

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: 082015-016

Project Number: 2015-05-075
Installation Number: 099-0007

Parent Company: Fred Weber, Inc.

Parent Company Address: 2320 Creve Coeur Mill Road, Maryland Heights, MO 63043

Installation Name: Fred Weber, Inc. - Festus Asphalt

Installation Address: 838 VFW Drive, Festus, MO 63028

Location Information: Jefferson County, S17, T40N, R6E

Application for Authority to Construct was made for:
Modification of the asphalt plant to dry sand. This review was conducted in accordance with Section (6), 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.

Handwritten signature of Kathy Kolb in black ink.

Prepared by
Kathy Kolb
New Source Review Unit

Handwritten signature of Kyrna L Moore in black ink.

Director or Designee
Department of Natural Resources
AUG 27 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."

Fred Weber, Inc. - Festus Asphalt
Jefferson County, S17, T40N, R6E

1. PM₁₀ Emission Limitation
 - A. Fred Weber, Inc. - Festus Asphalt shall emit less than 15.0 tons of PM₁₀ in any consecutive 12-month period from the asphalt/sand drying plant (see Table 2)
 - 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. Best Management Practices Requirement
Fred Weber, Inc. - Festus Asphalt shall control fugitive emissions from all of the haul roads and vehicular activity areas at this site by performing BMPs as defined in Attachment AA.
3. Control Device Requirement-Baghouse
 - A. Fred Weber, Inc. - Festus Asphalt shall control emissions from the drum dryer and sand handling, transfer, and storage from the elevator, hot screens and bins using a baghouse as specified in the permit application.
 - 1) EP5 Sand Dryer
 - 2) EP6 Conveyor/drop point
 - 3) EP7 Elevator to screen
 - 4) EP8 Fines screening
 - 5) EP9 Hot Bins
 - B. The baghouse shall be operated and maintained in accordance with the manufacturer's specifications. The baghouse shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. These gauges or meters shall be located such that Department of Natural Resources' employees may easily observe them.
 - C. Replacement filters for the baghouse shall be kept on hand at all times. The bags shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).

SPECIAL CONDITIONS:

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

- D. Fred Weber, Inc. - Festus Asphalt shall monitor and record the operating pressure drop across the baghouse at least once every 24 hours. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.
- E. Fred Weber, Inc. - Festus Asphalt shall maintain a copy of the baghouse manufacturer's performance warranty on site.
- F. Fred Weber, Inc. - Festus Asphalt shall maintain an operating and maintenance log for the baghouse which shall include the following:
 - 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
 - 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
- 4. Capture Device Requirements – Material Handling
Fred Weber, Inc. - Festus Asphalt shall fully enclose the material handling equipment and their drop/transfer points for EP5 through EP9. Material handling from EP5 through EP9 shall not exhaust to the ambient air.
- 5. Fuel Requirement-Drum Dryer
Fred Weber, Inc. - Festus Asphalt shall burn exclusively natural gas in their drum dryer (EP5)
- 6. Record Keeping and Reporting Requirements
 - A. Fred Weber, Inc. - Festus Asphalt 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. Fred Weber, Inc. - Festus Asphalt 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 (6) REVIEW

Project Number: 2015-05-075
Installation ID Number: 099-0007
Permit Number:

Installation Address:

Fred Weber, Inc. - Festus Asphalt
838 VFW Drive
Festus, MO 63028

Parent Company:

Fred Weber, Inc.
2320 Creve Coeur Mill Road
Maryland Heights, MO 63043

Jefferson County, S17, T40N, R6E

REVIEW SUMMARY

- Fred Weber, Inc. - Festus Asphalt has applied for authority to modify an asphalt plant to dry sand.
- The application was deemed complete on June 11, 2015.
- HAP emissions are expected from the proposed equipment. HAPs of concern from this process are from the combustion of natural gas in the drum dryer.
- New Source Performance Standards (NSPS) Subpart UUU, *Standards of Performance for Calciners and Dryers in Mineral Industries* applies to the installation.
- None of the NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment.
- A baghouse is being used to control the PM, PM₁₀, and PM_{2.5} emissions from the equipment in Special Condition 3 of this permit.
- This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM₁₀ are conditioned below de minimis levels.
- This installation is located in Jefferson County, a nonattainment area for the 8-hour ozone standard and the PM_{2.5} standard and an attainment area for all other criteria pollutants. Part of Jefferson County is a nonattainment area for lead. The installation is located in Festus in Jefferson County and is not located in Herculaneum, which is the lead nonattainment area in Jefferson County.
- Ambient air quality modeling was not performed since potential emissions of the application are conditioned below de minimis levels.

- Emissions testing is required for the equipment according to Subpart UUU, *Standards of Performance for Calciners and Dryers in Mineral Industries*.
- The existing Basic Operating Permit for this installation needs to be updated/amended within 30 days of equipment startup.
- Approval of this permit is recommended with special conditions.

INSTALLATION/PROJECT DESCRIPTION

Fred Weber, Inc. – Festus Asphalt proposes to modify its hot mix asphalt (HMA) plant operating in Festus, Missouri. The plant desires to have the ability to dry industrial sand during periods that the plant is not producing HMA. Typical HMA production involves conveying aggregate and sand to the dryer to remove the moisture content and subsequently mixing the dried mixture with asphaltic cement downstream of the dryer. The modified operation will eliminate aggregate in the dryer and the subsequent addition of asphaltic cement. Industrial sand will be delivered by truck and unloaded to the existing bins. This is a batch plant, so the sand will feed from the existing bins through the drum dryer and then on to the elevator, hot screens, and hot bins. The dried sand will be loaded out to trucks utilizing existing equipment. No modification to any of the plant equipment is needed to accommodate the drying of the sand. Fred Weber will maintain the flexibility of operating this plant as a sand dryer or as an asphalt plant as the market dictates.

The MHDR of this sand drying operation will be 180 tons per hour. There are no storage piles associated with this project because wet sand is dumped into the bins when received and all product that is possessed is immediately hauled off site.

The 75 mmBTU dryer is fueled by natural gas.

Haul roads are 2,100 feet in length and emissions are controlled using BMPs.

The following New Source Review permits have been issued to Fred Weber, Inc. - Festus Asphalt from the Air Pollution Control Program for this site. Not all of the permits pertain to the asphalt plant that is part of this permit. Numerous portable plants move in and out of this site.

Table 1: Permit History for Site ID 099-0007

Permit Number	Description
0690-011	Portable CMI dryer-drum type asphalt plant
0191-003	Increase asphalt production
052005-007	Evaluate existing asphalt for BMP

Table 2 Equipment List

Emission Point	Equipment Description	MHDR Tons/hour
EP1	Load in	180
EP2	Bin/feeder	180
EP3	Conveyor	180
EP4	Conveyor	180
EP5	Sand Dryer with fabric filter	180
EP6	Conveyor drop point (enclosed)	180
EP7	Elevator to screen	180
EP8	Fines screening (controlled)	180
EP9	Hot Bins (controlled)	180
EP10	Truck loading	180
EP11	Haul roads (shipping and receiving)	
EP12	Dryer combustion	75mmBTU

EMISSIONS/CONTROLS EVALUATION

Emissions for the project were calculated using emission factors found in the United States EPA document AP-42 *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, Fifth Edition (AP-42).

The emissions from the sand dryer were calculated using emission factors from AP-42 Section 11.19.1, Table 11.19.1-1 Emission Factors for Industrial Sand and Gravel Processing, November 1995. The emission from the sand conveying, handling, and screening were calculated using emission factors from AP-42 Section 11.19.2, Table 11.19.2-2 Emission Factors for Crushed Stone and Processing operations, August 2004. The controlled emission factors were used because the emission points are controlled by a baghouse and/or the inherent moisture content of sand prior to drying is at least 4.17% by weight.

Emissions from haul roads and vehicular activity areas were calculated using the predictive equation from AP-42 Section 13.2.2 "Unpaved Roads," November 2006. A 90% control efficiency for PM and PM₁₀ and a 40% control efficiency for PM_{2.5} were applied to the emission calculations for the use of BMPs.

The following table provides an emissions summary for this project. Existing potential emissions were not determined since is a new type of operation for the asphalt plant. Existing actual emissions were taken from the installation's 2013 EIQ because no production was reported in 2014. Potential emissions of the application represent the potential of the modified equipment, assuming continuous operation (8760 hours per year).

Table 3: Emissions Summary (tons per year)

Pollutant	Regulatory De Minimis Levels	Existing Actual Emissions (2013 EIQ)	Potential Emissions of the Application	New Project Conditioned Potential
PM	25.0	N/D	71.06	45.46
PM ₁₀	15.0	0.043	23.45	<15.0
PM _{2.5}	10.0	0.0147	13.12	8.39
SOx	40.0	0.007	0.19	0.12
NOx	40.0	0.061	32.21	20.60
VOC	40.0	0.0532	1.77	1.13
CO	100.0	0.2159	27.05	17.31
GHG (CO ₂ e)	75,000 / 100,000	N/D	38,876.72	24,870.26
GHG (mass)	0.0 / 100.0 / 250.0	N/D	38,648.51	24,724.27
HAPs	10.0/25.0	0.0	0.61	0.39

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

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM₁₀ are conditioned below de minimis and no refined modeling is required. Potential emissions of PM are above de minimis but below major source levels. There are no modeling requirements for PM.

APPLICABLE REQUIREMENTS

Fred Weber, Inc. - Festus Asphalt 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.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
- *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

- 40 CFR 60 Subpart UUU, "Standards of Performance for Calciners and Dryers in Mineral Industries" applies to the equipment.

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (6), 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 May 26, 2015, received May 27, 2015, designating Fred Weber, Inc. as the owner and operator of the installation.

Attachment AA: Best Management Practices

Haul roads and vehicular activity areas shall be maintained in accordance with at least one of the following options when the plant is operating.

1. Pavement
 - A. The operator shall pave the area with materials such as asphalt, concrete or other materials approved by the Air Pollution Control Program. The pavement will be applied in accordance with industry standards to achieve control of fugitive emissions while the plant is operating.
 - B. Maintenance and repair of the road surface will be conducted as necessary to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions from these areas while the plant is operating.
 - C. The operator shall periodically wash or otherwise clean all of the paved portions of the haul roads as necessary to achieve control of fugitive emissions from these areas while the plant is operating.
2. Application of Chemical Dust Suppressants
 - A. The operator shall apply a chemical dust suppressant (such as magnesium chloride, calcium chloride, lignosulfonates, etc.) to unpaved areas.
 - B. The quantities of the chemical dust suppressant shall be applied and maintained in accordance with the manufacturer's recommendation (if available) and in sufficient quantities to achieve control of fugitive emissions from these areas while the plant is operating.
 - C. The operator shall record the time, date and the amount of material applied for each application of the chemical dust suppressant agent on the above areas. The operator shall keep these records with the plant for not less than five (5) years and make these records available to Department of Natural Resources' personnel upon request.
3. Application of Water-Documented Daily
 - A. The operator shall apply water to unpaved areas. Water shall be applied at a rate of 100 gallons per day per 1,000 square feet of unpaved or untreated surface area while the plant is operating.
 - B. Precipitation may be substituted for watering if the precipitation is greater than one quarter of one inch and is sufficient to control fugitive emissions.
 - C. Watering may also be suspended when the ground is frozen, during periods of freezing conditions when watering would be inadvisable for traffic safety reasons, or when there will be no traffic on the roads.
 - D. The operator shall record the date, volume of water application and total surface area of active haul roads or the amount of precipitation that day. The operators shall also record the rationale for not watering (e.g. freezing conditions or not operating).
 - E. The operator shall keep these records with the plant for not less than five (5) years, and the operator shall make these records available to Department of Natural Resources' personnel upon request.

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		

Ms. Lina Klein
Environmental Director
Fred Weber, Inc. - Festus Asphalt
2320 Creve Coeur Mill Road
Maryland Heights, MO 63043

RE: New Source Review Permit - Project Number: 2015-05-075

Dear Ms. Klein:

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 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.

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, Room 640, 301 W. High Street, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: www.ao.mo.gov/ahc.

Ms. Lina Klein
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If you have any questions regarding this permit, please do not hesitate to contact Kathy Kolb 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

Susan Heckenkamp
New Source Review Unit Chief

SH:kkd

Enclosures

c: St. Louis Regional Office
PAMS File: 2015-05-075

Permit Number: