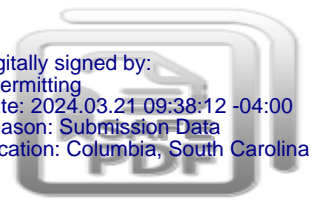


Mines - Individual Operating Permit New

version 2.0

(Submission #: HQ1-J2W5-WG8A0, version 1)

Digitally signed by:
ePermitting
Date: 2024.03.21 09:38:12 -04:00
Reason: Submission Data
Location: Columbia, South Carolina



Details

Submission ID HQ1-J2W5-WG8A0

Form Input

Form Instructions

The South Carolina Mining Act, Sections 48-20-10 through 48-20-310, Code of Laws of South Carolina, 1976, as amended provides in part: No operator may engage in mining without having first obtained from the Department an operating permit which covers the affected land and which has not been terminated, been revoked, suspended for the period in question, or otherwise become invalid. (Section 48-20-60)

Applicant Information

How are you applying for this permit?

As a Business Entity

Type of Business Entity

Corporation

Applicant (Business Entity)

Organization Name

Luck Stone Corporation

Phone Type Number Extension

Business 804-784-6300

Fax

804-784-6390

Office Address

515 Stone Mill Dr.

P.O. Box 29682

Richmond, VA 23242

United States

Additional Contact(s) (1 of 3)

Contact Roles

Mining Billing

Mining Contact

Contact

Prefix

NONE PROVIDED

First Name Last Name

Chuck Stilson

Title

Director of Quarry Design and Development

Organization Name

Luck Stone Corporation

Phone Type Number Extension

Business 804-784-6300

Email

chuck.stilson@luckstone.com

Address

515 Stone Mill Dr.
PO Box 29682
Richmond, VA 23242
United States

Additional Contact(s) (2 of 3)

Contact Roles

Consultant

Contact

Prefix

NONE PROVIDED

First Name Last Name

Craig Kennedy

Title

Principal

Organization Name

Kennedy Consulting Services, LLC

Phone Type Number Extension

Mobile 803-960-2562

Email

craigkennedy.kcs@gmail.com

Address

P.O. Box 364
Irmo, South Carolina 29063
United States

Additional Contact(s) (3 of 3)

Contact Roles

Mining Contact

Contact

Prefix

NONE PROVIDED

First Name Last Name

Brian Parker

Title

Engineer

Organization Name

Luck Stone Corporation

Phone Type Number Extension

Business 804-514-8670

Email

brian.parker@luckstone.com

Address

515 Stone Mill Dr.
PO Box 29682
Richmond, VA 23242
United States

Site Information

Name of Proposed Mine

Luck Stone Corporation/Luck Edgefield Quarry

County

Edgefield

Proposed Mine Address

Woodlawn Rd.
Clarks Hill, SC 29821

Proposed Mine Physical Location

33.62219563380465,-82.0902647808258

Is the land to be mined owned or leased by the mine operator (both can be chosen, if applicable)?

Owned

If land is owned by the applicant/mine operator, input the landowner name exactly as shown on county tax records.

Luck Stone Corporation

Parcel(s) owned by mine operator:

Tax Map Parcel Number	Landowner name (as shown on county tax records)
058-00-00-039-000	Luck Stone Corporation

Will river dredging take place under this permit?

No

MR-400 Application for a Mine Operating Permit

General Characteristics of Mine

Materials to be mined:

Granite

Provide a detailed description of how the mine will be operated, including a list of equipment to be used.

Typical equipment to be used in the mining process includes hydraulic excavator, off road haul trucks, blast hole drill(s), bull dozers, wheel loaders, hydraulic rock breakers, road grader and possibly pans. The mining process will start with establishing erosion and sediment control Best Management Practices, timbering and clearing of existing vegetation and stripping overburden. Removed overburden to be placed in permanent storage areas at designated locations. The granite will be drilled, explosives loaded and blasted to fragment stone into manageable sizes to facilitate loading into haul trucks and crushing by primary crusher.

Will there be a process plant located at the mine site within the boundary of the permitted area?

Yes

An Air Construction permit may be required.

Provide a brief description of the plant equipment and function of the plant.

The process plant will consist of a primary, secondary and possibly tertiary crushers with conveyors to move and stockpile stone. Screens will be used to size stone for processing and creating marketable products. A wash plant may be used to remove fines from some products.

Do you anticipate blasting as part of the mining operation?

Yes

Distance to the nearest inhabited structure not owned or leased by the applicant.

1,500 feet

How will flyrock be prevented from being projected from the permitted area?

Flyrock will be prevented with proper blast design and procedures developed and implemented under the direction of a SC Licensed Blaster. A preliminary map and list are being provided in this application. A final list with map based on Edgefield County's tax map showing the 1/2 mile radius will be provided to DHEC to comply with R.89-150 A after the mine operating permit is issued. Pre-blast surveys will be completed before blasting operations begin.

Additional Blasting Information Template

Please download the excel spreadsheet, fill out and resubmit on the attachment below.

[Additional Blasting Information Template Link](#)

Additional blasting information

[5-Edgefield PRE-BLAST Survey Map-\(1\)- 24X36.pdf - 02/21/2024 10:57 AM](#)

[DHEC's Adj Landowners & one-half mile blasting survey spreadsheet.xlsx - 02/22/2024 11:00 AM](#)

Comment

NONE PROVIDED

Has the site been mined in the past?

No

What is the expected maximum depth of this mine? Provide any additional information about the final depth of the mine that would be useful to the Department.

Depth of mining will be 400 feet BGS with a final pit floor elevation of -100 feet msl.

Determination of Permitted Acreage, Affected Acreage, & Reclamation Bond

Permitted acreage should include the following: 1) acres of land to be affected (excavation, processing plant, stockpiles, etc.); 2) future area(s) to be mined and 3) land to be used for buffer zones around the affected land. The permitted area should be the property described in the LAND ENTRY AGREEMENT(S) (FORMS MR-600 or MR-700).

Total acres for which permit is being requested

Acres owned by the mine operator	Acres leased by the mine operator
424.5	

Total Permitted Acres

424.5

Affected acreage may include: 1. Area used for sediment control ponds, 2. Area used for stockpiles of unprocessed minerals, 3. Area used for spoil (overburden) banks, topsoil and disposal refuse (exclusive of tailings impoundments), 4. Areas used for on-site processing facilities and stockpiles of processed minerals, 5. Areas used for tailings pond (waste material from mineral processing), 6. Area for access or haul roads, 7. Area for excavation during the period of this permit.

Total Affected Acres

344.5

Will mining and reclamation be done in segments?

No

Bond Amount (based on total affected acreage above)

See warning below

Applicant may submit a reclamation cost estimate for mines that will affect greater than 25ac. Estimate should be based upon requirements in Regulation 89-200B. and accurately reflect the costs of an independent, third-party contractor.

Reclamation Cost Estimate

NONE PROVIDED

Comment

Reclamation bond estimate will be provided after DHEC completes their technical review of the application.

- 0.00 - 9.99 acres (bond amount - \$10,000)
- 10.00 -14.99 acres (bond amount - \$15,000)
- 15.00 - 24.99 acres (bond amount - \$25,000)
- 25.00 + acres (bond amount - \$25,000 or greater)

Applicant may submit a reclamation cost estimate for mines that will affect greater than 25 acres. Estimate should be based upon requirements in Regulation 89-200 B, and accurately reflect the costs of an independent, third-party contractor.

Future Reserves Acreage

5.9

Buffer Acreage

74.1

Number of years for which this permit is requested:

Life of Mine

The requested number of years the permit is requested should coincide with the Schedule of Reclamation as proposed by the applicant in the RECLAMATION PLAN.

Protection of Natural Resources

Please describe how waste or process water will be treated.

Wastewater generated from washing the stone is circulated through a series of settling basins to remove fines created from the rock crushing and screening process. The clarified water in the last pond in the closed looped system will be recycled to the plant and water reused. The treatment of the wash water from the plant is typical Best Management Practices using settling ponds to remove suspended solids. Should it become necessary to release water from the wash water system, the release will be directed to the NPDES outfall designated for discharge for process water and groundwater.

Which type of permit from the Bureau of Water will/have you applied for?

NPDES General Permit for Discharges Associated with Nonmetal Mineral Mining Facilities (SCG730000)

Provide information as to how stormwater and groundwater will be managed.

The point source discharge from the mine will be primarily groundwater from mine dewatering and stormwater routed into the pit. Should it become necessary to release water from the wash water system, the release will be directed to the NPDES outfall designated for discharge for process water and groundwater.

Please provide any sediment & erosion control designs in support of your application.

[22350640_EDGEFIELD MINING CONCEPTUAL PLAN.pdf - 02/21/2024 10:36 AM](#)

[22350640_Edgefield Sediment Basin Calculation_COMPILED_f.pdf - 02/21/2024 10:37 AM](#)

Comment

NONE PROVIDED

Will there be air contaminant emissions from your plant or mine requiring an Air Quality Permit?

Yes

An application for an Air Quality permit will need to be completed.

Do you anticipate pumping of groundwater?

Yes

Describe pumping of groundwater.

The site is in the Piedmont with crystalline rocks at shallow depths. Groundwater seepage is expected into the pit from the saprolite (weathered granite) and the fractures in the upper zone of the granite. The groundwater seepage will collect in the pit sump(s), stored (along with stormwater) until pumped to surface ponds to be used for process water and dust suppression.

Please provide any groundwater modeling reports, groundwater monitoring plans, or groundwater contingency plans in support of your application.

[Luck Edgefield Site Hydro Report_FINAL_20240205.pdf - 02/21/2024 10:41 AM](#)

[Appendix III_Geophysics Report.pdf - 02/21/2024 10:41 AM](#)

[Luck Edgefield_Groundwater Monitoring Plan_FINAL_20240227.pdf - 03/14/2024 03:05 PM](#)

Comment

NONE PROVIDED

Will jurisdictional wetlands be affected, filled or altered in any fashion that will require a Section 404 Dredge and Fill Permit?

Yes

Please provide any wetland delineation and/or USACE jurisdictional determinations or other permits in support of your application.

[Luck Edgefield Revised Wetland Delineation Map.pdf - 02/21/2024 10:45 AM](#)

[Luck Edgefield JD Request.pdf - 02/21/2024 10:45 AM](#)

Comment

The US Army Corps of Engineers' Concurrence letter will be forwarded to DHEC upon receipt.

Are there any known cultural or historic sites located within the proposed area to be permitted?

No

Please provide any cultural or historic reports in support of your application.

[Luck Edgefield CR Report-February 2024.pdf - 02/21/2024 10:46 AM](#)

Comment

SHPO's concurrence letter will be forwarded to DHEC upon receipt.

Will any part of the permitted area be used as a laydown yard to temporarily store equipment, such as spare parts, scrap metal, or other waste?

Yes

Describe how waste, trash, scrap metal material, or garbage will be handled.

Scrap metal and used mine materials are typically stored on-site and reuse and recycling when the opportunity arises. Trash, garbage, and waste materials will be removed from mine and disposed of in appropriately permitted landfills.

Describe the wildlife or freshwater, estuarine or marine fisheries in the area of the mining operation. Also provide information about any ponds and/or streams that may be located in the proposed permitted area.

Woodlawn Road is the southern permit boundary and southern edge of Steven's Creek drainage area for the mine permit area. Intermittent streams (based on the USGS topographic maps), running south to north, are located on-site at the eastern boundary of the permit area and in the western side of the property. Smaller intermittent and ephemeral streams form tributaries for the two primary streams on-site. The two primary on-site streams flow into Steven's Creek. Forested wetlands are associated with these streams. No ponds are within the mine permit area.

The site was investigated for the following protected species: Bald Eagle, Red-Cockaded Woodpecker, Relict Trilium, Monarch Butterfly and Tricolored Bat. S&ME, Protected Species Assessment is a part of the application.

Please provide any threatened or endangered species reports in support of your application.

[Protected Species Assessment - Luck Edgefield.pdf - 02/21/2024 10:49 AM](#)

Comment

NONE PROVIDED

State the land cover and land uses on the permitted land area and contiguous tracts of land to the permitted land area.

The site consists of planted pine stands, mixed hardwoods, and aquatic features (wetlands and streams). The properties adjacent to the site consist of rural residences, Sumter National Forest and forested land.

Describe measures to be taken to insure against (1) substantial deposits of sediment in neighboring streams, rivers lakes or ponds; (2) landslides; (3) acid water formation and discharge.

(1) Sediment control basin locations are based upon topography and are designed by professional engineers to control the erosion and sediment runoff. The erosion and sediment control plan developed by S&ME provides maps and design calculations for the sediment control basins. Additionally, brush barriers, silt fencing and stormwater diversions will be used where and as necessary, typically around the down gradient perimeter of any land disturbances, to provide sediment control for mine disturbed areas not feasible to route into a sediment control basin or pit. To increase the effectiveness of sediment control, land disturbance will be kept to a minimum and to what is necessary to support mining activities. Non-vegetated areas will be graded and seeded as soon as feasible to stabilize the soil, reduce erosion and prevent sediment.

(2) Proper mine designs, 3:1 slope in the unconsolidated overburden and benching of granite highwalls will maintain slope stability.

(3) Not applicable to this geology

Safety

Describe methods to be used during the time the mine operating permit is active to prevent physical hazards to persons and to any neighboring dwelling, house, school, church, hospital, commercial or industrial building or public road. If applicable, provide the zoning designation for the property to permitted.

The planned mine property is not zoned by Edgefield County. Very limited number of rural homes in the vicinity of the operation. A fence with signs will encircle the active mine area to warn uninformed people and restrict entry to the mine area.

Blasting

Explosives will be used to mine the granite. Blasting is a common technique in mining and used in a variety of settings ranging from rural to urban areas. Blasting operations will be under the direction of a SC Licensed Blaster. The closest inhabited structure to blasting operations is 1,500 feet and there will be no blasting within 250 feet of the mine permit boundary. Explosives will not be stored on site and only be transported to the site on the actual days blasting operations are planned.

Ground vibration from blasting will be controlled through properly designed blasting operations that minimize vibration and maintain them at acceptable levels that prevent damage to structures. All blasting will be monitored with a seismograph. Owners of all structures within 1/2 mile of blasting will be offered the opportunity to have a pre-blast inspection of their structure(s) to establish baseline conditions. This baseline information will be beneficial should there become concerns of vibration damages in the future.

Groundwater Withdrawals

The potential for adverse impacts to wells on neighboring properties is considered low. This concept is based on the geology, experience at other quarries in the Piedmont and surface hydrology in and around the mine permit area. Furthermore, fracture analysis of the planned pit area to determine basic information on the location and orientation of fractures that are conduits for groundwater flow in crystalline rock formations. This information is being used to design a hydrogeologic assessment of Luck Edgefield to determine any potential impacts to the groundwater levels from pit development and dewatering the open pit. The hydrogeologic assessment study at the time of the mine operating permit application submittal is ongoing and will be provided to the Department upon its completion.

Luck Stone has developed a Groundwater Monitoring Plan that provides a methodology to track groundwater drawdown in the permit area. This information will be used to assess, on a continuing basis, the unlikely possibility of adverse impacts on neighboring wells. The data from the observation wells will be used in determining whether the quarry is a factor should a neighboring well experience a malfunction. Groundwater monitoring wells will be placed at strategic locations at the perimeter of the mine permit area to observe the response to groundwater dewatering in the mine. Upon approval and issuance of the mine permit, the monitoring wells will be constructed.

During mining if a neighboring well is determined to be impacted due to pit dewatering of the Luck Edgefield open pit, Luck Stone commits to repairing the impacted well or re-drilling a new well to ensure the affected neighbor has water. Luck Stone will also provide a temporary water supply to the neighbor until the repair or replacement well is completed.

Are there any publicly-owned parks, publicly-owned forests, or publicly-owned recreation areas within one (1) mile of the proposed affected area?

Yes

Describe methods to be used to prevent an adverse effect on these areas.

Sumter National Forest is located near the mine permit area. The mine map shows the location of the forest relative to the mine.

Reclamation work will be an ongoing process in the Berm/Overburden storage areas along the 4 sides of the permit area. In general, the berm/overburden storage will be constructed from the **outside working inward** away from the general direction of the permit boundaries. The lowest bench is first placed along the outer most section of the storage area. When the overburden placement is completed along the outer slope of that bench, the outside slope grading will be completed and vegetated. Subsequent overburden placements will be located inside the outer slope. Upper benches will follow this same concept. There will be times when disturbed soil is visible; however, the concept of working from the **outside inward** will generally screen the mining operation from neighboring properties and increase the efficiency of sediment control.

Please locate on a map any of these facilities that are within one (1) mile of the proposed affected property, if applicable.

[Edgefield County GIS - Tax Map Showing Location of Sumter National Forest.pdf - 02/21/2024 11:03 AM](#)

Comment

NONE PROVIDED

Describe measures to be taken for screening the operation from view from public highways, public parks or residential areas.

The site is in a rural area with forest lands on three sides of the permit area. Woodlawn Road runs east-west along the southern mine permit boundary. Several rural residential homes are located along Woodlawn Road. Vegetated earthen berms (South Berm) will be constructed to visually screen mining operations from the public road and rural residences.

Existing vegetation will restrict visibility of the mine site from Sumter National Forest. Vegetated berms/overburden storage will supplement the visual screening from existing vegetation. See description of on-going reclamation of berm/overburden storage areas.

Mine Map

Attach a copy of a map of the site (referred to as the MINE MAP) that shows A through P, if applicable (see below):

1-Edgefield MINE MAP-(23)- 24X36.pdf - 02/21/2024 10:56 AM

2-Edgefield PHASE 2 MINE MAP-(5)- 24X36.pdf - 02/21/2024 10:56 AM

Comment

NONE PROVIDED

A. Outline of the area to be affected by mining during the number of years for which the permit is requested. See Section III, Question 1 on page 3 of this application form.

B. Outline of the permitted area that shows the buffers zones, future mine areas and areas to be affected by mining.

C. Outline of the planned pits or excavations for which your company has detailed plans. If your company has reason to believe that additional land may be mined in the future within the permitted area but is not feasible to show as planned excavations; indicate these areas as FUTURE RESERVES on this site map.

D. Outline of areas for the storage of naturally occurring soil that will be suitable for the establishment of vegetation in final reclamation.

E. Outline of planned areas for disposal of refuse, exclusive of tailings ponds.

F. Outline of planned spoil, overburden or other similar waste material disposal areas.

G. Locations of planned access and haul roads on the area to be affected.

H. Outline of planned tailings ponds.

I. Locations of sediment control pond(s) and other sediment control structures within the affected area. Outline of areas on which temporary or permanent vegetation will be established to control erosion during the mine operation.

J. Location and name (if appropriate) of streams, lakes, wetlands and existing drainage ditches within the area to be permitted. Use arrows to indicate direction of water flow in such streams and drainage ditches.

K. Boundary for the 100 year floodplain, where appropriate.

L. Outline of areas for stockpiles of unprocessed minerals.

M. Outline of area of previously mined land that will not be affected.

N. Outline of the area to be occupied by processing facilities including stockpiles of processed minerals if such facilities are to be an integral on-site part of the mining operation.

O. Show location of the two permanent survey control points.

P. A legend showing the name of applicant, name of the proposed mine, north arrow, county, scale, date of preparation and name and title of person who prepared the site map. THE REQUIRED SITE MAP SHALL HAVE A NEAT, LEGIBLE APPEARANCE AND BE OF SUFFICIENT SCALE TO CLEARLY SHOW THE REQUIRED INFORMATION LISTED ABOVE. THE BASE FOR THE MAP SHALL BE EITHER A SPECIALLY PREPARED LINE DRAWING, AERIAL PHOTOGRAPH, ENLARGED USGS TOPOGRAPHIC MAP OR A RECENTLY PREPARED PLAT.

