

STATE OF MISSOURI  
DEPARTMENT OF NATURAL RESOURCES

Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director

www.dnr.mo.gov

MAR - 3 2014

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

PERMIT BOOK

RE: Temporary Relocation Request for Equipment Belonging to PORT-0700  
Project Number: 2014-02-025  
Expiration Date: July 1, 2014  
Permit Number: **022014-011**

Dear Ms. Klein:

The Air Pollution Control Program received your application to temporarily relocate the track-mounted screen and one additional conveyor associated with your portable rock-crushing plant PORT-0700 to Higgins Quarry, LLC (151-0037) on February 14, 2014. This site is located at 3857 Hwy 50 West in Loose Creek, Missouri, in Osage County (S2 T43N R10W). This project was deemed complete on February 19, 2014. The remainder of the equipment associated with PORT-0700 is currently in storage. After this screening operation has completed its job at this site, it will return to storage. Permission for the equipment associated with this screening operation to operate at this site expires on July 1, 2014.

This screening operation is rated at 300 tons per hour. At this site, Fred Weber, Inc. (Fred Weber) will screen aggregate that has already been crushed and stockpiled by Higgins Quarry, LLC so the aggregate will meet the specification of the Missouri Department of Transportation for highway job J5P0951B. Because Fred Weber is not increasing the overall volume of stockpiles, emissions from wind erosion were not included in this project. Also, because Fred Weber is not hauling aggregate off site, haul road emissions were not included in this project. As a result, Fred Weber's screening operation will include one screen that has four conveyors attached to it, one additional conveyor, vehicular activity and a load out emission point because a front end loader will be used to load the screen.

This screen is track-mounted and is powered by an engine that meets the definition of a nonroad engine because this engine, as stated in 40 CFR 89.2, is "in or on a piece of equipment [that] is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another" and will not remain at a location for more than 12 consecutive months. As a result, no record keeping or requirements are needed for this engine for this permit.

The applicant is using one of the methods described in Attachment AA, "Best Management Practices," to control emissions from vehicular activity areas. This installation is located in Osage

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.

Higgins Quarry, LLC also operates a stationary asphalt plant at this site under the name of Higgins Asphalt & Paving Company, Inc. The Missouri Air Pollution Control Program considers Higgins Quarry, LLC and Higgins Asphalt & Paving Company, Inc. as one installation. As a result, Higgins Quarry, LLC and Higgins Asphalt & Paving Company, Inc. will be collectively referred to as Higgins in this permit. Higgins' stationary rock-crushing and asphalt plants were permitted under Permit Number 012014-006 and gives plants not owned by Higgins an ambient impact limit of 40.10  $\mu\text{g}/\text{m}^3$ . The maximum ambient impact of Fred Weber's screening operation is 12.12  $\mu\text{g}/\text{m}^3$ . Emissions from vehicular activity areas are addressed as a background concentration of 20.0  $\mu\text{g}/\text{m}^3$ . This background concentration applies to the entire site since Fred Weber and Higgins are both using BMPs.

If Fred Weber operates this screening plant without other plants it owns, ambient impact record keeping will not be required. If additional Fred Weber plants are brought to this site, all Fred Weber plants would be limited to a combined 24-hour ambient impact limit of 40.10  $\mu\text{g}/\text{m}^3$ . Your application mentioned this is a possible scenario. Therefore, this scenario was addressed in this permit. During this scenario, Fred Weber, Inc. shall use Attachment A to demonstrate compliance with the NAAQS.

Besides plants owned by Fred Weber, Inc. and Higgins, this screening plant is prohibited from operating with any other plants at this site until an evaluation is done and approval is given by the Missouri Air Pollution Control Program.

The table below summarizes the emissions of this project. The potential emissions of the process equipment exclude emissions from haul roads and wind erosion. The potential emissions of the application represent the emissions of all equipment and activities assuming continuous operation (8760 hours per year).

Table 1: Emissions Summary (tons per year)

Air Pollutant	De Minimis Level/SMAL	<sup>a</sup> Potential Emissions of the Process Equipment	Existing Actual Emissions	<sup>b</sup> Potential Emissions of the Application	Conditioned Potential Emissions
PM	25.0	3.26	N/A	38.61	N/A
PM <sub>10</sub>	15.0	1.09	N/A	17.43	N/A
PM <sub>2.5</sub>	10.0	0.10	N/A	2.83	N/A
SO <sub>x</sub>	40.0	N/A	N/A	N/A	N/A
NO <sub>x</sub>	40.0	N/A	N/A	N/A	N/A
VOC	40.0	N/A	N/A	N/A	N/A
CO	100.0	N/A	N/A	N/A	N/A
Total HAPs	25.0	N/A	N/A	N/A	N/A

N/A = Not Applicable

<sup>a</sup> Excludes haul road and storage pile emissions

<sup>b</sup> Includes site specific haul road and storage pile emissions

Table 2: Ambient Air Quality Impact Analysis

Pollutant	NAAQS ( $\mu\text{g}/\text{m}^3$ )	Averaging Time	<sup>a</sup> Maximum Modeled Impact ( $\mu\text{g}/\text{m}^3$ )	Limited Impact ( $\mu\text{g}/\text{m}^3$ )	<sup>b</sup> Back-ground ( $\mu\text{g}/\text{m}^3$ )	<sup>c</sup> Daily Production (tons/day)
<sup>d</sup> PM <sub>10</sub> (Same and Separate)	150.0	24-hour	N/A	40.10	109.90	N/A

<sup>a</sup> Modeled impact of plant at maximum capacity with controls

<sup>b</sup> Emissions from vehicular activity areas are addressed as a background concentration of  $20.0 \mu\text{g}/\text{m}^3$ . Emissions from plants owned by Higgins Quarry, LLC and Higgins Asphalt & Paving Company, Inc. (Higgins) are addressed as a background concentration of  $89.9 \mu\text{g}/\text{m}^3$ , per Permit Number 012014-006.

<sup>c</sup> The daily production limit of this plant is indirectly based on compliance with the NAAQS for PM<sub>10</sub>. Fred Weber only needs to conduct ambient impact record keeping if it operates other plant(s) at this site. If Fred Weber only operates this screening plant without other Fred Weber plants, ambient impact record keeping is not required.

<sup>d</sup> Operation with other plants that are and are not owned by Fred Weber, Inc.

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).

Emissions from the screen and conveyors were calculated using emission factors from AP-42 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 equal to or greater than 1.5 % by weight.

Emissions from 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 PM<sub>10</sub> and a 40% control efficiency for PM<sub>2.5</sub> were applied to the emission calculations for the use of BMPs. Emissions from load-out of storage piles were calculated using the predictive equation from AP-42 Section 13.2.4. The moisture content of the aggregate is 1.5% by weight.

An ambient air quality impact analysis (AAQIA) was performed to determine the impact of the pollutants listed in Table 2. The Air Pollution Control Program requires an AAQIA of PM<sub>10</sub> for all asphalt, concrete and rock-crushing plants regardless of the level of PM<sub>10</sub> emissions if a permit is required. An AAQIA is required for other pollutants if their emissions exceed their respective de minimis or screening model action level (SMAL). The AAQIA was performed using the Air Pollution Control Program's generic nomographs and when appropriate the EPA modeling software AERSCREEN. For each pollutant that was modeled, the maximum concentration that occurs at or beyond the site boundary was compared to the NAAQS or RAL for the pollutant. If during continuous operation the modeled concentration of a pollutant is greater than the applicable NAAQS or RAL, the plant's production is limited to ensure compliance with the standard.

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions on the accompanying pages and Appendix A that defines common acronyms that are used in this permit. Operation in accordance with these conditions and your new source review permit application is necessary for continued compliance.

Ms. Lina Klein  
Page Four

If you have any questions regarding this permit, please do not hesitate to contact Daronn A. Williams, at the department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102, or by telephone at (573) 751-4817. Thank you for your time and attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

  
Kyra L. Moore  
Director

KLM:dwk

Enclosures

c: Northeast Regional Office  
PAMS File: 2014-02-025

Page No.	5
Permit No.	022014-011
Project No.	2014-02-025

**SITE SPECIFIC 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."*

Site Name: Higgins Quarry  
Site Address: 3857 Hwy 50 West, Loose Creek, MO 65054  
Site County: Osage County, S2 T43N R10W

1. **Best Management Practices Requirement**  
Fred Weber, Inc. shall control fugitive emissions from all of the vehicular activity areas at this site by performing BMPs as defined in Attachment AA.
  
2. **Ambient Air Impact Limitation**
  - A. Fred Weber, Inc. shall not cause an exceedance of the NAAQS for PM<sub>10</sub> of 150.0 µg/m<sup>3</sup> 24-hour average in ambient air.
  
  - B. Fred Weber, Inc. shall demonstrate compliance with Special Condition 2.A using Attachment A or other equivalent forms that have been approved by the Air Pollution Control Program, including electronic forms. Fred Weber, Inc. shall account for the impacts from other sources of PM<sub>10</sub> as instructed in the attachments.
  
  - C. Fred Weber, Inc. is exempt from the requirements of Special Condition 2.B when no other plants besides plants owned by Higgins Quarry, LLC and Higgins Asphalt & Paving Company, Inc. operate at this site.
  
3. **Moisture Content Testing Requirement**
  - A. Fred Weber, Inc. shall verify that the moisture content of the processed rock is greater than or equal to 1.5 percent 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).

Page No.	6
Permit No.	022014-011
Project No.	2014-02-025

**SITE SPECIFIC SPECIAL CONDITIONS:**

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

- 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 Fred Weber, Inc. 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 exceed the limit, Fred Weber, Inc. 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.
- G. In lieu of testing, Fred Weber, Inc. may obtain test results that demonstrate compliance with the moisture content in Special Condition 3.A from the supplier of the aggregate.
4. **Minimum Distance to Property Boundary Requirement**  
The primary emission point, the primary screen (EU-1), shall be located at least 680 feet from the nearest property boundary.
5. **Concurrent Operation Restriction**  
Fred Weber, Inc. is prohibited from operating whenever other plants are located at the site, except other plants owned by Fred Weber, Inc. and plants owned by Higgins Quarry, LLC and Higgins Asphalt & Paving Company, Inc., until an evaluation is done and approval given by the Missouri Air Pollution Control Program.
6. **Primary Equipment Requirement**  
Fred Weber, Inc. shall process all rock through the primary screen (EU-1). Bypassing the primary screen is prohibited.
7. **Equipment Limitation**  
The equipment associated with this permit shall only consist of one track-mounted screen with its attached conveyors and one free-standing conveyor. Other equipment associated with PORT-0700 (additional screens, crushers and grizzly feeders) is prohibited from operating at this site unless an evaluation of this additional equipment is done and approval is given by the Missouri Air Pollution Control Program.

Page No.	7
Permit No.	022014-011
Project No.	2014-02-025

**SITE SPECIFIC SPECIAL CONDITIONS:**

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

8. **Record Keeping Requirement**  
Fred Weber, Inc. shall maintain all records required by this permit for not less than five years and make them available to any Missouri Department of Natural Resources personnel upon request.
  
9. **Reporting Requirement**  
Fred Weber, Inc. shall report to the Air Pollution Control Program Enforcement Section P.O. Box 176, Jefferson City, MO 65102, no later than 10 days after any exceedances of the limitations imposed by this permit.



## **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

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