August 27, 2020

Jake Smith
Manager
Trap Rock and Granite Quarries, LLC
1952 County Road 96
Ironton, MO 63650

RE: New Source Review Permit - Project Number: 2020-05-039

Dear Jake Smith:

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 application is necessary for continued compliance. In addition, please note that Trap Rock and Granite Quarries, LLC 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.

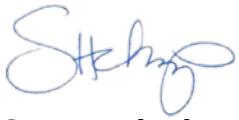
If you were adversely affected by this permit decision, you may be entitled to pursue an appeal before the administrative hearing commission pursuant to Sections 621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission within thirty days after the date 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 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.

If you have any questions regarding this permit, 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: Southeast Regional Office
PAMS File: 2020-05-039

Permit Number: 082020-013

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: 082020-013

Project Number: 2020-05-039
Installation ID: 093-0033

Parent Company: Aggregate Holding, LLC

Parent Company Address: 1952 County Road 96, Ironton, MO 63650

Installation Name: Trap Rock and Granite Quarries, LLC

Installation Address: 11313 Highway N, Ironton, MO 63650

Location Information: Iron County, S12 T34N R3E

Application for Authority to Construct was made for:
Increase PM_{10} and $PM_{2.5}$ air emissions to above de minimis as a result of modeling. 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.

Kendall B. Hale

Director or Designee
Department of Natural Resources

August 27, 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 sources(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 sources(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

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

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

1. Superseding Condition
   The conditions of this permit supersede all special conditions found in the previously issued Construction Permit 122019-003 from the Air Pollution Control Program.

2. Best Management Practices Requirement
   A. Trap Rock and Granite Quarries, LLC 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.
   B. Trap Rock and Granite Quarries, LLC shall establish and follow a paved haul roads cleaning, watering, vacuum/sweeping standard operation procedure (SOP) to prevent visible fugitive emissions. A copy of the SOP report shall be submitted to the Air Pollutions Control Program's Compliance/Enforcement within 60 days of this permit's issuance.

3. Wet Suppression Control System Requirement
   A. Trap Rock and Granite Quarries, LLC shall install and operate wet spray devices on the equipment as listed in Table 1 in the Table Section of this permit.

   B. Watering may be suspended during periods of freezing condition, when use of the wet spray devices may damage the equipment. During these conditions, Trap Rock and Granite Quarries, LLC shall adjust the production rate to control emissions from these units. Trap Rock and Granite Quarries, LLC shall record a brief description of such events.

4. Primary Equipment Requirement
   Trap Rock and Granite Quarries, LLC shall process all rock through the primary crusher (EP-101). Bypassing the primary crusher is prohibited.

5. Installation Operation Restrictions
   A. Trap Rock and Granite Quarries, LLC shall operate between the hours of 5 a.m. to 8 p.m. all equipment, storage piles and haul roads as stated in Table 1 except as allowed in Special Condition 5.B.

   B. The following haul roads' and storage piles' emission points associated with the loading and shipping conducted by rail are allowed to operate 24 hours per day:
      1) HR04- Train Loading Haul Road
      2) HR07-Long Term Screening storage to Train Loading
      3) SP-03b & c Load-Out/Vehicular Activity

SITE SPECIFIC SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

4) SP-05b & c Load Out/Vehicular Activity
5) SP06b & c Load Out/Vehicular Activity

6. Concurrent Operation Restriction
Trap Rock and Granite Quarries, LLC is prohibited from operating whenever other plants are located at the site.

7. Modification to Release Parameters Requirement
Trap Rock and Granite Quarries, LLC shall notify the Permit Section of the Air Pollution Control Program prior to making any modifications to the facility that impact the release parameters and/or emission rates listed in the memo: *Ambient Air Quality Impact Analysis (AAQIA) Trap Rock and Granite Quarries, LLC.* In the event that the Air Pollution Control Program determines the changes are significant, Trap Rock and Granite Quarries, LLC shall submit an updated AAQIA indicating compliance with the NAAQS.

8. Record Keeping Requirement
Trap Rock and Granite Quarries, LLC 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
Trap Rock and Granite Quarries, LLC 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, 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: 2020-05-039
Installation ID Number: 093-0033
Permit Number: 082020-013

Trap Rock and Granite Quarries, LLC: Complete: June 3, 2020
11313 Highway N
Ironton, MO 63650

Parent Company:
Aggregate Holding, LLC
1952 County Road 96
Ironton, MO 63650

Iron County, S12 T34N R3E

PROJECT DESCRIPTION

This project is to increase the allowable production of processed aggregate material. This will result in potential air pollutant emission to exceed the de minimis threshold. The conditioned potential emissions are based on operating the installation from 5 a.m. to 8 p.m. except for emission points associated with shipping and loading by rail which has no time restraints.

An ambient air quality impact analysis (AAQIA) was conducted as part of this construction permit application and verified by Air Pollution Control Program's modeling unit. Air dispersion modeling was performed for PM_{10} and $PM_{2.5}$ which are the pollutants whose potential annual emissions exceed the de minimis threshold values provide in 10 CSR 10-6.020 (3)(A) Table 1.

Trap Rock & Granite Quarries. LLC (TR&GQ) operates a primary crushing plant, a secondary crushing/processing plant, and a tertiary crushing/processing plant. The primary plant feeds the secondary plant which produces washed, sized rock used for railroad ballast. The ballast rock is shipped from the site primarily by train. Some truck sales of ballast rock occur, as well. The rock that is too small to be sold as ballast is conveyed to either the screenings pile, or to the feed pile for the tertiary plant. Material in the screenings pile is shipped from the site by both truck and train, or moved to long-term (LT) screenings storage and eventually shipped by train.

The tertiary plant, referred to as the agg plant, produces a washed aggregate material. Material in the aggregate plant feed pile is conveyed to and processed by the agg plant. Agg plant products are shipped by both truck and train.

