conforms to 40CFR60.759. Standards applicable once over 50 Mg/yr threshold.

45CSR23, 40CFR60.757(c). LFG Collection and Control System Design Plan.

45CSR23, 40 CFR 60.755. Compliance provisions (when over 50 Mg/yr threshold).

40 CFR 63, Subpart AAAA—NESHAP for Municipal Solid Waste Landfills

40 CFR 61.154, Subpart M – NESHAP for Asbestos

Note: 45CSR23 has been revised and is no longer consistent with the current operating permit. The facility will work with WVDEP to determine applicable changes (including a revised NMOC “threshold” of 34 Mg/yr). Please note that per the September 26, 2019 Tier 2 report, the facility has exceeded the NMOC threshold and is preparing to comply with the substantive GCCS requirements of 45CSR23 and applicable Federal Standards.

Permit Shield

**For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)**

45CSR23, 40CFR60.758. Maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit.

45CSR23, 40CFR60.757(d) and 40CFR60.758. Closure Report.

Note: 45CSR23 has been revised and is no longer consistent with the current operating permit. The facility will work with WVDEP to determine applicable changes (including a revised NMOC “threshold” of 34 Mg/yr).

Are you in compliance with all applicable requirements for this emission unit?  Yes  No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

## ATTACHMENT E - Emission Unit Form

***Emission Unit Description***

<b>Emission unit ID number:</b> GV-1 through GV-12 and LGF-1	<b>Emission unit name:</b> Landfill Gas Vents and Flares	<b>List any control devices associated with this emission unit:</b> Flares VF-1 through VF-12 and LGF-1
---	---	--

**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**  
 The purpose of the flares is to provide improved odor control at the facility. Flares VF-1 through VF-12 are mounted to a landfill gas vent. The flares are equipped with a solar panel and battery. A charge is stored in the battery that is connected to a spark plug. The spark ignites the combustible gas. LFG-1 is a 3,000 cfm skid-mounted flare. The solar flares do not operate when LFG-1 is in operation. The flare LFG-1 will be used for NSPS compliance once the substantive gas collection and control rules apply.

<b>Manufacturer:</b> Landfill Services Corporation and LFG Specialties, Inc.	<b>Model number:</b> Solar Spark Vent Flare CF-5 and PCF1230110	<b>Serial number:</b>
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<b>Construction date:</b> 2006 and 2010	<b>Installation date:</b> 2006 and 2010	<b>Modification date(s):</b> MM/DD/YYYY
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**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):** 140 cfm each for GV-1 through GV-12 and 3000 scfm for LGF-1 of landfill gas

<b>Maximum Hourly Throughput:</b> 180,000 cubic feet per hour	<b>Maximum Annual Throughput:</b> 1,576.8 mmscf/yr each	<b>Maximum Operating Schedule:</b> 8760 hours/year
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***Fuel Usage Data (fill out all applicable fields)***

<b>Does this emission unit combust fuel?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>If yes, is it?</b> <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct Fired
<b>Maximum design heat input and/or maximum horsepower rating:</b>	<b>Type and Btu/hr rating of burners:</b> NA

**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

180,000 cubic feet per hour of landfill gas per flare.  
 1,576.8 mmscf per year of landfill gas per flare.

**Describe each fuel expected to be used during the term of the permit.**

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Landfill Gas	NA	NA	507

<b><i>Emissions Data</i></b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	33.73	192.92
Nitrogen Oxides (NO <sub>x</sub> )	6.20	42.32
Lead (Pb)		
Particulate Matter (PM <sub>2.5</sub> )	1.53	10.45
Particulate Matter (PM <sub>10</sub> )	1.53	10.45
Total Particulate Matter (TSP)	1.53	10.45
Sulfur Dioxide (SO <sub>2</sub> )	1.49	9.59
Volatile Organic Compounds (VOC)	0.48	3.27
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Hydrogen Chloride	1.26	1.05
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p><b>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</b></p> <p>Manufacturer's emissions data and AP-42 Chapter 2.4</p>		

**Applicable Requirements**

**List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.**

45CSR6-4.1., R13-2666A, 4.1.1. Particulate matter from GV-1 through GV-12 shall not exceed 0.59 lb/hr each.

45CSR6-4.3 and 4.4., R13-2666A, 4.1.2. No visible emissions except for 5 minutes in 2 hours.

45CSR13, R13-2666A, 4.1.3. The active gas flare (LGF-1) shall not operate while any passive gas flares (GV-1 through GV-12) are in service.

45CSR13, R13-2666A, 4.1.4. LGF-1 emissions shall not exceed the following limits: 6.20 lb/hr and 27.2 tpy of nitrogen oxides, 33.73 lb/hr and 147.8 tpy of carbon monoxide, 1.53 lb/hr and 6.7 tpy of PM/PM<sub>10</sub>/PM<sub>2.5</sub>, 1.49 lb/hr and 6.5 tpy of sulfur dioxide, 0.48 lb/hr and 2.1 tpy of volatile organic compounds, and 1.26 lb/hr and 5.5 tpy of hydrogen chloride. The annual amount of landfill gas flared shall not exceed 1,576.8 MMscf per year. Install and maintain a system/device that continually measures and records the total amount of landfill gas routed to the flare at all times. Operate the flare with a flame present at all times while landfill gas is routed to the flare. Monitor the presence of a pilot light or flame. Design and install the gas collection system and flare in accordance with "Good Engineering Practices."

45CSR13, 45CSR13-5.11., R13-2666A, 4.1.5. Install, maintain, and operate all pollution control equipment and associated monitoring equipment in a manner consistent with safety and good air pollution control practices.

45CSR6-4.5. The emission of particles of unburned or partially burned refuse or ash from the flare which are large enough to be individually distinguished in the open air shall not be allowed or permitted.

45CSR6-4.6. The flare, including all associated equipment and grounds, shall be designed, operated and maintained so as to prevent the emission of objectionable odors.

40 CFR 60.752(b)(2)(iii), 45CSR23. Route all the collected gas to a control system that complies with the requirements.

Permit Shield

**For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)**

45CSR13, R13-2666A, 4.2.1. Monthly Method 22 visible emission checks shall be conducted to determine compliance with opacity limits with a maximum of forty-five (45) days between consecutive readings.

45CSR13, R13-2666A, 4.2.2. The permittee shall monitor the presence or absence of a flame using a thermocouple or any other equivalent device.

45CSR13, R13-2666A, 4.2.3. The permittee shall record the total amount of landfill gas routed to LGF-1 on a monthly basis and determine the 12-month rolling total to demonstrate compliance with the air emission limits and to determine actual emissions. Records of such monitoring shall be maintained in accordance with the facility-wide requirements of this permit.

45CSR6-7.1. The Director may require the operator to conduct stack tests for the flares to determine the particulate matter loading in the exhaust gases.

45CSR13, R13-2666A, 4.3.1. For the purposes of determining compliance with VOC emission limits for LGF-1, the permittee shall conduct a flare compliance assessment for concentration of sample and tip velocity for the purposes of determining if the flare is achieving a 98% destruction efficiency within 180 days after a single monthly amount total of landfill gas routed to LGF-1 exceeds 114.5 MMscf.

45CSR13, R13-2666A, 4.4.2. The permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.

45CSR13, R13-2666A, 4.4.3. The permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. The records shall include the equipment involved; steps taken to minimize emissions during the event; duration of the event; estimated increase in emissions during the event; cause of the malfunction; steps taken to correct the malfunction; and any changes or modifications to equipment or procedures that would prevent future recurrences of the malfunction.

45CSR13, R13-2666A, 4.4.4. The permittee shall maintain records of all monitoring data required, documenting the time of each visible emission check, the emission point or equipment/source identification number, the name or means of identification of the observer, the results of the check(s), whether the visible emissions are normal for the process, and, if applicable, all corrective measures taken or planned.

45CSR13, R13-2666A, 4.4.5. The permittee shall maintain records of the times and duration of all periods which the flame was absent.

45CSR13, R13-2666A, 4.4.6. The permittee shall maintain records of the flare design evaluation.

45CSR13, R13-2666A, 4.4.7. The permittee shall keep records of visible emission opacity tests conducted. The records shall be maintained on-site or in a readily accessible off-site location.

45CSR13, R13-2666A, 4.4.8. The permittee shall keep records of the date when any flare(s) is placed in operation, taken out of operation and the identification of the specific flare.

45CSR13, R13-2666A, 4.5.1. Any exceedances of the allowable visible emission requirement for any emission source discovered during observations using 40CFR60, Appendix A, Method 22 must be reported in writing to the Director of the Division of Air Quality as soon as practicable, but within ten (10) calendar days, of the occurrence and shall include, at a minimum, the cause, suspected cause of the exceedances and any corrective measures taken or planned.

45CSR13, R13-2666A, 4.5.2. The permittee shall submit the results of any testing/assessment conducted as a requirement of this permit to the Director within 60 days after completing such testing.

40 CFR 60.756(c), 40 CFR 758(b)(4), CSR. The permittee shall install, calibrate, maintain and operate open flare equipment according to the manufacturer's specification and maintain required records.

**Are you in compliance with all applicable requirements for this emission unit?**  Yes  No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

## ATTACHMENT E - Emission Unit Form

***Emission Unit Description***

<b>Emission unit ID number:</b> T1, T2, T3, T3a, T3b, T4a, T4b, T4c, T4d, T5, T6, T7, T8, T9, T9f, T9h, T10, T10b, T10c, T11	<b>Emission unit name:</b> T1, T2, T3, T3a, T3b, T4a, T4b, T4c, T4d, T5, T6, T7, T8, T9, T9f, T9h, T10, T10b, T10c, T11	<b>List any control devices associated with this emission unit:</b> None
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**  
 Storage vessels containing diesel fuel, waste oil, lube oil and lubricants, unleaded gasoline, oil/water, and water

<b>Manufacturer:</b>	<b>Model number:</b>	<b>Serial number:</b>
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<b>Construction date:</b> MM/DD/YYYY	<b>Installation date:</b> 1992 - 2003	<b>Modification date(s):</b> MM/DD/YYYY
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**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):** 200 to 2,250 gallons

<b>Maximum Hourly Throughput:</b>	<b>Maximum Annual Throughput:</b>	<b>Maximum Operating Schedule:</b> 24 hrs/day, 365 days/year
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***Fuel Usage Data (fill out all applicable fields)***

<b>Does this emission unit combust fuel?</b> ___Yes <u> X </u> No	<b>If yes, is it?</b> ___ Indirect Fired ___ Direct Fired
---	--

<b>Maximum design heat input and/or maximum horsepower rating:</b> NA	<b>Type and Btu/hr rating of burners:</b> NA
--	---

**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

NA

**Describe each fuel expected to be used during the term of the permit.**

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

<b><i>Emissions Data</i></b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO <sub>x</sub> )		
Lead (Pb)		
Particulate Matter (PM <sub>2.5</sub> )		
Particulate Matter (PM <sub>10</sub> )		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO <sub>2</sub> )		
Volatile Organic Compounds (VOC)		0.35
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

**List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).**

USEPA TANKS 4.09



***Applicable Requirements***

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

  X   Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (*Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.*)

Are you in compliance with all applicable requirements for this emission unit?   X  Yes    \_\_\_No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

## ATTACHMENT E - Emission Unit Form

***Emission Unit Description***

<b>Emission unit ID number:</b> LST001 and LST002	<b>Emission unit name:</b> Leachate Tanks	<b>List any control devices associated with this emission unit:</b> NA
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**  
Storage vessels containing leachate

<b>Manufacturer:</b>	<b>Model number:</b>	<b>Serial number:</b>
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<b>Construction date:</b> MM/DD/YYYY	<b>Installation date:</b> After 1984	<b>Modification date(s):</b> MM/DD/YYYY
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**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):** 125,000 gallons each

<b>Maximum Hourly Throughput:</b>	<b>Maximum Annual Throughput:</b>	<b>Maximum Operating Schedule:</b> 24 hrs/day, 365 days/year
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***Fuel Usage Data (fill out all applicable fields)***

<b>Does this emission unit combust fuel?</b> ___ Yes <input checked="" type="checkbox"/> No	<b>If yes, is it?</b> ___ Indirect Fired ___ Direct Fired
---	--

<b>Maximum design heat input and/or maximum horsepower rating:</b> NA	<b>Type and Btu/hr rating of burners:</b> NA
--	---

**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

NA

**Describe each fuel expected to be used during the term of the permit.**

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

<b><i>Emissions Data</i></b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO <sub>x</sub> )		
Lead (Pb)		
Particulate Matter (PM <sub>2.5</sub> )		
Particulate Matter (PM <sub>10</sub> )		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO <sub>2</sub> )		
Volatile Organic Compounds (VOC)		1.0
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

**List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).**

USEPA TANKS 4.0

**Applicable Requirements**

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Are you in compliance with all applicable requirements for this emission unit?  Yes  No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

## ATTACHMENT E - Emission Unit Form

***Emission Unit Description***

<b>Emission unit ID number:</b> 01-SP	<b>Emission unit name:</b> Solidification Pit	<b>List any control devices associated with this emission unit:</b> None
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**  
Flyash and sawdust storage pile used to mix with liquid waste to solidify prior to disposal in the landfill.

<b>Manufacturer:</b> None	<b>Model number:</b> None	<b>Serial number:</b> None
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<b>Construction date:</b> 2010	<b>Installation date:</b> 2010	<b>Modification date(s):</b> Not applicable
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**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):** 140 tons per day; 10,000 ft<sup>2</sup> storage pile

<b>Maximum Hourly Throughput:</b> 14 tons per hour	<b>Maximum Annual Throughput:</b> 51,100 tons per year	<b>Maximum Operating Schedule:</b> 10 hrs/day, 365 days/year
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***Fuel Usage Data (fill out all applicable fields)***

<b>Does this emission unit combust fuel?</b> ___ Yes <input checked="" type="checkbox"/> No	<b>If yes, is it?</b> ___ Indirect Fired ___ Direct Fired
---	--

<b>Maximum design heat input and/or maximum horsepower rating:</b> NA	<b>Type and Btu/hr rating of burners:</b> NA
--	---

**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

NA

**Describe each fuel expected to be used during the term of the permit.**

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

<b><i>Emissions Data</i></b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO <sub>x</sub> )		
Lead (Pb)		
Particulate Matter (PM <sub>2.5</sub> )		0.025
Particulate Matter (PM <sub>10</sub> )		0.17
Total Particulate Matter (TSP)		0.34
Sulfur Dioxide (SO <sub>2</sub> )		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
<b>ATTACHMENT G</b>		
<b>Air Pollution Control</b>		
<b>Device Form</b>		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p><b>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</b></p> <p>AP-42 Chapters 13.2.4. for aggregate handling and storage piles and 13.2.5. for industrial wind erosion. These are fugitive emissions which are part of landfill operations.</p>		

***Applicable Requirements***

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (*Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.*)

Are you in compliance with all applicable requirements for this emission unit?  Yes  No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.





