

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:

072018-015

Project Number: 2013-02-048

Installation ID: PORT-0693

Parent Company: Reclaimed Material Yard

Parent Company Address: 550 E. Old Highway 56, Olathe, KS 66061

Installation Name: Reclaimed Material Yard

Installation Address: 601 N.E. Pavestone Drive, Lee's Summit, MO 64064

Location Information: Jackson County, S20, T49N, R31W

Application for Authority to Construct was made for:

The installation of a new rock-crushing plant that is capable of crushing up to 200.0 tons of rock per hour. 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.

JUL 24 2013

EFFECTIVE DATE

*Kyra L Moore*

DIRECTOR OR DESIGNEE

DEPARTMENT OF NATURAL RESOURCES

## 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 this (these) air contaminant source(s). 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 this (these) air contaminant source(s).

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 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 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.

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**GENERAL SPECIAL CONDITIONS:**

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

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*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."*

1. **Equipment Identification Requirement**  
Reclaimed Material Yard shall maintain easily read permanent markings on each component of the plant. These markings shall be the equipment's serial number or a company assigned identification number that uniquely identifies the individual component. These identification numbers must be submitted to the Air Pollution Control Program no later than 15 days after start-up of the portable rock crushing plant.
2. **Relocation of Portable Rock Crushing Plant**
  - A. Reclaimed Material Yard shall not be operated at any location longer than 24 consecutive months except if the Site Specific Special Conditions of this portable plant, PORT-0693, contain a nonroad engine requirement limiting the portable plant at the site specific location to 12 consecutive months.
  - B. A complete "Portable Source Relocation Request" application must be submitted to the Air Pollution Control Program prior to any relocation of this portable rock crushing plant.
    - 1) If the portable rock crushing plant is moving to a site previously permitted, and if the circumstances at the site have not changed, then the application must be received by the Air Pollution Control Program at least seven days prior to the relocation.
    - 2) If the portable rock crushing plant is moving to a new site, or if circumstances at the site have changed (e.g. the site was only permitted for solitary operation and now another plant is located at the site), then the application must be received by the Air Pollution Control Program at least 21 days prior to the relocation. The application must include written notification of any concurrently operating plants.
3. **Record Keeping Requirement**  
Reclaimed Material Yard 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.
4. **Reporting Requirement**  
Reclaimed Material Yard shall report to the Air Pollution Control Program Enforcement Section P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedances of the limitations imposed by this permit.

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**SITE SPECIFIC SPECIAL CONDITIONS:**

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

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*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."*

PORT ID Number: PORT-0693

Site ID Number: 095-0337

Site Name: Pavestone Company

Site Address: 601 N.E. Pavestone Drive, Lee's Summit, MO 64064

Site County: Jackson S20, T49N, R31W

1. **Best Management Practices Requirement**  
Reclaimed Material Yard shall control fugitive emissions from all of the haul roads and vehicular activity areas at this site by performing Best Management Practices as defined in Attachment AA.
2. **Ambient Air Impact Limitation**
  - A. Reclaimed Material Yard shall not cause an exceedance of the National Ambient Air Quality Standard (NAAQS) for particulate matter less than ten microns in aerodynamic diameter (PM<sub>10</sub>) of 150.0 µg/m<sup>3</sup> 24-hour average in ambient air.
  - B. Reclaimed Material Yard 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 an electronic form. Reclaimed Material Yard shall account for the impacts from other sources of PM<sub>10</sub> as instructed in the attachments.
  - C. Reclaimed Material Yard is exempt from the requirements of Special Condition 2.B. when no other plants are operating at this site.
3. **Wet Suppression Control System Requirement**
  - A. Reclaimed Material Yard shall install and operate wet spray devices on the crusher (EP-3).
  - B. Watering may be suspended during periods of freezing condition, when use of the wet spray devices may damage the equipment. During these conditions, Reclaimed Material Yard shall adjust the production rate to control emissions from these units. Reclaimed Material Yard shall record a brief description of such events.
4. **Minimum Distance to Property Boundary Requirement**  
The primary emission point shall be located at least 50 feet from the nearest property boundary.

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**SITE SPECIFIC SPECIAL CONDITIONS:**

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

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5. Primary Equipment Requirement  
Reclaimed Material Yard shall process all rock through the primary crusher (EU-3).  
Bypassing the primary crusher is prohibited.
  
6. Record Keeping Requirement  
Reclaimed Material Yard 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.
  
7. Reporting Requirement  
Reclaimed Material Yard shall report to the Air Pollution Control Program Enforcement Section P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedances of the limitations imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE  
SECTION (6) REVIEW

Project Number: 2013-02-048

Installation ID Number: PORT-0693

Permit Number:

Reclaimed Material Yard  
601 N.E. Pavestone Drive  
Lee's Summit, MO 64064

Complete: February 15, 2013

Parent Company:  
Reclaimed Material Yard  
550 E. Old Highway 56  
Olathe, KS 66061

Jackson County, S20, T49N, R31W

PROJECT DESCRIPTION

Reclaimed Material Yard has applied for authority to construct a new rock-crushing plant. The rock-crushing plant will employ a track mounted rock-crushing plant powered by a Caterpillar C-9 diesel engine that is rated at 350 horsepower. The rock-crushing plant is capable of crushing up to 200.0 tons of aggregate per hour. Wet suppression systems will be installed at the loading point and discharge point of the crusher in order to control particulate emissions. Reclaimed Material Yard will locate at this site to crush reclaimed concrete into useable aggregate for Pavestone Company, LLC. Pavestone Company, LLC (095-0280) produces precast concrete of various shapes. The concrete mixture is placed in a block making machine where it will be pressed into various shapes.

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.

This installation is located in Jackson County, a maintenance area for ozone and an attainment area for all other 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.

No permits have been issued to Reclaimed Material Yard from the Air Pollution Control Program.

## TABLES

The table below summarizes the emissions of this project. The potential emissions of the process equipment, which excluded emissions from haul roads and wind erosion, are not site specific and should not vary from site to site. The existing actual emissions were not available as this is a new facility. 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	<sup>a</sup> Potential Emissions of Process Equipment	Existing Actual Emissions (2012 EIQ)	<sup>b</sup> Potential Emissions of the Application	Conditioned Potential Emissions
PM	25.0	1.20	N/A	33.95	33.95
PM <sub>10</sub>	15.0	0.53	N/A	15.56	15.56
PM <sub>2.5</sub>	10.0	0.11	N/A	2.70	2.70
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 emissions from site specific emission units such as haul roads and storage piles.

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

Table 2: Ambient Air Quality Impact Analysis

Pollutant	<sup>a</sup> NAAQS (µg/m <sup>3</sup> )	Averaging Time	<sup>b</sup> Maximum Modeled Impact (µg/m <sup>3</sup> )	Limited Impact (µg/m <sup>3</sup> )	Background (µg/m <sup>3</sup> )	<sup>c</sup> Daily Limit (tons/day)
<sup>d</sup> PM <sub>10</sub> (same)	150.0	24-hour	103.45	N/A	20.0	N/A
<sup>e</sup> PM <sub>10</sub> (separate)	150.0	24-hour	N/A	55.0	95.0	2,545

<sup>a</sup>National Ambient Air Quality Standards (NAAQS)

<sup>b</sup>Modeled impact at maximum capacity with controls

<sup>c</sup>Indirect limit based on compliance with NAAQS.

<sup>d</sup>Solitary operation or operation with other plants that are owned by Reclaimed Material Yard

<sup>e</sup>Operation with other plants that are not owned by Reclaimed Material Yard

## EMISSIONS CALCULATIONS

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

Emissions from the rock-crushing equipment 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 equipment is controlled by water spray devices.

Emissions from the diesel engine were not calculated because the engine is classified as a nonroad engine.

Emissions from haul roads were not considered because Reclaimed Material Yard will not remove any of the crushed product from this site. 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> are applied to the emission calculations for the use of BMPs. Emissions from load-in and 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 0.7% by weight. Emissions from wind erosion of storage piles were calculated using an equation found in the Air Pollution Control Program's Emissions Inventory Questionnaire Form 2.8 "Storage Pile Worksheet."

## AMBIENT AIR QUALITY IMPACT ANALYSIS

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. For each pollutant that was modeled, the maximum concentration that occurs at or beyond the site boundary was compared to the National Ambient Air Quality Standard (NAAQS) or Risk Assessment Level (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.

This plant uses BMPs to control emissions from haul roads and vehicular activity areas, so emissions from these sources were not included in the AAQIA. Instead they were addressed as a background concentration of 20 µg/m<sup>3</sup> of PM<sub>10</sub> in accordance with the Air Pollution Control Program's BMPs interim policy.

## 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 Reclaimed Material Yard shall demonstrate compliance with the NAAQS.

- When no other plants are located at this site, Reclaimed Material Yard is not required to keep ambient air impact records.
- When plants that are owned by Reclaimed Material Yard, which are referred to as same owner plants, are located at the site, Reclaimed Material Yard must calculate the daily impact of each plant and limit the total impact of all plants to not exceed the NAAQS using Attachment A.
- When plants that are not owned by Reclaimed Material Yard, which are referred to as separate owner plants, are located at the site, Reclaimed Material Yard must account for the impacts of these plants as a background concentration and add it to the total impact of all plants owned by Reclaimed Material Yard that are operating at the site. This total is limited to not exceed the NAAQS. Reclaimed Material Yard will limit the total impact of all plants they own and operate at the site to  $55.0 \mu\text{g}/\text{m}^3$  when any plants they do not own are located at the site. Reclaimed Material Yard is not permitted to operate with any plant that is not owned by Reclaimed Material Yard that has a separate owner background greater than  $75.0 \mu\text{g}/\text{m}^3$ . During this scenario, Reclaimed Material Yard shall use Attachment A to demonstrate compliance with the NAAQS.

## 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  $\text{PM}_{10}$  are above de minimis levels.

## APPLICABLE REQUIREMENTS

Reclaimed Material Yard 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.
- No Operating Permit is required for this installation.
- *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

- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400
- 40 CFR 60 Subpart OOO, "Standards of Performance for Nonmetallic Mineral Processing Plants" applies to the equipment.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPS) or National Emission Standards for Hazardous Air Pollutants for Source Categories (MACTS) apply to the proposed 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*, I recommend this permit be granted with special conditions.

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J Luebbert  
New Source Review Unit

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Date

## PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated February 13, 2013, received February 15, 2013, designating Reclaimed Material Yard as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.



## 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 portable 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<sup>1</sup> 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.

<sup>1</sup>For purposes of this document, Control of Fugitive Emissions means to control particulate matter that is not collected by a capture system and visible emissions to the extent necessary to prevent violations of the air pollution law or regulation. (Note: control of visible emission is not the only factor to consider in protection of ambient air quality.)

Mr. Jeremy Cohorst  
Owner  
Reclaimed Material Yard  
550 E. Old Highway 56  
Olathe, KS 66061

RE: New Source Review Permit - Project Number: 2013-02-048

Dear Mr. Cohorst:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, 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 and your new source review permit application 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 have any questions regarding this permit, please do not hesitate to contact J Luebbert, at the department's 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:jl

Enclosures

c: Kansas City Regional Office  
PAMS File: 2013-02-048

Permit Number: