

MISSOURI
DEPARTMENT OF
NATURAL RESOURCES
MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

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

Permit Number: **082016-013**

Project Number: 2016-08-016
Installation ID: PORT-0741

Parent Company: Emery Sapp & Sons, Inc.

Parent Company Address: 2301 I-70 Drive NW, Columbia, MO 65202

Installation Name: ESS Asphalt Deepwater

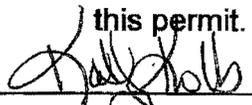
Installation Address: 951 SW 51 Road, Deepwater, MO 64740

Location Information: Henry County, S26 T40N R26W

Application for Authority to Construct was made for:
Installation of a portable asphalt plant. 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.


Prepared by
Kathy Kolb
New Source Review Unit


Director or Designee
Department of Natural Resources

AUG 31 2016

Effective Date

STANDARD CONDITIONS:

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

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

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

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

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

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

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

Contact Information:

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

The regional office information can be found at the following website:

<http://dnr.mo.gov/regions/>

GENERAL 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."

1. **Equipment Identification Requirement**
ESS Asphalt Deepwater 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 asphalt plant.
2. **Relocation of Portable Asphalt Plant**
 - A. ESS Asphalt Deepwater shall not be operated at any location longer than 24 consecutive months except if the Site Specific Special Conditions of this portable plant, PORT-0741, 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 asphalt plant.
 - 1) If the portable asphalt 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 asphalt 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**
ESS Asphalt Deepwater 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**
ESS Asphalt Deepwater 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.

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."

PORT ID Number: PORT-0741

Site ID Number: 083-P044 (Ash Grove Aggregates)

Site Name: Ash Grove Quarry

Site Address: 951 SW 51 Road, Deepwater, MO 64740

Site County: Henry S26 T40N R26W

1. Annual Emission Limit
 - A. ESS Asphalt Deepwater shall emit less than 15.0 tons of PM₁₀ in any 12-month period from the all equipment and processes associated with PORT-0741 as stated in Table 1.
 - B. ESS Asphalt Deepwater shall demonstrate compliance with Special Condition 1.A using Attachment A or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form.
2. Undocumented Watering Requirement

ESS Asphalt Deepwater shall apply a water spray on all haul roads and vehicular activity areas whenever conditions exist that would allow visible emissions from these sources to leave the property.
3. Control Device Requirement-Baghouse
 - A. ESS Asphalt Deepwater shall control emissions from the drum dryer (EP-4) using baghouse as specified in the permit application.
 - 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).
 - D. ESS Asphalt Deepwater shall monitor and record the operating pressure drop across the baghouse at least once every 24 hours while in operation. The

SITE SPECIFIC SPECIAL CONDITIONS:

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

operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.

- E. ESS Asphalt Deepwater shall maintain a copy of the baghouse manufacturer's performance warranty on site.
- F. ESS Asphalt Deepwater 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. Record Keeping Requirement

ESS Asphalt Deepwater 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.

5. Reporting Requirement

ESS Asphalt Deepwater 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.

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

Project Number: 2016-08-016

Installation ID Number: PORT-0741

Permit Number:

ESS Asphalt Deepwater
951 SW 51 Road
Deepwater, MO 64740

Complete: August 16, 2016

Parent Company:
Emery Sapp & Sons, Inc.
2301 I-70 Drive NW
Columbia, MO 65202

Henry County, S26 T40N R26W

PROJECT DESCRIPTION

ESS Asphalt Deepwater is installing a new 275 tons per hour drum hot mix asphalt plant. The new portable asphalt plant (PORT-0741) will be located at the Ash Grove Quarry (formerly Higgins-Meeker Quarry) near Deepwater, Missouri at 951 SW 51 County Road in Henry County. The asphalt drum dryer/ mixer and associated bins were manufactured by Aztec in 2009. The plant will use propane to fuel the drum dryer and asphalt heater. Diesel fuel will not be used as a backup fuel. There are various conveyors and a screen totaling four drop points.

The 3412 CAT genset (manufactured in 2005) includes a 932 kW (1,250 HP) operating generator set and another 68 HP engine provides electricity for the trailer and auxiliary equipment. These diesel engines meet the definition of non-road engine as defined in 40 CFR 89.2 (1)(i). Therefore, the emissions of the engines were not included.

PORT-0741 will be operating at Ash Grove Quarry. Ash Grove Aggregates originally was permitted to conduct a rock crushing operation at that site (Permit# 012012-01). That plant is no longer at this site. PORT-0741 will be the only plant operating at this site.

This installation is located in Henry County, an attainment area for all criteria pollutants.

This installation is on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. Fugitive emissions are counted toward major source applicability. However, Category 27 does not apply to the 100 tons per year major source level thresholds. Therefore, the major source threshold for this asphalt plant is 250 tons per year.

No permits have been issued to ESS Asphalt Deepwater from the Air Pollution Control Program.

The following table lists the new pieces of equipment associated with this project.

Table 1: Project Equipment List

Emission Unit	Equipment Description	MHDR
EP1	Aggregate Bins	275 tph
EP2	Aggregate handling conveyor (3)	275tph
EP3	Vibrating Screen	275 tph
EP4	Drum Dryer	275tph
EP5	Plant Loadout	275 tph
EP6	Silo Loading	275 tph
EP7	Asphalt Heater	1.2 MMBTU/hr
EP11a	Storage Piles (Sand)	2 acres
EP11b	Storage Pile (Aggregate)	2 Acres
EP12a	Haul Roads (Receiving)	2.9 VMT
EP-12b	Haul Roads (Shipping)	2.9 VMT

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. There are no existing actual emissions since this is a new portable plant. The potential emissions of the application represent the emissions of all equipment and activities assuming continuous operation (8760 hours per year). The conditioned potential emissions include emissions from sources that will limit their production to ensure compliance with the annual emission limit. Conditioned potential emissions account for a voluntary annual PM₁₀ emission limit of 15.0 tons per year in order to avoid refined modeling according to 10 CSR 10-6.060 (6)(B)3.

Table 2: Emissions Summary (tons per year)

Air Pollutant	De Minimis Level/SMAL	^a Potential Emissions of Process Equipment	Existing Actual Emissions	^b Potential Emissions of the Application	Conditioned Potential Emissions
PM	25.0	92.48	N/A	576.27	42.07
PM ₁₀	15.0	55.81	N/A	205.45	<15.0
PM _{2.5}	10.0	33.37	N/A	52.69	3.85
SO _x	40.0	3.56	N/A	3.56	0.26
NO _x	40.0	89.16	N/A	89.16	6.51
VOC	40.0	57.96	N/A	57.96	4.23
CO	100.0	38.24	N/A	38.24	2.79
GHG (CO ₂ e)	N/A	59,576.37	N/A	59,576.37	4,349.72
GHG (mass)	N/A	58,203.98	N/A	58,203.98	4,249.52
2-methylnaphthalene ^d	10.0/0.01 ^c	0.09	N/A	0.09	0.007
Total HAPs	25.0	6.72	N/A	6.72	0.49

N/A = Not Applicable

^aProcess equipment excluding haul roads, vehicular activity and wind erosion.

^bIncludes site specific haul road and storage pile emissions

^cSMAL

^d2-methylnaphthalene is a member of the Polycyclic Organic Matter (POM) HAP group. C₁₁H₁₀ was not modelled since the conditioned potential emissions are below the SMAL.

EMISSIONS CALCULATIONS

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 drum mix asphalt plant were calculated using emission factors from AP-42 Section 11.1 "Hot Mix Asphalt Plants," April 2004. SO_x emissions were calculated using the SO₂ and SO₃ emission factors from AP-42 Section 1.5 "Liquefied Petroleum Gas Combustion," July 2008 and assuming half of the sulfur up to 0.1 pound per ton of product is absorbed into the product. The asphalt plant is controlled by a baghouse, so the fabric filter controlled emission factor was used to calculate PM₁₀ emissions. Emissions from plant load-out were calculated using predictive equations found in AP-42 Table 11.1-14. Default values were used for asphalt volatility and mix temperature. Emissions from the asphalt heater were calculated using emission factors from AP-42 Section 1.5. Emissions from aggregate handling were calculated using emission factors from AP-42 Section 11.19.2 "Crushed Stone Processing and Pulverized Mineral Processing," August 2004. The uncontrolled emission factors were used because the inherent moisture content of the crushed rock is less than 1.5% 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 50% 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 undocumented watering. 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."

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. The conditioned potential emissions include emissions from sources that will limit their production to ensure compliance with the annual PM₁₀ emission limit of 15.0 tons per year for plants in order to avoid refined modeling according to 10 CSR 10-6.060 (6)(B)3. Potential emissions of PM are above de minimis but below major source levels. There are no modeling requirements for PM.

APPLICABLE REQUIREMENTS

ESS Asphalt Deepwater 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 does not apply because the drum dryer is controlled by a baghouse. All other sources are fugitive.
- 40 CFR 60 Subpart I, "Standards of Performance for Hot Mix Asphalt Facilities" 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.
- *Control of Sulfur Dioxide Emissions*, 10 CSR 10-6.261 does not apply as exempt in 10 CSR 10-6.261(1)(A) due to the usage of liquefied petroleum gas.

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 August 3, 2016, received August 4, 2016, designating Emery Sapp & Sons, Inc. as the owner and operator of the installation.

Mr. Jeff Stephens
Safety Director
ESS Asphalt Deepwater
2301 I-70 Drive NW
Columbia, MO 65202

RE: New Source Review Permit - Project Number: 2016-08-016

Dear Mr. Stephens:

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 is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

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

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

Mr. Jeff Stephens
Page Two

If you have any questions, please do not hesitate to contact Kathy Kolb, 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:kkj

Enclosures

c: Kansas City Regional Office
PAMS File: 2016-08-016

Permit Number: