



Department Decision

**Air Quality Synthetic Minor Construction Permit
Permit No. 1000-0046-CA**

**Vulcan Construction Materials, LLC - Fairfield Quarry
SC Highway 77 State Road SC S-20-41
Winnsboro, South Carolina 29180**

January 26, 2021

In accordance with the 1976 Code of Laws of South Carolina, as amended, including SC Code Section 44-1-60(D), a Department Decision has been made to issue Air Quality Synthetic Minor Construction Permit No. 1000-0046-CA to the above-named permittee. This permit was previously placed on public notice and open for public comment from July 23, 2020, through September 11, 2020. A public hearing was held by SC DHEC's Bureau of Air Quality on August 27, 2020, to receive oral and written comments on the proposed project. Adverse public comments were received by SC DHEC during the comment period. Comments received during the formal comment period regarding air quality issues have been addressed in SC DHEC's *Responses to Comments on Air Quality* document attached to this Department Decision. SC DHEC's decision to issue this permit has been made after consideration and a complete review of the following: the air permit application, applicable state and federal air quality regulations, comments and concerns made at the public hearing and all other comments received within the required time frame, the public hearing transcript, and all other pertinent information.

This Department Decision regarding Air Quality Synthetic Minor Construction Permit No. 1000-0046-CA includes the following; a) the issued permit ([Attachment A](#)) which meets the requirements of all applicable air quality regulations; b) a summary of the project, permit, and applicable regulations as outlined in the Statement of Basis ([Attachment B](#)); and c) a summary of the comments made by concerned citizens regarding air quality issues and responses by the Bureau of Air Quality, as outlined in the *Responses to Comments on Air Quality Permit No. 1000-0046-CA* ([Attachment C](#)). This Department Decision (including attachments) will be included in SC DHEC's administrative record for this permit decision.

**Steve McCaslin, P. E., Director
Air Permitting Division
Bureau of Air Quality**

Attachment A

**Air Quality Synthetic Minor Construction Permit
Permit No. 1000-0046-CA**



Bureau of Air Quality Synthetic Minor Construction Permit

**Vulcan Construction Materials, LLC - Fairfield Quarry
SC Highway 77 State Road SC S-20-41
Winnsboro, South Carolina 29180
Fairfield County**

In accordance with the provisions of the Pollution Control Act, Sections 48-1-50(5), 48-1-100(A), and 48-1-110(a), the 1976 Code of Laws of South Carolina, as amended, and South Carolina Regulation 61-62, Air Pollution Control Regulations and Standards, the Bureau of Air Quality authorizes the construction of this facility and the equipment specified herein in accordance with the plans, specifications, and other information submitted in the construction permit application received on April 30, 2020, as amended. All official correspondence, plans, permit applications, and written statements are an integral part of the permit. Any false information or misrepresentation in the application for a construction permit may be grounds for permit revocation.

The construction and subsequent operation of this facility is subject to and conditioned upon the terms, limitations, standards, and schedules contained herein or as specified by this permit and its accompanying attachments.

Permit Number: 1000-0046-CA
Issue Date: January 26, 2021

**Steve McCaslin, P. E., Director
Air Permitting Division
Bureau of Air Quality**

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RECORD OF REVISIONS	
Date	Description of Changes

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A. PROJECT DESCRIPTION

Permission is hereby granted to install equipment for a new aggregate mining and 550 ton per hour aggregate processing plant. It will consist of stone crushing, conveying, screening, washing operations, and three (3) exempt pumps (pit dewatering, creek and process pond).

B.1 – EQUIPMENT FOR EMISSION UNIT 01 – STONE CRUSHING

Equipment ID	Equipment Description	Capacity (tph)	Subject to NSPS Subpart 000	Control Device ID	Emission Point ID
PRI-001	C120 Jaw Crusher	400	Yes	WS	PRI-001
CRS-002	HP 300 Std Crusher	400	Yes	WS	CRS-002
CRS-003	HP 300 Tertiary Crusher	300	Yes	WS	CRS-003

B.2 – EQUIPMENT FOR EMISSION UNIT 02 – STONE CONVEYING

Equipment ID	Equipment Description	Capacity (tph)	Subject to NSPS Subpart 000	Control Device ID	Emission Point ID
CNV-001	48"x36' Conveyor 1	550	Yes	WS	CNV-001
CNV-002	36"x80' Conveyor 2	550	Yes	WS	CNV-002
CNV-003	42"x50' Conveyor 3	550	Yes	WS	CNV-003
CNV-004	36"x16' Conveyor 4	400	Yes	WCO	CNV-004
CNV-005	60"x20' Conveyor 5	400	Yes	WS	CNV-005
CNV-006	36"x34' Conveyor 6	400	Yes	WS	CNV-006
CNV-007	36"x46' Conveyor 7	400	Yes	WS	CNV-007
CNV-008	30"x30' Conveyor 8	400	Yes	WCO	CNV-008
CNV-009	36"x100' Conveyor 9	400	Yes	WS	CNV-009
CNV-010	36"x80' Conveyor 10	150	Yes	WS	CNV-010
CNV-011	36"x80' Conveyor 11	400	Yes	WCO	CNV-011
CNV-012	42"x50' Conveyor 12	400	Yes	WS	CNV-012
CNV-013	36"x46' Conveyor 13	700	Yes	WS	CNV-013
CNV-014	36"x16' Conveyor 14	700	Yes	WS	CNV-014
CNV-015	60"x20' Conveyor 15	200	Yes	WS	CNV-015
CNV-016	36"x34' Conveyor 16	300	Yes	WCO	CNV-016
CNV-017	30"x9' Conveyor 17	200	Yes	WS	CNV-017
CNV-018	36"x60' Conveyor 18	200	Yes	WS	CNV-018
CNV-019	30"x9' Conveyor 19	200	Yes	WS	CNV-019
CNV-020	36"x60' Conveyor 20	400	Yes	WCO	CNV-020

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B.2 – EQUIPMENT FOR EMISSION UNIT 02 – STONE CONVEYING

Equipment ID	Equipment Description	Capacity (tph)	Subject to NSPS Subpart OOO	Control Device ID	Emission Point ID
BIN-001	25-ton Storage Bin 1	550	Yes	WS	BIN-001
BIN-002	25-ton Storage Bin 2	400	Yes	WCO	BIN-002

B.3 – EQUIPMENT FOR EMISSION UNIT 03 – STONE SCREENING

Equipment ID	Equipment Description	Capacity (tph)	Subject to NSPS Subpart OOO	Control Device ID	Emission Point ID
FDR-001	6'X48" Grizzly Feeder	550	No	WS	FDR-001
SCR-001	6'x20' 3D Horizontal Screen	950	Yes	WS	SCR-001
SCR-002	6'x20' 3D Horizontal Screen	700	Yes	WCO	SCR-002

B.4 – EQUIPMENT FOR EMISSION UNIT 04 – STONE WASHING

Equipment ID	Equipment Description	Capacity (tph)	Subject to NSPS Subpart OOO	Control Device ID	Emission Point ID
SCR-003	6'x16' 3D Horizontal Screen	400	No	WP	SCR-003
CNV-021	36"x60' Conveyor 21	200	No	WP	CNV-021
CNV-022	36"x60' Conveyor 22	200	No	WP	CNV-022
CNV-023	36"x60' Conveyor 23	200	No	WP	CNV-023
CNV-024	36"x60' Conveyor 24	200	No	WP	CNV-024

B.5 CONTROL DEVICES

Control Device ID	Control Device Description	Pollutants Controlled
WS	Wet Suppression	PM, PM ₁₀ , PM _{2.5}
WCO	Water Carry Over from Upstream Water Spray	PM, PM ₁₀ , PM _{2.5}
WP	Wet Process	PM, PM ₁₀ , PM _{2.5}

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C. LIMITATIONS, MONITORING AND REPORTING CONDITIONS

Condition Number	Conditions
C.1	<p>Emission Unit ID: All Equipment ID: All Control Device ID: All</p> <p>(S.C. Regulation 61-62.1, Section II(J)(1)(g)) A copy of the Department issued construction and/or operating permit must be kept readily available at the facility at all times. The owner or operator shall maintain such operational records; make reports; install, use, and maintain monitoring equipment or methods; sample and analyze emissions or discharges in accordance with prescribed methods at locations, intervals, and procedures as the Department shall prescribe; and provide such other information as the Department reasonably may require. All records required to demonstrate compliance with the limits established under this permit shall be maintained on site for a period of at least five (5) years from the date the record was generated and shall be made available to a Department representative upon request.</p>
C.2	<p>Emission Unit ID: 01, 02, 03 Equipment ID: All Control Device ID: WS, WCO</p> <p>All emissions points, duct work and other locations that are required to be tested, shall be designed and constructed in a manner to facilitate testing in accordance with applicable EPA approved source testing methods; including, but not be limited to, methods specifying test port location and sizing criteria.</p> <p>For any source test required under an applicable standard or permit condition, the owner, operator, or representative shall comply with S.C. Regulation 61-62.1, Section IV - Source Tests.</p> <p>Unless approved otherwise by the Department, the owner, operator, or representative shall ensure that source tests are conducted while the source is operating at the maximum expected production rate or other production rate or operating parameter which would result in the highest emissions for the pollutants being tested. Some sources may have to spike fuels or raw materials to avoid being subjected to a more restrictive feed or process rate. Any source test performed at a production rate less than the rated capacity may result in permit limits on emission rates, including limits on production if necessary.</p> <p>When conducting source tests subject to this section, the owner, operator, or representative shall provide the following:</p> <ul style="list-style-type: none"> • Department access to the facility to observe source tests; • Sampling ports adequate for test methods; • Safe sampling site(s); • Safe access to sampling site(s); • Utilities for sampling and testing equipment; and • Equipment and supplies necessary for safe testing of a source.

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C. LIMITATIONS, MONITORING AND REPORTING CONDITIONS

Condition Number	Conditions				
	<p>The owner or operator shall comply with any limits that result from conducting a source test at less than rated capacity. A copy of the most recent Department issued source test summary letter, whether it imposes a limit or not, shall be maintained with the operating permit, for each source that is required to conduct a source test.</p> <p>Site-specific test plans and amendments, notifications, and source test reports shall be submitted to the Manager of the Source Evaluation Section, Bureau of Air Quality.</p>				
C.3	<p>Emission Unit ID: All Equipment ID: All Control Device ID: All</p> <p>(S.C. Regulation 61-62.5, Standard No. 4, Section VIII) Particulate matter emissions shall be limited to the rate specified by use of the following equations:</p> <p style="padding-left: 40px;">For process weight rates less than or equal to 30 tons per hour $E = (F) 4.10P^{0.67}$ and</p> <p style="padding-left: 40px;">For process weight rates greater than 30 tons per hour $E = (F) 55.0P^{0.11} - 40$</p> <p style="padding-left: 40px;">Where E = the allowable emission rate in pounds per hour P = process weight rate in tons per hour F = effect factor from Table B in S.C. Regulation 61-62.5, Standard No. 4</p> <p>For the purposes of compliance with this condition, the process boundaries are defined as follows:</p> <table border="1"> <thead> <tr> <th>Process/Equipment IDs</th> <th>Max Process Weight Rate (ton/hr)</th> </tr> </thead> <tbody> <tr> <td>Crushed Stone Processing (including storage piles)</td> <td>550</td> </tr> </tbody> </table>	Process/Equipment IDs	Max Process Weight Rate (ton/hr)	Crushed Stone Processing (including storage piles)	550
Process/Equipment IDs	Max Process Weight Rate (ton/hr)				
Crushed Stone Processing (including storage piles)	550				
C.4	<p>Emission Unit ID: All Equipment ID: All Control Device ID: All</p> <p>(S.C. Regulation 61-62.5, Standard No. 4, Section IX) Where construction or modification began after December 31, 1985, emissions from these sources (including fugitive emissions) shall not exhibit an opacity greater than 20%, each.</p>				
C.5	<p>Emission Unit ID: All Equipment ID: All Control Device ID: All</p> <p>(S.C. Regulation 61-62.5, Standard No. 4, Section X) All non-enclosed operations shall be conducted in such a manner that a minimum of particulate matter becomes airborne. In no case shall</p>				

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C. LIMITATIONS, MONITORING AND REPORTING CONDITIONS

Condition Number	Conditions
	<p>established ambient air quality standards be exceeded at or beyond the property line. The owner/operator of all such operations shall maintain dust control of the premises and any roadway owned or controlled by the owner/operator by paving or other suitable measures. Oil treatment is prohibited.</p> <p>(S.C. Regulation 61-62.6) Fugitive particulate matter (PM) emissions from material handling, process equipment, control equipment, or storage piles will be minimized to the maximum extent possible. This will include proper maintenance of the control system such as scheduled inspections, replacement of damaged or worn parts, etc. Fugitive emissions from dust buildup will be controlled by proper housekeeping and/or wet suppression.</p> <p>Compliance with non-enclosed operations and fugitive dust requirements shall be demonstrated by developing a facility-wide fugitive dust control plan for controlling fugitive emissions from process operations, truck traffic, storage piles, and any other areas within the permitted facility where fugitive dust emissions can be generated. The plan shall be developed and submitted to the Director of Air Permitting for approval 180 days prior to the start of operation. The owner/operator shall implement the plan within 30 days of approval and create a schedule for its periodic review and update. The plan shall be kept and maintained on-site with a record of revisions. The plan shall address and/or contain at a minimum the following:</p> <ol style="list-style-type: none">1. Water Trucks<ol style="list-style-type: none">a. Weekly operation and maintenance checks of water trucksb. Operating scenarios for water truck failures or inadequaciesc. Dates the water trucks did not operate and the alternative(s) dust control method used2. Truck Traffic<ol style="list-style-type: none">a. Road speed limitsb. Vehicle loading, off-loading, transportation or dumping of material proceduresc. Spillage and residual materials clean-up proceduresd. Weekly operation and maintenance checks of sprinklerse. Signage with respect to SC Code of Laws Sections 56-5-4100 and 56-5-4110 (which requires haul trucks transporting aggregate from all quarries to prevent the escape of materials loaded onto the vehicles)3. Storage Piles<ol style="list-style-type: none">a. Material stock piling procedures4. Process Equipment<ol style="list-style-type: none">a. Weekly operation and maintenance checks of all plant equipment and enclosuresb. Spillage and residual materials clean-up proceduresc. Written guidelines on how to handle opacity problems <p>The owner/operator shall develop logs or use other approved methods to comply with the requirements of the plan.</p>

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C. LIMITATIONS, MONITORING AND REPORTING CONDITIONS

Condition Number	Conditions
C.6	<p>Emission Unit ID: 01, 02, 03 Control Device ID: WS</p> <p>The owner/operator shall operate its wet suppression system except as necessary for elevated material moisture content (i.e. rainfall).</p> <p>In case the wet suppression system is not operating properly, then a portable water spray system is acceptable for use until the permanent water spray system is back in proper operation. If a portable water system is not available, then the process shall be shut down until the permanent water spray system is back in proper operation.</p> <p>The owner/operator shall perform weekly inspections of all wet suppression related equipment including a check that water is flowing to discharge spray nozzles in the wet suppression system. The owner/operator must initiate corrective action within 24 hours and complete corrective action as expediently as practical if the owner/operator finds that water is not flowing properly during an inspection of the water spray nozzles. The owner/operator must record each inspection of the water spray nozzles, including the date of each inspection and any corrective actions taken in the logbook. The weekly inspections required in this condition meets the requirements of monthly inspections in 40 CFR 60.674(b).</p>
C.7	<p>Emission Unit ID: All Equipment ID: All Control Device ID: All</p> <p>(S.C. Regulation 61-62.1, Section II(G) and Section II(E)) This facility is a potential major source for PM and PM₁₀ emissions. The facility has agreed to federally enforceable operating limitations to limit its potential to emit to less than 250.0 tons per year for PM emissions to avoid PSD and less than 100.0 tons per year for PM₁₀ emissions to avoid Title V.</p> <p>The owner/operator shall show compliance with these limits by operating its control devices in accordance with the conditions of this permit. The logs required in this permit and records of any corrective actions taken shall be maintained on site. However, in the event of enforcement actions or complaints, the Department may require that these the logs be reported annually.</p>

D. SOURCES SUBJECT TO 40 CFR 60 SUBPART OOO

Condition Number	Conditions
D.1	<p>Emission Unit ID: 01, 02, 03 Control Device ID: WS, WCO</p>

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D. SOURCES SUBJECT TO 40 CFR 60 SUBPART 000

Condition Number	Conditions										
	<p>This facility is subject to the provisions of 40 CFR Part 60, New Source Performance Standards General Provisions, Subparts A and Standards of Performance for Nonmetallic Mineral Processing Plants, Subpart 000. Existing affected sources shall comply with the applicable provisions by the compliance date specified in Subparts 000. Any new affected sources shall comply with the requirements of these Subparts upon initial start-up unless otherwise noted.</p>										
D.2	<p>Emission Unit ID: 01, 02, 03 Equipment ID: All Control Device ID: WS, WCO</p> <p>40 CFR 60.670(a)(1) Except as provided in paragraphs (a)(2), (b), (c), and (d) of this section, the provisions of this subpart are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station.</p> <p>40 CFR 60.670(e) An affected facility under paragraph (a) of this section that commences construction, modification, or reconstruction after August 31, 1983, is subject to the requirements of this part.</p>										
D.3	<p>Emission Unit ID: 01, 02, 03 Equipment ID: All Control Device ID: WS, WCO</p> <p>(40 CFR 60.672(b)) Affected facilities must meet the fugitive emission limits and compliance requirements in Table 3 of this subpart within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under 40 CFR 60.11. The requirements in Table 3 of this subpart apply for fugitive emissions from affected facilities without capture systems and for fugitive emissions escaping capture systems.</p> <p>(40 CFR 60.672(d)) Truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher is exempt from the requirements of this section.</p> <table border="1"> <tr> <td colspan="2"> The owner or operator must meet the following fugitive emissions limit and must demonstrate compliance with these limits by conducting performance tests as listed below for: </td> </tr> <tr> <td colspan="2"> Screening operations, bucket elevators, transfer points on belt conveyors, bagging operations, storage bins, enclosed truck or railcar loading stations or from any other affected facility. </td> </tr> <tr> <td> <p align="center">Affected facilities that commenced construction, modification, or reconstruction after</p> </td> <td> <p align="center">Affected facilities that commence construction, modification, or reconstruct on or after</p> </td> </tr> <tr> <td> <p align="center">August 31, 1983 but before April 22, 2008...</p> </td> <td> <p align="center">April 22, 2008</p> </td> </tr> <tr> <td> <p align="center">...</p> </td> <td> <p align="center">7 percent opacity</p> </td> </tr> </table>	The owner or operator must meet the following fugitive emissions limit and must demonstrate compliance with these limits by conducting performance tests as listed below for:		Screening operations, bucket elevators, transfer points on belt conveyors, bagging operations, storage bins, enclosed truck or railcar loading stations or from any other affected facility.		<p align="center">Affected facilities that commenced construction, modification, or reconstruction after</p>	<p align="center">Affected facilities that commence construction, modification, or reconstruct on or after</p>	<p align="center">August 31, 1983 but before April 22, 2008...</p>	<p align="center">April 22, 2008</p>	<p align="center">...</p>	<p align="center">7 percent opacity</p>
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Screening operations, bucket elevators, transfer points on belt conveyors, bagging operations, storage bins, enclosed truck or railcar loading stations or from any other affected facility.											
<p align="center">Affected facilities that commenced construction, modification, or reconstruction after</p>	<p align="center">Affected facilities that commence construction, modification, or reconstruct on or after</p>										
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<p align="center">...</p>	<p align="center">7 percent opacity</p>										

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D. SOURCES SUBJECT TO 40 CFR 60 SUBPART OOO

Condition Number	Conditions	
	...	An initial performance test according to 40 CFR 60.11 and 40 CFR 60.675; and Periodic inspections of water sprays according to 40CFR 60.674(b) and 60.676(b); ...
	The owner or operator must meet the following fugitive emissions limit and must demonstrate compliance with these limits by conducting performance tests as listed below for:	
	Crushers at which a capture system is not used.	
	<p align="center">Affected facilities that commenced construction, modification, or reconstruction after</p> <p align="center">August 31, 1983 but before April 22, 2008...</p>	<p align="center">Affected facilities that commence construction, modification, or reconstruct on or after</p> <p align="center">April 22, 2008</p>
	...	12 percent opacity
	...	An initial performance test according to 40 CFR 60.11 and 40 CFR 60.675; and Periodic inspections of water sprays according to 40CFR 60.674(b) and 60.676(b); ...
D.4	<p>Emission Unit ID: 01, 02, 03 Equipment ID: All Control Device ID: WS, WCO</p> <p>(40 CFR 60.675(c)(1)) In determining compliance with the particulate matter standards in 40 CFR 60.672(b), the owner or operator shall use Method 9 of Appendix A-4 of this part and the procedures in 40 CFR 60.11, with the following additions:</p> <p>(i) The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).</p> <p>(ii) The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun (Method 9 of Appendix A-4 of this part, Section 2.1) must be followed.</p> <p>(iii) For affected facilities using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.</p>	

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D. SOURCES SUBJECT TO 40 CFR 60 SUBPART 000

Condition Number	Conditions
	<p>(40 CFR 60.675(c)(3)) When determining compliance with the fugitive emissions standard for any affected facility described under 40 CFR 60.672(b), the duration of the Method 9 (40 CFR part 60, Appendix A-4) observations must be 30 minutes (five 6-minute averages). Compliance with the applicable fugitive emission limits in Table 3 of this subpart must be based on the average of the five 6-minute averages.</p>
D.5	<p>Emission Unit ID: 01, 02, 03 Equipment ID: All Control Device ID: WS, WCO</p> <p>(40 CFR 60.674(b)) The owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses wet suppression to control emissions from the affected facility must perform monthly periodic inspections to check that water is flowing to discharge spray nozzles in the wet suppression system. The owner or operator must initiate corrective action within 24 hours and complete corrective action as expediently as practical if the owner or operator finds that water is not flowing properly during an inspection of the water spray nozzles. The owner or operator must record each inspection of the water spray nozzles, including the date of each inspection and any corrective actions taken, in the logbook required under 40 CFR 60.676(b).</p> <p>...(2) If an affected facility that routinely uses wet suppression water sprays ceases operation of the water sprays or is using a control mechanism to reduce fugitive emissions other than water sprays during the monthly inspection (for example, water from recent rainfall), the logbook entry required under 40 CFR 60.676(b) must specify the control mechanism being used instead of the water sprays.</p> <p>(40 CFR 60.676(b)(1)) Owners or operators of affected facilities for which construction, modification, or reconstruction commenced on or after April 22, 2008, must record each periodic inspection required under 40 CFR 60.674(b), including dates and any corrective actions taken, in a logbook (in written or electronic format). The owner or operator must keep the logbook onsite and make hard or electronic copies (whichever is requested) of the logbook available to the Department upon request.</p>
D.6	<p>Emission Unit ID: 01, 02, 03 Equipment ID: All Control Device ID: WS, WCO</p> <p>(40 CFR 60.670(d))</p> <p>(1) When an existing facility is replaced by a piece of equipment of equal or smaller size, as defined in 40 CFR 60.671, having the same function as the existing facility, and there is no increase in the amount of emissions, the new facility is exempt from the provisions of 40 CFR 60.672, 60.674, and 60.675 except as provided for in paragraph (d)(3) of this section.</p> <p>(2) An owner or operator complying with paragraph (d)(1) of this section shall submit the information required in 40 CFR 60.676(a).</p>

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D. SOURCES SUBJECT TO 40 CFR 60 SUBPART 000

Condition Number	Conditions
	<p>(3) An owner or operator replacing all existing facilities in a production line with new facilities does not qualify for the exemption described in paragraph (d)(1) of this section and must comply with the provisions of 40 CFR 60.672, 60.674 and 60.675.</p> <p>(40 CFR 60.676(a)) Each owner or operator seeking to comply with 40 CFR 60.670(d) shall submit to the Department the following information about the existing facility being replaced and the replacement piece of equipment.</p> <p>(1) For a crusher, bucket elevator, bagging operation, or enclosed truck or railcar loading station:</p> <ul style="list-style-type: none"> (i) The rated capacity in megagrams or tons per hour of the existing facility being replaced. (ii) The rated capacity in tons per hour of the replacement equipment. <p>(2) For a screening operation:</p> <ul style="list-style-type: none"> (i) The total surface area of the top screen of the existing screening operation being replaced (ii) The total surface area of the top screen of the replacement screening operation. <p>(3) For a conveyor belt:</p> <ul style="list-style-type: none"> (i) The width of the existing belt being replaced (ii) The width of the replacement conveyor belt. <p>(4) For a storage bin:</p> <ul style="list-style-type: none"> (i) The rated capacity in megagrams or tons of the existing storage bin being replaced and (ii) The rated capacity in megagrams or tons of replacement storage bins.
D.7	<p>Emission Unit ID: 01, 02, 03 Equipment ID: All Control Device ID: WS, WCO</p> <p>(40 CFR 60.676(f)) The owner or operator of any affected facility shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards set forth in 40 CFR 60.672 of this subpart, including reports of opacity observations made using Method 9 (40 CFR part 60, Appendix A-4) to demonstrate compliance with 40 CFR 60.672(b).</p> <p>(40 CFR 60.676(h)) The subpart A requirement under 40 CFR 60.7(a)(1) for notification of the date construction or reconstruction commenced is waived for affected facilities under this subpart.</p> <p>(40 CFR 60.676(i)) A notification of the actual date of initial startup of each affected facility shall be submitted to the Department</p> <p>(1) For a combination of affected facilities in a production line that begin actual initial startup on the same day, a single notification of startup may be submitted by the owner or operator to the</p>

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D. SOURCES SUBJECT TO 40 CFR 60 SUBPART OOO

Condition Number	Conditions
	<p>Department. The notification shall be postmarked within 15 days after such date and shall include a description of each affected facility, equipment manufacturer, and serial number of the equipment, if available.</p> <p>(2) For portable aggregate processing plants, the notification of the actual date of initial startup shall include both the home office and the current address or location of the portable plant.</p>
D.8	<p>Emission Unit ID: 04 Equipment ID: All Control Device ID: WP</p> <p>(40 CFR 60.676(g)) The owner/operator of any wet material processing operation that processes saturated and subsequently processes unsaturated materials, shall submit a report of this change within 30 days following such change. At the time of such change, this screening operation, bucket elevator, or belt conveyor becomes subject to the applicable opacity limit in 40 CFR 60.672(b) and the emission test requirements of 40 CFR 60.11 if it meets the 40 CFR 60 Subpart OOO applicability requirements.</p>

E. NESHAP PERIODIC REPORTING SCHEDULE SUMMARY - RESERVED

F. NESHAP – CONDITIONS - RESERVED

G. AMBIENT AIR STANDARDS REQUIREMENTS

Condition Number	Conditions
G.1	<p>Air dispersion modeling (or other method) has demonstrated that this facility's operation will not interfere with the attainment and maintenance of any state or federal ambient air standard. Any changes in the parameters used in this demonstration may require a review by the facility to determine continuing compliance with these standards. These potential changes include any decrease in stack height, decrease in stack velocity, increase in stack diameter, decrease in stack exit temperature, increase in building height or building additions, increase in emission rates, decrease in distance between stack and property line, changes in vertical stack orientation, and installation of a rain cap that impedes vertical flow. Parameters that are not required in the determination will not invalidate the demonstration if they are modified. The emission rates used in the determination are listed in Attachment - Emission Rates for Ambient Air Standards of this permit. Higher emission rates may be administratively incorporated into Attachment - Emission Rates for Ambient Air Standards of this permit provided a demonstration using these higher emission rates shows the attainment and maintenance of any state or federal ambient air quality standard or with any other applicable</p>

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G. AMBIENT AIR STANDARDS REQUIREMENTS

Condition Number	Conditions
	<p>requirement. Variations from the input parameters in the demonstration shall not constitute a violation unless the maximum allowable ambient concentrations identified in the standard are exceeded.</p> <p>The owner/operator shall maintain this facility at or below the emission rates as listed in Attachment - Emission Rates for Ambient Air Standards, not to exceed the pollutant limitations of this permit. Should the facility wish to increase the emission rates listed in Attachment - Emission Rates for Ambient Air Standards, not to exceed the pollutant limitations in the body of this permit, it may do so by the administrative process specified above. This is a State Only enforceable requirement.</p>

H. PERIODIC REPORTING SCHEDULE

Compliance Monitoring Report Submittal Frequency	Reporting Period (Begins on the startup date of the source)	Report Due Date
Quarterly	January-March April-June July-September October-December	April 30 July 30 October 30 January 30
Semiannual	January-June April-September July-December October-March	July 30 October 30 January 30 April 30
Annual	January-December April-March July-June October-September	January 30 April 30 July 30 October 30

Note: This reporting schedule does not supersede any federal reporting requirements including but not limited to 40 CFR Part 60, 40 CFR Part 61, and 40 CFR Part 63. All federal reports must meet the reporting time frames specified in the federal standard unless the Department or EPA approves a change.

I. REPORTING CONDITIONS

Condition Number	Conditions
I.1	Reporting required in this permit, shall be submitted in a timely manner as directed in the Periodic Reporting Schedule of this permit.
I.2	All reports and notifications required under this permit shall be submitted to the person indicated in the specific condition at the following address:

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I. REPORTING CONDITIONS

Condition Number	Conditions
	<p align="center">2600 Bull Street Columbia, SC 29201</p> <p>The contact information for the local Environmental Affairs Regional office can be found at: http://www.scdhec.gov</p>
I.3	(S.C. Regulation 61-62.1, Section II(A)(3)) The owner/operator shall submit written notification to the Director of Air Permitting of the date construction is commenced, postmarked within thirty (30) days after such date.
I.4	Unless elsewhere specified within this permit, all reports required under this permit shall be submitted to the Manager of the Technical Management Section, Bureau of Air Quality.
I.5	<p>(S.C. Regulation 61-62.1, Section II(J)(1)(c)) For sources not required to have continuous emission monitors, any malfunction of air pollution control equipment or system, process upset, or other equipment failure which results in discharges of air contaminants lasting for one (1) hour or more and which are greater than those discharges described for normal operation in the permit application, shall be reported to the Department within twenty-four (24) hours after the beginning of the occurrence and a written report shall be submitted to the Department within thirty (30) days. The written report shall include, at a minimum, the following:</p> <ol style="list-style-type: none"> 1. The identity of the stack and/or emission point where the excess emissions occurred; 2. The magnitude of excess emissions expressed in the units of the applicable emission limitation and the operating data and calculations used in determining the excess emissions; 3. The time and duration of excess emissions; 4. The identity of the equipment causing the excess emissions; 5. The nature and cause of such excess emissions; 6. The steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunction; 7. The steps taken to limit the excess emissions; and, 8. Documentation that the air pollution control equipment, process equipment, or processes were at all times maintained and operated, to the maximum extent practicable, in a manner consistent with good practice for minimizing emissions. <p>The initial twenty-four (24) hour notification should be made to the Department’s local Environmental Affairs Regional office.</p> <p>The written report should be sent to the Manager of the Technical Management Section, Bureau of Air Quality and the local Environmental Affairs Regional office.</p>

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J. PERMIT EXPIRATION AND EXTENSION

Condition Number	Conditions
J.1	<p>(S.C. Regulation 61-62.1, Section II(A)(4) and (5) and S.C. Regulation 61-62.1, Section II(J)(1)(f)) Approval to construct shall become invalid if construction:</p> <ul style="list-style-type: none"> a. is not commenced within 18 months after receipt of such approval; b. is discontinued for a period of 18 months or more; or c. is not completed within a reasonable time as deemed by the Department. <p>The Department may extend the construction permit for an additional 18-month period upon a satisfactory showing that an extension is justified. This request must be made prior to the permit expiration.</p> <p>This provision does not apply to the time period between construction of the approved phases of a phased construction project; each phase must commence construction within eighteen (18) months of the projected and approved commencement date.</p>

K. PERMIT TO OPERATE

Condition Number	Conditions
K.1	<p>(S.C. Regulation 61-62.1 Section II(F)(3)) When a Department issued construction permit includes engineering and/or construction specifications, the owner/operator or professional engineer in charge of the project shall certify that, to the best of his/her knowledge and belief and as a result of periodic observation during construction, the construction under application has been completed in accordance with the specifications agreed upon in the construction permit issued by the Department. If construction is certified as provided above, the owner or operator may operate the source in compliance with the terms and conditions of the construction permit until the operating permit is issued by the Department. If construction is not built as specified in the permit application and associated construction permit(s), the owner/operator must submit to the Department a complete description of modifications that are at variance with the documentation of the construction permitting determination prior to commencing operation. Construction variances that would trigger additional requirements that have not been addressed prior to start of operation shall be considered construction without a permit.</p>
K.2	<p>(S.C. Regulation 61-62.1, Section II(F)(4)(b)) The owner or operator shall submit a written request to the Director of Air Permitting for a new or revised operating permit to cover any new or altered source postmarked within fifteen (15) days after the actual date of initial startup of each new or altered source.</p>
K.3	<p>(S.C. Regulation 61-62.1, Section II(F)(4)(c)) The written request for a new or revised operating permit must include, at a minimum, the following information:</p> <ul style="list-style-type: none"> i. A list of sources that were placed into operation; and i. The actual date of initial startup of each new or altered source.

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L. GENERAL CONDITIONS

Condition Number	Conditions
L.1	The permittee shall pay permit fees to the Department in accordance with the requirements of S.C. Regulation 61-30, Environmental Protection Fees.
L.2	<p>In the event of an emergency, as defined in S.C. Regulation 61-62.1, Section II(L), the owner or operator may document an emergency situation through properly signed, contemporaneous operating logs, and other relevant evidence that verify:</p> <ol style="list-style-type: none">1. An emergency occurred, and the owner or operator can identify the cause(s) of the emergency;2. The permitted source was at the time the emergency occurred being properly operated;3. During the period of the emergency, the owner or operator took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and4. The owner or operator gave a verbal notification of the emergency to the Department within 24 hours of the time when emission limitations were exceeded, followed by a written report within 30 days. The written report shall include, at a minimum, the information required by S.C. Regulation 61-62.1, Section II(J)(1)(c)(i) through (J)(1)(c)(viii). The written report shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. <p>This provision is in addition to any emergency or upset provision contained in any applicable requirement.</p>
L.3	<p>(S.C. Regulation 61-62.1, Section II(O)) Upon presentation of credentials and other documents as may be required by law, the owner or operator shall allow the Department or an authorized representative to perform the following:</p> <ol style="list-style-type: none">1. Enter the facility where emissions-related activity is conducted, or where records must be kept under the conditions of the permit.2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit.3. Inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.4. As authorized by the Federal Clean Air Act and/or the S.C. Pollution Control Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.
L.4	(S.C. Regulation 61-62.1, Section II(J)(1)(a)) No applicable law, regulation, or standard will be contravened.
L.5	(S.C. Regulation 61-62.1, Section II(J)(1)(e)) Any owner or operator who constructs or operates a source or modification not in accordance with the application submitted pursuant to this regulation or with the terms of any approval to construct, or who commences construction after the effective date of these regulations without applying for and receiving approval hereunder, shall be subject to enforcement action.

ATTACHMENT - Emission Rates for Ambient Air Standards

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The emission rates listed herein are not considered enforceable limitations but are used to evaluate ambient air quality impact. Until the Department makes a determination that a facility is causing or contributing to an exceedance of a state or federal ambient air quality standard, increases to these emission rates are not in themselves considered violations of these ambient air quality standards (see Ambient Air Standards Requirements).

AMBIENT AIR QUALITY STANDARDS - STANDARD NO. 2						
Emission Point ID	Emission Rates (lbs/hr)					
	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	Lead
BIN-001	0.03	0.007	--	--	--	--
BIN-002	0.02	0.005	--	--	--	--
CNV-001	0.03	0.007	--	--	--	--
CNV-002	0.03	0.007	--	--	--	--
CNV-003	0.03	0.007	--	--	--	--
CNV-004	0.02	0.005	--	--	--	--
CNV-005	0.02	0.005	--	--	--	--
CNV-006	0.02	0.005	--	--	--	--
CNV-007	0.02	0.005	--	--	--	--
CNV-008	0.02	0.005	--	--	--	--
CNV-009	0.02	0.005	--	--	--	--
CNV-010	0.01	0.002	--	--	--	--
CNV-011	0.02	0.005	--	--	--	--
CNV-012	0.02	0.005	--	--	--	--
CNV-013	0.03	0.009	--	--	--	--
CNV-014	0.03	0.009	--	--	--	--
CNV-015	0.01	0.003	--	--	--	--
CNV-016	0.01	0.004	--	--	--	--
CNV-017	0.01	0.003	--	--	--	--
CNV-018	0.01	0.003	--	--	--	--
CNV-019	0.01	0.003	--	--	--	--
CNV-020	0.02	0.005	--	--	--	--
CRS-002	0.22	0.04	--	--	--	--
CRS-003	0.16	0.03	--	--	--	--
FDR-001	0.00075	0.00005	--	--	--	--
PRI-001	0.22	0.04	--	--	--	--
SCR-001	0.70	0.048	--	--	--	--
SCR-002	0.52	0.04	--	--	--	--
Creek Pump	0.001	0.001	0.062	0.232	0.200	--
Process Pond Pump	0.001	0.001	0.062	0.232	0.200	--
PUMP1	0.007	0.007	0.5	0.14	1.470	--

Attachment B

Statement of Basis Permit No. 1000-0046-CA



STATEMENT OF BASIS
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 BAQ Air Permitting Division

Company Name:	Vulcan Construction Materials LLC, Fairfield Quarry	Permit Writer:	Mareesa Singleton
Permit Number:	1000-0046-CA	Date:	January 26, 2021

DATE APPLICATION RECEIVED: April 30, 2020

FACILITY DESCRIPTION (SIC CODES/NAICS CODES): (1423/212313): The facility consists of aggregate mining and a 550 tph aggregate processing plant that produces crushed stone.

PROJECT DESCRIPTION: Construction permit for the installation of a new 550 tph aggregate processing plant at a greenfield site. The plant will consist of crushers, screens, conveyors, bins, washing operations, and three (3) exempt diesel-powered pumps (dewatering, creek, and process pond; exempt per exemption B(ii)(a) of the BAQ Exemption list updated May 24, 2019).

SOURCE TEST REQUIREMENTS: Emission unit IDs 01, 02, and 03 required to source test in accordance with 40 CFR 60.11 and 40 CFR 60.675.

SPECIAL CONDITIONS, MONITORING, LIMITS: PSD avoidance limit of less than 250.0 TPY for PM and Title V avoidance limit of less than 100.0 TPY for PM₁₀.

PROJECT EMISSIONS						
Pollutant	Uncontrolled		Controlled		PTE	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
PM	74	323	6.2	27	74	<250.0
PM ₁₀	27	117	2.2	10	27	<100.0
PM _{2.5}	4.2	18.5	0.3	1.4	4.2	18.5
SO ₂	0.6	2.5	--	--	0.6	2.5
NO _x	0.6	2.7	--	--	0.6	2.7
CO	1.9	8.2	--	--	1.9	8.2
VOC	0.7	3.0	--	--	0.7	3.0
Total HAP	9.93E-04	4.75E-03	--	--	9.93E-04	4.75E-03

FACILITY WIDE EMISSIONS			
Pollutant	Uncontrolled	Controlled	PTE
	TPY	TPY	TPY
PM	323	27	<250.0
PM ₁₀	117	10	<100.0
PM _{2.5}	18.5	1.4	18.5
SO ₂	2.5	--	2.5
NO _x	2.7	--	2.7
CO	8.2	--	8.2
VOC	3.0	--	3.0
Total HAP	4.75E-03	--	4.75E-03



STATEMENT OF BASIS
Page 2 of 3
 BAQ Air Permitting Division

Company Name:	Vulcan Construction Materials LLC, Fairfield Quarry	Permit Writer:	Mareesa Singleton
Permit Number:	1000-0046-CA	Date:	January 26, 2021

OPERATING PERMIT STATUS: This is a new facility. This construction permit will be rolled over into the General Conditional Major Permit for Nonmetallic Mineral Plants.

REGULATORY APPLICABILITY REVIEW	
Regulations	Comments/Periodic Monitoring Requirements
Section II.E – Synthetic Minor	Applicable: The facility is requesting a TV avoidance limit of less than 100.0 TPY of PM ₁₀ and a PSD avoidance limit of less than 250.0 TPY of PM.
Standard No. 1	Not Applicable: The facility does not have any fuel burning sources.
Standard No. 3 (state only)	Not Applicable: This process does not contain waste combustion or reduction sources.
Standard No. 4	Applicable: Section VIII: From June 15, 1999 guidance, a process includes all process emission units and/or group of process units used to make a finished identifiable output. It was determined that this facility is one process defined as aggregate processing consisting of all of the equipment with a finished identifiable output of crushed stone. The PM limit is detailed below. Section IX: All sources shall not exhibit an opacity greater than 20%. Section X: The facility is subject to this section for all non-enclosed operations.
Standard No. 5	Not Applicable: The facility does not have potential VOC emissions of more than 550 pounds in a day or more than 150 pounds in an hour.
Standard No. 5.2	Not Applicable: The dewatering, creek, and process pond pumps each meet exemption (B)(3) of the standard (NO _x emissions less than 5.0 TPY, each).
Standard No. 7	Not Applicable: The facility is not one of the 28 source categories; therefore, its major source threshold is 250.0 TPY. The facility has the potential to emit more than 250.0 TPY of PM. The facility has requested a PSD avoidance limit of less than 250.0 TPY of PM. Therefore, with the limit, the facility is not major for PSD
61-62.6	Applicable: The facility shall develop and implement a Department approved facility wide fugitive dust control plan.
40 CFR 60 and 61-62.60	Applicable: Subpart A: The facility is subject to this Subpart. Subpart OOO: Emission Unit IDs 01, 02, and 03 are subject to this Subpart. Not Applicable: Subpart IIII: The facility dewatering, creek, and process pond pumps are not stationary sources. Subpart JJJJ: The facility does not have a stationary spark ignition internal combustion engine.
40 CFR 61 and 61-62.61	Not Applicable: This facility does not contain sources subject to this standard.
40 CFR 63 and 61-62.63	Not Applicable: Subpart ZZZZ: The facility dewatering, creek, and process pond pumps are not stationary sources.
61-62.68	Not Applicable: This facility does not store or use chemicals subject to 112(r) above the threshold quantities.
40 CFR 64 (CAM)	Not Applicable: Not a Title V facility.



STATEMENT OF BASIS
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 BAQ Air Permitting Division

Company Name:	Vulcan Construction Materials LLC, Fairfield Quarry	Permit Writer:	Mareesa Singleton
Permit Number:	1000-0046-CA	Date:	January 26, 2021

Explanation of Synthetic Minor Limits					
Permit ID	Equipment ID	Permit Issue Date	Pollutant	Emission Limit (TPY)	Explanation
CA	All	January 26, 2021	PM	<250.0	PSD Avoidance
CA	All	January 26, 2021	PM ₁₀	<100.0	Title V Avoidance

Standard No. 4 Allowable					
Process	Process Weight Rate (tons/hr)	PM Allowable (lb/hr)	Uncontrolled Emissions PM (lb/hr)	Controlled Emissions PM (lb/hr)	Monitoring
Aggregate Processing	550	70.1	74	6.2	Operation of the wet suppression systems in accordance with the permit

AMBIENT AIR STANDARDS REVIEW	
Regulations	Comments/Periodic Monitoring Requirements
Standard No. 2	The emissions are below the exemption thresholds. See modeling summary dated June 4, 2020.
Standard No. 7	This is not a PSD project. See modeling summary dated June 4, 2020.
Standard No. 8 (state only)	No St. 8 pollutants are emitted from processes subject to this standard. See modeling summary dated June 4, 2020.

PUBLIC NOTICE

This construction permit has undergone a 30-day public notice period, in accordance with SC Regulation 61-62.1, Section II.N to establish synthetic minor limits. The comment period was open from July 23, 2020 through September 11, 2020. The draft construction permit and draft statement of basis were placed on the BAQ website during the comment period. Comments were received during the comment period.

ADDITIONAL PUBLIC PARTICIPATION

The Bureau of Land and Waste Management and the Bureau of Air Quality held a joint virtual public hearing on August 27, 2020.

SUMMARY AND CONCLUSIONS

It has been determined that this source, if operated in accordance with the submitted application, will meet all applicable requirements and emission standards.

Attachment C

**Response to Comments
Permit No. 1000-0046-CA**

**South Carolina Department of Health and Environmental Control
Bureau of Air Quality**

**Response to Comments
Public Notice #20-045-GCM-C-H
Vulcan Construction Materials. LLC - Fairfield Quarry
Permit Number 1000-0046-CA**

The following is the SC Department of Health and Environmental Control's (SC DHEC) Bureau of Air Quality (Department) response to the comments made and issues raised during the formal comment period held July 23, 2020 through September 11, 2020 regarding the draft Vulcan Construction Materials, LLC - Fairfield Quarry (Vulcan Fairfield) synthetic minor construction permit. The written comments received regarding the draft permit are available for viewing at the SC DHEC Columbia office located at 2600 Bull Street, Columbia, SC 29201, or hardcopies can be requested by contacting our Freedom of Information Office at (803) 898-3817.

Air Pollution Impacts – A comment was received regarding air pollution and air quality and health impacts, including concern that the amount of respiratory pollutant emitted into the air every day and would seem to violate a decent standard of air quality.

Federal and state air quality regulations are established to be protective of public health and welfare, using scientific data and human health risk exposure. These regulations include setting standards for ambient air and emission limits, controls and/or operational requirements for industrial facilities.

The Clean Air Act (CAA) requires the U.S. Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS) for six pollutants ("criteria" pollutants) considered harmful to public health and the environment. There are two types of NAAQS: primary standards and secondary standards. Primary standards are set to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly. Secondary standards are set to protect public welfare, such as protection against decreased visibility, and damage to animals, crops, vegetation, and buildings. The criteria pollutant of concern from this project is particulate matter (PM). PM consists of any finely divided solid or liquid material, other than uncombined water, and includes particulate matter less than 10 micrometers in diameter (PM₁₀) and particulate matter less the 2.5 micrometers in diameter (PM_{2.5}). National ambient standards have been set for both PM₁₀ and PM_{2.5}.

The EPA is also required to designate areas of the country as in nonattainment when monitoring information shows pollutant concentrations exceed (or violate) a set standard. There are no nonattainment areas in South Carolina for PM₁₀ or PM_{2.5}.

In accordance with South Carolina air quality regulations, “no permit to construct or modify a source will be issued if emissions interfere with attainment or maintenance of any state or federal standard.” Vulcan Fairfield emissions were evaluated to determine if they would interfere with attainment of the NAAQS. This emissions evaluation showed that controlled emissions of PM₁₀ and PM_{2.5} would be at levels below the de minimis threshold level requiring an air quality analysis, thus demonstrating that no violation of the national ambient standard should occur.

Furthermore, as discussed below in the *Particulate Matter (Dust) Emissions* section, the Vulcan Fairfield aggregate processing facility will be subject to New Source Performance Standards, fugitive dust control requirements, and other air permit requirements designed to limit PM emissions. See also the *Free Silica and Silicosis* section below for specific discussion of health concerns related to silica and silicosis.

Air Testing – A comment was received asking how the air would be tested.

In accordance with federal regulations, the Department uses its stationary network of ambient air monitors to continuously monitor air quality throughout the state. Monitoring stations in South Carolina’s ambient air monitoring network are specifically located to represent ambient pollution levels in a diverse set of geographical areas. Title 40 of the Code of Federal Regulations (CFR), Part 58, Appendix D, requires ambient air monitors to be placed in areas with the highest population, or where the highest pollutant concentrations are expected to occur. The Department reviews the monitoring network annually to ensure the minimum requirements and the needs of the air program are met. If the ambient monitors in the monitoring network demonstrate the air pollutant concentrations are lower than the levels set by the national health-protective standards, then it is reasonable to expect that the air pollutant concentrations in other areas are also lower than the national standards. The Department has operated an air quality monitoring network in South Carolina since 1959. There are currently 29 PM₁₀ and PM_{2.5} monitors and samplers at 14 sites in the state’s monitoring network¹. These monitors and samplers are used to assess South Carolina’s air quality and determine compliance with the

¹ www.scdhec.gov/environment/your-air/ambient-air-monitoring-network

NAAQS and state ambient air quality standards. All monitors in South Carolina show attainment with all current air quality standards.

There is also historical PM₁₀ monitoring data available for granite quarries. This monitoring was conducted by a contractor for a Columbia area quarry between 2003 and 2008. Department technical staff periodically reviewed the performance and accuracy of the monitors. This monitoring data showed that ambient air quality standards were met. The maximum permitted production rate at the proposed Vulcan Fairfield quarry is less than at the Columbia area quarry. Additionally, the Department previously conducted ambient PM₁₀ monitoring near two granite quarries in Columbia due to concerns about PM₁₀ concentrations in adjacent communities. The monitoring was conducted at one site from 1991 to 2012 and from 1991 to 2010 at the other site. The results of that monitoring showed ambient concentrations less than half of the health-based standards for PM₁₀ in the area around both quarries at the time the monitoring was discontinued.

Particulate Matter (Dust) Emissions - A comment was received regarding particulate matter (*i.e.*, dust) from the proposed operation. Specifically, the commenter raised concern about the uncontrolled particulate matter (PM) emission levels identified in the draft permit documents and daily emissions associated with such levels.

Particulate matter (PM) or dust emissions from the process equipment, storage piles, and the on-site roads are required to be controlled in accordance with air quality regulations. These regulations limit PM emissions and opacity (amount of light blocked by dust particles).

The air permit requires the use of wet suppression to control PM emissions. The processing plant (crushers, screens, conveyors, storage bins) is regulated under the federal New Source Performance Standard for Nonmetallic Mineral Processing Plants, 40 CFR Part 60, Subpart OOO, as well as state standards. These regulations require maintenance, inspections and, if necessary, corrective action on the control equipment. Water trucks (or other dust control measure) will be used to control fugitive road and storage pile emissions. When dust suppression is conducted in accordance with this permit, it should be effective in controlling dust emissions.

The facility must also develop and implement a comprehensive Fugitive Dust Control Plan (plan) to ensure fugitive dust emissions are minimized. This plan must be submitted to the Department for approval 180 days prior to start of operations. The

plan shall address fugitive emissions from the aggregate processing plant, truck traffic, storage piles and any other potential source of fugitive dust emissions and shall include the items specified in the permit.

The facility is required to conduct weekly inspections on the wet suppression related equipment to ensure that they are operating properly and to record this data in a logbook. The Department will conduct unannounced air inspections, during which the inspectors review all required records, observe the facility's processes while in operation, conduct visual emission observations, verify that the equipment onsite matches those listed in the current permit, and review any other pertinent information for compliance with the air construction permit. In addition to unannounced inspections, inspections will also occur on a complaint-driven basis. Any alleged violations are detailed in the inspection report and referred to the Department's Enforcement Section for resolution.

Additionally, reporting condition I.4 of the permit in accordance with S.C. Regulation 61-62.1, Section II(J)(1)(c), requires the facility to detail what steps will be taken to minimize emissions, record any excessive dust events, and take corrective action to mitigate emissions during any excess fugitive emission episode.

As noted above, the commenter raised specific concern about the uncontrolled PM levels identified in the draft statement of basis and attempted to extrapolate total and daily PM emissions, inferring total uncontrolled emissions of 458.5 tons per year (TPY) and daily emissions of 1.76 TPY. By way of clarification, the permit's statement of basis shows estimated uncontrolled PM emissions of 323 TPY. This total includes both PM₁₀ and PM_{2.5} emissions. "Uncontrolled" emissions estimates do not reflect actual emissions but rather refer to a facility's maximum potential emissions based on a hypothetical assumption of continuous operation (24 hours per day, 7 days per week) at the facility's maximum design capacity, without the application of any emission controls or enforceable limits. This facility has agreed to a federally enforceable limitation on its potential to emit to restrain all PM emissions below the 250.0 TPY threshold for becoming a "major source" under the Prevention of Significant Deterioration (PSD) regulations. Moreover, the facility's *controlled* PM emissions, which account for the actual emission controls that will be operated under the permit, are estimated to be 27 TPY, well below the PSD threshold and uncontrolled emissions estimates.

Free Silica and Silicosis - A comment was received regarding adverse health effects from the facility's air pollutant emission; specifically, exposure to free silica and silicosis.

Crystalline silica is found abundantly in the earth's crust and is a component of granite, sand, soil, and other minerals. Several daily activities such as travelling on dry-dirt roads and wind blowing across dry or sandy areas expose people to low concentrations of silica.

Silica is a known carcinogen and silicosis is a disease associated with the long-term exposure to very high concentrations of silica in the workplace. Occupational regulations were developed to protect workers from exposure to silica above certain levels. In 1996, the EPA evaluated the scientific information available on occupational exposure to silica, which included the medical histories of thousands of miners, as well as available information regarding ambient exposure to silica. It was concluded that healthy individuals exposed to non-occupational silica concentrations are adequately protected by the NAAQS for particulate matter, which was $50 \mu\text{g}/\text{m}^3$ at that time². Since 1996, the EPA has strengthened PM standards to be more protective of public health and the environment. As discussed above in the *Air Pollution Impacts* section, the estimated controlled emissions of PM₁₀ and PM_{2.5} for the facility are below threshold levels requiring an air quality analysis, demonstrating that this facility would not result in an exceedance of current ambient PM standards.

The EPA has adopted a health benchmark level for crystalline silica; however, based on its evaluation of non-occupational exposure to silica, it has determined that regulating silica exposure using the existing PM standards is protective of public health. Therefore, the EPA has not set a NAAQS for silica nor identified it as a Hazardous Air Pollutant (HAP). As with most states, the SC DHEC regulations focus on control measures in the permitting process and rely on the EPA's conclusion that regulating particulate emissions, a component of which is silica, is protective of public health.

² "...[A] thorough analysis of the most extensive occupational studies available, each of which examined the medical histories of thousands of miners, suggests that the cumulative risk of silicosis among these South Dakotan, Canadian, and 8-9 South African miners from exposures at or below 1 mg crystalline silica/m years is close to 0%. ³ Using a high estimate of 10% for the crystalline silica fraction in PM from U.S. metropolitan 10 areas, 1 mg crystalline silica/m years is the highest CSE expected from continuous lifetime exposure at or below the annual PM NAAQS of $50 \mu\text{g}/\text{m}^3$. Thus, current data suggest that, for healthy individuals not compromised by other respiratory ailments and for ambient environments expected to contain 10% or less crystalline silica fraction in PM₁₀, maintenance of the $50 \mu\text{g}/\text{m}^3$ annual NAAQS for PM should be adequate to protect against silicotic effects from ambient 10 crystalline silica exposures." (US Environmental Protection Agency, 1996)

As previously stated, exposure to silica dust is largely an occupational concern. Both the Occupational Safety and Health Administration (OSHA) and the Mine Safety and Health Administration (MSHA) regulate occupational exposure to silica and have developed standards to protect workers from exposure to silica above certain levels. While worker exposure limits are set to protect workers, measures used to reduce exposure for workers (for example, wet suppression) also reduce air emissions and off-site impacts. Some of the permit requirements, like requiring dust from the crushing, screening, and conveying processes to be controlled through wet suppression, reduce both workplace exposures and air emissions. The permit also requires fugitive dust emissions to be minimized using wet suppression, water trucks, paving of roads, and/or other measures.

Other Vulcan Materials Company Operations – A comment was received requesting that the SC DHEC conduct a thorough case study of prior instances of environmental damage by Vulcan Materials Company and release a statement comparing to the Fairfield site before the approval of any permits. It was also requested that the number of environmental violations against Vulcan Materials Company around the country be considered before the issuance of a permit.

Air permit decisions are based on the applicable air quality regulations and standards in place at the time of the Department's technical review of the permit application. Based upon this review, Vulcan Fairfield has met the requirements for issuance of a permit. The compliance history of other Vulcan Materials Company facilities does not provide grounds for denial of this permit. As the Department takes compliance seriously, citizens are encouraged to report any concerns as soon as possible at this facility or any other Department-permitted facility in the state. The Department will respond to any noncompliance and take enforcement action as needed.

Additional Permit Requirements - A comment was received requesting that Vulcan Fairfield be required to fulfill the items listed on its Vulcan Fairfield Quarry³ web page.

Under "Protecting the Air" on the referenced Vulcan Materials Company web page, it states that Vulcan Fairfield will apply for an air permit and that its air controls will include watering interior roads and installing water sprays at material transfer points and on plant equipment. Vulcan Fairfield has applied for a synthetic minor air construction permit, and the air controls listed on the web page are consistent with the requirements of the air construction permit.

³ <https://www.vulcanfairfieldquarry.com/2019/10/21/october-4th-neighbor-update/>

Other subheadings on the web page discuss activities related to safe blasting, protecting local water resources and wells, responsible land use, and nighttime lighting and noise. These issues are outside the scope of the Department's air quality regulations and therefore are not addressed in the air quality permit. Although not addressed by the air quality permit, blasting, land, and water concerns have been considered by the Department's Bureau of Land and Waste Management (BLWM) and Bureau of Water (BOW) as applicable to the facility's mining and water permits. In addition, the facility's mining permit requires the facility to use best management practices to minimize noise. Additionally, excessive noise levels not typical for a site should be reported to the appropriate SC DHEC regional office.

Facility Location – A comment was received concerning the location of the facility within a rural community with road access issues and requested that at least one SC DHEC employee from each division that must approve a permit physically visit the area and drive the roads surrounding the area.

A SC DHEC employee from the Bureaus of Air, Water, and Land and Waste Management visited the location of the proposed site prior to permit issuance. However, issues related to road safety and access are outside the scope of the Department's air quality regulations and air permitting. In addition, all zoning decisions are made at the local level by a city or county zoning authority, usually before a permit request is submitted to the Department. The Department cannot dictate where a facility locates. Please contact your local city or county council representatives for more information on how to get involved in local zoning and planning issues.

Comments on Non-Air Quality Issues – In addition to comments received on issues related to the synthetic minor air quality permit (discussed above), comments received by the Department also addressed a range of other concerns such as: blasting impacts, impacts to water resources, road safety and access issues, increased truck traffic, wildlife impacts, reclamation plan issues, and compliance with mining statutes and regulations.

Air permit decisions are based on the applicable air quality regulations and standards in place at the time of the Department's technical review of the permit application. Based upon this review, Vulcan Fairfield has met the requirements for issuance of a permit. Issues such as blasting, water impacts, road safety and access, truck traffic, wildlife impacts, reclamation plan issues, and compliance with mining provisions are outside the scope of the Department's air quality regulations and therefore are not

addressed in the air quality permit. Vulcan Fairfield has also applied for a mining permit from BLWM and for a National Pollutant Discharge Elimination System (NPDES) permit from BOW. Although not addressed by the air quality permit, other issues raised by the commenters have been considered by BLWM and BOW as applicable to the facility's mining and water permit reviews.

Regarding truck traffic specifically, the Department regulates the fugitive dust from roads within the facility; however, the Department does not have the authority to regulate truck traffic on the public roads. Also, as part of the facility's fugitive dust plan, signage with respect to Sections 56-5-4100 and 56-5-4110 of the S.C. Code of Laws shall be posted on site. These laws require that haul trucks transporting aggregate from quarries be constructed to prevent the escape of materials loaded onto vehicles, that escaped substances or cargo be cleaned from highways, and that loads and covers be firmly attached. The facility is required to obtain an encroachment permit from the SC DOT before utilizing the haul road. The SC DOT has reviewed the application for the encroachment permit and is awaiting state and county approval before issuing.

Regarding concerns about impacts to wildlife and vegetation, the Department further notes that secondary ambient air quality standards (including those for PM) are set to protect public welfare, which includes protecting against damage to animals, crops, and vegetation. As discussed above, the permit application showed that the facility could operate in compliance with all national ambient air quality standards. Impacts to wildlife are also assessed by South Carolina's Department of Natural Resources (SC DNR) and reviewed by BLWM as part of the mine permit application process.

General Opposition and Support – The Department received several comments requesting denial of the permit.

The Department reviews and appreciates all comments made regarding Vulcan Fairfield. However, the Department does not have the authority to make permitting decisions based on community, business, employee and customer approval or disapproval of the company/facility. The Department's decision is based on the Department's technical review of an application and the regulatory requirements in place at the time of the Department's review.