## ATTACHMENT G - Air Pollution Control Device Form

<b>Control device ID number:</b> LGF-1	<b>List all emission units associated with this control device.</b> LGF-1	
<b>Manufacturer:</b> LFG Specialties, Inc.	<b>Model number:</b> PCF1230I10	<b>Installation date:</b> 2010
<b>Type of Air Pollution Control Device:</b> <input type="checkbox"/> Baghouse/Fabric Filter <input type="checkbox"/> Venturi Scrubber <input type="checkbox"/> Multiclone <input type="checkbox"/> Carbon Bed Adsorber <input type="checkbox"/> Packed Tower Scrubber <input type="checkbox"/> Single Cyclone <input type="checkbox"/> Carbon Drum(s) <input type="checkbox"/> Other Wet Scrubber <input type="checkbox"/> Cyclone Bank <input type="checkbox"/> Catalytic Incinerator <input type="checkbox"/> Condenser <input type="checkbox"/> Settling Chamber <input type="checkbox"/> Thermal Incinerator <input checked="" type="checkbox"/> Flare <input type="checkbox"/> Other (describe) _____ <input type="checkbox"/> Wet Plate Electrostatic Precipitator <input type="checkbox"/> Dry Plate Electrostatic Precipitator		
<b>List the pollutants for which this device is intended to control and the capture and control efficiencies.</b>		
Pollutant	Capture Efficiency	Control Efficiency
VOC	75%	98%
<b>Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).</b>  Maximum 3,000 cfm of landfill gas. Minimum Btu value is 507.		
<b>Is this device subject to the CAM requirements of 40 C.F.R. 64?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, <b>Complete ATTACHMENT H</b> If No, <b>Provide justification.</b> NSPS Date does not require CAM.		
<b>Describe the parameters monitored and/or methods used to indicate performance of this control device.</b>  Monthly Method 22-like visible emission checks. Presence of a pilot light or flame. Monitor volume of landfill gas routed to the flare.		


**APPENDIX A**  
**EMISSION CALCULATIONS**



Meadowfill Landfill - Summary of Facility Wide Pollutant Emission (Changes)

	Landfill Operations	Vents & Flares	Leachate	Tire Shredder	Tanks	Solidification	Updated Total	Past Fact Sheet	Change	2019 Actuals
(All Values TPY)										
<b>CO</b>		<b>192.92</b>					<b>192.92</b>	179.68	13.24	16.74
<b>Nox</b>		<b>42.32</b>					<b>42.32</b>	88.23	-45.91	3.67
<b>Lead</b>										
<b>PM2.5</b>	16	<b>10.45</b>		<b>0</b>		0.025	<b>26.48</b>	28.13	-1.65	11.42
<b>PM10</b>	26.71	<b>10.45</b>		<b>0</b>		0.17	<b>37.33</b>	38.85	-1.52	20.01
<b>TSP</b>	187.82	<b>10.45</b>		<b>0</b>		0.34	<b>198.61</b>	199.86	-1.25	129.37
<b>SO2</b>		<b>9.59</b>					<b>9.59</b>	10.48	-0.89	1.06
<b>VOC</b>	<b>91.56</b>	<b>3.27</b>	1		0.35		<b>96.18</b>	83.58	12.60	17.48
<b>HAP</b>	<b>21.10</b>	<b>1.68</b>					<b>22.78</b>	50.84	-28.06	11.52
<b>Toluene</b>	<b>7.61</b>	<b>0.23</b>					<b>7.83</b>	17.33	-9.50	4.11
<b>Xylenes</b>	<b>2.70</b>	<b>0.08</b>					<b>2.78</b>	6.14	-3.36	1.46
<b>Methylene Chloride</b>	<b>2.55</b>	<b>0.08</b>					<b>2.63</b>	5.74	-3.11	1.38
<b>Perchloroethylene</b>	<b>1.30</b>	<b>0.04</b>					<b>1.34</b>	2.96	-1.62	0.7
<b>Hexane</b>	<b>1.19</b>	<b>0.04</b>					<b>1.22</b>	2.74	-1.52	0.64
<b>Ethylbenzene</b>	<b>1.03</b>	<b>0.03</b>					<b>1.06</b>	2.36	-1.30	0.56
<b>HCl</b>		<b>1.05</b>					<b>1.05</b>	3.08	-2.03	0.12

Notes: Updated Values are in Bold

No changes are being requested for GHG Pollutant Values or NMOC

**FLARE COMBUSTION EMISSIONS CALCULATION  
MEADOWFILL LANDFILL**

<b>Combustor Type</b>	<b>Operating Conditions</b>						<b>Potential Emissions (TPY) <sup>4</sup></b>				
	<b>Total LFG Combusted</b>	<b>Methane Conc.</b>	<b>Hours of Operation</b>	<b>Operating LFG Flow</b>	<b>Normal LFG Flow</b>	<b>Adjusted LFG Combusted</b>	<b>NMOC</b>	<b>CO</b>	<b>NO<sub>x</sub></b>	<b>SO<sub>2</sub></b>	<b>PM</b>
	<b>(MMSCF) <sup>1</sup></b>	<b>(%) <sup>1</sup></b>	<b>(hours) <sup>1</sup></b>	<b>(CFM)</b>	<b>(CFM) <sup>2</sup></b>	<b>(MMScf) <sup>3</sup></b>	<b>(tons)</b>	<b>(tons)</b>	<b>(tons)</b>	<b>(tons)</b>	<b>(tons)</b>
Flare Combustion	2459.808	50.0	8,760.0	4680.0	4680.0	2459.8	3.27	192.92	42.32	9.59	10.45

**Emission Factors (Combustion) <sup>5</sup>  
(lb/MMscf of Landfill Gas)**

	<b>PM</b>	<b>NMOC</b>	<b>SO<sub>2</sub></b>	<b>NO<sub>x</sub> <sup>6</sup></b>	<b>CO <sup>6</sup></b>
Flare Combustion	8.50	2.66	7.80	34.41	156.86

Notes:

1) Assumed Methane Concentration and Continuous Operation

2) Normal LFG flow determined by averaging the total amount of LFG combusted over 8,760 hours

3) Adjusted LFG Combusted = (% Methane Concentration / 50%) x (Total LFG Combusted)

4) Potential Emissions for NMOC and SO<sub>2</sub> calculated using following formula: (Total LFG Combusted [MMscf]) x (EF [lb/MMscf]) x (1 ton / 2,000 lb)

Potential Emissions for NO<sub>x</sub>, CO and PM calculated using following formula: (Adjusted LFG Combusted [MMscf]) x (EF [lb/MMscf]) x (1 ton / 2,000 lb)

5) Emissions factors were derived as follows:

PM: 17 lb/10<sup>6</sup> dscf methane per AP-42, Section 2.4 (11/98) [Emission factor based on 50% CH<sub>4</sub>]

NMOC: Based on AP-42 NMOC concentration of 595 ppm as hexane and 98% destruction efficiency

CO: Based on AP-42 emission factor (Table 13.5-2) of 0.31 lb/MMBtu

NO<sub>x</sub>: Based on AP-42 emission factor (Table 13.5-1) of 0.068 lb/MMBtu

SO<sub>2</sub>: Based on AP-42 default 46.9 ppmv total reduced sulfur (Section 2.4) and 100% conversion of sulfur compounds to SO<sub>2</sub>.

6) Assumes  CH<sub>4</sub> in LFG and a heat content of  Btu/scf (of methane)

TABLE 3

**FLARE COMBUSTION HAP EMISSIONS  
MEADOWFILL LANDFILL**

**Landfill Gas Flares - HAP Emission Estimates**

Average LFG Collected<sup>4</sup> = 4680 cfm  
Hours of Operation<sup>4</sup> = 8760.0

CAS #	LFG Constituent	Molecular Weight	Median <sup>1</sup> (ppmv)	Uncontrolled Emissions					Controlled Emissions		
				lb/hr	lb/yr	TPY	mg/m <sup>3</sup>	Average Control	lb/hr	lb/yr	TPY
71-55-6	1,1,1-Trichloroethane	133.41	0.48	0.046	402.26	0.20	2.62	98%	0.0009	8.05	0.00
79-34-5	1,1,2,2-Tetrachloroethane	167.85	1.11	0.134	1170.36	0.59	7.62	98%	0.0027	23.41	0.01
75-34-3	1,1-Dichloroethane	98.97	2.35	0.167	1460.99	0.73	9.51	98%	0.0033	29.22	0.01
75-35-4	1,1-Dichloroethene	96.94	0.2	0.014	121.79	0.06	0.79	98%	0.0003	2.44	0.00
107-06-2	1,2-Dichloroethane	98.96	0.41	0.029	254.87	0.13	1.66	98%	0.0006	5.10	0.00
78-87-5	1,2-Dichloropropane	112.99	0.18	0.015	127.76	0.06	0.83	98%	0.0003	2.56	0.00
107-13-1	Acrylonitrile	53.06	6.33	0.241	2109.82	1.05	13.74	98%	0.0048	42.20	0.02
75-15-0	Carbon disulfide	76.13	0.58	0.032	277.37	0.14	1.81	98%	0.0006	5.55	0.00
56-23-5	Carbon tetrachloride	153.84	0.004	0.000	3.87	0.00	0.03	98%	0.0000	0.08	0.00
463-58-1	Carbonyl sulfide	60.07	0.49	0.021	184.90	0.09	1.20	98%	0.0004	3.70	0.00
108-90-7	Chlorobenzene	112.56	0.25	0.020	176.77	0.09	1.15	98%	0.0004	3.54	0.00
75-00-3	Chloroethane	64.52	1.25	0.058	506.62	0.25	3.30	98%	0.0012	10.13	0.01
67-66-3	Chloroform	119.39	0.03	0.003	22.50	0.01	0.15	98%	0.0001	0.45	0.00
75-09-2	Dichloromethane	84.94	14.3	0.871	7629.99	3.81	49.68	98%	0.0174	152.60	0.08
100-41-4	Ethylbenzene	106.16	4.61	0.351	3074.24	1.54	20.02	98%	0.0070	61.48	0.03
110-54-3	Hexane	86.18	6.57	0.406	3556.70	1.78	23.16	98%	0.0081	71.13	0.04
7439-97-6	Mercury	200.61	0.000292	0.000	0.37	0.00	0.00	0%	0.0000	0.37	0.00
108-10-1	Methyl isobutyl ketone	100.16	1.87	0.134	1176.55	0.59	7.66	98%	0.0027	23.53	0.01
127-18-4	Perchloroethylene	165.83	3.73	0.444	3885.50	1.94	25.30	98%	0.0089	77.71	0.04
79-01-6	Trichloroethene	131.4	2.82	0.266	2327.66	1.16	15.16	98%	0.0053	46.55	0.02
75-01-4	Vinyl chloride	62.5	7.34	0.329	2881.72	1.44	18.76	98%	0.0066	57.63	0.03
7647-01-0	HCl <sup>2</sup>	35.45	9.43	0.240	2099.92	1.05	13.67	0%	0.2397	2099.92	1.05
1330-20-7	Xylene	106.16	12.1	0.921	8069.04	4.03	52.54	98%	0.0184	161.38	0.08
7783-06-4	Hydrogen Sulfide <sup>3</sup>	34.08	46.9	1.146	10040.33	5.02	65.37	98%	0.0229	200.81	0.10
71-43-2	Benzene	78.11	1.91	0.107	937.16	0.47	6.10	98%	0.0021	18.74	0.01
108-88-3	Toluene	92.13	39.3	2.596	22744.11	11.37	148.09	98%	0.0519	454.88	0.23
<b>TOTAL HAPs</b>						<b>32.60</b>					<b>1.68</b>

## Notes:

- 1) Concentration of individual HAPs were taken from AP-42, Section 2.4, 11/98
- 2) HCL Concentration was taken from "Measurement of Toxic Emissions from Landfill: History and Current Developments"; Will continue to use past value of 5.5 TPY.
- 3) Based on AP-42 default 46.9 ppmv total reduced sulfur (Section 2.4) (non-HAP)
- 4) Based on maximum combustion capacity of all flares, operating 8760

**FUGITIVE HAP (& SELECT POLLUTANT) EMISSIONS  
MEADOWFILL LANDFILL**

***Fugitive Emission Estimates***

Fugitive Emissions<sup>2</sup> = 3130 cfm  
Hours of Operation = 8760

CAS #	LFG Constituent	Molecular Weight	Median <sup>1</sup> (ppmv)	Uncontrolled Emissions			
				lb/hr	lb/yr	TPY	mg/m <sup>3</sup>
71-55-6	1,1,1-Trichloroethane	133.41	0.48	0.031	269.03	0.13	2.62
79-34-5	1,1,2,2-Tetrachloroethane	167.85	1.11	0.089	782.74	0.39	7.62
75-34-3	1,1-Dichloroethane	98.97	2.35	0.112	977.11	0.49	9.51
75-35-4	1,1-Dichloroethene	96.94	0.2	0.009	81.45	0.04	0.79
107-06-2	1,2-Dichloroethane	98.96	0.41	0.019	170.46	0.09	1.66
78-87-5	1,2-Dichloropropane	112.99	0.18	0.010	85.44	0.04	0.83
107-13-1	Acrylonitrile	53.06	6.33	0.161	1411.06	0.71	13.74
75-15-0	Carbon disulfide	76.13	0.58	0.021	185.51	0.09	1.81
56-23-5	Carbon tetrachloride	153.84	0.004	0.000	2.59	0.00	0.03
463-58-1	Carbonyl sulfide	60.07	0.49	0.014	123.66	0.06	1.20
108-90-7	Chlorobenzene	112.56	0.25	0.013	118.22	0.06	1.15
75-00-3	Chloroethane	64.52	1.25	0.039	338.83	0.17	3.30
67-66-3	Chloroform	119.39	0.03	0.002	15.05	0.01	0.15
75-09-2	Dichloromethane	84.94	14.3	0.583	5102.96	2.55	49.68
100-41-4	Ethylbenzene	106.16	4.61	0.235	2056.06	1.03	20.02
110-54-3	Hexane	86.18	6.57	0.272	2378.73	1.19	23.16
7783-06-4	Hydrogen Sulfide <sup>3</sup>	34.08	46.9	0.767	6715.00	3.36	65.37
7439-97-6	Mercury	200.61	0.000292	0.000	0.25	0.00	0.00
108-10-1	Methyl isobutyl ketone	100.16	1.87	0.090	786.88	0.39	7.66
127-18-4	Perchloroethylene	165.83	3.73	0.297	2598.64	1.30	25.30
79-01-6	Trichloroethene	131.4	2.82	0.178	1556.75	0.78	15.16
75-01-4	Vinyl chloride	62.5	7.34	0.220	1927.30	0.96	18.76
1330-20-7	Xylene	106.16	12.1	0.616	5396.60	2.70	52.54
71-43-2	Benzene	78.11	1.91	0.072	626.78	0.31	6.10
108-88-3	Toluene	92.13	39.3	1.736	15211.34	7.61	148.09
	NMOC	86.18	595	24.592	215425.62	107.71	2097.22
	VOC	86.18	505.75	20.903	183111.78	91.56	1782.64
<b>TOTAL - HAPS</b>						<b>21.10</b>	<b>2573.46</b>

Notes:

- 1) Concentration of individual HAPs were taken from AP-42, Section 2.4, 11/98
- 2) Total gas generation of 3,130 scfm (annual average) is from GCCS Design Plan. Conservatively assume all LFG is fugitive.
- 3) Based on AP-42 default 46.9 ppmv total reduced sulfur (Section 2.4) (Non-HAP)