Primary Crushing Plant Emission Points
The 1,750 ton per hour primary crushing plant consists of point and fugitive emissions sources that include:

- Pit haul road emissions
- Truck unloading
- Primary gyratory crusher
- 250 ton bin
- Feeder
- Conveyor
- Radial stacking conveyor
- Primary surge pile emissions

Equipment in the primary plant has been assigned emission point numbers in the 100s (EP-100, EP-101. etc.)

Secondary Crushing Plant Emission Points
The 1750 tons per hour secondary crushing plant will consist of point and fugitive emission sources to include:

- Seven (7) screens
- Five (5) secondary crushers
- Three (3) surge bins
- Three (3) feeders
- Thirty-eight (38) conveyors
- Washed ballast stockpiles, vehicular activity and wind emissions only
- Screenings pile, screenings long term (LT) storage
- Aggregate plant feed pile, load in and wind emissions only

Equipment in the secondary plant has been assigned emission point numbers in the 200s (EP-200, EP-201, etc.) Additionally, the secondary plant has two wash plant screens, six wet discharge conveyors, and a water-saturated train loading system that have negligible emissions due to very high moisture content (i.e. product is saturated).

Aggregate Plant Emission Points
The aggregate/wash plant (referred to as the agg plant) with MHDR of 500 ton per hour includes:

- Sixteen (16) conveyors
- One (1)surge bin
- One (1) feeder
- One (1) tertiary crusher
- Two (2) screens (dry with wet spray bars for dust control).

All rock in the agg plant goes through one of two wash screens before being deposited in stockpiles. Wash plant equipment and transfer points are not emission sources due to the saturation of the washed product. The wash plant consists of fourteen (14) wet discharge conveyors associated with the wash screens and do not have emission point numbers. Equipment in the agg plant has been assigned emission point numbers in the 300s (EP-300, EP-301, etc.).

Emergency Generator
A 75 kW emergency generator (EG-01) emissions are part of this project. The diesel-powered unit is used to run the office systems when line power is unavailable. The unit is not designed or wired to run any part of the plant equipment during a power outage.

Electricity for the plant operations is obtained from the local utility. No stationary internal combustion engines will be utilized.

The existing material stock and surge piles are designated as follows:

- SP-01 Primary Surge Pile
- SP-02 Ballast Stockpiles
- SP-03 Screenings Pile
- SP-04 Aggregate Plant Feed Pile
- SP-05 Aggregate Plant Stockpiles
- SP-06 Screenings LT Storage

The surge/feed piles, SP-01 and SP-04, are loaded by conveyor and unloaded via an underground feeder to a tunnel reclaim conveyor system. The project emissions for these material piles consists of a load in component and a wind erosion component only. The maximum rates for SP-01 and SP-04 are 1,750 and 465 tons per hour respectively.

The ballast stockpiles, SP-02, consist of washed ballast rock. The project emissions from these material piles consist of a wind erosion and a vehicular activity component only. Load in emissions are insignificant due to the wet, washed material. The ballast stockpiles sit atop a tunnel conveying system that is part of the water saturated train loading system. No emissions are expected from the train loading system. In addition to train shipments, front end loaders are used to load haul trucks at an estimated maximum rate of 80 tons per hour from the ballast piles.

The screenings pile, SP-03, has all four components of storage pile emissions, calculated at 301 tons per hour of material throughput. The LT storage of screenings, SP-06 has all four components of storage pile emissions, calculated at 100 tons per hour.

The aggregate plant stockpiles, SP-05, consist of various sizes of sized washed aggregate. Load in emissions are insignificant due to the wet, washed material. All material is removed by front end loader, with emissions calculated for 500 tons per hour of material throughput.

Haul Roads
The haul roads are designated as follows:

- HR-01 Pit Haul Road
- HR-02 Agg Plant Haul Road
- HR-03 Ballast Haul Road

- HR-04 Train Loading Haul Road
- HR-05 Paved Plant Haul Road
- HR-06 Screenings Storage Haul Road
- HR-07 Screenings Train Loading Haul Road

The pit haul road, HR-01, will be less than or equal to 1,200 feet. Material throughout matches the plant maximum of 1,750 tons per hour.

The agg plant haul road, HR-02, is used for material hauling from the aggregate plant stockpiles. One half of the material produced by the agg plant is shipped from the site by truck on HR-02. The remaining material is shipped by train. This haul road is 1,000 feet one-way between the agg plant to the truck scales.

The ballast haul road, HR-03, is used for truck shipments of ballast material at 80 tons per hour, plus 61 tons per hour (worst case estimate by TR&GQ in application of the project) of material stored in the screenings pile. The remaining material is shipped by train. This haul road is 910 feet one-way between the ballast piles and the truck scales.

The train loading haul road, HR-04, is used by loaders at the agg plant stockpiles (SP-05) and the screenings pile (SP-03) to feed the train loading system because these stockpiles do not have conveyance systems to feed the train loading system. Throughput for this activity is a maximum of 390 tons per hour. This haul road is 675 feet one-way between the agg plant and the train loading system.

The paved plant haul road, HR-05, is 1,300 feet between the truck scales and the public highway. This road receives the rock from HR-02 and HR-03 for a total of 391 tons per hour.

The screenings storage haul road, HR-06 is used to truck screenings between the screenings pile (SP-03) at the end of the stacking conveyor to a long term storage pile (SP-06). The haul distance is 600 feet at an estimated maximum of 100 tons per hour.

The market for the screenings is inconsistent which necessitates a haul road to long term storage piles. Therefore 100 tons per hour is TR&GQ's worst case scenario estimate.

The screenings train loading haul road, HR-07 is used to truck screenings between the LT screenings storage (SP-06) to the train loading system. The haul distance is 500 feet for 100 tons per hour of material hauled. The 100 tons per hour is equivalent to the MHDR of HR-06.

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.

TR&GQ is not requesting any concurrent operations with other plants at this site. Any portable plants or additional equipment located at this site would result in the need to re-evaluate the AAQIA analysis. Concurrent operations are prohibited by Special Condition 6.

An operating permit is not required for this installation even though New Source Performance Standard (NSPS) regulation 40 CFR Part 60, Subpart OOO – *Standards of Performance for Nonmetallic Mineral Processing Plants* applies. Non-fugitive emissions are less than 100 tons per year.

This installation is located in Iron County, an attainment/unclassifiable area for all criteria pollutants. TR&GQ is located outside the portion of Iron County that is nonattainment for the 2008 Lead NAAQS.

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.

TABLES

Table 1 Equipment List

Emission Unit	Equipment Description	Design MHDR	Control	Daily Hours of Operation
100	Truck Unloading	1750	Wet spray device	15
101	Primary Crusher CR-1 Metso 4265	1750	Wet Spray Device	15
102	250 Ton Bin	1750	Wet Carryover	15
103	Bin Feeder F-1	1750	Wet Carryover	15
104	Conveyor C-1	1750	Wet Spray Device	15
105	Conveyor C-2	1750	Wet Spray Device	15
200	Conveyor C-3	1750	Wet Spray Device	15
201	Conveyor C-4	1750	Wet Spray Device	15
202	Screen SCR1 Deister BXXHM-2824-0T	1750	Wet Carryover	15
203	Conveyor B-1	550	Wet Carryover	15
204	Conveyor C-5	1200	Wet Spray Device	15
205	Surge Bin SB-1	1200	Wet Carryover	15
206	Bin Feeder F-8	1200	Wet Carryover	15
207	Secondary Crusher CR-2 Metso Nordberg GP7	1200	Wet Spray Device	15
208	Conveyor C-6	550	Wet Spray Device	15
209	Conveyor C-7	550	Wet Spray Device	15
210	Conveyor C-8	1200	Wet Spray Device	15
211	Conveyor C-9	875	Wet Spray Device	15
212	Conveyor C-10	875	Wet Spray Device	15
213	Screen SCR2 Deister BHM-3824-03T	875	Wet Carryover	15
214	Screen SCR3 Deister BHM-3824-03T	875	Wet Carryover	15
215	Screen SCR4 Deister BHM-3824-03T	353	Wet Carryover	15
216	Screen SCR5 Deister BHM-3824-03T	353	Wet Carryover	15
217	Conveyor B-2	220	Wet Carryover	15

Emission Unit	Equipment Description	Design MHDR	Control	Daily Hours of Operation
218	Conveyor B-3	220	Wet Carryover	15
219	Conveyor B-4	140	Wet Carryover	15
220	Conveyor B-5	140	Wet Carryover	15
221	Conveyor C-11	59	Wet Carryover	15
222	Conveyor C-12	648	Wet Carryover	15
223	Conveyor C-13	707	Wet Spray Device	15
224A	Surge Bin SB-2A	353	Wet Carryover	15
224B	Surge Bin SB-2B	353	Wet Carryover	15
225	Bin Feeder F-9	353	Wet Carryover	15
226	Bin Feeder F-10	353	Wet Carryover	15
227	Sandvik CH660 Crusher CR-3	353	Wet Spray Device	15
228	Sandvik CH660 Crusher CR-4	353	Wet Spray Device	15
229	Conveyor C-14	707	Wet Spray Device	15
230	Conveyor C-15	353	Wet Spray Device	15
231	Conveyor C-16	353	Wet Spray Device	15
232	Conveyor C-17	512	Wet Spray Device	15
233	Conveyor C-18	512	Wet Spray Device	15
234	Conveyor C-19	512	Wet Spray Device	15
235	Conveyor C-22	456	Wet Spray Device	15
236	Conveyor C-23	456	Wet Spray Device	15
237	Conveyor C-24	456	Wet Spray Device	15
238	Conveyor C-27	780	Wet Spray Device	15
239	Conveyor C-30	800	Wet Spray Device	15
240	REMCO Crusher DD-ROCK5080-374-14 CR-5	400	Wet Spray Device	15
241	REMCO Crusher DD-ROCK5080-3714-14 CR-6	400	Wet Spray Device	15
242	Conveyor C-31	400	Wet Spray Device	15
243	Conveyor C-32	400	Wet Spray Device	15
244	Screen SCR6 Deister BHM-3824-03T	400	Wet Spray Device	15
245	Screen SCR7 Deister BHM-3824-03T	400	Wet Carryover	15
246	Conveyor B-6	168	Wet Carryover	15
247	Conveyor B-7	168	Wet Carryover	15
248	Conveyor C-33	465	Wet Carryover	15
249	Conveyor C-34	465	Wet Spray Device	15
250	Conveyor C-35	335	Wet Spray Device	15
251	Conveyor C-36	335	Wet Spray Device	15
252	Conveyor C-37	34	Wet Spray Device	15
253	Conveyor C-38	301	Wet Spray Device	15
254	Conveyor C-39 (RS-13)	301	Wet Spray Device	15
300	Tunnel Reclaim Conveyor C-40	465	Wet Spray Device	15
301	Conveyor C-1A (C-7)	13	Wet Spray Device	15
302	Conveyor C-1B	500	Wet Spray Device	15
303	Screen #1 SCR1 AG Deister HM-3820-OT	500	Wet Carryover	15
304	Conveyor SC-1	292	Wet Carryover	15
305	Conveyor SC-3	1	Wet Carryover	15
306	Conveyor SC-4	208	Wet Carryover	15
307	Conveyor C-2	13	Wet Spray Device	15
308	Conveyor C-3	13	Wet Spray Device	15
309	Conveyor C-4	208	Wet Spray Device	15
310	Screen #3 Deister HM-3820-OT	13	Wet Carryover	15

Emission Unit	Equipment Description	Design MHDR	Control	Daily Hours of Operation
311	Conveyor RS-1	292	Wet Spray Device	15
312	Conveyor SC-8 (SC-11)	13	Wet Carryover	15
313	Conveyor SC-10	13	Wet Carryover	15
314	Surge Bin	13	Wet Carryover	15
315	Bin Feeder	13	Wet Carryover	15
316	Sandvik CH550 Crusher	13	Wet Spray Device	15
317	Crusher Underconveyor	13	Wet Carryover	15
318	Conveyor C-6	13	Wet Spray Device	15
319	Conveyor TC-2	0	Not worse case	15
320	Conveyor TC-3	13	Wet Spray Device	15
EG-1	Emergency Generator 75 kW	0.9 MMBTU/hr	500 hours/year	N/A
HR-01	Pit Haul Road	1,200 ft/1,750 tph	BMPs	15
HR-02	Agg Plant Haul Road	1,000 ft/250 tph	BMPs	15
HR-03	Ballast Haul Road	910 ft/80 tph + 61 tph	BMPs	15
HR-04	Train Loading Haul Road	675 ft/390 tph	BMPs	24
HR-05	Plant Haul Road	1,300 ft/391 tph	Paved (BMPs)	15
HR-06	Screenings Storage Haul Road	600 ft/100 tph	BMPs	15
HR-07	Screenings Train Loading Haul Road	500 ft/100 tph	BMPs	24
SP-01a	Primary Surge Pile-Load in	1750	Conveyor Load in-water spray at drop point	15
SP-01b	Primary Surge Pile-Load out	Tunnel Conveyor	Load out by tunnel conveyor	15
SP-01c	Primary Surge Pile-vehicular activity	Tunnel Conveyor	None	15
SP-01d	Primary Surge Pile-wind erosion	0.69 acres		24
SP-02a	Ballast Stockpile-Load in		Washed/wet rock	15
SP-02b	Ballast Stockpile-Load out (truck only)	80	Remainder conveyed to railroad	15
SP-02c	Ballast Stockpile-Vehicular Activity	0.19 VMT/hr	BMPs/ Remainder conveyed to railroad	15
SP-02d	Ballast Stockpile-Wind Erosion	1.38 acres		24
SP-03a	Screenings Pile-Load in	301	Conveyor Load in-water spray at drop point	15
SP-03b	Screenings Pile-Load out	301	Load out by loader	24
SP-03c	Screenings Pile-Vehicular Activity	0.3 VMT/hr	BMPs	24
SP-03d	Screenings Pile-wind erosion	0.37 acres		24

Emission Unit	Equipment Description	Design MHDR	Control	Daily Hours of Operation
SP-04a	Aggregate Plant Feed Pile-Load in	465	Conveyor Load in-water spray at drop point	15
SP-04b	Aggregate Plant Feed Pile-Load out	tunnel	Load out by tunnel conveyor	15
SP-04c	Aggregate Plant Feed Pile-Vehicular Activity	none	Load out by tunnel conveyor	15
SP-04d	Aggregate Plant Feed Pile-wind erosion	0.41 acres		24
SP-05a	Aggregate Plant Stockpiles-Load in		Washed rock no emissions	15
SP-05b	Aggregate Plant Stockpiles-Load out	500	Load out by loader	24
SP-05c	Aggregate Plant Stockpiles-Vehicular Activity	1.18 VMT/hr	BMPs	24
SP-05d	Aggregate Plant Stockpiles-wind erosion	1.78 acres		24
SP-06a	Screening LT Storage-Load in	100	Load in by loader	15
SP-06b	Screening LT Storage-Load out	100	Load out by loader	24
SP-06c	Screening LT Storage-Vehicular Activity	0.1 VMT/hr	BMPs	24
SP-06d	Screening LT Storage-wind erosion	2.19 acres		24

The installation will operate with the equipment listed in Table 1 in accordance to the attached Process Flow diagrams (Figure 2-6) at the end of this permit.

The following permits have been issued to Trap Rock and Granite Quarries, LLC from the Air Pollution Control Program.

Table 2: Permit History

Permit Number	Description
102014-015	Rock Quarry
012016-007	Two wash screens and associated conveyors
122019-003	Quarry expansion/add equipment

The table below summarizes the emissions of this project. The potential emissions of the process equipment exclude emissions from haul roads and storage. The existing actual emissions were taken from the previous year's EIQ. 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 account for a limit on hours of operation from 5 a.m. to 8 pm in order to meet modeling standards/requirements for PM_{10} and $PM_{2.5}$.

Table 3: Emissions Summary (tons per year)

Air Pollutant	De Minimis Level/SMAL	Existing Actual Emissions (2019 EIQ)	[a]Potential Emissions of Process Equipment	[b]Potential Emissions of the Application	[c]Allowable Emissions for 5475 hours per year	[d]Allowable Emissions with haul roads (5475 hours per year)
PM	25.0	N/D	91.70	251.00	156.87	241.26
PM_{10}	15.0	10.67	32.68	107.95	67.47	91.00
$PM_{2.5}$	10.0	1.46	4.63	15.97	9.98	16.07
SO_X	40.0	N/A	0.00	0.00	0.0	0.00
NO_X	40.0	N/A	0.02	0.02	0.02	0.18
VOC	40.0	N/A	0.01	0.01	0.01	0.09
CO	100.0	N/A	0.21	0.21	0.21	2.26
GHG (CO_2e)	N/A	N/A	27.97	27.97	29.97	27.97
GHG (mass)	N/A	N/A	28.07	28.07	28.07	28.07
Total HAPs	25.0	N/A	6.61E-04	6.61E-04	6.061E-04	6.61E-04

N/A = Not Applicable; N/D = Not Determined
[a]Excludes haul road and storage pile emissions
[b]Includes storage pile emissions but not haul roads
[c]Allowable emissions from process equipment and storage piles but without haul roads
[d]Total emissions based on 5475 hours of operation with haul road emissions

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 equipment is control by water spray devices.

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 equipment is control by water spray devices/wet carryover.

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_{10} and a 74% control efficiency for $PM_{2.5}$

were applied to the emission calculations for the use of BMPs.
- Calculated using the predictive equation from AP-42 Section 13.2.1 “Paved Roads,” January 2011.

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.
- The moisture content of the aggregate is 1.5% by weight due to the use of wet spray devices located at the drop point into the storage pile.
- 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.”

Emissions from Emergency Generator
- Potential emissions from the emergency generator were calculated using emission factors obtained from *AP-42* Section 3.3 *Gasoline and Diesel Industrial Engines*, October 1996. Annual potential emissions were calculated based on 500 hours per year of operation. The 500 hours per year operation was obtained from the EPA document, *Calculating Potential to Emit (PTE) for Emergency Generators*, September 1995.

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_{10} and $PM_{2.5}$ are above de minimis levels, therefore, modeling is triggered. All non-fugitive potential emissions are below major sources levels, therefore, a Section 8 permit is not required.

APPLICABLE REQUIREMENTS

Trap Rock and Granite Quarries, LLC 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.

- *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 May 21, 2020, received May 22, 2020, designating Aggregate Holding, LLC 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.

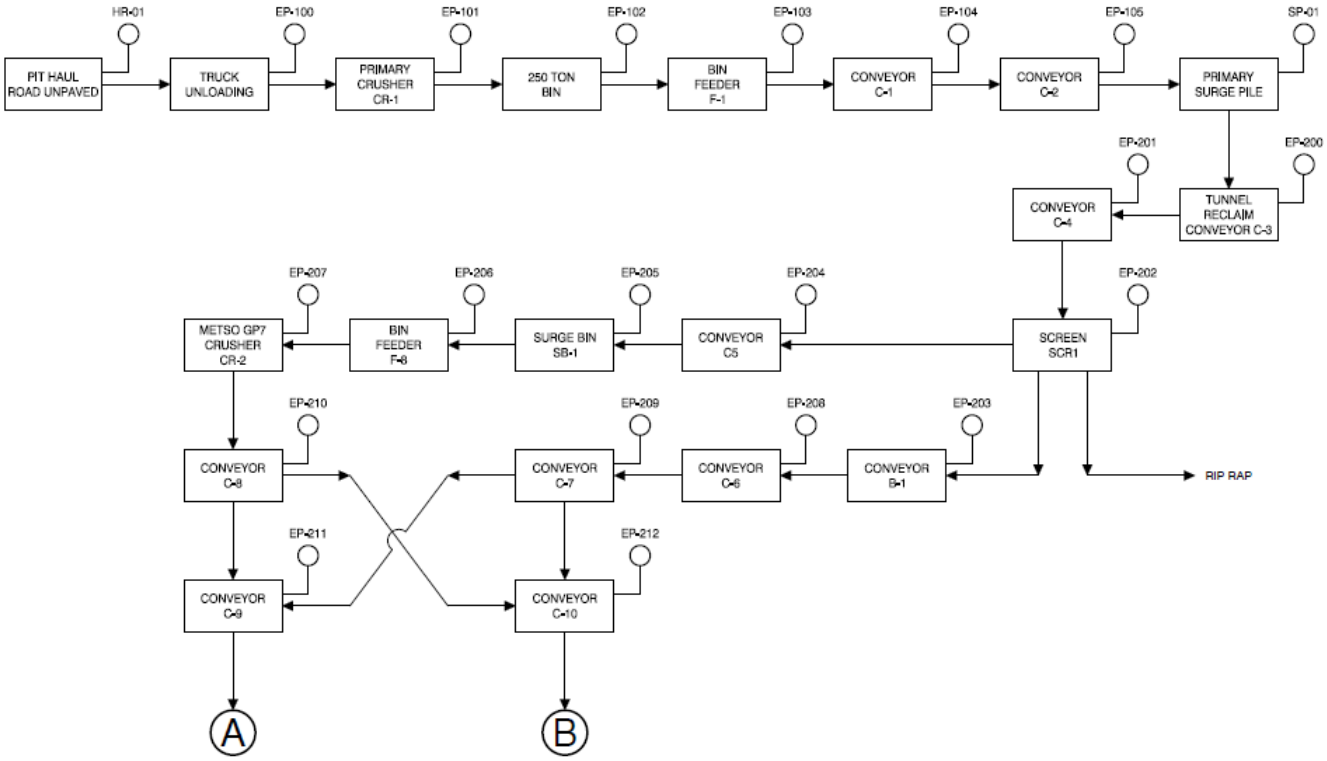
2. Application of Chemical Dust Suppressants
   - A. The operator shall apply a chemical dust suppressant (such as magnesium chloride, calcium chloride, lignosulfonates, etc.) to unpaved areas.
   - B. The quantities of the chemical dust suppressant shall be applied and maintained in accordance with 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 rational for not watering (e.g. freezing conditions or not operating).
   - E. The operator shall keep these records with the plant for not less than five (5) years, and the operator shall make these records available to Department of Natural Resources' personnel upon request.

APPENDIX A

Abbreviations and Acronyms

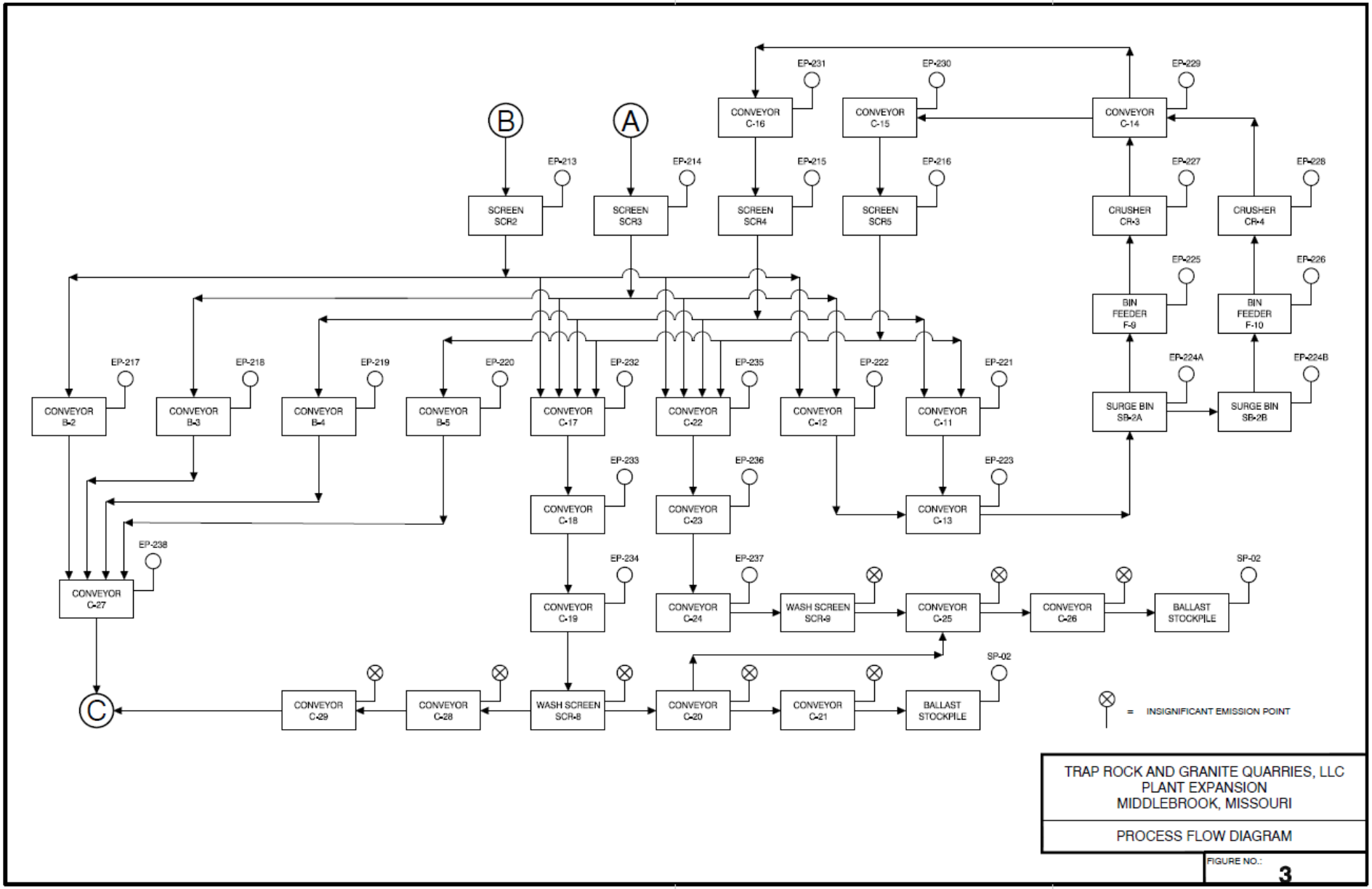
% ..... percent
ºF ..... degrees Fahrenheit
acfm ..... actual cubic feet per minute
BACT ..... Best Available Control Technology
BMPs ..... Best Management Practices
Btu ..... British thermal unit
CAM ..... Compliance Assurance Monitoring
CAS ..... Chemical Abstracts Service
CEMS ..... Continuous Emission Monitor System
CFR ..... Code of Federal Regulations
CO ..... carbon monoxide
CO_2 ..... carbon dioxide
CO_2e ..... carbon dioxide equivalent
COMS ..... Continuous Opacity Monitoring System
CSR ..... Code of State Regulations
dscf ..... dry standard cubic feet
EIQ ..... Emission Inventory Questionnaire
EP ..... Emission Point
EPA ..... Environmental Protection Agency
EU ..... Emission Unit
fps ..... feet per second
ft ..... feet
GACT ..... Generally Available Control Technology
GHG ..... Greenhouse Gas
gpm ..... gallons per minute
gr ..... grains
GWP ..... Global Warming Potential
HAP ..... Hazardous Air Pollutant
hr ..... hour
hp ..... horsepower
lb ..... pound
lbs/hr ..... pounds per hour
MACT ..... Maximum Achievable Control Technology
µg/m^3 ..... micrograms per cubic meter
m/s ..... meters per second
Mgal ..... 1,000 gallons
MW ..... megawatt
MHDR ..... maximum hourly design rate
MMBtu ..... Million British thermal units
MMCF ..... million cubic feet
MSDS ..... Material Safety Data Sheet
NAAQS ..... National Ambient Air Quality Standards
NESHAPs ..... National Emissions Standards for Hazardous Air Pollutants
NO_x ..... nitrogen oxides
NSPS ..... New Source Performance Standards
NSR ..... New Source Review
PM ..... particulate matter
$PM_{2.5}$ ..... particulate matter less than 2.5 microns in aerodynamic diameter
PM_{10} ..... particulate matter less than 10 microns in aerodynamic diameter
ppm ..... parts per million
PSD Prevention of Significant Deterioration
PTE ..... potential to emit
RACT ..... Reasonable Available Control Technology
RAL ..... Risk Assessment Level
SCC ..... Source Classification Code
scfm ..... standard cubic feet per minute
SDS ..... Safety Data Sheet
SIC ..... Standard Industrial Classification
SIP ..... State Implementation Plan
SMAL ..... Screening Model Action Levels
SO_x ..... sulfur oxides
SO_2 ..... sulfur dioxide
SSM ..... startup, shutdown, & malfunction
tph ..... tons per hour
tpy ..... tons per year
VMT ..... vehicle miles traveled
VOC ..... Volatile Organic Compound



TRAP ROCK AND GRANITE QUARRIES, LLC
PLANT EXPANSION
MIDDLEBROOK, MISSOURI

PROCESS FLOW DIAGRAM

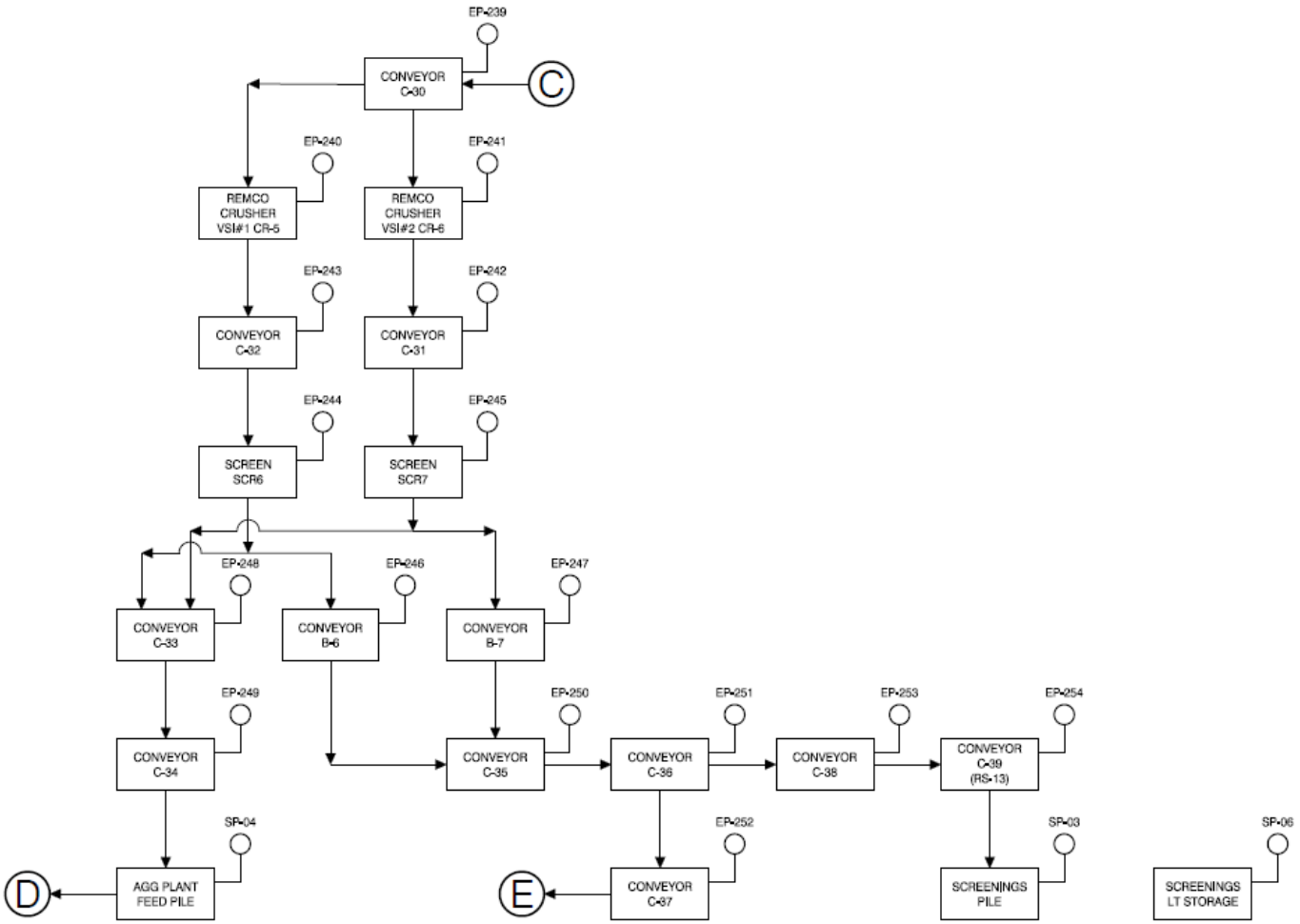
FIGURE NO.: 2



TRAP ROCK AND GRANITE QUARRIES, LLC
PLANT EXPANSION
MIDDLEBROOK, MISSOURI

PROCESS FLOW DIAGRAM

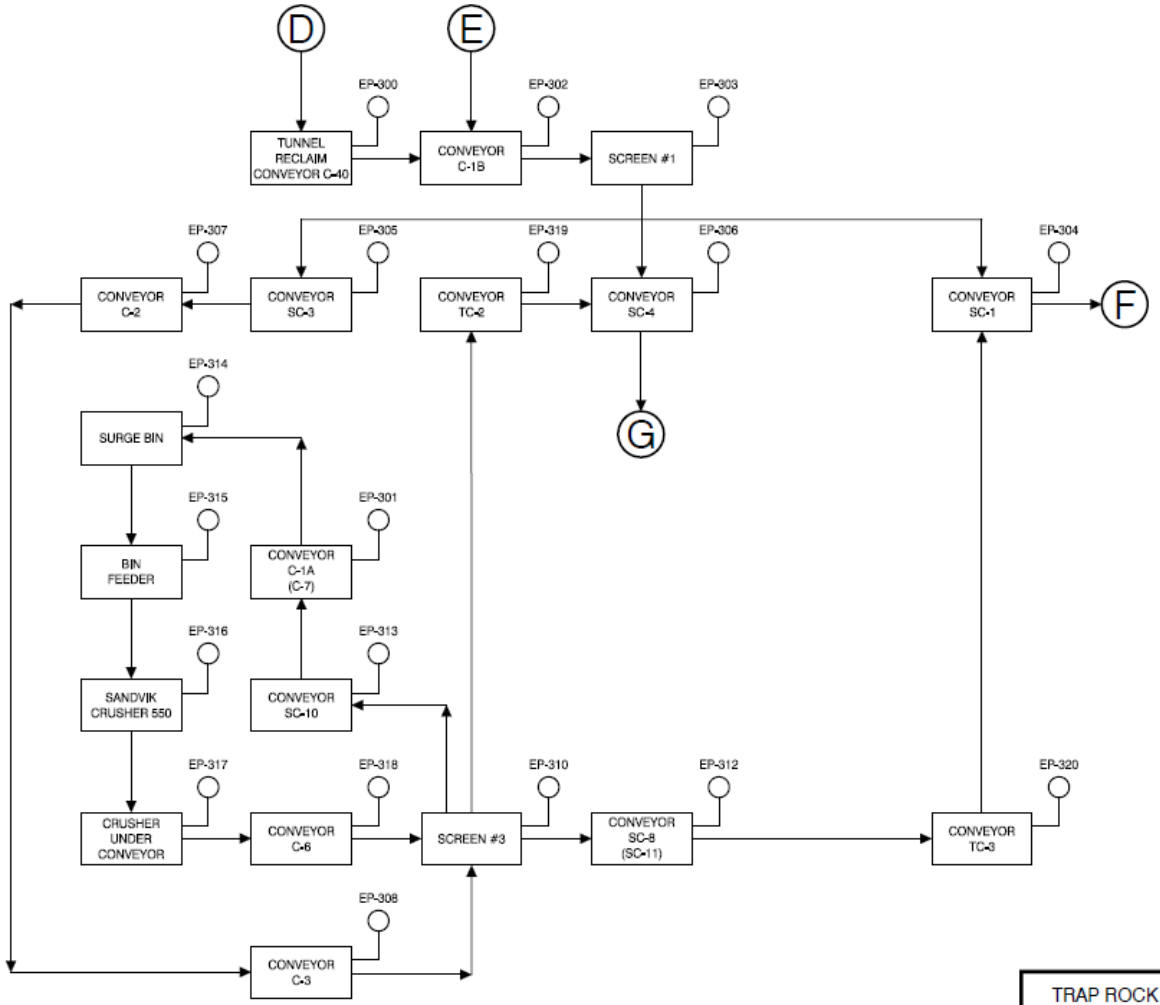
FIGURE NO.: 3



TRAP ROCK AND GRANITE QUARRIES, LLC
PLANT EXPANSION
MIDDLEBROOK, MISSOURI

PROCESS FLOW DIAGRAM

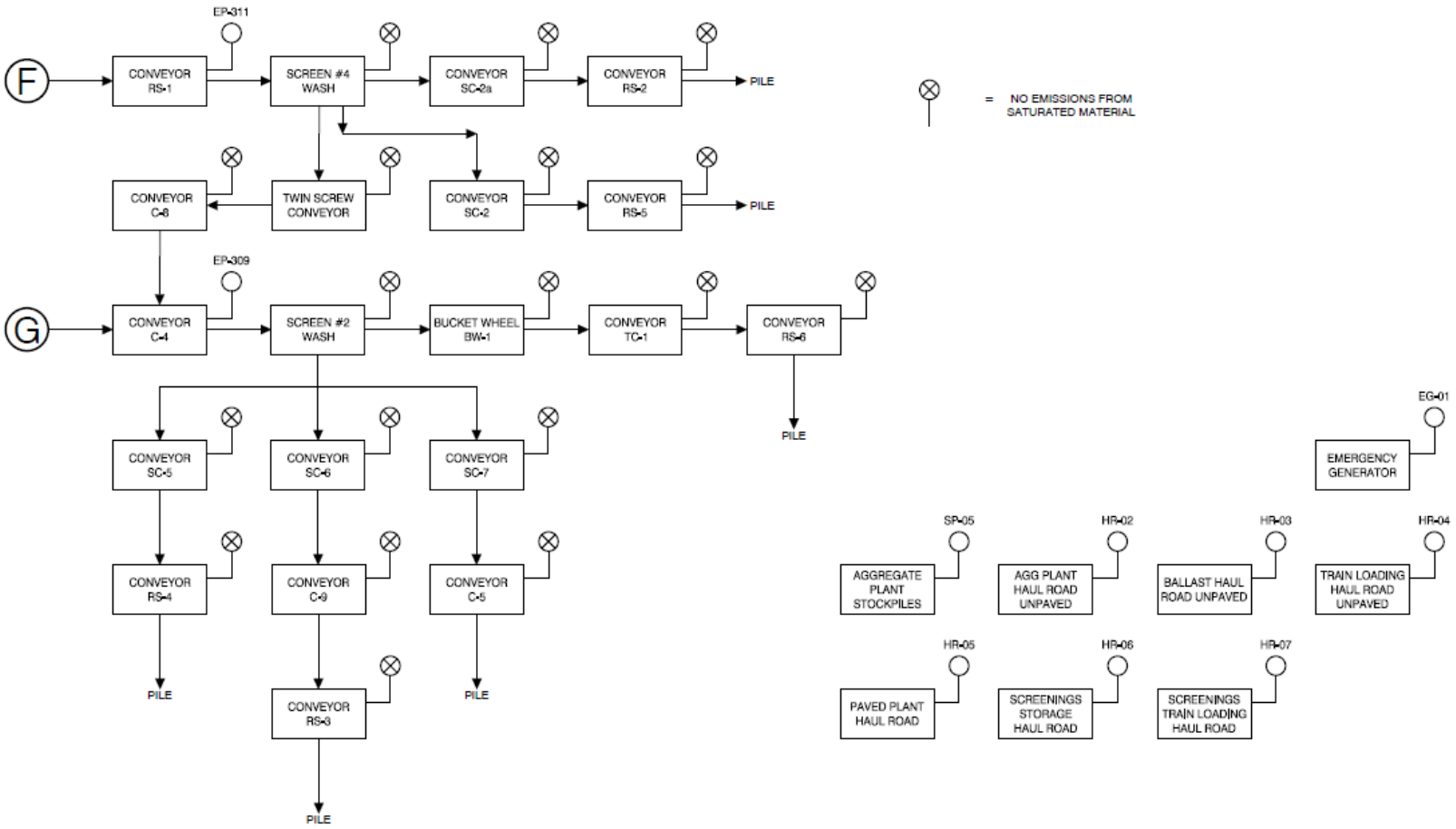
FIGURE NO.: 4



TRAP ROCK AND GRANITE QUARRIES, LLC
PLANT EXPANSION
MIDDLEBROOK, MISSOURI

PROCESS FLOW DIAGRAM

FIGURE NO.: 5



TRAP ROCK AND GRANITE QUARRIES, LLC
PLANT EXPANSION
MIDDLEBROOK, MISSOURI

PROCESS FLOW DIAGRAM

FIGURE NO.: 6