

Missouri Department of dnr.mo.gov

# NATURAL RESOURCES

Michael L. Parson, Governor

Carol S. Comer, Director

**MAY 21 2020**

James A. Kemp  
CEO  
Benton County Stone, Inc.-Mill Creek Quarry  
PO Box 988  
Pryor, OK 74362

RE: New Source Review Permit- Project Number: 2019-11-028

Dear James Kemp:

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 and your new source review permit are necessary for continued compliance. In addition, please note that Benton County Stone, Inc.-Mill Creek Quarry cannot operate with any other plants that have ambient impact limits based on the Air Pollution Control Program's nomographs. Please refer to the permits of any plant that you are operating with to see if their respective permits contain an ambient impact limit. 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

James Kemp  
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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](http://www.oa.mo.gov/ahc).

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

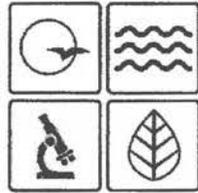
New Source Review Unit Chief

SH:kka

Enclosures

c: Southwest Regional Office  
PAMS File: 2019-11-028

Permit Number: **052020-010**



**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: **052020-010**

Project Number: 2019-11-028  
Installation ID: 119-0034

Parent Company: Benton County Stone, Inc.

Parent Company Address: PO Box 988, Pryor, OK 74362

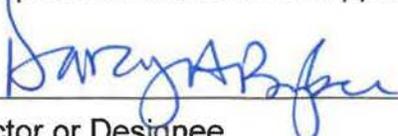
Installation Name: Benton County Stone, Inc.-Mill Creek Quarry

Installation Address: 609 Lazy E Road, Noel, MO 64854

Location Information: McDonald County, S34 T21N R32W

Application for Authority to Construct was made for:  
Combination of various rock crushing plants at a new quarry. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

- 
- Standard Conditions (on reverse) are applicable to this permit.
- Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

  
\_\_\_\_\_  
Director or Designee  
Department of Natural Resources

**MAY 21 2020**

\_\_\_\_\_  
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/>

**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 (3)(E). "Conditions required by permitting authority."*

Site ID Number: 119-0034

Site Name: Benton County Stone, Inc.-Mill Creek Quarry

Site Address: 609 Lazy E Road, Noel, MO 64854

Site County: McDonald S34 T21N R32W

1. **Best Management Practices Requirement**  
Benton County Stone, Inc.-Mill Creek Quarry 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.
2. **Annual Emission Limit**
  - A. Benton County Stone, Inc.-Mill Creek Quarry shall emit less than 15.0 in any 12-month period from the entire installation which consists of the equipment listed in Tables 1, 2, 3, 4 and 5 in the Table Section of this permit. The SSM emissions as reported to the Air Pollution Control Program's Compliance/Enforcement Section in accordance with the requirements of 10 CSR 10-6.050 *Start-Up, Shutdown, and Malfunction Conditions* shall be included in the limit.
  - B. Benton County Stone, Inc.-Mill Creek Quarry shall demonstrate compliance with Special Condition 2.A using Attachment A through F or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form.
3. **Moisture Content Testing Requirement**
  - A. Benton County Stone, Inc.-Mill Creek Quarry 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).

**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 Benton County Stone, Inc.-Mill Creek Quarry 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 is less than the moisture content in Special Condition 3.A, Benton County Stone, Inc.-Mill Creek Quarry 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. Plans may be sent by mail to P.O. Box 176, Jefferson City, MO 65102 or by email at [aircompliancereporting@dnr.mo.gov](mailto:aircompliancereporting@dnr.mo.gov). The wet spray devices shall be installed and operational within 40 days of the second noncompliant test.
4. **Equipment Identification Requirement**  
Benton County Stone, Inc.-Mill Creek Quarry shall maintain easily read permanent markings on each component of each plant. These markings shall be the equipment's serial number or a company assigned identification number that uniquely identifies the individual component.
5. **Primary Equipment Requirement**  
Benton County Stone, Inc.-Mill Creek Quarry shall process all rock through the primary crusher of its respective plant. Bypassing the primary crusher of the respective plant is prohibited.
6. **Nonroad Engine Requirement**  
Benton County Stone, Inc.-Mill Creek Quarry's three engines from Plant 4 (two Cummins 885 and one Deutz) cannot operate in one location at this site longer than 12 consecutive months in order to avoid recordkeeping showing the movement of the engine. To meet the definition of a nonroad engine as stated in 40 CFR 89.2, engines cannot remain in one physical location for longer than 12 consecutive months.
7. **Record Keeping Requirement**  
Benton County Stone, Inc.-Mill Creek Quarry 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.

**SPECIAL CONDITIONS:**

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

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8. **Reporting Requirement**

Benton County Stone, Inc.-Mill Creek Quarry shall report to the Air Pollution Control Program, Compliance / Enforcement Section by mail to P.O. Box 176, Jefferson City, MO 65102 or by email at [AirComplianceReporting@dnr.mo.gov](mailto:AirComplianceReporting@dnr.mo.gov), 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 (5) REVIEW

Project Number: 2019-11-028  
Installation ID Number: 119-0034  
Permit Number: 052020-010

Benton County Stone, Inc.-Mill Creek Quarry:  
609 Lazy E Road  
Noel, MO 64854

Complete: November 26, 2019

Parent Company:  
Benton County Stone, Inc.  
PO Box 988  
Pryor, OK 74362

McDonald County, S34 T21N R32W

PROJECT DESCRIPTION

Benton County Stone, Inc.-Mill Creek Quarry is developing property in McDonald County for the purpose of quarrying stone. There are five different plant scenarios that will be operating at this site. Benton County Stone does not anticipate operating all the plants at any one time. The five plants' MHDR vary from 320 tph to 800 tph. Total storage piles acreage will not exceed 10 acres (two acres each). The installation will consist of four track mounted crushers and two portable crushers which will all be stationary at this site. The emissions from all five plants are being combined into this project and emissions from all five plants will be limited to 15 tons of PM<sub>10</sub> per year.

There are various engines (See Tables 1-5) that are used to propel the track mounted plants and/or will relocate within a 12 month consecutive period. Therefore, they meet the definition of a nonroad engine as stated in 40 CFR 89.2.

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 McDonald County, attainment/unclassifiable area for all criteria pollutants.

This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2].

No permits have been issued to Benton County Stone, Inc.-Mill Creek Quarry from the Air Pollution Control Program.

## TABLES

**Table 1: Equipment List for Plant 1**

Emission Point	Equipment Description	MHDR
EP-01	Loading into crusher/grizzly	800 tph
EP-02	Primary Crusher/Telesmith 6060 Quarry Trax (mfd 2009) CRSH042	800 tph
EP-03	Underconveyor	800 tph
EP-04	Screen Sandvic QA340 (Track) SCRNO63	800 tph
EP-05	Conveyors (8 total-return conveyor, side conveyors, etc.)	1600 tph
EP-06	Stacker (track)	800 tph
EP-07a	Storage Pile Load-in	800 tph
EP-07b	Storage Pile Load-out	800 tph
EP-07c	Vehicular activity	0.89 VMT/hr
EP-7d	Wind Erosion	2 acres
EP-08	Haul Road #1(Pit)	3.64 VMT/hr
EP-09	Haul Road #2(Shipping)	20.92 VMT/hr
Nonroad	CAT C15 (2009) (crusher)	500 HP
Nonroad	CAT C4.4 (2011) (screen)	400 HP
Nonroad	CAT C2.2 (conveyor/stacker)	66 HP

**Table 2: Equipment List for Plant 2**

Emission Point	Equipment Description	MHDR
EP-01	Loading into crusher/grizzly	345 tph
EP-02	Primary Crusher/Sandvic QS331 (Track) CRSH066	345 tph
EP-03	Underconveyor	345 tph
EP-04	Screen Extec S-3 SCRNO65	345 tph
EP-05	Conveyors (8 total-return conveyor, side conveyors, stacker, etc.)	690 tph
EP-06a	Storage Pile Load-in	345tph
EP-06b	Storage Pile Load-out	345 tph
EP-06c	Vehicular activity	0.38 VMT/hr
EP-6d	Wind Erosion	2 acres
EP-07	Haul Road #1 (Pit)	1.57 VMT/hr
EP-09	Haul Road #2(Shipping)	9.02 VMT/hr
Nonroad	CAT C9 (crusher)	345 HP
Nonroad	Deutz 2012 (screen)	74 HP

**Table 3: Equipment List for Plant 3**

Emission Point	Equipment Description	MHDR
EP-01	Loading into crusher/grizzly	352 tph
EP-02	Primary Crusher/Powerscreen (Track) CRSH061	352 tph
EP-03	Underconveyor	352 tph
EP-04	Conveyor	352 tph
EP-05	Conveyor	352 tph
EP-06	Conveyor	352 tph
EP-07	Conveyor	352 tph
EP-08	Conveyor/Stacker (Track CONV1115)	352 tph
EP-09a	Storage Pile Load-in	352 tph
EP-09b	Storage Pile Load-out	352 tph
EP-09c	Vehicular activity	0.38 VMT/hr
EP-09d	Wind Erosion	2 acres
EP-10	Haul Road #1 (Pit)	1.57 VMT/hr

EP-11	Haul Road #2(Shipping)	9.02 VMT/hr
Nonroad	Scania DC09 (crusher CRSH061)	400 HP
Nonroad	Deutz TD2012 (conveyor track CONV1115)	70 HP

**Table 4: Equipment List for Plant 4**

Emission Point	Equipment Description	MHDR
EP-01	Loading into crusher/grizzly	345 tph
EP-02	Primary Crusher/Universal 3250 1996 CRSH069	345 tph
EP-03	Underconveyor	345 tph
EP-04	Secondary crusher/Cedarapds 5048 1989 CRSH068	345 tph
EP-05	Underconveyor	345 tph
EP-06	Screen/Extec S-5 (track) SCRNO50	345 tph
EP-07	Conveyors 4	345 tph
EP-08	Conveyors 3	345 tph
EP-09	Conveyor	345 tph
EP-10	Stacker	345 tph
EP-11a	Storage Pile Load-in	345 tph
EP-11b	Storage Pile Load-out	345 tph
EP-11c	Vehicular activity	0.38 VMT/hr
EP-11d	Wind Erosion	2 acres
EP-12	Haul Road #1 (Pit)	1.57 VMT/hr
EP-13	Haul Road #2(Shipping)	9.02 VMT/hr
Nonroad	Cummins 855 (1989) (associated with crusher CRSH068)	365 HP
Nonroad	Cummins 855 (1996) (associated with crusher CRSH069)	365 HP
Nonroad	Deutz 2012 (associated with track mounted screen SCRNO50)	138 HP

**Table 5: Equipment List for Plant 5**

Emission Point	Equipment Description	MHDR
EP-01	Loading into crusher/grizzly	320 tph
EP-02	Primary Crusher/Extec C12 (Track) CRSH050	320 tph
EP-03	Underconveyor	320 tph
EP-04	Screen Extec E-7 (Track) SCRNO53	320 tph
EP-05	Conveyors (9 total-return conveyor, side conveyors, etc.)	960 tph
EP-06	Stacker (track)	320 tph
EP-07a	Storage Pile Load-in	320 tph
EP-07b	Storage Pile Load-out	320 tph
EP-07c	Vehicular activity	0.36 VMT/hr
EP-07d	Wind Erosion	2 acres
EP-08	Haul Road #1(Pit)	1.45 VMT/hr
EP-09	Haul Road #2(Shipping)	5.17 VMT/hr
Nonroad	Deutz BF6M 1015 (crusher CRSH050) (Track)	311 HP
Nonroad	Deutz (2012) (screen SCRNO53) (Track)	138 HP
Nonroad	CAT C2.2 (conveyor/stacker)	42 HP

Tables 6 through 10 summarizes the emissions of this project for each of the plants. The potential emissions of the process equipment, which excluded emissions from haul roads and wind erosion. There are no existing actual emissions since this is a new installation. 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 de minimis PM<sub>10</sub> limit to avoid dispersion modeling.

Table 6: Emissions Summary (tons per year) for Plant 1

Air Pollutant	De Minimis Level/SMAL	<sup>a</sup> Potential Emissions of Process Equipment	Existing Actual Emissions	<sup>b</sup> Potential Emissions of the Application	<sup>c</sup> Conditioned Potential Emissions
PM	25.0	13.88	N/A	222.29	42.87
PM <sub>10</sub>	15.0	5.13	N/A	78.02	<15.0
PM <sub>2.5</sub>	10.0	0.71	N/A	16.45	3.16
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 haul road and storage pile emissions

<sup>c</sup>A total of less than 15 tons of PM<sub>10</sub> from all five plants

Table 7: Emissions Summary (tons per year) for Plant 2

Air Pollutant	De Minimis Level/SMAL	<sup>a</sup> Potential Emissions of Process Equipment	Existing Actual Emissions	<sup>b</sup> Potential Emissions of the Application	<sup>c</sup> Conditioned Potential Emissions <sup>c</sup>
PM	25.0	5.77	N/A	96.84	42.70
PM <sub>10</sub>	15.0	2.14	N/A	34.02	<15.0
PM <sub>2.5</sub>	10.0	0.29	N/A	7.14	3.15
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 haul road and storage pile emissions

<sup>c</sup>A total of less than 15 tons of PM<sub>10</sub> from all five plants

Table 8: Emissions Summary (tons per year) for Plant 3

Air Pollutant	De Minimis Level/SMAL	<sup>a</sup> Potential Emissions of Process Equipment	Existing Actual Emissions	<sup>b</sup> Potential Emissions of the Application	<sup>c</sup> Conditioned Potential Emissions
PM	25.0	3.15	N/A	96.03	42.66
PM <sub>10</sub>	15.0	1.26	N/A	33.77	<15.0
PM <sub>2.5</sub>	10.0	0.27	N/A	7.27	3.23
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 haul road and storage pile emissions

<sup>c</sup>A total of less than 15 tons of PM<sub>10</sub> from all five plants

**Table 9: Emissions Summary (tons per year) for Plant 4**

Air Pollutant	De Minimis Level/SMAL	<sup>a</sup> Potential Emissions of Process Equipment	Existing Actual Emissions	<sup>b</sup> Potential Emissions of the Application	<sup>c</sup> Conditioned Potential Emissions
PM	25.0	8.22	N/A	99.29	42.50
PM <sub>10</sub>	15.0	3.17	N/A	35.05	<15.0
PM <sub>2.5</sub>	10.0	0.50	N/A	7.35	3.15
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 haul road and storage pile emissions

<sup>c</sup>A total of less than 15 tons of PM<sub>10</sub> from all five plants

**Table 10: Emissions Summary (tons per year) for Plant 5**

Air Pollutant	De Minimis Level/SMAL	<sup>a</sup> Potential Emissions of Process Equipment	Existing Actual Emissions	<sup>b</sup> Potential Emissions of the Application	Conditioned Potential Emissions
PM	25.0	5.75	N/A	72.35	41.05
PM <sub>10</sub>	15.0	2.12	N/A	26.44	<15.0
PM <sub>2.5</sub>	10.0	0.30	N/A	5.29	3.00
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 haul road and storage pile emissions

<sup>c</sup>A total of less than 15 tons of PM<sub>10</sub> from all five plants

## EMISSIONS CALCULATIONS

Emissions for the project were calculated as described below and 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 rock-crushing equipment:

- 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 greater than 1.5 % by weight.

Emissions from aggregate handling:

- 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 greater than 1.5% by weight.

Emissions from haul roads and vehicular activity areas:

- 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 74% control efficiency for PM<sub>2.5</sub> were applied to the emission calculations for the use of BMPs.

Emissions from storage piles:

- Load-in and load-out of storage piles were calculated using the predictive equation from AP-42 Section 13.2.4 “Aggregate Handling and Storage Piles,” November 2006.
- The moisture content of the aggregate is greater than 1.5% 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 (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM<sub>10</sub> are conditioned to de minimis levels. Conditioned potential emissions of PM are above de minimis levels, but below major levels.

### APPLICABLE REQUIREMENTS

Benton County Stone, Inc.-Mill Creek Quarry 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.
- *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 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 (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, it is recommended that this permit be granted with special conditions.

#### PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated November 20, 2019, received November 26, 2019, designating Benton County Stone, 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

<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>SDS</b> .....	Safety Data Sheet
<b>EU</b> .....	Emission Unit	<b>SIC</b> .....	Standard Industrial Classification
<b>fps</b> .....	feet per second	<b>SIP</b> .....	State Implementation Plan
<b>ft</b> .....	feet	<b>SMAL</b> .....	Screening Model Action Levels
<b>GACT</b> .....	Generally Available Control Technology	<b>SO<sub>x</sub></b> .....	sulfur oxides
<b>GHG</b> .....	Greenhouse Gas	<b>SO<sub>2</sub></b> .....	sulfur dioxide
<b>gpm</b> .....	gallons per minute	<b>SSM</b> .....	startup, shutdown, & malfunction
<b>gr</b> .....	grains	<b>tph</b> .....	tons per hour
<b>GWP</b> .....	Global Warming Potential	<b>tpy</b> .....	tons per year
<b>HAP</b> .....	Hazardous Air Pollutant	<b>VMT</b> .....	vehicle miles traveled
<b>hr</b> .....	hour	<b>VOC</b> .....	Volatile Organic Compound
<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		