



**MISSOURI**  
DEPARTMENT OF  
NATURAL RESOURCES

**MISSOURI AIR CONSERVATION COMMISSION**

**PERMIT TO CONSTRUCT**

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: 082020-011                      Project Number: 2019-10-051  
Installation Number: 077-0161

Parent Company: City of Springfield

Parent Company Address: 840 N. Boonville Avenue, Springfield, Missouri 65802

Installation Name: City of Springfield Noble Hill Sanitary Landfill

Installation Address: 3545 W. Farm Road 34, Willard, Missouri 65781

Location Information: Greene County, S28, T31N, R22W

Application for Authority to Construct was made for:  
Municipal solid waste landfill (EP-01) expansion. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

- 
- Standard Conditions (on reverse) are applicable to this permit.
- Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

  
\_\_\_\_\_  
Director or Designee  
Department of Natural Resources

\_\_\_\_\_  
August 26, 2020  
Effective Date

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Enforcement and Compliance Section of the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Enforcement and Compliance Section of the Department's Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available within 30 days of actual startup. Also, you must notify the Department's regional office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of the permit application and this permit and permit review shall be kept at the installation address and shall be made available to Department's personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit using the contact information below.

Contact Information:  
Missouri Department of Natural Resources  
Air Pollution Control Program  
P.O. Box 176  
Jefferson City, MO 65102-0176  
(573) 751-4817

The regional office information can be found at the following website:  
<http://dnr.mo.gov/regions/>

**SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

*The special conditions listed in this permit were included based on the authority granted to the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (3)(E). "Conditions required by permitting authority."*

City of Springfield Noble Hill Sanitary Landfill  
Greene County, S28, T31N, R22W

1. City of Springfield Noble Hill Sanitary Landfill shall be required to operate an active gas collection and control system (GCCS) in the expansion area per 40 CFR 60, Subpart XXX once the NMOC emissions from the landfill exceed 34 Mg (37.48 tons) annually. Submittal of annual NMOC emission rate reports required per §60.762(b)(1)(i) will be used to demonstrate the current NMOC rate at the landfill.
2. Operating Restrictions
  - A. If using a gas collection and control system (GCCS) the following apply:
    - 1) The collected gas, the collected gas shall be sent to one of the following :
      - a) The candlestick flare (EU-15).
      - b) One of two 2,235 HP landfill gas fired electric generating units (EP 101 & EP-102) located at Noble Hill Landfill Renewable Energy Center (077-0170).
    - 2) Submit an annual NMOC emission rate emission report to the Administrator, except as provided for in §60.767(b)(1)(ii). This will not be required until construction begins on the new expansion.
  - B. If the landfill is operating without a GCCS, the following apply:
    - 1) Submit an annual NMOC emission rate emission report to the Administrator, except as provided for in §60.767(b)(1)(ii); and
    - 2) Recalculate the NMOC emission rate annually using the procedures specified in §60.764(a)(1) until such time as the calculated NMOC emission rate is equal to or greater than 34 megagrams per year, or the landfill is closed.
3. LFG Sulfur Content Testing
  - A. Sulfur content testing will be required if a gas collection system constructed in the 43 acre horizontal expansion area is collecting LFG for subsequent combustion to demonstrate compliance with 10 CSR 10-6.261. Testing shall be conducted within 90 days of the

**SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

- construction of the GCCS if collection is occurring. The gas collection system is not required to start up solely to conduct sulfur content testing.
- B. Once testing is required, total sulfur content in the LFG prior to combustion shall not exceed 500 ppmv.
- C. City of Springfield Noble Hill Sanitary Landfill shall test LFG collected before the LFG enters the flare (EU-15) or is sent to the landfill gas combustion engines (E101 & E102) located at the Noble Hill Renewable Energy Center (077-0170) to demonstrate compliance with Special Condition 3.A.
- D. Test method ASTM D-5504, or an alternative method preapproved by the Air Pollution Control Program Compliance/Enforcement Section, shall be used.
- E. City of Springfield Noble Hill Sanitary Landfill shall notify the Missouri Air Pollution Control Program Compliance/Enforcement Section within 30 days after accepting waste into the expansion area approved in Solid Waste Permit No. 107704. May use email:  
[AirComplianceReporting@dnr.mo.gov](mailto:AirComplianceReporting@dnr.mo.gov).
- F. Subsequent Testing shall be performed according to the following schedule:
- 1) Testing shall be continued once per quarter. No consecutive tests shall be performed within one (1) month of each other.
  - 2) If four (4) consecutive quarterly tests indicate a concentration not exceeding 75% of 500 ppmv (375 ppmv), then subsequent tests shall be performed once per calendar year. No two calendar year tests shall be performed within three (3) months of each other.
  - 3) If two (2) consecutive annual tests are below 75% of the 500 ppmv limit (375ppmv), then subsequent tests shall be performed once every five (5) years.
- G. A completed proposed Test Plan Form shall be submitted to the Air Pollution Control Program at least 30 days prior to the proposed initial test date so that the Air Pollution Control Program may arrange a pretest meeting, if necessary, and assure that the test date is acceptable for an observer to be present. The Proposed Test Plan may serve the purpose of notification and shall be approved by the Air Pollution Control Program Compliance/Enforcement Section prior to conducting the required initial emission testing. Subsequent tests do not require prior notification.

**SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

- H. One electronic copy of a written report of the performance test results shall be submitted to StackTesting@dnr.mo.gov within 60 days of completion of any required testing. The report must include legible copies of the raw data sheets, analytical instrument laboratory data, and complete sample calculations from the required U.S. EPA Method for at least one sample run.
  - I. If results from any tests required in this Special Condition show an exceedance of the sulfur content limit in Special Condition 3.A., City of Springfield Noble Hill Sanitary Landfill shall submit an Application for Authority to Construct to the Air Pollution Control Program's New Source Review Unit within 90 days of the exceedance. The application shall account for the revised project emissions and any ambient impact modeling required due to the exceedance.
4. Record Keeping and Reporting Requirements
- A. City of Springfield Noble Hill Sanitary Landfill shall maintain all records required by this permit for not less than five years and shall make them available to any Missouri Department of Natural Resources' personnel upon request.
  - B. City of Springfield Noble Hill Sanitary Landfill shall report to the Air Pollution Control Program's Compliance/Enforcement Section, by mail at P.O. Box 176, Jefferson City, MO 65102 or by email at AirComplianceReporting@dnr.mo.gov, no later than 10 days after the end of the month during which any record required by this permit shows an exceedance of a limitation imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE  
SECTION (5) REVIEW

Project Number: 2019-10-051  
Installation ID Number: 077-0161  
Permit Number: 082020-011

Installation Address:

City of Springfield Noble Hill Sanitary  
Landfill  
3545 W. Farm Road 34  
Willard, Missouri 65781

Parent Company:

City of Springfield  
840 N. Boonville Avenue  
Springfield, Missouri 65801

Greene County, S28, T31N, R22W

REVIEW SUMMARY

- City of Springfield Noble Hill Sanitary Landfill has applied for authority to expand the existing Municipal Solid Waste Landfill by 21,926,372 megagrams.
- The application was deemed complete on November 13, 2019.
- HAP emissions are expected from fugitive emission generated by the solid waste landfill (EP-01). Total and individual HAP emissions are below regulatory *de minimis* levels and SMAL values.
- NSPS, 40 CFR 60 Subpart WWW, “Standards of Performance for Municipal Solid Waste Landfills” currently applies to the landfill. Once construction on the landfill expansion area begins, as defined in §60.7617, the installation will no longer be subject to NSPS WWW but will then be subject to NSPS XXX.
- NSPS, 40 CFR 60 Subpart XXX, “Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification After July 17, 2014” applies to the landfill once the facility commences construction of the expansion in accordance with the definition, per §60.7617.
- NESHAP, 40 CFR 61 Subpart M, “National Emission Standard for Asbestos” applies to the landfill, per §61.154.
- Maximum Achievable Control Technology (MACT), 40 CFR 63 Subpart AAAA, “Municipal Solid Waste Landfills” does not apply to the installation. City of Springfield Noble Hill Sanitary Landfill has a design capacity greater than 2.5 million cubic meters. However, uncontrolled potential emissions of non-methane organic compounds are less than 50 megagrams a year, per the tier 2 testing results of 2016.

- NMOC mass emission rate calculations are to be conducted annually and the site-specific NMOC concentration must be retested every 5 years, per §60.764(a)(3)(iii).
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all pollutants are above de minimis levels, but below major source levels.
- This installation is located in Greene County, an attainment/unclassifiable area for all criteria pollutants.
- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.
- Ambient air quality modeling was not performed since potential emissions of the application are below de minimis levels.
- Sulfur content testing is required for the landfill as a part of this permit once a GCCS is installed and gas is collected in the 43 acre expansion area.
- Revision to the Part 70 Operating Permit is required to be submitted for this installation within 1 year of issuance of this permit.
- Approval of this permit is recommended with special conditions.

## INSTALLATION DESCRIPTION

The City of Springfield Noble Hill Sanitary Landfill operates a municipal solid waste landfill in Greene County, Missouri. The installation began accepting municipal solid waste in 1975 and has a current design capacity of 8.032 million Megagrams. Currently, the installation operates under the Title V Operating Permit No. OP2015-050. The emissions units for the installation are listed below in Table 1.

Table 1: City of Springfield Noble Hill Sanitary Landfill Emissions Units

Emission Unit	Description
EU-01	Municipal Solid Waste Landfill Fugitive Emissions
EU-02	Haul Road to Landfill – Small Dump Truck
EU-03	Haul Road to Landfill – Packer/Rolloff
EU-04	Haul Road for Borrowed Area
EU-05	10,000 Gallon Diesel Fuel Storage Tank
EU-06	528 Gallon Diesel Fuel Storage Tank
EU-07	550 Gallon Unleaded Gasoline Fuel Storage Tank
EU-08	Haul Road – Alternate – Volvo Dump Truck
EU-09	Overburden (screened) Storage Pile
EU-10	Overburden (Cover Soil) Storage Pile
EU-12	Haul Road to Landfill – Tractor Trailer
EU-13	Haul Road to Landfill – Pickup Truck
EU-15	Landfill Gas Flare

Emission Unit	Description
EU-16	(3) Diesel Backup Generator
EU-17	Leachate Pond
EU-18	Solvent Parts Washer
EU-19	500 Gallon Waste Oil Tank

The waste is hauled by small dump truck, packer/roll off trucks, tractor-trailers and pickup trucks. The accepted waste is then compacted with heavy equipment to improve airspace used. The compacted waste is then covered on a routine basis with soil obtained onsite.

A voluntary gas collection system was initially installed at the installation to control subsurface landfill gas migration and odor. The collection and control system consists of approximately ninety three (93) gas extraction wells installed throughout the landfill area and one (1) active candlestick flare. Following installation of the gas collection system, a gas-to-energy facility consisting of gas treatment equipment and two landfill gas fired electric generating units was constructed to the south of the facility as Noble Hill Landfill Renewable Energy Center (077-0170). The gas-to-energy facility is owned and operated by the City Utilities of Springfield under Part 70 Operating Permit No. OP2010-073A and is co-located with the landfill. The landfill and gas-to-energy facilities are considered one installation for site-wide potential to emit and modeling purposes but operate under separate installation identifications and permits.

Tier 2 testing is required to be conducted every five years with the most recent testing conducted at the installation in 2016. The 2016 Tier 2 Test concluded that the NMOC emissions are below the 50 Mg per year threshold for gas collection and control under New Source Performance Standards (NSPS) Subpart WWW – therefore a gas collection and control system (GCCS) is not currently required at the facility. The facility will be subject to NSPS XXX once the facility commences construction of the expansion and will no longer be subject to NSPS WWW. NSPS XXX requires a GCCS once NMOC emissions equal or exceed 34 Mg/yr. The next Tier 2 Testing event will be conducted again in 2021.

The following New Source Review permits have been issued to City of Springfield Noble Hill Sanitary Landfill from the Air Pollution Control Program.

Table 2: Permit History

Permit Number	Description
122001-007	Landfill expansion
112002-010	Landfill expansion, flare installation, soil screen, and leachate tank

## PROJECT DESCRIPTION

City of Springfield Noble Hill Sanitary Landfill has proposed to increase the waste capacity of the landfill by 21,926,372 Mg. The total landfill capacity is now 29,958,852 Mg or approximately 45 million yd<sup>3</sup>. Missouri Department of Natural Resources - Solid Waste Management Program (MDNR-SWMP) issued City of Springfield Noble Hill Sanitary Landfill Permit No. 107704 for a horizontal and vertical expansion to the

existing municipal solid waste landfill. There is no new equipment being installed associated with this permit. Although not required, a gas collection and control system (GCCS) with subsequent engines and a flare is currently present prior to expansion; the new cells are not currently equipped with a GCCS.

A construction permit is required for this project because the potential emissions exceed the insignificance levels outlined in 10 CSR 10-6.061(3)(A). Potential emissions of all criteria pollutants are below de minimis levels.

## EMISSIONS/CONTROLS EVALUATION

The decomposition of encapsulated solid waste within a landfill is known to produce landfill gas (LFG), typically consisting of 50 percent methane (CH<sub>4</sub>) and 50 percent carbon dioxide (CO<sub>2</sub>). Trace amounts of non-methane organic compounds (NMOC), oxygen, hydrogen sulfide, and reactive organic gases are also present. NMOC's consist of various hazardous air pollutants (HAPs), volatile organic compounds (VOCs), greenhouse gases, and compounds associated with stratospheric ozone depletion, which do not contribute significantly to the heating value of the LFG. Particulate (PM, PM<sub>10</sub>, PM<sub>2.5</sub>) emissions also occur while the landfill is in operation due to vehicular travel on paved and unpaved roads, wind erosion on storage piles, and soil screening.

The emission factors used in this analysis were obtained from the EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 2.4, *Municipal Solid Waste Landfills*, October 2008 as well as site-specific information. Potential emissions of VOC, CO, and NO<sub>x</sub>, assuming collection and combustion in the engines located at the Noble Hill Renewable Energy Center (077-0170) emissions from the engine, were obtained from the 2006 stack test. The 2006 stack test also showed a methane content of 54%. This number was used in calculations rather than the AP-42 standard of 50%. Emissions from the engines are authorized under a separate permit and are not included in the permitted potential emissions of this permit.

The amount of LFG generated by the facility was estimated using the EPA software LandGEM, version 3.02. The values used in the model for the CH<sub>4</sub> generation potential (Lo) and CH<sub>4</sub> generation constant (k) were the AP-42 recommended values of 100 cubic meters per Mg and 0.04 per year, respectively. Tier 2 testing conducted in 2016 showed the landfill NMOC concentration is 161 ppmv. To be conservative, 200 ppmv was used to calculate NMOC emissions for the project. The total sulfur concentration used, 114.1 ppmv, was obtained from the back-calculation of the known hydrogen sulfide (H<sub>2</sub>S) concentration with an applied 1.5x safety factor, 90 ppmv. To estimate the emissions solely from the project, the expansion area was evaluated using LandGEM as if it had no waste-in-place. Emissions from the engines are permitted under a separate permit and are not included in the permitted potential emissions of this permit.

The City of Springfield Noble Hill Sanitary Landfill tracked waste acceptance rates from 1975 through 2018. From the provided waste acceptance values, it was determined that The City of Springfield Sanitary Landfill saw an average of 3% growth to the accepted waste annually, throughout the life of the landfill. The growth factor was applied to the future waste acceptance rates of the landfill.

The landfill is not required to install a GCCS in the expansion area until NMOC emissions exceed 34 Mg annually and waste has been in place in the area for five years or more if active or two years or more if closed or at final grade. All emissions from the expansion area will be permitted as uncontrolled. According to the LandGEM model, uncontrolled NMOC emissions are not expected to exceed 34 Mg/year until the year 2051. To calculate potential emissions, the LFG generation rate, 3,175 scfm, from the year 2051 was used. Control equipment will be required for the landfill per NSPS, Subpart XXX once the NMOC emissions exceed 34 Mg/yr; therefore, the maximum potential fugitive emissions will occur in 2051. A new permit will be required if new control equipment is installed.

Particulate matter emissions from haul roads is not expected to increase as the vehicular activity will remain only on the operating face of the landfill. The calculated haul road emissions already assumed worst case from the transfer soil screening materials on the borrowed area.

City of Springfield Noble Hill Sanitary Landfill has two potential operating scenarios. First, all of the landfill gas generated from the expansion is emitted as fugitive. Second, 75% of the landfill gas is collected by the gas collection system and sent to a flare and/or the Noble Hill Energy Center with the remaining 25% of the LFG generated emitted as fugitive. For permitting purposes only the fugitive emissions from LFG generation in 2051, modeled year of NMOC emissions exceeding 34 Mg, were evaluated. However, to accurately represent the worst-case operating scenario while still considering NSPS XXX requirements, LFG generation from the closure year, 2071, with collection was also evaluated for potential emissions.

The following table, Table 3, provides an emissions summary for this project. Existing potential emissions for PM<sub>10</sub> were taken from Construction Permit 112002-010. PM and PM<sub>2.5</sub> emissions were calculated from the PM<sub>10</sub> emissions and using the CEDAIRS table for particle distribution of fugitive dust from landfills. Existing potential emissions for SO<sub>x</sub>, NO<sub>x</sub>, VOC, CO, and HAPs were taken from Operating Permit No. OP2015-050. Existing actual emissions of criteria pollutants were taken from the installation's 2018 EIQ. Existing actual emissions from the GHGs were taken from the EPA GHG reporting website, ghgdata.epa.gov. Potential emissions for operation without collection assume all of the LFG generated in the new expansion, before collection is required (estimated as 2051), is fugitive. Potential emissions of operation with collection and combustion is the potential emissions from the max LFG generation year, 2070, and assuming 75% of the generated LFG is collected using a GCCS. The collected LFG is assumed to be sent to the engines and to the flare(s) with the remaining uncollected 25% as fugitive. New Installation Wide Potential Emissions were calculated assuming maximum LFG flowrate in the year 2051, 3,907 scfm, with flares operating at maximum potential, 2,000 scfm, and the engines operating at maximum potential, 922.4 scfm.

Table 3: Emissions Summary (tpy)

Pollutant	Regulatory De Minimis Levels	Existing Potential Emissions	Existing Actual Emissions	Potential Emissions of Project with Collection and Combustion*	Potential Emissions of Project without Collection	New Installation Wide Potential Emissions
PM	25.0	65.34	N/R	10.24	0.0	65.34
PM <sub>10</sub>	15.0	< 31.95	42.97	10.24	0.0	< 31.95
PM <sub>2.5</sub>	10.0	6.65	4.64	10.24	0.0	6.65
SO <sub>x</sub>	40.0	3.83	0.89	23.60	0.0	3.83
NO <sub>x</sub>	40.0	12.97	2.80	45.96	0.0	12.97
VOC	40.0	8.79	7.04	17.10	14.32	23.11
CO	100.0	197.63	3.31	90.42	0.0	197.63
GHG (CO <sub>2</sub> e)	N/A	153,815.8	96,034.8	231,514.06	431,263.85	585,078
GHG (mass)	N/A	73,570.9	3,886.8	182,092.86	62,250.0	135,820
HAPs	10.0/25.0	11.08	2.04	26.23	14.79	19.79
Toluene	10.0	N/D	N/R	1.99	5.79	N/D
HCl	10.0	N/D	N/R	9.45	0.0	N/D
H <sub>2</sub> S	10.0	N/D	N/R	1.98	6.53	N/D
NMOC	N/A	5.22	N/R	11.77	< 37.48**	N/D

N/A = Not Applicable; N/D = Not Determined; N/R = Not Reported

\*Potential Emissions of combustion equipment not included in this permit. The combustion equipment was previously permitted.

\*\*The limit is established by NSPS XXX, 34 Mg is equal to 37.48 tons.

### PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all pollutants are greater than the insignificance levels insignificance levels, outlined in 10 CSR 10-6.061(3)(A), but below de minimis levels. City of Springfield Noble Hill Sanitary Landfill is already permitted as a greater than de minimis source. The new modification will cause and emissions increase; therefore, a permit is required, per §10 CSR 10-6.060(1)(A)3.

### APPLICABLE REQUIREMENTS

City of Springfield Noble Hill Sanitary Landfill shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

### GENERAL REQUIREMENTS

- *Operating Permits*, 10 CSR 10-6.065

- *Start-Up, Shutdown, and Malfunction Conditions*, 10 CSR 10-6.050
- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-6.165

#### SPECIFIC REQUIREMENTS

- *New Source Performance Regulations*, 10 CSR 10-6.070
  - *Standards of Performance for Municipal Solid Waste Landfills after July 17, 2014, 40 CFR Part 60, Subpart XXX*
    - *Will be applicable once construction of the expansion area commences.*
- *Emission Standards for Hazardous Air Pollutants*, 10 CSR 10-6.080
  - *National Emission Standard for Asbestos*, 40 CFR Part 61, Subpart M
- *Control of Sulfur Dioxide Emissions*, 10 CSR 10-6.261
  - *Only applicable if combusting landfill gas.*

#### STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, it is recommended that this permit be granted with special conditions.

#### PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated October 28, 2019, received October 31, 2019, designating City of Springfield Noble Hill Sanitary Landfill as the owner and operator of the installation.

## APPENDIX A

### Abbreviations and Acronyms

<b>%</b> ..... percent	<b>Mgal</b> ..... 1,000 gallons
<b>°F</b> ..... degrees Fahrenheit	<b>MW</b> ..... megawatt
<b>acfm</b> ..... actual cubic feet per minute	<b>MHDR</b> ..... maximum hourly design rate
<b>BACT</b> ..... Best Available Control Technology	<b>MMBtu</b> .... Million British thermal units
<b>BMPs</b> ..... Best Management Practices	<b>MMCF</b> ..... million cubic feet
<b>Btu</b> ..... British thermal unit	<b>MSDS</b> ..... Material Safety Data Sheet
<b>CAM</b> ..... Compliance Assurance Monitoring	<b>NAAQS</b> .... National Ambient Air Quality Standards
<b>CAS</b> ..... Chemical Abstracts Service	<b>NESHAPs</b> National Emissions Standards for Hazardous Air Pollutants
<b>CEMS</b> ..... Continuous Emission Monitor System	<b>NO<sub>x</sub></b> .....nitrogen oxides
<b>CFR</b> ..... Code of Federal Regulations	<b>NSPS</b> ..... New Source Performance Standards
<b>CO</b> ..... carbon monoxide	<b>NSR</b> ..... New Source Review
<b>CO<sub>2</sub></b> ..... carbon dioxide	<b>PM</b> .....particulate matter
<b>CO<sub>2e</sub></b> ..... carbon dioxide equivalent	<b>PM<sub>2.5</sub></b> ..... particulate matter less than 2.5 microns in aerodynamic diameter
<b>COMS</b> ..... Continuous Opacity Monitoring System	<b>PM<sub>10</sub></b> ..... particulate matter less than 10 microns in aerodynamic diameter
<b>CSR</b> ..... Code of State Regulations	<b>ppm</b> ..... parts per million
<b>dscf</b> ..... dry standard cubic feet	<b>PSD</b> ..... Prevention of Significant Deterioration
<b>EIQ</b> ..... Emission Inventory Questionnaire	<b>PTE</b> ..... potential to emit
<b>EP</b> ..... Emission Point	<b>RACT</b> ..... Reasonable Available Control Technology
<b>EPA</b> ..... Environmental Protection Agency	<b>RAL</b> ..... Risk Assessment Level
<b>EU</b> ..... Emission Unit	<b>SCC</b> ..... Source Classification Code
<b>fps</b> ..... feet per second	<b>scfm</b> ..... standard cubic feet per minute
<b>ft</b> ..... feet	<b>SDS</b> ..... Safety Data Sheet
<b>GACT</b> ..... Generally Available Control Technology	<b>SIC</b> ..... Standard Industrial Classification
<b>GHG</b> ..... Greenhouse Gas	<b>SIP</b> ..... State Implementation Plan
<b>gpm</b> ..... gallons per minute	<b>SMAL</b> ..... Screening Model Action Levels
<b>gr</b> ..... grains	<b>SO<sub>x</sub></b> ..... sulfur oxides
<b>GWP</b> ..... Global Warming Potential	<b>SO<sub>2</sub></b> ..... sulfur dioxide
<b>HAP</b> ..... Hazardous Air Pollutant	<b>SSM</b> ..... Startup, Shutdown & Malfunction
<b>hr</b> ..... hour	<b>tph</b> ..... tons per hour
<b>hp</b> ..... horsepower	<b>tpy</b> ..... tons per year
<b>lb</b> ..... pound	<b>VMT</b> ..... vehicle miles traveled
<b>lbs/hr</b> ..... pounds per hour	<b>VOC</b> ..... Volatile Organic Compound
<b>MACT</b> ..... Maximum Achievable Control Technology	
<b>µg/m<sup>3</sup></b> ..... micrograms per cubic meter	
<b>m/s</b> ..... meters per second	

## Air Pollution Control Program

### Table of Hazardous Air Pollutants and Screening Model Action Levels

Chemical	CAS #	SMAL tons/yr	Group ID	VOC	PM	Chemical	CAS #	SMAL tons/yr	Group ID	VOC	PM
ACETALDEHYDE	75-07-0	9		Y	N	CHLOROMETHYL METHYL ETHER	107-30-2	0.1		Y	N
ACETAMIDE	60-35-5	1		Y	N	CHLOROPRENE	126-99-8	1		Y	N
ACETONITRILE	75-05-8	4		Y	N	CHROMIUM (VI) COMPOUNDS		0.002	L	N	Y
ACETOPHENONE	98-86-2	1		Y	N	CHROMIUM COMPOUNDS		5	L	N	Y
ACETYLAMINOFLUORINE, [2-]	53-96-3	0.005	V	Y	Y	CHRYSENE	218-01-9	0.01	V	Y	N
ACROLEIN	107-02-8	0.04		Y	N	COBALT COMPOUNDS		0.1	M	N	Y
ACRYLAMIDE	79-06-1	0.02		Y	N	COKE OVEN EMISSIONS	8007-45-2	0.03	N	Y	N
ACRYLIC ACID	79-10-7	0.6		Y	N	CRESOL, [META-]	108-39-4	1	B	Y	N
ACRYLONITRILE	107-13-1	0.3		Y	N	CRESOL, [ORTHO-]	95-48-7	1	B	Y	N
ALLYL CHLORIDE	107-05-1	1		Y	N	CRESOL, [PARA-]	106-44-5	1	B	Y	N
AMINOBIHENYL, [4-]	92-67-1	1	V	Y	N	CRESOLS (MIXED ISOMERS)	1319-77-3	1	B	Y	N
ANILINE	62-53-3	1		Y	N	CUMENE	98-82-8	10		Y	N
ANISIDINE, [ORTHO-]	90-04-0	1		Y	N	CYANIDE COMPOUNDS		0.1	O	Y	N
ANTHRACENE	120-12-7	0.01	V	Y	N	DDE	72-55-9	0.01	V	Y	Y
ANTIMONY COMPOUNDS		5	H	N	Y	DI(2-ETHYLHEXYL) PHTHALATE, (DEHP)	117-81-7	5		Y	N
ANTIMONY PENTAFLUORIDE	7783-70-2	0.1	H	N	Y	DIAMINOTOLUENE, [2,4-]	95-80-7	0.02		Y	N
ANTIMONY POTASSIUM TARTRATE	28300-74-5	1	H	N	Y	DIAZOMETHANE	334-88-3	1		Y	N
ANTIMONY TRIOXIDE	1309-64-4	1	H	N	Y	DIBENZ(A,H)ANTHRACENE	53-70-3	0.01	V	Y	N
ANTIMONY TRISULFIDE	1345-04-6	0.1	H	N	Y	DIOXINS/FURANS		6E-07	D,V	Y	N
ARSENIC COMPOUNDS		0.005	I	N	Y	DIBENZOFURAN	132-64-9	5	V	Y	N
ASBESTOS	1332-21-4	0	A	N	Y	DIBROMO-3-CHLOROPROPANE, [1,2-]	96-12-8	0.01		Y	N
BENZ(A)ANTHRACENE	56-55-3	0.01	V	Y	N	DIBROMOETHANE, [1,2-]	106-93-4	0.1		Y	N
BENZENE	71-43-2	2		Y	N	DIBUTYL PHTHALATE	84-74-2	10		Y	Y
BENZIDINE	92-87-5	0.0003	V	Y	N	DICHLOROBENZENE, [1,4-]	106-46-7	3		Y	N
BENZO(A)PYRENE	50-32-8	0.01	V	Y	N	DICHLOROBENZIDENE, [3,3-]	91-94-1	0.2	V	Y	Y
BENZO(B)FLUORANTHENE	205-99-2	0.01	V	Y	N	DICHLOROETHANE, [1,1-]	75-34-3	1		Y	N
BENZO(K)FLUORANTHENE	207-08-9	0.01	V	Y	N	DICHLOROETHANE, [1,2-]	107-06-2	0.8		Y	N
BENZOTRICHLORIDE	98-07-7	0.006		Y	N	DICHLOROETHYLENE, [1,1-]	75-35-4	0.4		Y	N
BENZYL CHLORIDE	100-44-7	0.1		Y	N	DICHLOROMETHANE	75-09-2	10		N	N
BERYLLIUM COMPOUNDS		0.008	J	N	Y	DICHLOROPHENOXY ACETIC ACID, [2,4-]	94-75-7	10	C	Y	Y
BERYLLIUM SALTS		2E-05	J	N	Y	DICHLOROPROPANE, [1,2-]	78-87-5	1		Y	N
BIPHENYL, [1,1-]	92-52-4	10	V	Y	N	DICHLOROPROPENE, [1,3-]	542-75-6	1		Y	N
BIS(CHLOROETHYL)ETHER	111-44-4	0.06		Y	N	DICHLORVOS	62-73-7	0.2		Y	N
BIS(CHLOROMETHYL)ETHER	542-88-1	0.0003		Y	N	DIETHANOLAMINE	111-42-2	5		Y	N
BROMOFORM	75-25-2	10		Y	N	DIETHYL SULFATE	64-67-5	1		Y	N
BROMOMETHANE	74-83-9	10		Y	N	DIETHYLENE GLYCOL MONOBUTYL ETHER	112-34-5	5	P	Y	N
BUTADIENE, [1,3-]	106-99-0	0.07		Y	N	DIMETHOXYBENZIDINE, [3,3-]	119-90-4	0.1	V	Y	Y
BUTOXYETHANOL ACETATE, [2-]	112-07-2	5	P	Y	N	DIMETHYL BENZIDINE, [3,3-]	119-93-7	0.008	V	Y	Y
BUTYLENE OXIDE, [1,2-]	106-88-7	1		Y	N	DIMETHYL CARBAMOYL CHLORIDE	79-44-7	0.02		Y	N
CADMIUM COMPOUNDS		0.01	K	N	Y	DIMETHYL FORMAMIDE	68-12-2	1		Y	N
CALCIUM CYANAMIDE	156-62-7	10		Y	Y	DIMETHYL HYDRAZINE, [1,1-]	57-14-7	0.008		Y	N
CAPROLACTAM (Delisted)	105-60-2					DIMETHYL PHTHALATE	131-11-3	10		Y	N
CAPTAN	133-06-2	10		Y	Y	DIMETHYL SULFATE	77-78-1	0.1		Y	N
CARBARYL	63-25-2	10	V	Y	Y	DIMETHYLAMINOAZOBENZENE, [4-]	60-11-7	1		Y	N
CARBON DISULFIDE	75-15-0	1		Y	N	DIMETHYLANILINE, [N-N-]	121-69-7	1		Y	N
CARBON TETRACHLORIDE	56-23-5	1		Y	N	DINITRO-O-CRESOL, [4,6-] (Note 6)	534-52-1	0.1	E	Y	Y
CARBONYL SULFIDE	463-58-1	5		Y	N	DINITROPHENOL, [2,4-]	51-28-5	1		Y	N
CATECHOL	120-80-9	5		Y	N	DINITROTOLUENE, [2,4-]	121-14-2	0.02		Y	N
CHLORAMBEN	133-90-4	1		Y	Y	DIOXANE, [1,4-]	123-91-1	6		Y	N
CHLORDANE	57-74-9	0.01		Y	Y	DIPHENYLHYDRAZINE, [1,2-]	122-66-7	0.09	V	Y	Y
CHLORINE <sub>e</sub>	7782-50-5	0.1		N	N	DIPHENYLMETHANE DIISOCYANATE, [4,4-]	101-68-8	0.1	V	Y	N
CHLOROACETIC ACID	79-11-8	0.1		Y	N	EPICHLOROHYDRIN	106-89-8	2		Y	N
CHLOROACETOPHENONE, [2-]	532-27-4	0.06		Y	N	ETHOXYETHANOL, [2-]	110-80-5	10	P	Y	N
CHLOROBENZENE	108-90-7	10		Y	N	ETHOXYETHYL ACETATE, [2-]	111-15-9	5	P	Y	N
CHLOROBENZILATE	510-15-6	0.4	V	Y	Y	ETHYL ACRYLATE	140-88-5	1		Y	N
CHLOROFORM	67-66-3	0.9		Y	N	ETHYL BENZENE	100-41-4	10		Y	N

**Air Pollution Control Program**  
**Table of Hazardous Air Pollutants and Screening Model Action Levels**

ETHYL CHLORIDE	75-00-3	10		Y	N	NITROBENZENE	98-95-3	1		Y	N
ETHYLENE GLYCOL	107-21-1	10		Y	N	NITROBIPHENYL, [4-]	92-93-3	1	V	Y	N
ETHYLENE GLYCOL MONOBUTYL ETHER (Delisted)	111-76-2					NITROPHENOL, [4-]	100-02-7	5		Y	N
ETHYLENE GLYCOL MONOHEXYL ETHER	112-25-4	5	P	Y	N	NITROPROPANE, [2-]	79-46-9	1		Y	N
ETHYLENE IMINE [AZIRIDINE]	151-56-4	0.003		Y	N	NITROSODIMETHYLAMINE, [N-]	62-75-9	0.001		Y	N
ETHYLENE OXIDE	75-21-8	0.1		Y	N	NITROSOMORPHOLINE, [N-]	59-89-2	1		Y	N
ETHYLENE THIOUREA	96-45-7	0.6		Y	Y	NITROSO-N-METHYLUREA, [N-]	684-93-5	0.0002		Y	N
FORMALDEHYDE	50-00-0	2		Y	N	OCTACHLORONAPHTHALENE	2234-13-1	0.01	V	Y	N
GLYCOL ETHER (ETHYLENE GLYCOL ETHERS)		5	P	Y	N	PARATHION	56-38-2	0.1		Y	Y
GLYCOL ETHER (DIETHYLENE GLYCOL ETHERS)		5	P	Y	N	PCB [POLYCHLORINATED BIPHENYLS]	1336-36-3	0.009	X	Y	Y
HEPTACHLOR	76-44-8	0.02		Y	N	PENTACHLORONITROBENZENE	82-68-8	0.3		Y	N
HEXACHLOROENZENE	118-74-1	0.01		Y	N	PENTACHLOROPHENOL	87-86-5	0.7		Y	N
HEXACHLOROBUTADIENE	87-68-3	0.9		Y	N	PHENOL	108-95-2	0.1		Y	N
HEXACHLOROCYCLOHEXANE, [ALPHA-]	319-84-6	0.01	F	Y	N	PHENYLENEDIAMINE, [PARA-]	106-50-3	10		Y	N
HEXACHLOROCYCLOHEXANE, [BETA-]	319-85-7	0.01	F	Y	N	PHOSGENE	75-44-5	0.1		Y	N
HEXACHLOROCYCLOHEXANE, [DELTA-]	319-86-8	0.01	F	Y	N	PHOSPHINE	7803-51-2	5		N	N
HEXACHLOROCYCLOHEXANE, [TECHNICAL]	608-73-1	0.01	F	Y	N	PHOSPHOROUS (YELLOW OR WHITE)	7723-14-0	0.1		N	N
HEXACHLOROCYCLOPENTADIENE	77-47-4	0.1		Y	N	PHTHALIC ANHYDRIDE	85-44-9	5		Y	N
HEXACHLOROETHANE	67-72-1	5		Y	N	POLYCYLIC ORGANIC MATTER		0.01	V	Y	N
HEXAMETHYLENE,-1,6-DIISOCYANATE	822-06-0	0.02		Y	N	PROPANE SULTONE, [1,3-]	1120-71-4	0.03		Y	Y
HEXAMETHYLPHOSPHORAMIDE	680-31-9	0.01		Y	N	PROPIOLACTONE, [BETA-]	57-57-8	0.1		Y	N
HEXANE, [N-]	110-54-3	10		Y	N	PROPIONALDEHYDE	123-38-6	5		Y	N
HYDRAZINE	302-01-2	0.004		N	N	PROPOXUR [BAYGON]	114-26-1	10		Y	Y
HYDROGEN CHLORIDE	7647-01-0	10		N	N	PROPYLENE OXIDE	75-56-9	5		Y	N
HYDROGEN FLUORIDE	7664-39-3	0.1		N	N	PROPYLENEIMINE, [1,2-]	75-55-8	0.003		Y	N
HYDROQUINONE	123-31-9	1		Y	N	QUINOLINE	91-22-5	0.006		Y	N
INDENO(1,2,3CD)PYRENE	193-39-5	0.01	V	Y	N	QUINONE	106-51-4	5		Y	N
ISOPHORONE	78-59-1	10		Y	N	RADIONUCLIDES		Note 1	Y	N	Y
LEAD COMPOUNDS		0.01	Q	N	Y	SELENIUM COMPOUNDS		0.1	W	N	Y
LINDANE [GAMMA-HEXACHLOROCYCLOHEXANE]	58-89-9	0.01	F	Y	N	STYRENE	100-42-5	1		Y	N
MALEIC ANHYDRIDE	108-31-6	1		Y	N	STYRENE OXIDE	96-09-3	1		Y	N
MANGANESE COMPOUNDS		0.8	R	N	Y	TETRACHLORO-DIBENZO-P-DIOXIN,[2,3,7,8]	1746-01-6	6E-07	D,V	Y	Y
MERCURY COMPOUNDS		0.01	S	N	N	TETRACHLOROETHANE, [1,1,2,2-]	79-34-5	0.3		Y	N
METHANOL	67-56-1	10		Y	N	TETRACHLOROETHYLENE	127-18-4	10		N	N
METHOXYCHLOR	72-43-5	10	V	Y	Y	TITANIUM TETRACHLORIDE	7550-45-0	0.1		N	N
METHOXYETHANOL, [2-]	109-86-4	10	P	Y	N	TOLUENE	108-88-3	10		Y	N
METHYL CHLORIDE	74-87-3	10		Y	N	TOLUENE DIISOCYANATE, [2,4-]	584-84-9	0.1		Y	N
METHYL ETHYL KETONE (Delisted)	78-93-3					TOLUIDINE, [ORTHO-]	95-53-4	4		Y	N
METHYL HYDRAZINE	60-34-4	0.06		Y	N	TOXAPHENE	8001-35-2	0.01		Y	N
METHYL IODIDE	74-88-4	1		Y	N	TRICHLOROENZENE, [1,2,4-]	120-82-1	10		Y	N
METHYL ISOBUTYL KETONE	108-10-1	10		Y	N	TRICHLOROETHANE, [1,1,1-]	71-55-6	10		N	N
METHYL ISOCYANATE	624-83-9	0.1		Y	N	TRICHLOROETHANE, [1,1,2-]	79-00-5	1		Y	N
METHYL METHACRYLATE	80-62-6	10		Y	N	TRICHLOROETHYLENE	79-01-6	10		Y	N
METHYL TERT-BUTYL ETHER	1634-04-4	10		Y	N	TRICHLOROPHENOL, [2,4,5-]	95-95-4	1		Y	N
METHYLCYCLOPENTADIENYL MANGANESE	12108-13-3	0.1	R	N	Y	TRICHLOROPHENOL, [2,4,6-]	88-06-2	6		Y	N
METHYLENE BIS(2-CHLOROANILINE), [4,4-]	101-14-4	0.2	V	Y	Y	TRIETHYLAMINE	121-44-8	10		Y	N
METHYLENEDIANILINE, [4,4-]	101-77-9	1	V	Y	N	TRIFLURALIN	1582-09-8	9		Y	Y
METHYLNAPHTHALENE, [2-]	91-57-6	0.01	V	Y	N	TRIMETHYLPENTANE, [2,2,4-]	540-84-1	5		Y	N
MINERAL FIBERS		0	T	N	Y	URETHANE [ETHYL CARBAMATE]	51-79-6	0.8		Y	N
NAPHTHALENE	91-20-3	10	V	Y	N	VINYL ACETATE	108-05-4	1		Y	N
NAPHTHYLAMINE, [ALPHA-]	134-32-7	0.01	V	Y	N	VINYL BROMIDE	593-60-2	0.6		Y	N
NAPHTHYLAMINE, [BETA-]	91-59-8	0.01	V	Y	N	VINYL CHLORIDE	75-01-4	0.2		Y	N
NICKEL CARBONYL	13463-39-3	0.1	U	N	Y	XYLENE, [META-]	108-38-3	10	G	Y	N
NICKEL COMPOUNDS		1	U	N	Y	XYLENES (MIXED ISOMERS)	1330-20-7	10	G	Y	N
NICKEL REFINERY DUST		0.08	U	N	Y						
NICKEL SUBSULFIDE	12035-72-2	0.04	U	N	Y						

## Air Pollution Control Program Table of Hazardous Air Pollutants and Screening Model Action Levels

Legend	
Group ID	
A	Asbestos
B	Cresols/Cresylic Acid (isomers and mixtures)
C	2,4 - D, Salts and Esters
D	Dibenzofurans, Dibenzodioxins
E	4, 6 Dinitro-o-cresol, and Salts
F	Lindane (all isomers)
G	Xylenes (all isomers and mixtures)
H	Antimony Compounds
I	Arsenic Compounds
J	Beryllium Compounds
K	Cadmium Compounds
L	Chromium Compounds
M	Cobalt Compounds
N	Coke Oven Emissions
O	Cyanide Compounds
P	Glycol Ethers
Q	Lead Compounds (except elemental Lead)
R	Manganese Compounds
S	Mercury Compounds
T	Fine Mineral Fibers
U	Nickel Compounds
V	Polycyclic Organic Matter
W	Selenium Compounds
X	Polychlorinated Biphenyls (Aroclors)
Y	Radionuclides
Notes	The SMAL for radionuclides is defined as the effective dose equivalent to 0.3 millirems per year for 7 years exposure associated with a cancer risk of 1 in 1 million



Missouri Department of dnr.mo.gov

# NATURAL RESOURCES

Michael L. Parson, Governor

Carol S. Comer, Director

August 26, 2020

Erick Roberts  
Superintendent  
City of Springfield Noble Hill Sanitary Landfill  
P.O. Box 8368  
Springfield, Missouri 65801

RE: New Source Review Permit - Project Number: 2019-10-051

Dear Erick Roberts:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. Also, note the special conditions, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application and your amended operating permit is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

This permit may include requirements with which you may not be familiar. If you would like the department to meet with you to discuss how to understand and satisfy the requirements contained in this permit, an appointment referred to as a Compliance Assistance Visit (CAV) can be set up with you. To request a CAV, please contact your local regional office or fill out an online request. The regional office contact information can be found at the following website: <http://dnr.mo.gov/regions/>. The online CAV request can be found at <http://dnr.mo.gov/cav/compliance.htm>.

If you were adversely affected by this permit decision, you may be entitled to pursue an appeal before the administrative hearing commission pursuant to Sections 621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the administrative hearing commission, whose contact information is: Administrative Hearing Commission, United States Post Office Building, 131 West High Street, Third Floor, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: [www.oa.mo.gov/ahc](http://www.oa.mo.gov/ahc).

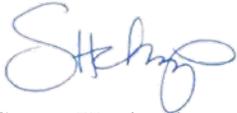


Erick Roberts  
Page Two

If you have any questions regarding this permit, please do not hesitate to contact Russell Osborne, at the Department of Natural Resources' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

A handwritten signature in blue ink, appearing to read "S Heckenkamp".

Susan Heckenkamp  
New Source Review Unit Chief

SH:roa

Enclosures

c: Southwest Regional Office  
PAMS File: 2019-10-051

Permit Number: 082020-011