

STATE OF MISSOURI

PERMIT BOOK



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: 11 2015 - 007 Project Number: 2015-08-034
Installation Number: 053-0038

Parent Company: Higgins Materials, LLC

Parent Company Address: 35086 Higgins Road, Tipton, MO 65081

Installation Name: Higgins Materials, LLC

Installation Address: 2347 BB Highway, Otterville, MO 65348

Location Information: Cooper County, S29, T46N, R19W

Application for Authority to Construct was made for:
A new stationary rock crushing plant. 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.

Stecher for

Prepared by
Jordan Hindman
New Source Review Unit

Kyra L Moore

Director or Designee
Department of Natural Resources

NOV 12 2015

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 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 Department's Air Pollution Control Program of the anticipated date of start up of these air contaminant sources. The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources' regional office responsible for the area within which you are located within 15 days after the actual start up of these air contaminant sources.

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' 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 sources(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 at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

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 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 (12)(A)10. "Conditions required by permitting authority."

Higgins Materials, LLC
Cooper County, S29, T46N, R19W

1. Annual NO_x Emission Limitation
 - A. Higgins Materials, LLC shall emit less than 40.0 tons of NO_x in any consecutive 12-month period from the stationary engines at this site (EU10, EU11, EU12).
 - B. Attachment A or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 1.A.
2. Documented Haul Road Watering
 - A. Higgins Materials, LLC shall control dust from all haul roads at this site using water or surfactant spray consistently and correctly at all times to prevent visible fugitive emissions from entering the ambient air beyond the property boundary. The following conditions apply to haul road watering:
 - 1) The water application rate shall be 100 gallons per 1000 square feet at least once every day.
 - 2) A quarter inch or more rainfall during the preceding 24 hours shall substitute for one daily water application
 - 3) Water/surfactant application shall not be required when the ground is frozen or when there will be no traffic on the roads.
 - B. Higgins Materials, LLC shall keep the following records on file and available for inspection:
 - 1) A daily log initialed by the responsible facility operator of roads watered and quantity of water/chemical application used, or notation that there was a quarter inch or greater rainfall within the past 24 hours or that the facility was not in operation.
 - 2) Water tank size, total area of roads to be watered, and the resultant number of fills necessary to accomplish the required application rate.
 - 3) Records of watering equipment breakdowns and repairs.

SPECIAL CONDITIONS:

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

3. **Moisture Content Testing Requirement**
 - A. Higgins Materials, LLC shall verify that the moisture content of the processed rock is greater than or equal to 1.5% by weight.
 - B. Testing shall be conducted according to the method prescribed by the American Society for Testing Materials (ASTM) D-2216, C-566 or another method approved by the Director.
 - C. The initial test shall be conducted no later than 45 days after the start of operation. A second test shall be performed the calendar year following the initial test during the months of July or August.
 - D. The test samples shall be taken from rock that has been processed by the plant or from each source of aggregate (e.g. quarry).
 - E. The written analytical report shall include the raw data and moisture content of each sample, the test date and the original signature of the individual performing the test. The report shall be filed on-site or at the Higgins Materials, LLC main office within 30 days of completion of the required test.
 - F. If the moisture content of either of the two tests is less than the moisture content in Special Condition 3.A, another test may be performed within 15 days of the noncompliant test. If the results of that test also are less than the limit, Higgins Materials, LLC shall either:
 - 1) Apply for a new permit to account for the revised information, or
 - 2) Submit a plan for the installation of wet spray devices to the Compliance/Enforcement Section of the Air Pollution Control Program within 10 days of the second noncompliant test. The wet spray devices shall be installed and operational within 40 days of the second noncompliant test.
4. **Minimum Distance to Property Boundary Requirement**

The primary impact crusher (EU2) and scalping screen (EU3) shall be located at least 1500 feet from the nearest property boundary.
5. **Primary Equipment Requirement**

Higgins Materials, LLC shall process all rock through the scalping screen (EU3). Bypassing the scalping screen is prohibited.

SPECIAL CONDITIONS:

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

6. Fuel Requirements

- A. Higgins Materials, LLC shall burn exclusively low sulfur diesel fuel in their engines and generator sets with a sulfur content less than or equal to 0.0015% by weight.
- B. Higgins Materials, LLC shall demonstrate compliance with Special Condition 6.A by obtaining records of the fuel's sulfur content from the vendor for each shipment of fuel received or by testing each shipment of fuel for the sulfur content in accordance with the method described in 10 CSR 10-6.040 *Reference Methods*.

7. Record Keeping and Reporting Requirements

- A. Higgins Materials, LLC shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.
- B. Higgins Materials, LLC shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 10 days after the end of the month during which any record required by this permit show an exceedance of a limitation imposed by this permit.

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

Project Number: 2015-08-034
Installation ID Number: 053-0038
Permit Number:

Installation Address:
Higgins Materials, LLC
2347 BB Highway
Otterville, MO 65348

Parent Company:
Higgins Materials, LLC
35086 Higgins Road
Tipton, MO 65081

Cooper County, S29, T46N, R19W

REVIEW SUMMARY

- Higgins Materials, LLC has applied for authority to construct a new stationary rock crushing plant.
- The application was deemed complete on August 27, 2015.
- HAP emissions are not expected from the proposed equipment.
- New Source Performance Standards (NSPS) Subpart OOO applies to the installation because the primary crushing unit's maximum hourly design rate is greater than 150 tons per hour.
- None of the NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment.
- No control devices are being used to control the particulate matter emissions from the equipment in this permit.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of NO_x are conditioned below de minimis levels. All other pollutants are indirectly limited below de minimis levels.
- This installation is located in Cooper County, an attainment 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.

- Emissions testing is not required for the equipment.
- A Basic Operating Permit application is required for this installation within 30 days of equipment startup.
- Approval of this permit is recommended with special conditions.

INSTALLATION & PROJECT DESCRIPTION

Higgins Materials, LLC, is a new installation (ID:053-0038) located in Otterville, Missouri. This new installation's primary purpose is to provide six grades of crushed aggregate for sale to customers.

Plant 053-0038 is a 300 ton per hour rock crushing plant. This stationary plant consists of a grizzly feeder unit (EU1), primary impact crusher (EU2), scalping screen (EU3), cone crusher (EU5), screen deck (EU6), and all associated conveyors (EU3A, EU3B, EU4, EU6A, EU6B, EU6C). There are also three diesel-fired engines located at this installation that contribute to emissions—one 350 Brake-Horsepower (BHP) engine, one 440 BHP engine, and one 540 BHP engine.

The applicant is using one of the methods described in Attachment AA, "Best Management Practices," to control emissions from haul roads and vehicular activity areas.

Because New Source Performance Standard (NSPS) Subpart OOO applies to this new stationary rock crushing application, a Basic Operating Permit is required and should be applied for within the first 30 days of operation.

No permits have been issued to Higgins Materials, LLC from the Air Pollution Control Program.

EMISSIONS/CONTROLS EVALUATION

The emission factors used in this analysis were obtained from the EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 11.19.2 "Crushed Stone Processing and Pulverized Mineral Processing," August 2004. The controlled emission factors were used because the inherent moisture content of the crushed rock is greater than 1.5% by weight.

The following table provides an emissions summary for this project. Existing potential emissions and existing actual emissions are not available because this is a new installation. Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year). Conditioned potential emissions represent the potential emissions after taking a voluntary 40.0 ton per year NO_x limit.

Table 1: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2014 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM	25.0	N/A	N/A	103.21	23.55
PM ₁₀	15.0	N/A	N/A	45.24	10.33
PM _{2.5}	10.0	N/A	N/A	24.02	5.48
SO _x	40.0	N/A	N/A	11.53	2.63
NO _x	40.0	N/A	N/A	175.27	<40.00
VOC	40.0	N/A	N/A	14.31	3.27
CO	100.0	N/A	N/A	37.76	8.62
GHG (CO ₂ e)	75,000 / 100,000	N/A	N/A	6,517.94	1,487.53
HAPs	10.0/25.0	N/A	N/A	0.15	0.04

N/A = Not Applicable

Table 2 summarizes the ambient air quality impact analysis. The maximum modeled impact is the impact of each pollutant when the plant is operating continuously. The 24-hour limited impacts and daily limit are based on compliance with the 24-hour NAAQS PM₁₀ limit. Concurrent operating scenarios are detailed in the “allowable operating scenarios” section below.

Table 2: Ambient Air Quality Impact Analysis

Pollutant	NAAQS (µg/m ³) ^a	Averaging Time	Maximum Modeled Impact (µg/m ³) ^b	Background (µg/m ³) ^c	Daily Limit (tons/day) ^d
PM ₁₀ (solitary) ^e	150.0	24-hour	59.94	20.0	7,200
PM ₁₀ (same) ^f	150.0	24-hour	N/A	20.0	N/D
PM ₁₀ (concurrent) ^e	150.0	24-hour	59.94	90.06	7,200

N/A = Not applicable; N/D = Not Determined

^a National Ambient Air Quality Standards (NAAQS)

^b Modeled impact of plant at maximum capacity with controls, as calculated during the review of this project

^c Emissions from haul roads and vehicular activity areas are addressed as a background concentration of 20.0 µg/m³. Concurrent operation with plants that are not owned by Higgins Materials, LLC cannot exceed 70.06 µg/m³ without needing a new permit.

^d Indirect limit based on compliance with NAAQS. The daily production limit of the new rock crushing plant during the same owner operating scenario is not determined because Higgins can balance production between all plants they own and operate at this site.

^e Solitary operation

^f Operation with other plants that are owned by Higgins Materials, LLC

^g Operation with other plants that are not owned by Higgins Materials, LLC

ALLOWABLE OPERATING SCENARIOS

The plant is permitted to operate with other plants located at the site as long as the NAAQS is not exceeded. The following scenarios explain how Higgins shall demonstrate compliance with the NAAQS.

- When plants that are owned by Higgins Materials and in the event where total NAAQS from these plants have the potential to exceed $150.00 \mu\text{g}/\text{m}^3$, Higgins Materials shall use the appropriate attachment(s) associated with the additional plant(s) to demonstrate compliance with the NAAQS. These attachments must include this new rock crushing plant in their totals.
- When plants that are not owned by Higgins Materials, which are referred to as separate owner plants, are located at the site, the separate owner plants must account for the impacts of Higgins Materials rock-crushing plant and any other plants as a background concentration and add it to the total impact of all plants operating at the site. The rock-crushing plant's impact shall be accounted as $79.94 \mu\text{g}/\text{m}^3$. This includes $20 \mu\text{g}/\text{m}^3$ for use of BMPs. Higgins Materials is not permitted to operate with a separate owner plant that has an ambient impact of $70.06 \mu\text{g}/\text{m}^3$ or greater.

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 NO_x are conditioned below de minimis levels. All other pollutants are indirectly limited below de minimis levels.

APPLICABLE REQUIREMENTS

Higgins Materials, LLC 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

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
 - Per 10 CSR 10-6.110(4)(B)2.B(II) and (4)(B)2.C(II) a full EIQ is required for the first full calendar year the equipment (or modifications) approved by this permit are in operation.

- *Operating Permits*, 10 CSR 10-6.065
- *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 Nonmetallic Mineral Processing Plants*, 40 CFR Part 60, Subpart OOO

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 August 26, 2015, received August 27, 2015, designating Higgins Materials, LLC as the owner and operator of the installation.

APPENDIX A

Abbreviations and Acronyms

%	percent	m/s	meters per second
°F	degrees Fahrenheit	Mgal	1,000 gallons
acfm	actual cubic feet per minute	MW	megawatt
BACT	Best Available Control Technology	MHDR	maximum hourly design rate
BMPs	Best Management Practices	MMBtu	Million British thermal units
Btu	British thermal unit	MMCF	million cubic feet
CAM	Compliance Assurance Monitoring	MSDS	Material Safety Data Sheet
CAS	Chemical Abstracts Service	NAAQS ...	National Ambient Air Quality Standards
CEMS	Continuous Emission Monitor System	NESHAPs	National Emissions Standards for Hazardous Air Pollutants
CFR	Code of Federal Regulations	NO_x	nitrogen oxides
CO	carbon monoxide	NSPS	New Source Performance Standards
CO₂	carbon dioxide	NSR	New Source Review
CO_{2e}	carbon dioxide equivalent	PM	particulate matter
COMS	Continuous Opacity Monitoring System	PM_{2.5}	particulate matter less than 2.5 microns in aerodynamic diameter
CSR	Code of State Regulations	PM₁₀	particulate matter less than 10 microns in aerodynamic diameter
dscf	dry standard cubic feet	ppm	parts per million
EQ	Emission Inventory Questionnaire	PSD	Prevention of Significant Deterioration
EP	Emission Point	PTE	potential to emit
EPA	Environmental Protection Agency	RACT	Reasonable Available Control Technology
EU	Emission Unit	RAL	Risk Assessment Level
fps	feet per second	SCC	Source Classification Code
ft	feet	scfm	standard cubic feet per minute
GACT	Generally Available Control Technology	SDS	Safety Data Sheet
GHG	Greenhouse Gas	SIC	Standard Industrial Classification
gpm	gallons per minute	SIP	State Implementation Plan
gr	grains	SMAL	Screening Model Action Levels
GWP	Global Warming Potential	SO_x	sulfur oxides
HAP	Hazardous Air Pollutant	SO₂	sulfur dioxide
hr	hour	tph	tons per hour
hp	horsepower	tpy	tons per year
lb	pound	VMT	vehicle miles traveled
lbs/hr	pounds per hour	VOC	Volatile Organic Compound
MACT	Maximum Achievable Control Technology		
µg/m³	micrograms per cubic meter		

Mr. Keith Higgins
Member
Higgins Materials, LLC
35086 Higgins Road
Tipton, MO 65081

RE: New Source Review Permit - Project Number: 2015-08-034

Dear Mr. Higgins:

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 with your 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.

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, Truman State Office Building P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: www.oa.mo.gov/ahc. If you have any questions regarding this permit, please do not hesitate to the Department of Natural Resources' Air Pollution Control Program, at (573) 751-4817.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp
New Source Review Unit Chief

SH:jhl

Enclosures

c: Northeast Regional Office
PAMS File: 2015-08-034
Permit Number: