



South Carolina Department of Health and Environmental Control Summary Response to Comments

Anderson Quarry | I-000424 |
Anderson County, South Carolina

This summary is being provided in conjunction with the South Carolina Department of Health and Environmental Control's (DHEC) decision to approve the permit application and modification of permit I-000424 for the Anderson Quarry located along Hayes Road in the City of Anderson, Anderson County, S.C. Operation of this site mine site is to excavate granite.

DHEC's mission is to protect and promote the health of the public and the environment. Through the passage of environmental statutes and regulations, the S.C. General Assembly has established the conditions and criteria that DHEC follows in the permitting process. DHEC's role is to ensure that a proposed project meets all regulatory requirements that have been established in order to be protective of human health and the environment. If it has been determined that an applicant or application has met all applicable regulatory requirements, DHEC does not have the authority to withhold the issuance of a permit.

As part of the permitting process, DHEC engages other state and federal agencies, the surrounding communities, and the general public prior to making a final permit decision in order to:

- 1) Provide information about the proposed permitted activities in the communities;
- 2) Give agencies, community members, and other interested parties an opportunity to submit relevant information to DHEC for consideration prior to making a final permit decision; and,
- 3) Provide an opportunity to submit other concerns to the attention of DHEC and the applicant.

Public meetings are methods DHEC uses to hear concerns and receive comments during the permitting process. A public meeting is an informal conversation with DHEC staff, to include questions and answers.

DHEC held a public meeting on the proposed Anderson Quarry Modification on August 2, 2022. These events were conducted in person at Flat Rock Elementary School. DHEC also extended the period to accept written comments through August 17, 2022.

DHEC values all public comments received during the permitting process and is committed to addressing and considering all relevant information prior to making a final permit decision. Public input is an important part of the permitting process and can result in changes to permit conditions and operational practices if a permit is issued.

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The following responses are being provided in response to comments received during the public comment period and the public meeting for Anderson Quarry.

Section 1: The South Carolina Mining Act

The principal law governing mining in this state is Title 48 Chapter 20: The South Carolina Mining Act. The legislative purpose of the Act is to provide that: (1) the usefulness, productivity, and scenic value of all lands and waters involved in mining within the state receive the greatest practical degree of protection and restoration; and that (2) no mining may be carried on in the state unless plans for the mining include reasonable provisions for protection of the surrounding environment and for reclamation of the area of land affected by mining. A complete copy of the Act can be found here: <https://www.scstatehouse.gov/code/t48c020.php>

The Act provides specific criteria for review of mine permit applications by DHEC. The Act does not supersede local zoning ordinances. Issues related to zoning (i.e., property value and industrial development) are under the jurisdiction of county and municipal planning departments and governed by zoning and land use regulations. DHEC has not been given the authority to consider the effect of a mining operation on property values. DHEC is required to evaluate the application in a timely manner and to consider relevant environmental issues.

The Act allowed the development of regulations to establish minimum standards for mining operations. Regulations 89-10 through 89-350 became effective on June 24, 1983 and have been subsequently modified. These regulations outline the requirements for permitting the design, construction, operation, maintenance, reclamation, and closure of mine sites. The complete list of regulations can be found here: https://scdhec.gov/sites/default/files/Library/Regulations/R.89-10_89-350.pdf

In reaching the decision to approve the permit application and issuance of a permit for the Anderson Quarry, DHEC staff reviewed all information contained in the application, supplemental information submitted by the applicant, and all agency and public comments to ensure that the requirements of the Act and Regulations had been met. DHEC has determined that the applicant has met the applicable requirements and is approved to construct and operate the mine in accordance with the conditions and limits set forth in Permit No. I-000424.

Section 2: Additional Terms and Conditions

In response to information contained within the application, as well as by comments received by other agencies and the communities during the public comment period, DHEC incorporated additional terms and conditions in the final permit. These additional terms and conditions are as follows:

1. If archaeological materials are encountered prior to or during the construction of mine facilities or during mining, the S.C. Department of Archives and History and DHEC should be notified immediately. Archaeological materials consist of any items, fifty years or older, which were made or used by humans. These items include, but are not limited to, stone projectile points (arrowheads), ceramic sherds, bricks, oyster shell, worked wood, bone and stone, metal and glass objects, human skeletal remains, and concentrations of charcoal and stones below the ground surface. These materials may be present on the ground surface and/or under the surface of the ground.
2. Temporary or permanent placement of refuse and debris (e.g., concrete, brick, asphalt) from off-site locations is prohibited without approval by DHEC. Topsoil fill approved by DHEC may be brought in from off-site sources only for the purposes of mine land reclamation.
3. Any segments of existing fence not in good condition (e.g., rotten posts, fence unattached to posts, fence cut) must be repaired or replaced. Existing fencing comparable to a woven wire fence may be used toward establishing the perimeter fence for the permitted area. Installation of any new fencing will be done in conjunction with the construction of the berms and may use four strands of barbed wire. Until the entire perimeter fence is complete, the operator shall have suitable barriers (e.g., earthen berms, large boulders, temporary fencing) around the pit highwalls. During reclamation, the outer fence around the permitted area may be replaced or removed, as appropriate. The perimeter of the excavated area will be securely fenced to control access to the site as water fills the quarry.
4. The operator shall maintain a 1,000-foot blasting setback from neighboring structures for the expanded pit area, as shown on mine maps for Mod 21-1.
5. The operator shall implement the dust control methods described in the revised Fugitive Dust Control Plan (FDCP), dated May 8, 2022 (Appendix B). If these methods are not adequate to control fugitive dust, DHEC may require further revisions to the FDCP at any time.

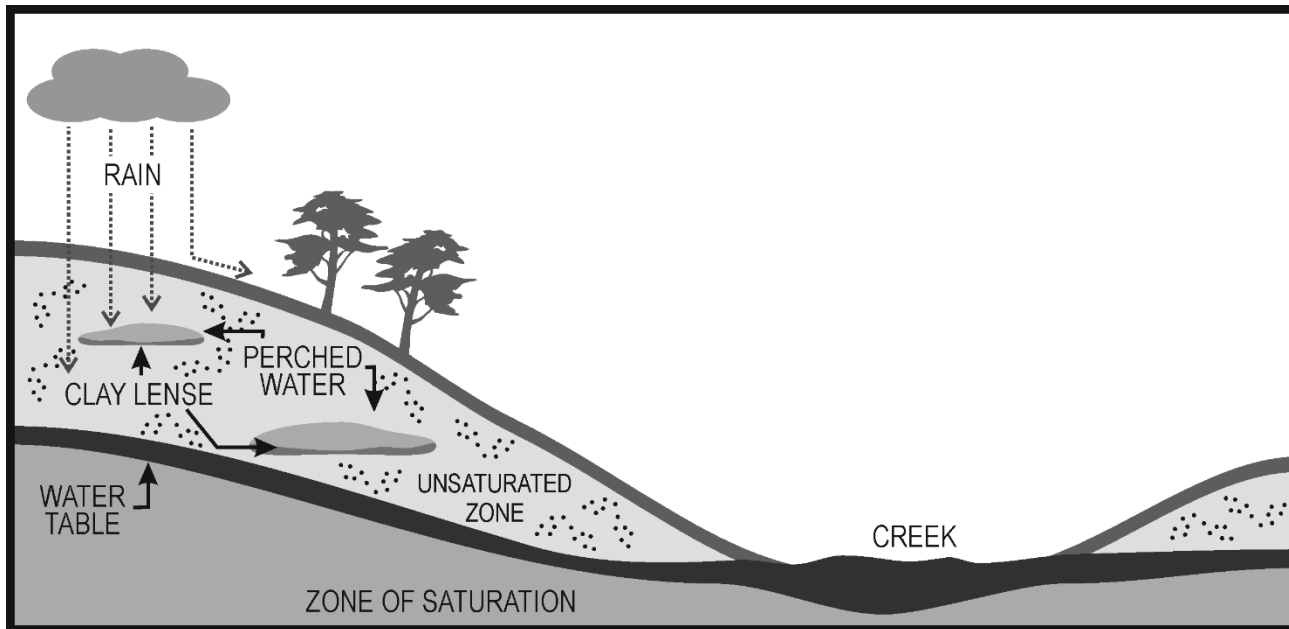
Some of these conditions are also detailed in subsequent sections.

Section 3: Groundwater

Groundwater is water that collects or flows below the soil surface. The main source for groundwater is rainfall. Runoff from rainwater can go directly into water bodies or seeps into the ground. When water soaks (infiltrates) into the ground, gravity pulls the water down through the spaces between the soil particles and rocks until it reaches a depth where all of the spaces are filled with water, or saturated. The water level where the soils are saturated is called the water table. The area above the water table is called the unsaturated zone, the area below the water table is the saturated zone.

As shown in the following diagram, the water table is not always at the same depth below the land surface - the level moves up or down depending on rainfall and the rate water is removed (e.g., irrigation, industry, well). The unsaturated zone may contain pockets (lenses) of tightly bound clayey soils that do not allow the water to infiltrate. In this situation, the water will collect (perch) on the top of these impermeable lenses. This is "perched water" and is not the true water table along the top of the saturated zone.

Mine dewatering is necessary when the pit floor extends below the water table, and groundwater seeps into the quarry from natural joints and fractures in the rock. The operator has not requested to extend the depth limit with this modification; therefore, it is not anticipated that water table conditions will vary due to this modification. However, if DHEC determines a drinking water well or water supply well is being adversely affected by dewatering activities at the permitted site, the operator shall be responsible for repairing, deepening, or redrilling such wells. If an impact to a well occurs, the operator shall supply the owner with a temporary water supply (e.g., bottled water for drinking, provisions for laundry) until a permanent water supply is reestablished.



Section 4: Surface Water

Discharge Monitoring and Sediment Control: The operator is permitted to discharge wastewater and stormwater through outfalls 001 and 003 in accordance with the *NPDES General Permit for Discharges Associated with Nonmetal Mineral Mining Facilities (SCG730222)*. All discharges will be routed northeast into a tributary that eventually flows into Nesbit Creek. Discharges from the outfall will be subject to numeric effluent limits (total suspended solids and pH) and other permit requirements that are protective of human health and the environment. Should the operator be unable to meet the requirements of the NPDES permit, DHEC’s Bureau of Water would initiate their compliance and/or enforcement procedures, accordingly.

The operator has indicated that during operations, water from the processing plant will be routed in a closed circuit system through the collection pond where the clarified water is then reused in the processing plant. Under normal rainfall conditions, this closed circuit system will operate without discharging into waters of the state. However, in extreme or prolonged rainfall events, there is a potential for the water volume to exceed the capacity of the wash circuit system. Under these circumstances any excess water may be discharged into waters of the state through the regulated outfall.

Stormwater will be routed into the pit or any of the sediment basins throughout the site, in order to capture sediment runoff. This sediment will be allowed settle out of the stormwater prior to being discharged offsite. The NPDES permit requires the operator to have proper Best Management Practices (BMPs) and a Stormwater Pollution Prevention Plan (SWPPP) in place. Furthermore, the operator shall operate the site in accordance with the *Erosion and Sediment Control Plan – Initial Phase* (Rev. 1 dated March 23, 2021) and the approved mine maps.

The NPDES general permit requires that stormwater outfalls have appropriate BMPs to minimize the discharge of pollutants. The permit also requires benchmark monitoring of stormwater discharges. Benchmark monitoring involves collecting a quarterly sample during the first 30 minutes of the stormwater discharge and analyzing it for Total Suspended Solids. If the average of the four quarterly benchmark samples is greater than 100 mg/l Total Suspended Solids, then the operator must either improve their BMPs or document that it is not feasible to improve their BMPs. If the average of the four quarterly benchmark samples is less than 100 mg/l Total Suspended Solids, benchmark sampling is no longer required during this permit term for that outfall.

Potential for Flooding: The mine operating permit is conditioned such that “Active pumping and discharge of water shall cease if the dewatering discharge causes flooding conditions to property downstream of the mine site”. At no time will the operator be allowed to flood neighboring properties.

Section 5: Buffers, Setbacks, and Visual Impacts

Buffer areas are areas that will not be disturbed beyond the pre-mine natural state, and provide distance between the mining operation and the neighboring properties and wetlands. The Act and Regulations do not have specific requirements for buffer areas, so they are developed on a case-by-case basis. The size of the buffer and setback from the permit boundary is dependent on the nature of the mine, the neighboring land use, and the purpose of the buffer area.

The operator has designated 42.0 ac as buffer. The operator shall maintain a minimum 50-100ft undisturbed perimeter buffer between mining activity and all property lines for the majority of the site, with 100-250ft buffers between the quarry and neighboring homes. Additionally, a minimum 50ft buffer will be maintained between mining activities and any wetlands.

The vegetation in the buffer will remain in its current state or be enhanced to provide for visual screening. Appropriate silviculture practices may be utilized to manage buffer areas that will allow thinning of timber under the direction of a S.C. licensed Professional Forester. Any land disturbance not consistent with accepted silviculture practices in the buffer areas will require the Mine Permit to be modified prior to such disturbances.

Section 6: Noise

The majority of noise generated with mining activity is associated with motorized vehicles and equipment. The level of noise perceived at residences is usually related to the distance from the source of the sound, weather conditions, topography, and the type and condition of the equipment. Equipment such as trucks, dozers, and loaders usually has an average noise level determined by the manufacturer. The majority of the equipment averages 75 to 90 decibels (db) at a distance of fifty feet. Sound decreases (attenuates) with distance at the rate of about 3 to 5 db each time the distance between the source and the person hearing it is doubled.

Another factor used to buffer noise is topography. Overburden will be used to construct berms to block the direct path of sound. Additionally, the mine operating permit requires the operator to maintain equipment (e.g., mufflers on trucks, trackhoes, pumps) to minimize noise from the site.

The combination of undisturbed vegetated buffers, earthen berms, maintenance of equipment, and distance from the operation will consequently reduce the potential for sound heard offsite. There may be instances when the sound of equipment (back up alarms, trucks, etc.) can be heard, but the decibel levels should not be excessive.

Although no state standards exist for noise emitted from this type of industry, the Mine Safety & Health Administration (MSHA) does have noise standards applicable for worker safety to protect hearing. Therefore noise, limited at the source to protect workers, has the added benefit of limiting noise beyond the permit area.

Section 7: Public Safety

Public safety around a mine site is always a concern. A primary method to ensure public safety is controlling access to the mine property. A gated entry, warning signs, and a perimeter security fence will minimize physical hazards to persons and adjoining land uses. Additionally, natural barriers (e.g., streams, wetlands, vegetation) and constructed berms provide a deterrent for accidental entry into a mine site. The combination of these barriers and site characteristics will limit public exposure to the operations at the site.

Section 8: Blasting

Surface blasting requirements are regulated in R.89-150. All blasting is required to be performed by a S.C. licensed blaster and be within 1.0 inch per second peak particle velocity (PPV) at the closest inhabited structure, which is considered more than adequate to protect the structure's integrity.

Per Regulation 89-150.I., to provide for adequate public safety, DHEC is required to establish a minimum distance between blasting and any structure not owned by the operator. The permittee has indicated on the mine map, which is part of their permit, that they will observe at least 1,000 ft from blasting to the nearest inhabited structure for the northward expansion of the pit area, in order to satisfy that part of the Regulation.

Ground vibrations, due to blasting, may be felt outside of the permit boundary. Federal guidelines on surface blasting state that a PPV of 2.0ips is considered safe for structures; South Carolina goes one step further and limits PPV to 1.0ips (Regulation 89-150.E.) at the closest structure for an additional measure of safety. So, while ground vibrations may be felt offsite as an annoyance, it is not considered intense enough to cause damage to structures or roads. Additionally, the air blast from a quarry may be heard off-site, but would not be strong enough to produce damage to residential structures.

R.89-150.A. requires the operator to perform a Pre-Blast Survey of inhabited structures that are within one-half mile of blasting expansion at the landowners' approval. A copy of this report will be given to the operator, the landowner, and DHEC.

Section 9: Air Quality

Dust: Fugitive dust emissions from the proposed mining activities have been a concern with this proposed mine. The Division of Mining and Solid Waste Management is responsible for regulating dust emissions from a mining site. Sources of dust include: moving equipment, handling of the mineral resource and overburden, truck traffic, and wind erosion.

At active sites, the major contributors of dust are equipment and truck traffic. Properly constructed access roads with dust suppression methods (e.g., water trucks, sprinklers) is the most effective way to manage dust from traffic. The operator will use a watering truck. The frequency of watering will depend on weather conditions and volume of traffic.

Wind erosion of areas stripped of vegetation and material stockpiles are also sources for potential dust. The operator, where feasible, shall establish vegetation in non-active mine areas barren of vegetation to stabilize the soil and reduce potential for wind erosion and dust emissions. The combination of minimizing land disturbance and re-vegetation will lessen the potential for windblown dust.

DHEC received several comments regarding fugitive dust from the quarry. At DHEC's request, the operator has submitted a revised Fugitive Dust Control Plan (Appendix B of the Mine Operating Permit) that is intended to reduce the amount of fugitive dust at the site. If at any time DHEC determines these methods are inadequate to control fugitive dust, DHEC may require further revisions to the Fugitive Dust Control Plan.

The revised Fugitive Dust Control Plan (FDCP) proposes the relocation and/or removal of waste (fines) stockpiles from their current location, increasing the distance between the stockpiles and the property boundary. The operator will increase use of water trucks and crusting agents on the stockpiles in the interim until the stockpiles are relocated. The operator has also installed a new sprinkler system at the entrance to reduce fugitive dust and trackout on the roadway. These methods will be in addition to the operator's current dust suppression efforts, such as wet suppression systems in the plant, monitoring and inspecting spray nozzles, water lines, etc., and enforcing established speed limits within the site.

Health Risks with Dust Exposure: Health risks are mitigated by controlling the dust at the source. Source control measures include best management practices, such as water trucks, dust suppressants, sprinklers, etc.

MSHA is responsible for protecting the health of workers at mine operations. As part of their duties, MSHA monitors exposure of workers to dust. Results from monitoring show the risk is greatest within work environments involving processing (crushing/grinding) and operating equipment. If a problem concerning overexposure exists, MSHA would require the company install some type of engineering control to eliminate the concern at the source.

Meeting MSHA requirements to control dust in the immediate work area will further minimize any exposure risk outside the permitted area. No elevated exposure risk is anticipated from the mine beyond the property line.

We are exposed on a daily basis to dust from non-industrial sources such as dirt roads, fields, and bare lots. Although the proposed mining operation does not add any new hazards, engineering and administrative controls have been designed to minimize the production of airborne dust. Based on the proposed controls at the mine (natural buffers, distance from property lines, controls on the haul road), an increase in the exposure to silica or other materials beyond the property line is not anticipated. Information on air monitoring in South Carolina is available on DHEC's Bureau of Air Quality website at <http://www.scdhec.gov/HomeAndEnvironment/Air/AmbientAir/>.

Section 10: Zoning

Appropriate or compatible land use is determined by local government. DHEC has no authority regarding zoning in Anderson County. Specifically, the S.C. Mining Act states in Section 48-20-250, *“No provision of this chapter supersedes, affects, or prevents the enforcement of a zoning regulation or ordinance within the jurisdiction of an incorporated municipality or county or by an agency or department of this State, except when a provision of the regulation or ordinance is in direct conflict with this chapter.”* DHEC recognizes that each county and municipality across the state has different priorities and unique requirements. DHEC relies on county and municipal governments, through zoning and other ordinances, to regulate where residential, commercial, and industrial zones may occur.

Section 11: Land and Property Value/Economic Impact

Comments were received regarding the impact to property values and possible economic impacts. All zoning decisions are made at the local level by a city or county zoning authority, usually before a permit request is received. DHEC cannot dictate where a facility locates or factor property value impacts into our permitting decision. We encourage residents to contact their local city or county council representatives for more information on how to get involved in local zoning and planning issues.

Section 12: Community/Quality of Life

Comments were received regarding the potential impacts of the proposed mine on the local community’s way of life. DHEC is committed to fulfilling the agency’s responsibilities to protect and promote the health of the public and the environment. Through the exercise of those responsibilities, DHEC works to improve the quality of life of individuals and communities. However, the agency may only act within the limits of its statutory and regulatory authority. Through statutes and regulations, the General Assembly has established conditions and criteria the agency uses to ensure public health and environmental protection. DHEC is required to make its permit decision based only on technical review of the permit application and the Act and Regulations in place at the time of DHEC's review.

Section 13: Operating Hours

DHEC does not have the authority to regulate operating hours at mine sites.

Section 14: Inspections

S.C. Mining Act 48-20-130 and Regulation 89-240 allow DHEC to conduct inspections and investigations of the permitted area at any reasonable time for the purposes of determining whether the operator has complied with the reclamation plan, requirements of the Mining Act, any rules and regulations promulgated thereunder, or the terms and conditions of the operating permit. The Mining Program will conduct routine site inspections and compliance inspections, as needed.

The Bureau of Water’s monitoring program includes documentation of quarterly visual inspections, an annual comprehensive site inspection, quarterly benchmark sampling, an impaired waters assessment (TMDL sampling if discharging to an impaired water), monthly effluent limitations monitoring (if required), and other aspects like employee training, spill/leak assessments and documentation, and a Best Management Practices Plan. Compliance Evaluation Inspections (CEIs) are randomly conducted at permitted facilities approximately once every 5 years, unless a follow up is needed at a particular facility due to non-compliance with permit guidelines; in such cases, a facility may be inspected at the Department’s discretion in order to assess and/or enforce permit compliance. DHEC staff may also respond to complaints about a facility.

Section 15: General Opposition

DHEC received several comments requesting denial of a permit. While DHEC appreciates all comments received, it is important to recognize that we do not have the authority to make permitting decisions based on community, business, employee, or customer approval or disapproval of a proposed operation. DHEC is required by law to make a decision based only on the technical review of an application and the regulatory requirements in place at the time of that review. In 48-20-70 of the Act, DHEC is required to grant an operating permit to the applicant if there are no technical reasons to deny the permit.