

Hayes, Alyson

From: Catherine Webb <cwebb@synterracorp.com>
Sent: Thursday, April 30, 2020 9:11 AM
To: AirPermitting
Cc: AULTMANJ@VMCMAIL.COM; akehn@synterracorp.com
Subject: Fairfield Quarry Air Permit Application
Attachments: Vulcan Fairfield - Construction Permit Application Letter.pdf

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Good morning,

Please find attached an air permit application for the Vulcan Fairfield Quarry.

Thank you,

Catherine (Giguere) Webb, P.E. (FL, NC)



148 River Street, Suite 220
Greenville, South Carolina 29601
Main: 864.421.9999
Direct: 864.527.4657
Mobile: 404.216.3356
Email: cwebb@synterracorp.com
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JUL 01 2020
BUREAU OF AIR QUALITY

April 24, 2020

Director, Engineering Services Division
Bureau of Air Quality
SC DHEC
2600 Bull Street
Columbia, South Carolina 29201

**SUBJECT: Vulcan Construction Materials, LLC - Fairfield Quarry
Synthetic Minor Construction Permit Application**

Dear Mr. McCaslin:

Vulcan Construction Materials, LLC (Vulcan) proposes to install equipment for a 550 ton per hour (tph) aggregate mining facility on approximately 924 acres of property located about 20 miles north of Columbia just south of State Road 41 between I-77 and U.S. Route 21 in Fairfield County, South Carolina.

Emissions calculations for the facility indicate that potential emissions of PM₁₀ are greater than 100 tpy. Vulcan requests a facility-wide federally enforceable emissions limitation of less than 100 tpy for PM₁₀ emissions to be classified as a Conditional Major facility.

Applicable construction permit application forms are provided in Appendix A. A site location map, equipment locations, and process flow diagram are presented in Appendix B, and emissions calculations are presented in Appendix C.

Proposed Equipment:

Vulcan plans to install the following equipment for an aggregate mining facility in Fairfield County, SC. Vulcan will purchase electricity from the local utility in order to power this equipment.

Equipment ID	Equipment Description	Capacity (tph)
FDR-001	Metso Grizzly Feeder 1	550
PRI-001	Metso C120 Jaw Crusher 1	400
CRS-002	Metso HP 300 Std Crusher 2	400
CRS-003	Metso HP 300 Tertiary Crusher 3	300
SCR-001	Metso 3D Horizontal Screen 1	950
SCR-002	Metso 3D Horizontal Screen 2	700
CNV-001	Metso Conveyor 1	550

Equipment ID	Equipment Description	Capacity (tph)
CNV-002	Mellott Conveyor 2	550
BIN-001	Mellott 25 ton capacity Storage Bin 1	550
CNV-003	Mellott Conveyor 3	550
CNV-004	Metso Conveyor 4	400
CNV-005	Metso Conveyor 5	400
CNV-006	Metso Conveyor 6	400
CNV-007	Metso Conveyor 7	400
CNV-008	Mellott Conveyor 8	400
CNV-009	Mellott Conveyor 9	400
CNV-010	Mellott Conveyor 10	150
CNV-011	Mellott Conveyor 11	400
BIN-002	Mellott 25 ton capacity Storage Bin 2	400
CNV-012	Mellott Conveyor 12	400
CNV-013	Metso Conveyor 13	700
CNV-014	Metso Conveyor 14	700
CNV-015	Metso Conveyor 15	200
CNV-016	Metso Conveyor 16	300
CNV-017	Metso Reversing Conveyor 17S (screenings)	200
CNV-018	Mellott Conveyor 18	200
CNV-019	Metso Conveyor 19	200
CNV-020	Mellott Conveyor 20	400
SCR-003	Metso 3D Horizontal Screen	400
CNV-021	Mellott Conveyor	200
CNV-022	Mellott Conveyor	200
CNV-023	Mellott Conveyor	200
CNV-024	Mellott Conveyor	200

The facility intends to utilize a dewatering pump of approximately 220 horsepower (hp) that will operate using ultra low sulfur diesel fuel. A typical pump for this application is a Godwin HL2000 Dri-Prime pump with a John Deere 6068HVC94 engine or an equivalent. This engine is designed to comply with non-road emissions regulations and is a Final Tier 4 engine.

Equipment ID	Equipment Description	Capacity
PUMP1	Dewatering pump #1	220 HP

Vulcan plans to use two additional diesel pumps. Vulcan intends to use one pump to withdraw water from the creek and use one pump to transfer water from process ponds. Each pump has a 30 hp engine. These pumps are exempt from construction permitting requirements per Section B.2.iv of the SC Bureau of Air Quality Permitting Exemption List dated May 24, 2019. Section B.2.iv states that the following activities/emission sources are exempt from construction permits:

“Internal Combustion engines used to drive compressors or pumps with a mechanical power output of less than 200 horsepower.”

SynTerra estimated emissions from the two 30 hp pumps and included the emissions in the facility-wide totals estimates.

Emissions Calculations:

Vulcan provided the operating rates (tons per hour), and SynTerra calculated emissions based on the potential to emit (8,760 hours per year) at those rates. SynTerra used emission factors from AP-42 Table 11.19.2-2 and multiplied the operating rate by the emission factor to estimate the hourly emission rate. Emissions calculations for quarry equipment and a copy of the AP-42 table are included in Appendix C. Wet suppression and carry over moisture is used as control for emission sources as the emissions estimates. Equipment that is part of the Wash Process has no uncontrolled or controlled emissions because soaking the material with water is an integral part of the process.

SynTerra calculated diesel pump emissions using manufacturer’s emission information for NOx and PM and AP-42 factors for Stationary Diesel Fuel Engines (Table 3.3-1) for other criteria pollutants. Emission rates for HAPs calculated using AP-42 factors from Table 3.3-2 were well below the daily de minimus levels for Air Toxics.

Total proposed emissions for the facility after construction are as follows:

FACILITY-WIDE CRITERIA POLLUTANT EMISSIONS				
Pollutant	Potential Uncontrolled (tpy)	Potential Controlled (tpy)	Potential Uncontrolled (lb/hr)	Potential Controlled (lb/hr)
PM	323	27	74	6.2
PM ₁₀	117	10	27	2.2
PM _{2.5}	18.5	1.4	4.2	0.3
SO ₂	2.5	2.5	0.6	0.6

FACILITY-WIDE CRITERIA POLLUTANT EMISSIONS				
Pollutant	Potential Uncontrolled (tpy)	Potential Controlled (tpy)	Potential Uncontrolled (lb/hr)	Potential Controlled (lb/hr)
NO _x	2.7	2.7	0.6	0.6
CO	8.2	8.2	1.9	1.9
VOC	3.0	3.0	0.7	0.7
Lead (Pb)	0	0	0	0

Modeling:

The controlled emissions estimates for the proposed equipment do not exceed the thresholds for NO_x, PM₁₀, PM_{2.5}, SO₂, and CO as listed in Table 2.1 of the Modeling Guidelines for Air Quality Permits dated October 2018. Controlled emission rates and thresholds for PM₁₀ and PM_{2.5} are shown in Appendix C.

Regulatory Discussion:

- *Regulations 61-62.5, Standard No. 1 - Emissions from Fuel Burning Operations*

The facility is subject to this regulation as the dewatering pump engine will use diesel fuel.

- *Regulation 61-62.5 Standard No. 2 Ambient Air Quality Standards*

Controlled emissions from each piece of equipment are less than the thresholds identified in Table 2.1 of the Modeling Guidelines for Air Quality Permits dated October 2018. Modeling is not required.

- *Regulation 61-62.5, Standard No. 3 - Waste Combustion and Reduction (State Only)*

This regulation applies to sources that burn anything other than virgin fuels for any purpose. The facility plans to use only diesel fuel in the dewatering pump.

- *Regulation 61-62.5, Standard 3.1 - Medical Waste Incineration (State Only)*

This facility will not incinerate medical waste.

- ***Regulation 61-62.5 Standard No. 4 Emissions from Process Industries***

This facility will be subject to specific sections of this regulation. The quarry will have non-enclosed operations and crushing operations.

As presented in the emissions calculations in Appendix C, the facility will be in compliance with the particulate matter limits set forth by this standard.

- ***Regulation 61-62.5, Standard No. 5 – Volatile Organic Compounds***

This facility will not have any sources of volatile organic compound emissions.

- ***Regulation 61-62.5, Standard No. 5.2 - Control Of Oxides Of Nitrogen (NO_x)***

The facility plans to use a 220 horsepower dewatering pump that will operate using ultra low sulfur diesel fuel. This engine is designed to comply with non-road emissions regulations and is a Final Tier 4 engine.

- ***Regulation 61-62.5 Standard No. 7 Prevention of Significant Deterioration***

This regulation defines two (2) categories of major stationary sources for PSD applicability. These categories are potential emissions of 100 tpy of PSD pollutants for 28 specific industry types and potential emissions of 250 tpy of PSD pollutants for all other industry types. This facility is not specified as one of the 28 specific industry types and is in the other industry type category. PSD applicability is pollutant specific and is based on the potential to emit considering federally enforceable air pollution controls and/or federally enforceable operating conditions (i.e. emission limits, production limits etc.) This facility will emit PM₁₀ which is a PSD pollutant. This facility's uncontrolled PM₁₀ emissions will be greater than 250 tpy. This facility will use wet suppression to control PM₁₀ emissions to less than 250 tpy. The facility requests that the control devices be federally enforceable with issuance of this permit.

The Facility will be located in Fairfield County, which does not have a Minor Source Baseline Date for PM₁₀, PM_{2.5}, NO₂, or SO₂. The facility is planning to request coverage under the General Conditional Major Operating Permit for Nonmetallic Mineral Operations and will not be major source; therefore this application will not trigger setting a baseline date for PM₁₀, PM_{2.5}, NO₂, or SO₂.

- ***Regulation 61-62.5 Standard No. 7.1 Nonattainment New Source Review***

The facility is not located in a non-attainment area, so this standard does not apply.

- ***Regulation 61-62.5, Standard 8 - Toxic Air Pollutants (TAPs) (State Only)***

Fuel burning sources that burn only virgin fuel are not subject to Standard No. 8. The proposed dewatering pump will use only virgin fuel.

- ***Regulations 61-62.6 - Control of Fugitive Particulate Matter***

The facility will not be located in a non-attainment area. This facility will be subject to specific sections of this regulation.

- ***Regulation 61-62.63 - National Emission Standards for Hazardous Air Pollutants: 112(g) (June 28, 1998)***

This regulation is an interim standard that applies to any owner or operator who constructs or reconstructs a major source of hazardous air pollutants (HAP) where the EPA has not promulgated a MACT standard. The proposed dewatering pump is subject to the MACT Standard for RICE (Subpart IIII), therefore this regulation does not apply.

- ***Regulation 61-62.68 (40CFR68) - Chemical Accident Prevention Provisions: 112(r)***

This facility does not store or use chemicals subject to this regulation above the threshold quantities required to trigger applicability.

- ***Regulation 61-62.70 - Title V Operating Permit Program***

Any source that has the potential to emit greater than 100 tpy of criteria pollutants, single HAP emissions greater than 10 tpy or total HAP emissions greater than 25 tpy is required to have a Title V permit. This facility has the potential to emit more than 100 tpy of PM₁₀, a criteria pollutant. Vulcan requests a facility-wide federally enforceable emissions limitation of less than 100 tpy for PM₁₀ emissions to be classified as a Conditional Major facility and remove itself from applicability to this regulation. Emissions of HAPs from burning diesel fuel in the dewatering pump will be less than 10 tpy each and less than 25 tpy total.

- ***40CFR60 - Standards of Performance for New Stationary Sources (NSPS)***

New Source Performance Standards (NSPS) require new, modified, or reconstructed sources to control emissions to the level achievable by the best-demonstrated technology

as specified in the applicable provisions. Moreover, any source subject to a NSPS is also subject to the general provisions of Subpart A, except as otherwise specified.

NSPS Subpart A provides general provisions referenced by other NSPS Subparts. The proposed equipment at Vulcan is subject to NSPS Subpart IIII and OOO which reference Subpart A. Subpart A provides requirements for notifications, performance testing, recordkeeping, monitoring, and control requirements for referencing subparts as applicable.

40 CFR Part 60 Subpart OOO- Standards of Performance for Non-Metallic Mineral Processing Plants

Sources which commenced construction, reconstruction, or modification after August 31, 1983 are subject to all applicable requirements of Federal New Source Performance Standards (NSPS) 40 CFR 60, Subpart OOO. As all equipment in the production lines is being installed new, equipment at the site will be subject to NSPS Subpart OOO with the exception of the wash process equipment; wash equipment is not an affected facility under NSPS.

40 CFR Part 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

NSPS Subpart IIII- Stationary Compression Ignition Internal Combustion Engines applies to stationary compression ignition (CI) internal combustion engines (ICE) that commence construction after July 11, 2005 or are modified or reconstructed after July 11, 2005. Vulcan proposes to use a 220 horsepower dewatering pump that will operate using ultra low sulfur diesel fuel. This engine is designed to comply with non-road emissions regulations and is a Final Tier 4 engine. Therefore, Vulcan will comply with the applicable requirements of this subpart based on the model year and specifications of the engine.

- ***40CFR61 - National Emission Standards for Hazardous Air Pollutants (NESHAP)***

The facility does not have any processes or chemicals subject to this part.

- **40CFR63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (MACT)**

40 CFR Part 63 Subpart ZZZZ – Reciprocating Internal Combustion Engines

Subpart ZZZZ regulates HAP emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. Vulcan plans to operate the compression ignition dewatering pump located at an area source of HAP. The proposed compression ignition (CI) ICE will be a new source with respect to this subpart and will comply with 40 CFR 63 Subpart ZZZZ by complying with 40 CFR 60 Subpart IIII.

- **40CFR64 - Compliance Assurance Monitoring (CAM): (April 20, 1998)**

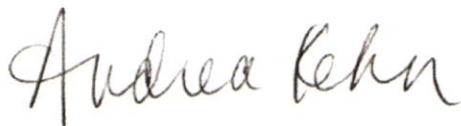
CAM applies to facilities required to obtain a Title V permit and this facility is not required to obtain a Title V operating permit. This facility requests a facility-wide federally enforceable emissions limitation of less than 100 tpy for PM₁₀ emissions to be classified as a Conditional Major facility and remove itself from Title V applicability.

Summary:

Vulcan Materials intends to be in compliance with applicable State and Federal air pollution control regulations and requests a Construction Permit for installation of the quarry equipment as documented. The Fairfield Quarry wishes to accept federally enforceable administrative limits to operate as a Conditional Major Source.

Please contact John Aultman at (864) 299-4785 if you have any further questions or concerns with regards to this matter.

Sincerely,
SYNTERRA



Andrea Kehn, PE
Principal



Catherine Webb
Project Engineer

Vulcan Construction Materials, LLC - Fairfield Quarry
Construction Permit Application
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Cc: John Aultman, Vulcan Construction Materials
File

Attachments: Appendix A: Application Forms
Appendix B: Figures
Appendix C: Emissions Calculations

Vulcan Construction Materials, LLC - Fairfield Quarry
Construction Permit Application
April 24, 2020

APPENDIX A

Forms



**Bureau of Air Quality
Construction Permit Application
Facility Information
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JUL 01 2020

BUREAU OF AIR QUALITY

FACILITY IDENTIFICATION	
SC Air Permit Number (8-digits only) <i>(Leave blank if one has never been assigned)</i> -	Application Date April 23, 2020
Facility Name <i>(This should be the name used to identify the facility at the physical address listed below)</i> Vulcan Construction Materials, LLC (Fairfield Quarry)	Facility Federal Tax Identification Number <i>(Established by the U.S. Internal Revenue Service to identify a business entity)</i>

FACILITY PHYSICAL ADDRESS		
Physical Address: SC Highway 77/State Road SC S-20-41	County: Fairfield	
City: Winnsboro	State: SC	Zip Code: 29180
Facility Coordinates <i>(Facility coordinates should be based at the front door or main entrance of the facility.)</i>		
Latitude: 34.4025	Longitude: -80.9734	<input type="checkbox"/> NAD27 <i>(North American Datum of 1927)</i> Or <input checked="" type="checkbox"/> NAD83 <i>(North American Datum of 1983)</i>

CO-LOCATION DETERMINATION
Are there other facilities in close proximity that could be considered co-located? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes*
List potential co-located facilities, including air permit numbers if applicable:
<i>*If yes, please submit co-location applicability determination details in an attachment to this application.</i>

COMMUNITY OUTREACH
What are the potential air issues and community concerns? Please provide a brief description of potential air issues and community concerns about the entire facility and/or specific project. Include how these issues and concerns are being addressed, if the community has been informed of the proposed construction project, and if so, how they have been informed.
Vulcan has held a preliminary public meeting and continues to provide opportunities for public participation.

FACILITY'S PRODUCTS / SERVICES	
Primary Products / Services <i>(List the primary product and/or service)</i> Crushed & Broken Granite Mining and Quarrying	
Primary SIC Code <i>(Standard Industrial Classification Codes)</i> 1423	Primary NAICS Code <i>(North American Industry Classification System)</i> 212313
Other Products / Services <i>(List any other products and/or services)</i>	
Other SIC Code(s):	Other NAICS Code(s):

AIR PERMIT FACILITY CONTACT			
<i>(Person at the facility who can answer technical questions about the facility and permit application.)</i>			
Title/Position: Manager of Environmental Services- SC	Salutation: Mr.	First Name: John	Last Name: Aultman
Mailing Address: 201 Brown Road			
City: Piedmont	State: SC	Zip Code: 29673	
E-mail Address: aultmanj@vmcmail.com	Phone No.: 864-299-4785	Cell No.: 678-614-0247	

The signed permit will be e-mailed to the designated Air Permit Contact.



**Bureau of Air Quality
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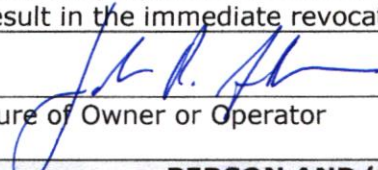
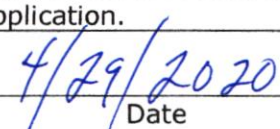
If additional individuals need copies of the permit, please provide their names and e-mail addresses.	
Name	E-mail Address
Andrea Kehn	akehn@synterracorp.com
Catherine Webb	cwebb@synterracorp.com

CONFIDENTIAL INFORMATION / DATA
Does this application contain confidential information or data? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes*
<i>*If yes, include a sanitized version of the application for public review and ONLY ONE COPY OF CONFIDENTIAL INFORMATION SHOULD BE SUBMITTED</i>

LIST OF FORMS INCLUDED	
<i>(Identify all forms included in the application package)</i>	
Form Name	Included (Y/N)
Expedited Review Request (DHEC Form 2212)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Equipment/Processes (DHEC Form 2567)	<input checked="" type="checkbox"/> Yes
Emissions (DHEC Form 2569)	<input checked="" type="checkbox"/> Yes
Regulatory Review (DHEC Form 2570)	<input checked="" type="checkbox"/> Yes
Emissions Point Information (DHEC Form 2573)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If No, Explain)

OWNER OR OPERATOR			
Title/Position: Manager of Environmental Services	Salutation: Mr.	First Name: John	Last Name: Aultman
Mailing Address: 201 Brown Road			
City: Piedmont	State: SC	Zip Code: 29673	
E-mail Address: aultmanj@vmcmail.com	Phone No.: 864-299-4785	Cell No.: 678-614-0247	

OWNER OR OPERATOR SIGNATURE
I certify, to the best of my knowledge and belief, that no applicable standards and/or regulations will be contravened or violated. I certify that any application form, report, or compliance certification submitted in this permit application is true, accurate, and complete based on information and belief formed after reasonable inquiry. I understand that any statements and/or descriptions, which are found to be incorrect, may result in the immediate revocation of any permit issued for this application.

Signature of Owner or Operator  Date 

PERSON AND/OR FIRM THAT PREPARED THIS APPLICATION			
<i>(If not the same person as the Professional Engineer who has reviewed and signed this application.)</i>			
Consulting Firm Name: SynTerra Corporation			
Title/Position: Engineer	Salutation: Ms.	First Name: Catherine	Last Name: Webb
Mailing Address: 148 River Street, Suite 220			
City: Greenville	State: SC	Zip Code: 29601	
E-mail Address: cwebb@synterracorp.com	Phone No.: 864-527-4657	Cell No.: 404-216-3356	
SC Professional Engineer License/Registration No. (if applicable):			

PROFESSIONAL ENGINEER INFORMATION			
Consulting Firm Name: SynTerra Corporation			
Title/Position: Principal	Salutation: Ms.	First Name: Andrea	Last Name: Kehn
Mailing Address: 148 River Street, Suite			
City: Greenville	State: SC	Zip Code: 29601	



**Bureau of Air Quality
Construction Permit Application
Facility Information
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E-mail Address: akehn@synterracorp.com	Phone No.: 864-527-4636	Cell No.:
SC License/Registration No.: 26552		
PROFESSIONAL ENGINEER SIGNATURE		
I have placed my signature and seal on the engineering documents submitted, signifying that I have reviewed this construction permit application as it pertains to the requirements of <i>South Carolina Regulation 61-62, Air Pollution Control Regulations and Standards.</i>		

Andrea E. Kehn 4/29/2020
Signature of Professional Engineer Date





**Bureau of Air Quality
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APPLICATION IDENTIFICATION	
<i>(Please ensure that the information list in this table is the same on all of the forms and required information submitted in this construction permit application package.)</i>	
Facility Name <i>(This should be the name used to identify the facility)</i> Vulcan Construction Materials, LLC (Fairfield Quarry)	SC Air Permit Number (8-digits only) <i>(Leave blank if one has never been assigned)</i> _____
	Application Date April 24, 2020

PROJECT DESCRIPTION

Brief Project Description (What, why, how, etc.): Vulcan Construction Materials, LLC proposes to install equipment for a 550 ton per hour aggregate mining facility on approximately 924 acres of property located about 20 miles north of Columbia just south of State Road 41 between I-77 and U.S. Route 21 in Fairfield County, South Carolina.

- ATTACHMENTS**
- Process Flow Diagram Location in Application: Appendix B
 - Detailed Project Description Location in Application: Application letter

EQUIPMENT / PROCESS INFORMATION							
Equipment ID Process ID	Action	Equipment / Process Description	Maximum Design Capacity (Units)	Control Device ID(s)*	Pollutants Controlled (Include CAS#)	Capture System Efficiency and Description	Emission Point ID(s)
FDR-001	<input checked="" type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other	6'x48" Grizzly Feeder	550 tons per hour (TPH)	WS	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	FDR-001
PRI-001	<input checked="" type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other	C120 Jaw Crusher	400 TPH	WS	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	PRI-001
CRS-002	<input checked="" type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other	HP 300 Std Crusher	400 TPH	WS	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	CRS-002
CRS-003	<input checked="" type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other	HP 300 Tertiary Crusher	300 TPH	WS	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	CRS-003
SCR-001	<input checked="" type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify	6'x20' 3D Horizontal Screen	950 TPH	WS	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	SCR-001



**Bureau of Air Quality
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SCR-002	<input type="checkbox"/> Other <input checked="" type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other	6'x20' 3D Horizontal Screen	700 TPH	CO	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	SCR-002
CNV-001	<input checked="" type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other	48"x36' Conveyor	550 TPH	WS	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	CNV-001
CNV-002	<input checked="" type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other	36"x80' Conveyor	550 TPH	WS	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	CNV-002
BIN-001	<input checked="" type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other	25 ton capacity Storage Bin	550 TPH	WS	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	BIN-001
CNV-003	<input checked="" type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other	42"x50' Conveyor	550 TPH	WS	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	CNV-003
CNV-004	<input checked="" type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other	36"x16' Conveyor	400 TPH	CO	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	CNV-004
CNV-005	<input checked="" type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other	60"x20' Conveyor	400 TPH	WS	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	CNV-005
CNV-006	<input checked="" type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other	36"x34' Conveyor	400 TPH	WS	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	CNV-006
CNV-007	<input checked="" type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other	36"x46' Conveyor	400 TPH	WS	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	CNV-007
CNV-008	<input checked="" type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other	30"x30' Conveyor	400 TPH	CO	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	CNV-008
CNV-009	<input checked="" type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other	36"x100' Conveyor	400 TPH	WS	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	CNV-009



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CNV-010	<input checked="" type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other	36"x80' Conveyor	150 TPH	WS	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	CNV-010
CNV-011	<input checked="" type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other	36"x80' Conveyor	400 TPH	CO	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	CNV-011
BIN-002	<input checked="" type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other	25 ton capacity Storage Bin	400 TPH	CO	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	BIN-002
CNV-012	<input checked="" type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other	42"x50' Conveyor	400 TPH	WS	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	CNV-012
CNV-013	<input checked="" type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other	36"x46' Conveyor	700 TPH	WS	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	CNV-013
CNV-014	<input checked="" type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other	36"x16' Conveyor	700 TPH	WS	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	CNV-014
CNV-015	<input checked="" type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other	60"x20' Conveyor	200 TPH	WS	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	CNV-015
CNV-016	<input checked="" type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other	36"x34' Conveyor	300 TPH	CO	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	CNV-016
CNV-017	<input checked="" type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other	30"x9' Reversing Conveyor (screenings)	200 TPH	WS	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	CNV-017
CNV-018	<input checked="" type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other	36"x60' Conveyor	200 TPH	WS	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	CNV-018
CNV-019	<input checked="" type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other	30" x 9' Conveyor	200 TPH	WS	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	CNV-019
CNV-020	<input checked="" type="checkbox"/> Add	36"x60' Conveyor	400 TPH	CO	PM, PM ₁₀	For efficiency, see emission factor table in Appendix C.	CNV-020



**Bureau of Air Quality
Construction Permit Application
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Page 4 of 5**

	<input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other <input checked="" type="checkbox"/> Add									
SCR-003	<input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other <input checked="" type="checkbox"/> Add	6'x16' 3D Horizontal Screen	400 TPH	WP	PM, PM ₁₀ , PM _{2.5}	factor table in Appendix C.	SCR-003			
CNV-019	<input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other <input checked="" type="checkbox"/> Add	36"x60' Conveyor	200 TPH	WP	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	CNV-019			
CNV-020	<input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other <input checked="" type="checkbox"/> Add	36"x60' Conveyor	200 TPH	WP	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	CNV-020			
SCR-003	<input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other <input checked="" type="checkbox"/> Add	36"x60' Conveyor	200 TPH	WP	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	SCR-003			
CNV-021	<input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other <input checked="" type="checkbox"/> Add	36"x60' Conveyor	200 TPH	WP	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	CNV-021			
CNV-022	<input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other <input checked="" type="checkbox"/> Add	36"x60' Conveyor	200 TPH	WS	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	CNV-022			
CNV-023	<input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other <input checked="" type="checkbox"/> Add	30"x 9' Conveyor	200 TPH	WS	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	CNV-023			
CNV-024	<input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other <input checked="" type="checkbox"/> Add	36"x60' Conveyor	200 TPH	WS	PM, PM ₁₀ , PM _{2.5}	For efficiency, see emission factor table in Appendix C.	CNV-024			
PUMP1	<input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other <input checked="" type="checkbox"/> Add	Dewatering pump	220 horsepower	n/a	n/a	n/a	PUMP1			



**Bureau of Air Quality
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CONTROL DEVICE INFORMATION					
Control Device ID	Action	Control Device Description	Maximum Design Capacity (Units)	Inherent/Required/Voluntary (Explain)	Destruction/Removal Efficiency Determination
WS	<input type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other	Wet suppression	n/a	To meet federally enforceable limit	For efficiency, see emission factor table in Appendix C.
CO or CARRY	<input type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other	Carryover moisture	n/a	To meet federally enforceable limit	For efficiency, see emission factor table in Appendix C.
WP	<input type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other	Wet process	n/a	inherent	No emissions due to inherent process
	<input type="checkbox"/> Add <input type="checkbox"/> Remove <input type="checkbox"/> Modify <input type="checkbox"/> Other				

RAW MATERIAL AND PRODUCT INFORMATION		
Equipment ID Process ID Control Device ID	Raw Material(s)	Product(s) Fuels Combusted

MONITORING AND REPORTING INFORMATION					
Equipment ID Process ID Control Device ID	Pollutant(s)/Parameter(s) Monitored	Monitoring Frequency	Reporting Frequency	Monitoring/Reporting Basis	Averaging Period(s)



**Bureau of Air Quality
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Page 1 of 2**

APPLICATION IDENTIFICATION <i>(Please ensure that the information list in this table is the same on all of the forms and required information submitted in this construction permit application package.)</i>	
Facility Name <i>(This should be the name used to identify the facility)</i>	SC Air Permit Number (8-digits only) <i>(Leave blank if one has never been assigned)</i>
Vulcan Construction Materials, LLC (Fairfield Quarry)	Application Date April 24, 2020

ATTACHMENTS

(Check all the appropriate checkboxes if included as an attachment)

- Sample Calculations, Emission Factors Used, etc.
- Supporting Information: Manufacturer's Data, etc.
- Details on Limits Being Taken for PTE Emissions
- Detailed Explanation of Assumptions, Bottlenecks, etc.
- Source Test Information
- NSR Analysis

SUMMARY OF PROJECTED CHANGE IN FACILITY WIDE POTENTIAL EMISSIONS

(Calculated at maximum design capacity.)

Pollutants	Emission Rates Prior to Construction / Modification (tons/year)		PTE	Emission Rates After Construction / Modification (tons/year)		PTE
	Uncontrolled	Controlled		Uncontrolled	Controlled	
Particulate Matter (PM)	n/a	n/a	n/a	323	27	250
Particulate Matter <10 Microns (PM ₁₀)	n/a	n/a	n/a	117	10	100
Particulate Matter <2.5 Microns (PM _{2.5})	n/a	n/a	n/a	18.5	1.4	18.5
Sulfur Dioxide (SO ₂)	n/a	n/a	n/a	2.5	2.5	2.5
Nitrogen Oxides (NO _x)	n/a	n/a	n/a	2.7	2.7	2.7
Carbon Monoxide (CO)	n/a	n/a	n/a	8.2	8.2	8.2
Volatile Organic Compounds (VOC)	n/a	n/a	n/a	3.0	3.0	3.0
Lead (Pb)	n/a	n/a	n/a	0	0	0
Highest HAP Prior to Construction (CAS #: n/a)	n/a	n/a	n/a	n/a	n/a	n/a
Highest HAP After Construction (CAS #:)	n/a	n/a	n/a	0.00151	0.00151	0.00151
Total HAP Emissions*	n/a	n/a	n/a	0.00475	0.00475	0.00475

Include emissions from exempt equipment and emission increases from process changes that were exempt from construction permits.
 (*All HAP emitted from the various equipment or processes must be listed in the appropriate "Potential Emission Rates at Maximum Design Capacity" Table)



**Bureau of Air Quality
Construction Permit Application
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Page 1 of 4**

APPLICATION IDENTIFICATION <i>(Please ensure that the information list in this table is the same on all of the forms and required information submitted in this construction permit application package.)</i>	
Facility Name <i>(This should be the name used to identify the facility)</i> Vulcan Construction Materials, LLC (Fairfield Quarry)	SC Air Permit Number (8-digits only) <i>(Leave blank if one has never been assigned)</i> -
	Application Date April 24, 2020

STATE AND FEDERAL AIR POLLUTION CONTROL REGULATIONS AND STANDARDS <i>(If not listed below add any additional regulations that are triggered.)</i>			
Regulation	Applicable		How will compliance be demonstrated?
	Yes	No	
Regulation 61-62.1, Section II(E) Synthetic Minor Construction Permits	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Facility Wide federally enforceable limits of less than 100 TPY of PM10 The facility will comply with the PM10 emission limits
Regulation 61-62.1, Section II(G) Conditional Major Operating Permits	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Facility Wide federally enforceable limits of less than 100 TPY of PM10 The facility will comply with the PM10 emission limits
Regulation 61-62.5, Standard No. 1 Emissions from Fuel Burning Operations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Regulation 61-62.5, Standard No. 2 Ambient Air Quality Standards	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Regulation 61-62.5, Standard No. 3 Waste Combustion and Reduction	<input type="checkbox"/>	<input checked="" type="checkbox"/>	



**Bureau of Air Quality
Construction Permit Application
Regulatory Review
Page 2 of 4**

STATE AND FEDERAL AIR POLLUTION CONTROL REGULATIONS AND STANDARDS <i>(If not listed below add any additional regulations that are triggered.)</i>				
Regulation	Applicable		How will compliance be demonstrated?	
	Yes	No		
	Explain Applicability Determination		List the specific limitations and/or requirements that apply.	
Regulation 61-62.5, Standard No. 4 Emissions from Process Industries	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Appendix C emissions estimates for allowable emission rates.	As presented in the calculations, the facility will be in compliance with the particulate matter limits set by this standard.
Regulation 61-62.5, Standard No. 5 Volatile Organic Compounds	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Facility does not plan to have sources of VOC emissions.	
Regulation 61-62.5, Standard No. 5.2 Control of Oxides of Nitrogen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The facility will use diesel fuel.	The facility will use an engine designed to comply with regulations
Regulation 61-62.5, Standard No. 7 Prevention of Significant Deterioration*	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The facility requests a federally enforceable limit to require facility-wide PM emissions to remain less than 250 tpy.	This facility will use wet suppression to control PM10 emissions to less than 250 tpy. The facility requests that the control devices be federally enforceable with issuance of this permit.
Regulation 61-62.5, Standard No. 7.1 Nonattainment New Source Review*	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The facility is not located in a non-attainment area	
Regulation 61-62.5, Standard No. 8 Toxic Air Pollutants	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fuel burning sources that burn only virgin fuel are not subject to Standard No. 8	
Regulation 61-62.6 Control of Fugitive Particulate Matter	<input checked="" type="checkbox"/>	<input type="checkbox"/>	This facility will be subject to specific sections of this regulation.	



**Bureau of Air Quality
Construction Permit Application
Regulatory Review
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STATE AND FEDERAL AIR POLLUTION CONTROL REGULATIONS AND STANDARDS <i>(If not listed below add any additional regulations that are triggered.)</i>					
Regulation	Applicable		Explain Applicability Determination	List the specific limitations and/or requirements that apply.	How will compliance be demonstrated?
	Yes	No			
Regulation 61-62.68 Chemical Accident Prevention Provisions	<input type="checkbox"/>	<input checked="" type="checkbox"/>	This facility does not store or use chemicals subject to this regulation above the threshold quantities		
Regulation 61-62.70 Title V Operating Permit Program	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Vulcan requests facility-wide federally enforceable emissions limitation of less than 100 tpy for PM10 emissions to be classified as a Conditional Major facility.		
40 CFR Part 64 - Compliance Assurance Monitoring (CAM)	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
40 CFR 60 Subpart A - General Provisions	<input type="checkbox"/>	<input type="checkbox"/>			
Subpart 000	<input type="checkbox"/>	<input type="checkbox"/>	Non-metallic mineral mining facility.	Opacity limitations based on equipment.	The Facility will maintain wet suppression during operation, equipment startup/shutdown records, and records of equipment and control device malfunctions
	<input type="checkbox"/>	<input type="checkbox"/>			
	<input type="checkbox"/>	<input type="checkbox"/>			
40 CFR 61 Subpart A - General Provisions	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
	<input type="checkbox"/>	<input type="checkbox"/>			
40 CFR 63 Subpart A - General Provisions	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
	<input type="checkbox"/>	<input type="checkbox"/>			



Bureau of Air Quality
Construction Permit Application
Regulatory Review
Page 4 of 4

STATE AND FEDERAL AIR POLLUTION CONTROL REGULATIONS AND STANDARDS					
<i>(If not listed below add any additional regulations that are triggered.)</i>					
Regulation	Applicable		Explain Applicability Determination	List the specific limitations and/or requirements that apply.	How will compliance be demonstrated?
	Yes	No			
	<input type="checkbox"/>	<input type="checkbox"/>			
	<input type="checkbox"/>	<input type="checkbox"/>			
	<input type="checkbox"/>	<input type="checkbox"/>			

* Green House Gas emissions must be quantified if these regulations are triggered.



A. APPLICATION IDENTIFICATION	
1. Facility Name: Vulcan Construction Materials (Fairfield Quarry)	
2. SC Air Permit Number (if known; 8-digits only):	-
3. Application Date:	April 24, 2020
4. Project Description: Vulcan Construction Materials, LLC proposes to install equipment for a 550 ton per hour aggregate mining facility on approximately 924 acres of property located about 20 miles north of Columbia just south of State Road 41 between I-77 and U.S. Route 21 in Fairfield County, South Carolina.	

B. FACILITY INFORMATION	
1. Is your company a Small Business? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
2. If a Small Business or small government facility, is Bureau assistance being requested? <input type="checkbox"/> Yes <input type="checkbox"/> No	
3. Are other facilities collocated for air compliance? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
4. If Yes, provide permit numbers of collocated facilities:	

C. AIR CONTACT	
Consulting Firm Name (if applicable): SynTerra Corporation	
Title/Position:	Salutation: Ms.
Mailing Address: 148 River Street, Suite 220	First Name: Catherine
City: Greenville	Last Name: Webb
E-mail Address: cwebb@synterracorp.com	State: SC
	Zip Code: 29601
	Phone No.:
	Cell No.: 404-216-3356

D. EMISSION POINT DISPERSION PARAMETERS	
Source data requirements are based on the appropriate source classification. Each emission point is classified as a point, area, volume, or flare source. Contact the Bureau of Air Quality for clarification of data requirements. Include sources on a scaled site map. Also, a picture of area or volume sources would be helpful but is not required. A user generated document or spreadsheet may be substituted in lieu of this form provided all of the required emission point parameters are submitted in the same order, units, etc. as presented in these tables.	
Abbreviations / Units of Measure: UTM = Universal Transverse Mercator; °N = Degrees North; °W = Degrees West; m = meters; AGL = Above Ground Level; ft = feet; ft/s = feet per second; ° = Degrees; °F = Degrees Fahrenheit	



E. POINT SOURCE DATA
(Point sources such as stacks, chimneys, exhaust fans, and vents.)

Emission Point ID	Description/Name	Point Source Coordinates			Release Height AGL (ft)	Temp. (°F)	Exit Velocity (ft/s)	Inside Diameter (ft)	Discharge Orientation	Rain Cap? (Y/N)	Distance To Nearest Property Boundary (ft)	Building	
		UTM E (m)	UTM N (m)	Lat (°N)								Long (°W)	Height (ft)

F. AREA SOURCE DATA
(Area sources such as storage piles, and other sources that have low level or ground level releases with no plumes.)

Emission Point ID	Description/Name	Area Source Coordinates			Release Height AGL (ft)	Easterly Length (ft)	Northerly Length (ft)	Angle From North (°)	Distance To Nearest Property Boundary (ft)
		UTM E (m)	UTM N (m)	Lat (°N)					

G. VOLUME SOURCE DATA
(Volume sources such as building fugitives that have initial dispersion vertical depth prior to release.)

Emission Point ID	Description/Name	Volume Source Coordinates			Release Height AGL (ft)	Initial Horizontal Dimension (ft)	Initial Vertical Dimension (ft)	Distance To Nearest Property Boundary (ft)
		UTM E (m)	UTM N (m)	Lat (°N)				

See alternative format in Appendix C.



H. FLARE SOURCE DATA

(Point sources where the combustion takes place at the tip of the stack.)

Emission Point ID	Description/Name	Flare Source Coordinates			Release Height AGL (ft)	Heat Release Rate (BTU/hr)	Distance To Nearest Property Boundary (ft)	Building	
		UTM E (m)	UTM N (m)	Lat (°N)				Long (°W)	Height (ft)

I. AREA CIRCULAR SOURCE DATA

Emission Point ID	Description/Name	Area Circular Source Coordinates			Release Height AGL (ft)	Radius of Area (ft)	Distance To Nearest Property Boundary (ft)
		UTM E (m)	UTM N (m)	Lat (°N)			

J. AREA POLY SOURCE DATA

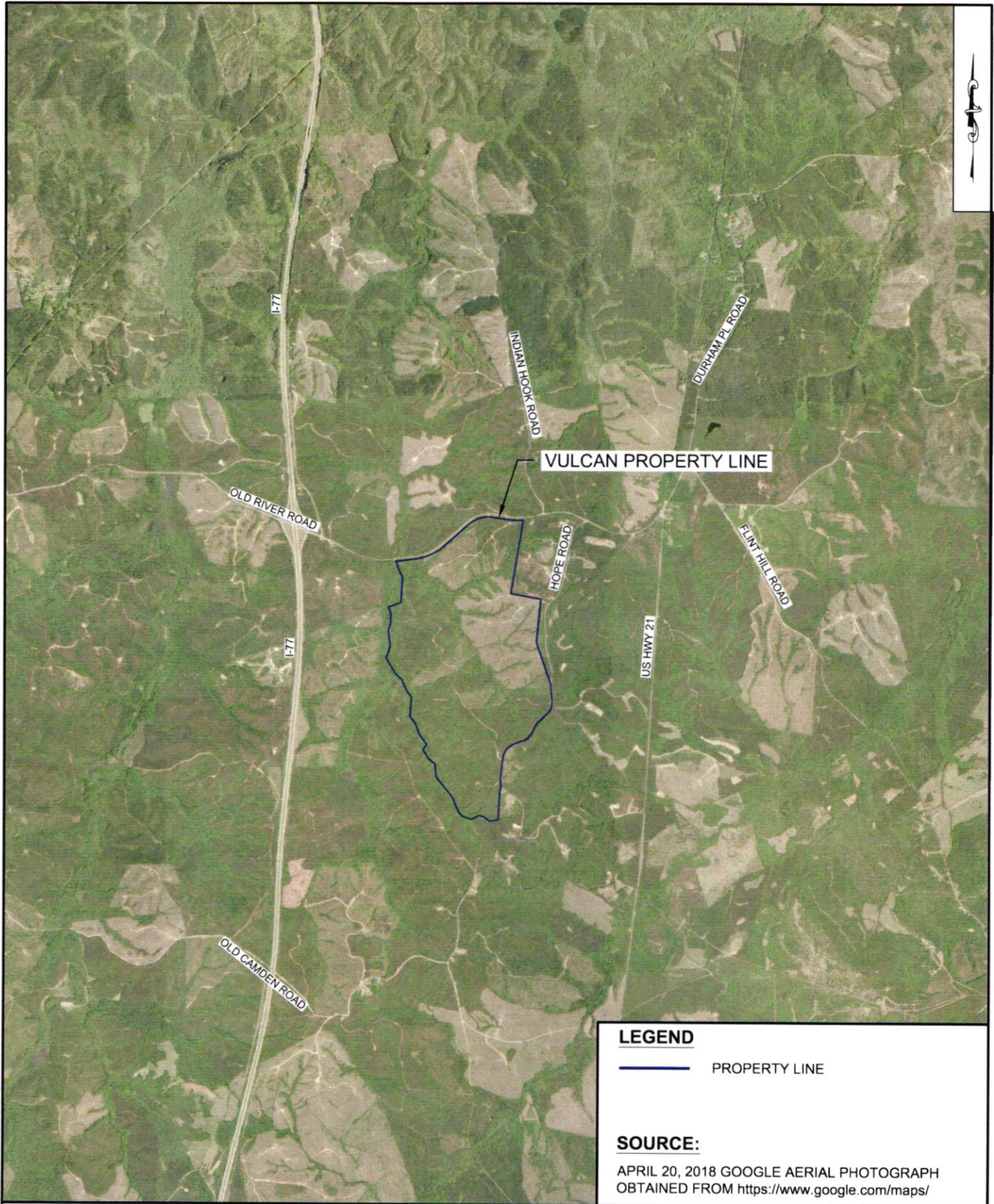
Emission Point ID	Description/Name	Area Poly Source Coordinates		Release Height AGL (ft)	Number of Vertices
		UTM E (m)	UTM N (m)		

K. OPEN PIT SOURCE DATA

Emission Point ID	Description/Name	Open Pit Source Coordinates			Release Height AGL (ft)	Easterly Length (ft)	Northerly Length (ft)	Volume (ft ³)	Angle From North (°)
		UTM E (m)	UTM N (m)	UTM N (m)					

Vulcan Construction Materials, LLC - Fairfield Quarry
Construction Permit Application
April 24, 2020

APPENDIX B
Figures



LEGEND

— PROPERTY LINE

SOURCE:

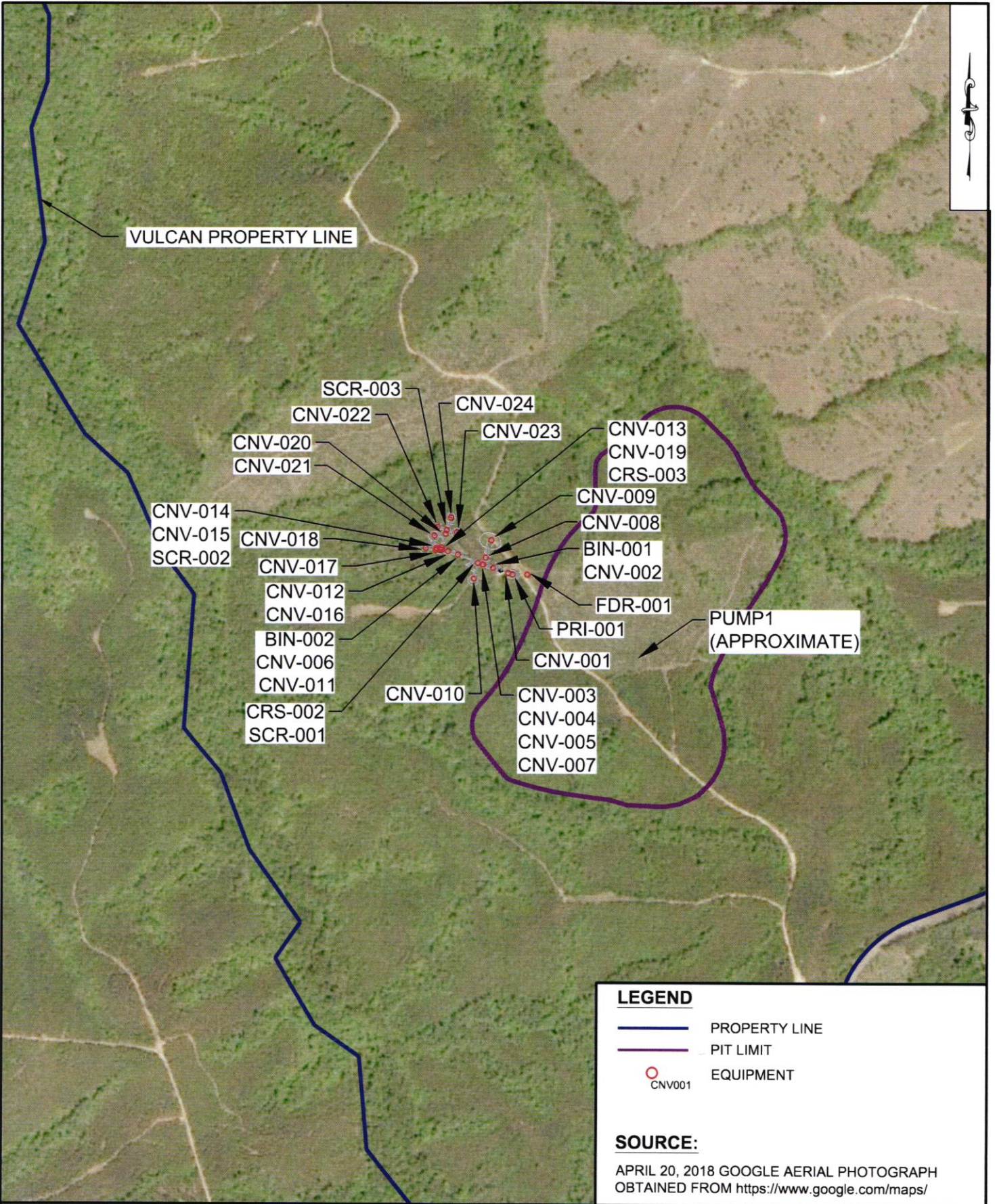
APRIL 20, 2018 GOOGLE AERIAL PHOTOGRAPH
OBTAINED FROM <https://www.google.com/maps/>



148 RIVER STREET, SUITE 220
GREENVILLE, SOUTH CAROLINA 29601
PHONE 864-421-9999
www.synterracorp.com

DRAWN BY: C. NEWELL DATE: 04/23/2020
PROJECT MANAGER: H. PONCE
LAYOUT: FIGURE 1




FIGURE 1
EQUIPMENT LOCATIONS
VULCAN MATERIALS COMPANY
FAIRFIELD QUARRY
WINNSBORO, SOUTH CAROLINA



VULCAN PROPERTY LINE

- SCR-003
- CNV-022
- CNV-020
- CNV-021
- CNV-014
- CNV-015
- SCR-002
- CNV-018
- CNV-017
- CNV-012
- CNV-016
- BIN-002
- CNV-006
- CNV-011
- CRS-002
- SCR-001
- CNV-024
- CNV-023
- CNV-013
- CNV-019
- CRS-003
- CNV-009
- CNV-008
- BIN-001
- CNV-002
- FDR-001
- PRI-001
- CNV-001
- CNV-010
- CNV-003
- CNV-004
- CNV-005
- CNV-007
- PUMP1 (APPROXIMATE)

LEGEND

-  PROPERTY LINE
-  PIT LIMIT
-  EQUIPMENT

SOURCE:

APRIL 20, 2018 GOOGLE AERIAL PHOTOGRAPH
OBTAINED FROM <https://www.google.com/maps/>



148 RIVER STREET, SUITE 220
GREENVILLE, SOUTH CAROLINA 29601
PHONE 864-421-9999
www.synterracorp.com

DRAWN BY: C. NEWELL DATE: 04/23/2020
PROJECT MANAGER: H. PONCE
LAYOUT: FIGURE 2

04/23/2020 8:28 PM P:\Vulcan Construction Materials.963\18. Fairfield Quarry\02.Vulcan Fairfield Air\dwg\9631802-AIRMOD.dwg

**FIGURE 2
EQUIPMENT LOCATIONS
VULCAN MATERIALS COMPANY
FAIRFIELD QUARRY
WINNSBORO, SOUTH CAROLINA**

Vulcan Construction Materials, LLC - Fairfield Quarry
Construction Permit Application
April 24, 2020

APPENDIX C

Emissions Calculations

**Vulcan Construction Materials, LLC - Fairfield Quarry
Construction Permit Application**

FACILITY-WIDE CRITERIA POLLUTANT EMISSIONS				
Pollutant	Potential Uncontrolled (tpy)	Potential Controlled (tpy)	Potential Uncontrolled (lb/hr)	Potential Controlled (lb/hr)
PM	323	27	74	6.2
PM ₁₀	117	10	27	2.2
PM _{2.5}	18.5	1.4	4.2	0.3
SO ₂	2.5	2.5	0.6	0.6
NO _x	2.7	2.7	0.6	0.6
CO	8.2	8.2	1.9	1.9
VOC	3.0	3.0	0.7	0.7
Lead (Pb)	0	0	0	0

HAP/TAP	CAS #	tons/yr
Benzene	71-43-2	1.20E-03
Toluene	108-88-3	5.25E-04
Xylene	1330-20-7	3.66E-04
1,3-Butadiene	106-99-0	5.01E-05
Formaldehyde	50-00-0	1.51E-03
Acetaldehyde	75-07-0	9.84E-04
Acrolein	107-02-8	1.19E-04
Total HAPs		4.75E-03

Vulcan Construction Materials, LLC - Fairfield Quarry

Construction Permit Application

Standard 4 Allowable Emission Rate Calculation

Facility Maximum operating rate 550 tons per hour

Because the hourly production rate is greater than 30 tons per hour, the following equation for the allowable emission rate is used: $E = F \cdot (55.0 \cdot P^{0.11} - 40)$, where F is 1 and P is the hourly production rate.

F = 1 from Table B

P = 550 tons/hr

E = $F \cdot (55.0 \cdot P^{0.11} - 40)$

E = 70 lbs/hr

Calculated emission rate this process

PM ₁₀ 6.2 lb/hr

Prepared by CAW

Checked by MEC

**Vulcan Construction Materials, LLC - Fairfield Quarry
Construction Permit Application
Diesel Dewatering Pump (Equipment ID: PUMP1)**

Pump Capacity 1200 gpm
Average Rainfall 45.54 in/yr
Drainage Basin 127.7 acres
Water Inflow to Quarry 157,903,642 gallons/yr
Annual Pumping time 2,193.11 hrs
Tier 4 Engine capacity 274.14 days
0.560 MMBTU/hr

calculated from Ultimate Pit Limit boundary
rainfall (in) / 12 (in/ft) * acres * 43560 (sq ft/acre) * 7.48 (gallons/sq ft)
pump capacity (gallons per minute) / inflow (gallons) / 60 (min per hour)
pumping time (hours) / 8 (hours per day)

Units	PM or PM-10 ^{1,2}	PM-2.5 ¹	NOx ¹	CO ³	SOx ⁴	VOC ⁵	CO ₂ ³	CH ₄ ¹	N ₂ O ³	CO ₂ e ³
lb/hp-hr	0.000033	0.000033	0.0007	0.00668	0.00205	2.47E-03	73.96	3.00E-03	6.00E-04	74.21
kg/MMBTU										

- ¹ John Deere engine Emissions Information (175-299 hp)
Final Tier 4
PM g/kWh = 0.02
NOx g/kWh = 0.4
1 kW = 1.34 Hp
- ² AP-42 Table 3.3-1 Stationary Diesel Fuel engines
0.0015 % sulfur in fuel
- ³ Emission factors for greenhouse gases from distillate fuel oil No.2 combustion are from Tables C-1 and C-2 of 40 CFR 98, Subpart C.

Criteria Pollutant Emissions

Equipment ID	Operating hours per year MAX	Uncontrolled Emissions																	
		PM-10		PM-2.5		NOx		CO		SOx		VOC							
Capacity (hp)	lbs/yr	tons/yr	lbs/yr	tons/yr	lbs/yr	tons/yr	lbs/yr	tons/yr	lbs/yr	tons/yr	lbs/yr	tons/yr	lbs/yr	tons/yr					
Dewatering Pump	8760	63	0.032	63	0.032	0.007	0.007	0.007	0.007	0.63	0.14	1.470	6.437	1.470	0.5	2.0	4760.2	2.4	0.5

Greenhouse Gas Emissions

Equipment ID	Operating hours per year MAX	Uncontrolled Emissions											
		CO ₂	CH ₄	N ₂ O	CO ₂ e	lbs/yr	tons/yr						
Capacity (hp)	lbs/yr	tons/yr	lbs/yr	tons/yr	lbs/yr	tons/yr							
Dewatering Pump	8760	799559	399.78	91.27	32.43	1.62E-02	3.70E-03	6.49	0.0032	0.0007	802303.14	401.15	91.59

HAP / TAP	CAS #	Emission Factor ³ lb/MMBtu	Uncontrolled HAP Emissions		Daily De- lb/day
			lb/yr	tons/yr	
Benzene	71-43-2	9.33E-04	5.22E-04	5.73E-04	1.8
Toluene	108-88-3	4.09E-04	2.29E-04	2.51E-04	24
Xylene	1330-20-7	2.85E-04	1.60E-04	1.75E-04	52.2
1,3-Butadiene	106-99-0	3.91E-05	2.19E-05	2.40E-05	1.326
Formaldehyde	50-00-0	1.18E-03	6.61E-04	7.24E-04	0.18
Acetaldehyde	75-07-0	7.67E-04	4.29E-04	4.71E-04	21.6
Acrolein	107-02-8	9.25E-05	5.18E-05	5.68E-05	0.015
Total HAPs			2.07E-03	4.98E-02	2.27E-03

³ AP-42 Table 3.3-2 Speciated Organic Compound Emission Factors for Uncontrolled Diesel Engines
⁴ Table 8.1 - Air Toxics (SC Standard No. 8) - Maximum Allowable Ambient Concentrations and De Minimis Emission Rates. South Carolina Modeling Guidelines for Air Quality Permits, dated October 2018

Vulcan Construction Materials, LLC - Fairfield Quarry
Construction Permit Application
Creek Pump and Process Pond Diesel Pumps (Equipment ID: EP1, EP2)

* These engines are exempt per construction permit application, but emissions must be included in facility-wide totals.

Units	PM-10 ¹ lb/tp-hr	PM-2.5 ¹ 0.000049	NOx ¹ 0.0077	CO ² 0.00668	SOx ² 0.00205	VOC ² 2.47E-03	CO ² 73.96	CH ₄ ³ 3.00E-03	N ₂ O ³ 6.00E-04	CO _{2e} ³ 74.21
kg/MMBTU										

¹ John Deere engine Emissions Information (25-49 hp)
 Final Tier 4
 PM g/kWh = 0.03
 NOx g/kWh = 4.7
 1 kW = 1.34 Hp
 0.0015 % sulfur in fuel

² AP-42 Table 3.3-1 Stationary Diesel Fuel engines
³ Emission factors for greenhouse gases from distillate fuel oil No.2 combustion are from Tables C-1 and C-2 of 40 CFR 98, Subpart C.

Criteria Pollutant Emissions

Equipment ID	Operating hours per year MAX	Capacity (hp)	Uncontrolled Emissions													
			PM-10		PM-2.5		NOx		CO		SOx		VOC			
			lbs/yr	tons/yr	lbs/yr	tons/yr	lbs/yr	tons/yr	lbs/yr	tons/yr	lbs/yr	tons/yr	lbs/yr	tons/yr	lbs/yr	tons/yr
Creek Pump	8760	30	12.96	0.006	12.96	0.006	2030.3	1.015	1755.5	0.878	538.7	0.269	0.062	649.1	0.32	0.074
Process Pond Pump	8760	30	12.96	0.006	12.96	0.006	2030.3	1.015	1755.5	0.878	538.7	0.269	0.062	649.1	0.32	0.074

Greenhouse Gas Emissions

Equipment ID	Operating hours per year MAX	Capacity (hp)	Uncontrolled Emissions									
			CO ₂		CH ₄		N ₂ O		CO _{2e}			
			lbs/yr	tons/yr	lbs/yr	tons/yr	lbs/yr	tons/yr	lbs/yr	tons/yr	lbs/yr	tons/yr
Creek Pump	8760	30	109030.8	54.52	12.45	12.45	8.85E-01	4.42E-04	1.01E-04	109405	54.70	12.49
Process Pond Pump	8760	30	109030.8	54.52	12.45	12.45	8.85E-01	4.42E-04	1.01E-04	109405	54.70	12.49

HAP / TAP	CAS #	Emission Factor ³ lb/MMBTU	Uncontrolled HAP Emissions lb/day	Daily De- lb/day
Benzene	71-43-2	9.33E-04	1.42E-04	3.418E-03
Toluene	108-88-3	4.09E-04	6.24E-05	1.495E-03
Xylene	1330-20-7	2.85E-04	4.35E-05	1.044E-03
1,3-Butadiene	106-99-0	3.91E-05	5.97E-06	1.433E-04
Formaldehyde	50-00-0	1.18E-03	1.80E-04	4.323E-03
Acetaldehyde	75-07-0	7.67E-04	1.17E-04	2.810E-03
Acrolein	107-02-8	9.25E-05	1.41E-05	3.389E-04
Total HAPs			5.66E-04	1.36E-02

³ AP-42 Table 3.3-2 Speciated Organic Compound Emission Factors for Uncontrolled Diesel Engines

⁴ Table B.1 - Air Toxics (SC Standard No. 8) - Maximum Allowable Ambient Concentrations and De Minimis Emission Rates. South Carolina Modeling Guidelines for Air Quality Permits, dated October 2018

Emission Factors

Equipment	AP-42 Source Name	Controlled			Un-Controlled			Calculated % control based on AP-42 factors		
		Total PM (lb/ton)	PM 10 (lb/ton)	PM2.5 (lb/ton)	Total PM (lb/ton)	PM 10 (lb/ton)	PM2.5 (lb/ton)	Total PM	PM 10	PM2.5
Crushers	Tertiary Crushing	0.0012	0.00054	0.000100	0.0054	0.0024	0.0004444	77.8%	77.5%	77.5%
Screens	Screening	0.0022	0.00074	0.000005	0.025	0.0087	0.0005845	91.2%	91.4%	91.4%
Conveyors and Bins	Conveyor Transfer Point	0.00014	0.000046	0.000013	0.0030	0.0011	0.0003109	95.3%	95.8%	95.8%
Grizzly & Truck Unloading	Grizzly Feeder and Truck Unloading	0.0000029	0.0000014	0.000000092	0.000034	0.000016	0.0000011	91.5%	91.5%	91.5%

Notes:

Uncontrolled and Controlled TSP for the Grizzly Feeder is estimated to be 2.1 x respective PM10 emission factor
 Controlled Grizzly Feeder emission factors are calculated assuming the same control efficiency as a screen.
 Tertiary Crushing, Screening, Conveyor Transfer Point Uncontrolled PM2.5 emissions factors are calculated assuming it is proportional to PM2.5/PM10 screen factor, for example-
 Tertiary Crushing Controlled TSP, Controlled PM10, Controlled PM2.5, Uncontrolled TSP, Uncontrolled PM10- from August 2004 AP-42 Table 11.19.2-2
 Screening Controlled TSP, Controlled PM10, Controlled PM2.5, Uncontrolled TSP, Uncontrolled PM10- from August 2004 AP-42 Table 11.19.2-2
 Conveyor Transfer Point Controlled TSP, Controlled PM10, Controlled PM2.5, Uncontrolled TSP, Uncontrolled PM10 from August 2004 AP-42 Table 11.19.2-2
 The uncontrolled PM10 emission factor for the Grizzly Feeder and Truck Unloading is from August 2004 AP-42 Table 11.19.2-2

Vulcan Construction Materials, LLC - Fairfield Quarry
Construction Permit Application

Quarry Equipment Emissions Estimates

Equipment ID	Manufacturer	Description	Capacity (TPH)	Control (1)	Uncontrolled Emission Factor					Uncontrolled Potential Emissions					Controlled Emission Factor					Controlled Potential Emissions				
					Total PM (lb/ton)	PM10 (lb/hr)	PM2.5 (lb/hr)	Total PM (tpy)	PM10 (tpy)	PM2.5 (tpy)	Total PM (lb/ton)	PM10 (lb/ton)	PM2.5 (lb/ton)	Total PM (lb/ton)	PM10 (lb/ton)	PM2.5 (lb/ton)	Total PM (lb/hr)	PM10 (lb/hr)	PM2.5 (lb/hr)	Total PM (tpy)	PM10 (tpy)	PM2.5 (tpy)		
FDR-001	Metsco	6'x48" Grizzly Feeder	550	WS	3.36E-05	0.000016	0.0000311	0.018	0.0088	0.00059	0.08	0.04	0.003	0.000029	0.0000014	0.0000001	0.002	0.000748	0.00005	0.01	0.00	0.000		
PRI-001	Metsco	C120 Jaw Crusher	400	WS	0.0054	0.0024	0.000444	2.16	0.96	0.18	9.5	0.4	0.8	0.0012	0.00054	0.00010	0.48	0.216	0.04	2.1	0.9	0.18		
CRS-002	Metsco	HP 300 Std Crusher	400	WS	0.0054	0.0024	0.000444	2.16	0.96	0.18	9.5	0.4	0.8	0.0012	0.00054	0.00010	0.48	0.216	0.04	2.1	0.9	0.18		
CRS-003	Metsco	HP 300 Tertiary Crusher	300	WS	0.0054	0.0024	0.000444	1.62	0.72	0.13	7.1	3.2	0.6	0.0022	0.00054	0.00010	0.36	0.162	0.03	1.6	0.7	0.13		
SCR-001	Metsco	6'x20' 3D Horizontal Screen	950	WS	0.025	0.0087	0.000584	23.8	8.22	0.56	104.0	36.0	2.4	0.0022	0.00074	0.00005	7.1	0.70	0.05	9.2	3.1	0.21		
SCR-002	Metsco	6'x20' 3D Horizontal Screen	700	CO	0.025	0.0087	0.000584	17.5	6.06	0.41	76.7	26.5	1.8	0.0014	0.00046	0.000013	5.4	0.52	0.04	6.7	2.3	0.15		
CNV-001	Metsco	48'x36' Conveyor	550	WS	0.0030	0.0011	0.000311	1.65	0.61	0.17	7.2	2.6	0.7	0.0014	0.00046	0.000013	0.8	0.03	0.007	0.34	0.11	0.03		
CNV-002	Mellott	36'x80' Conveyor	550	WS	0.0030	0.0011	0.000311	1.65	0.61	0.17	7.2	2.6	0.7	0.0014	0.00046	0.000013	0.8	0.03	0.007	0.34	0.11	0.03		
CNV-003	Mellott	25 ton capacity Storage Bin	550	WS	0.0030	0.0011	0.000311	1.65	0.61	0.17	7.2	2.6	0.7	0.0014	0.00046	0.000013	0.8	0.03	0.007	0.34	0.11	0.03		
CNV-004	Mellott	42'x50' Conveyor	550	WS	0.0030	0.0011	0.000311	1.65	0.61	0.17	7.2	2.6	0.7	0.0014	0.00046	0.000013	0.8	0.03	0.007	0.34	0.11	0.03		
CNV-005	Metsco	36'x16' Conveyor	400	CO	0.0030	0.0011	0.000311	1.20	0.44	0.12	5.3	1.9	0.5	0.0014	0.00046	0.000013	0.06	0.02	0.005	0.25	0.08	0.02		
CNV-006	Metsco	60'x20' Conveyor	400	WS	0.0030	0.0011	0.000311	1.20	0.44	0.12	5.3	1.9	0.5	0.0014	0.00046	0.000013	0.06	0.02	0.005	0.25	0.08	0.02		
CNV-007	Metsco	36'x34' Conveyor	400	WS	0.0030	0.0011	0.000311	1.20	0.44	0.12	5.3	1.9	0.5	0.0014	0.00046	0.000013	0.06	0.02	0.005	0.25	0.08	0.02		
CNV-008	Metsco	36'x46' Conveyor	400	WS	0.0030	0.0011	0.000311	1.20	0.44	0.12	5.3	1.9	0.5	0.0014	0.00046	0.000013	0.06	0.02	0.005	0.25	0.08	0.02		
CNV-009	Mellott	30'x30' Conveyor	400	CO	0.0030	0.0011	0.000311	1.20	0.44	0.12	5.3	1.9	0.5	0.0014	0.00046	0.000013	0.06	0.02	0.005	0.25	0.08	0.02		
CNV-009	Mellott	36'x100' Conveyor	400	WS	0.0030	0.0011	0.000311	1.20	0.44	0.12	5.3	1.9	0.5	0.0014	0.00046	0.000013	0.06	0.02	0.005	0.25	0.08	0.02		
CNV-010	Mellott	36'x80' Conveyor	150	WS	0.0030	0.0011	0.000311	0.45	0.17	0.05	2.0	0.7	0.2	0.0014	0.00046	0.000013	0.02	0.01	0.002	0.09	0.03	0.01		
CNV-011	Mellott	36'x80' Conveyor	400	CO	0.0030	0.0011	0.000311	1.20	0.44	0.12	5.3	1.9	0.5	0.0014	0.00046	0.000013	0.06	0.02	0.005	0.25	0.08	0.02		
CNV-012	Mellott	25 ton capacity Storage Bin	400	CO	0.0030	0.0011	0.000311	1.20	0.44	0.12	5.3	1.9	0.5	0.0014	0.00046	0.000013	0.06	0.02	0.005	0.25	0.08	0.02		
CNV-012	Mellott	42'x50' Conveyor	400	WS	0.0030	0.0011	0.000311	1.20	0.44	0.12	5.3	1.9	0.5	0.0014	0.00046	0.000013	0.06	0.02	0.005	0.25	0.08	0.02		
CNV-013	Metsco	36'x46' Conveyor	700	WS	0.0030	0.0011	0.000311	2.10	0.77	0.22	9.2	3.4	1.0	0.0014	0.00046	0.000013	0.06	0.02	0.005	0.25	0.08	0.02		
CNV-014	Metsco	36'x16' Conveyor	700	WS	0.0030	0.0011	0.000311	2.10	0.77	0.22	9.2	3.4	1.0	0.0014	0.00046	0.000013	0.06	0.02	0.005	0.25	0.08	0.02		
CNV-014	Metsco	60'x20' Conveyor	200	WS	0.0030	0.0011	0.000311	0.60	0.22	0.06	2.6	1.0	0.3	0.0014	0.00046	0.000013	0.03	0.01	0.003	0.12	0.04	0.01		
CNV-015	Metsco	30'x9' Conveyor	200	WS	0.0030	0.0011	0.000311	0.60	0.22	0.06	2.6	1.0	0.3	0.0014	0.00046	0.000013	0.03	0.01	0.003	0.12	0.04	0.01		
CNV-016	Metsco	36'x34' Conveyor	300	CO	0.0030	0.0011	0.000311	0.90	0.33	0.09	3.9	1.4	0.4	0.0014	0.00046	0.000013	0.04	0.01	0.004	0.18	0.06	0.02		
CNV-017	Metsco	30'x9' Reversing Conveyor	200	WS	0.0030	0.0011	0.000311	0.60	0.22	0.06	2.6	1.0	0.3	0.0014	0.00046	0.000013	0.03	0.01	0.003	0.12	0.04	0.01		
CNV-018	Mellott	36'x60' Conveyor	200	WS	0.0030	0.0011	0.000311	0.60	0.22	0.06	2.6	1.0	0.3	0.0014	0.00046	0.000013	0.03	0.01	0.003	0.12	0.04	0.01		
CNV-019	Metsco	30'x9' Conveyor	200	WS	0.0030	0.0011	0.000311	0.60	0.22	0.06	2.6	1.0	0.3	0.0014	0.00046	0.000013	0.03	0.01	0.003	0.12	0.04	0.01		
CNV-020	Mellott	36'x60' Conveyor	400	CO	0.0030	0.0011	0.000311	1.20	0.44	0.12	5.3	1.9	0.5	0.0014	0.00046	0.000013	0.06	0.02	0.005	0.25	0.08	0.02		
SCR-003	Metsco	6'x16' 3D Horizontal Screen	400	WP	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
CNV-021	Mellott	35'x60' Conveyor	200	WP	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
CNV-022	Mellott	36'x60' Conveyor	200	WP	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
CNV-023	Mellott	36'x60' Conveyor	200	WP	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
CNV-024	Mellott	36'x60' Conveyor	200	WP	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Notes: (1) WS: Wet suppression, CO: Carryover moisture, WP: Wet process

TOTAL	73.8	26.7	4.2	323.1	116.8	18.4	0.0	0.0	0.0	6.2	2.2	0.3	27.1	9.7	1.3
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**Vulcan Construction Materials, LLC - Fairfield Quarry
Construction Permit Application**

Emission Point Details

Source ID	Source Description	Description	Easting (X) (m)	Northing (Y) (m)	Base Elevation (ft)	Release Height (ft)	Horizontal Dimension σ_y (ft)	Vertical Dimension σ_z (ft)	Controlled Emission Rate PM 10 (lbs/hr)	Controlled Emission Rate PM 2.5 (lbs/hr)	STD 2 Exempt Rate (lbs/hr)	PM 10 Modeling Required?	PM 2.5 Modeling Required?
FDR-001	Metso Grizzly Feeder 1	6'x48"	502272.553	3805297.97	422	426	1.14	1.14	0.000748	0.00005	1.14	no	no
PRI-001	Metso C120 Jaw Crusher 1	Metso	502250.37	3805298.58	422	426	1.16	3.49	0.216	0.04	1.14	no	no
CRS-002	Metso HP 300 Std Crusher 2	HP 300	502196.587	3805316.14	422	426	1.16	3.49	0.216	0.04	1.14	no	no
CRS-003	Metso HP 300 Tertiary Crusher 3	HP 300	502140.549	3805335.79	422	426	1.16	3.49	0.162	0.03	1.14	no	no
SCR-001	Metso 3D Horizontal Screen 1	6' x 20"	502196.587	3805316.14	422	436	0.74	3.49	0.70	0.048	1.14	no	no
SCR-002	Metso 3D Horizontal Screen 2	6' x 20"	502132.292	3805338.53	422	436	0.74	3.49	0.52	0.035	1.14	no	no
CNV-001	Metso Conveyor 1	48"x36'	502243.27	3805300.81	422	429	0.93	1.16	0.03	0.007	1.14	no	no
CNV-002	Mellott Conveyor 2	36"x80'	502219.928	3805308.49	422	438	0.70	1.16	0.03	0.007	1.14	no	no
BIN-001	Mellott 25 ton capacity Storage Bin 1		502219.928	3805308.49	422	428	0.70	1.40	0.03	0.007	1.14	no	no
CNV-003	Mellott Conveyor 3	42"x50'	502203.839	3805313.73	422	438	0.81	1.16	0.03	0.007	1.14	no	no
CNV-004	Metso Conveyor 4	36"x16'	502203.382	3805313.91	422	440	0.70	1.16	0.02	0.005	1.14	no	no
CNV-005	Metso Conveyor 5	60"x20'	502205.089	3805313.36	422	426	1.16	1.16	0.02	0.005	1.14	no	no
CNV-006	Metso Conveyor 6	36"x34'	502165.658	3805328.75	422	427	0.70	1.16	0.02	0.005	1.14	no	no
CNV-007	Metso Conveyor 7	36"x46'	502203.382	3805313.91	422	432	0.70	1.16	0.02	0.005	1.14	no	no
CNV-008	Mellott Conveyor 8	30"x30'	502208.745	3805324.15	422	427	0.58	1.16	0.02	0.005	1.14	no	no
CNV-009	Mellott Conveyor 9	36"x100'	502217.338	3805349.99	422	455	0.70	1.16	0.02	0.005	1.14	no	no
CNV-010	Mellott Conveyor 10	36"x80'	502190.371	3805292.03	422	444	0.70	1.16	0.01	0.002	1.14	no	no
CNV-011	Mellott Conveyor 11	36"x80'	502165.689	3805328.75	422	444	0.70	1.16	0.02	0.005	1.14	no	no
BIN-002	Mellott 25 ton capacity Storage Bin 2		502165.689	3805328.75	422	428	0.70	1.40	0.02	0.005	1.14	no	no
CNV-012	Mellott Conveyor 12	42"x50'	502150.361	3805333.87	422	416	0.81	1.16	0.02	0.005	1.14	no	no
CNV-013	Metso Conveyor 13	36"x46'	502137.929	3805336.7	422	438	0.70	1.16	0.03	0.009	1.14	no	no
CNV-014	Metso Conveyor 14	36"x16'	502133.297	3805338.23	422	438	0.70	1.16	0.03	0.009	1.14	no	no
CNV-015	Metso Conveyor 15	60"x20'	502132.292	3805338.53	422	426	1.16	1.16	0.01	0.003	1.14	no	no
CNV-016	Metso Conveyor 16	36"x34'	502150.361	3805333.87	422	416	0.70	1.16	0.01	0.004	1.14	no	no
CNV-017	Metso Reversing Conveyor 17S (screenings)	30"x9'	502131.164	3805335.42	422	432	0.58	1.16	0.01	0.003	1.14	no	no
CNV-018	Mellott Conveyor 18	36"x60'	502115.867	3805338.38	422	440	0.70	1.16	0.01	0.003	1.14	no	no
CNV-019	Metso Conveyor 19	30' x 9'	502140.153	3805339.42	422	428	0.58	1.16	0.01	0.003	1.14	no	no
CNV-020	Mellott Conveyor 20	36"x60'	502146.887	3805360.11	422	438	0.70	1.16	0.02	0.005	1.14	no	no
Wash Process													
SCR-003	Metso 3D Horizontal Screen	6'x16'	502148.777	3805365.77	422	436	2.28	3.49	n/a	n/a	1.14	n/a	n/a
CNV-021	Mellott Conveyor	36"x60'	502129.701	3805357.12	422	440	0.70	1.16	n/a	n/a	1.14	n/a	n/a
CNV-022	Mellott Conveyor	36"x60'	502134.455	3805370.56	422	440	0.70	1.16	n/a	n/a	1.14	n/a	n/a
CNV-023	Mellott Conveyor	36"x60'	502164.043	3805362.12	422	440	0.70	1.16	n/a	n/a	1.14	n/a	n/a
CNV-024	Mellott Conveyor	36"x60'	502154.993	3805384.6	422	440	0.70	1.16	n/a	n/a	1.14	n/a	n/a