Adjacent Land Owner List Template

Please download the excel spreadsheet, fill out and resubmit on the attachment below.

[Adjacent Land Owner List Template](#)

Attach the most recent county tax map that shows all adjacent land owners of the permitted mine site. Provide name and addresses of all land owners contiguous to the proposed permitted mine site.

luck Edgefield Adjacent and One-half Mile Landowner Lists.pdf - 02/22/2024 10:54 AM

DHEC's Adj Landowners & one-half mile blasting survey spreadsheet.xlsx - 02/22/2024 10:56 AM

Comment

The county tax maps are attached to the landowner lists for Edgefield and McCormick counties.

Attach letter from an attorney attesting to (1) the ownership of the property, (2) ownership of the mineral rights and (3) that the applicant has the legal right to mine the proposed mineral resource on the property as described in this application.

Attorney Ltr to DHEC 2.12.24.pdf - 03/14/2024 03:02 PM

Comment

NONE PROVIDED

Additional Information for consideration

NONE PROVIDED

Comment

NONE PROVIDED

MR-500 Reclamation Plan for an Individual Mine Operating Permit

Environmental Protection

Describe practices to protect adjacent resources such as roads, wildlife areas, woodland, cropland and others during mining and reclamation.

The mine permit area is in a rural area with land cover consisting of hardwood and pine forests for managed timber. Within the permitted land, undisturbed buffers are established to provide additional protection to adjacent properties, streams, and other sensitive areas. Based on a survey, there are no endangered species or sensitive habitats on-site that will be affected by mining and reclamation.

Describe proposed methods to limit significant adverse effects on adjacent surface water and groundwater resources.

Proper reclamation of the mine site will include stabilizing all overburden storage piles with vegetation, removal of mine equipment both mobile and stationary, clean-up of any spillage of petroleum products, and removal of scrap material. Once mining is terminated, groundwater levels will rebound to approximate original levels. The mining process will not use chemicals in the mining or processing of crushed stone; consequently, there is no potential for chemical contamination to groundwater resources. Additionally, vegetative filters of existing vegetation will provide redundancy to active sediment control measures to further protect adjacent surface water resources.

Describe method to prevent or eliminate conditions that could be hazardous to animal or fish life in or adjacent to the permitted area.

Proper reclamation of the mine site will include stabilizing all overburden storage piles with vegetation, removal of mine equipment both mobile and stationary, cleanup of any spillage of petroleum products, and removal of scrap material. Setbacks, established buffers, and soil stabilization along stream banks will provide protection to fisheries in nearby streams. Establishing 3:1 slopes around the pit and overburden storage areas will remove hazardous conditions for the public and indigenous animal populations. The fence around the property will be inspected and repaired as necessary to provide a barrier to the pit area. The undisturbed buffers will provide wildlife corridors and natural habitat.

Vegetative filters will be established consisting of existing woodlands to provide redundant sediment control to protect wetlands and adjacent properties from mining activities.

Describe how applicant will comply with State air quality and water quality standards as established by the S.C. Department of Health and Environmental Control.

To operate the mine and processing plant, the mine operator will obtain the Air Quality Construction Permit and the Air Quality Operating Permit. These permits set the quantity of air particulates that can be emitted to be protective of air quality standards.

With the termination of mining all mobile mine equipment and processing plant equipment will be removed from site. Once the process plant equipment is removed from site, the Air Quality Operating Permit can be terminated. Stone stockpiles, fines and barren soils, (potential sources of dust after mining), will be either removed (stone stockpiles) or stabilized with vegetation to eliminate windblown dust.

Discharges from the quarry will be regulated by the NPDES General Permit for Discharges Associated with Nonmetal Mineral Mining Facilities. These standards are set to be protective of aquatic life and human health and safety. Prior to discharge into waters of the State, stormwater and groundwater will be treated by appropriated sized and designed sediment basins. Upon final reclamation, vegetation will be established to control erosion and protect water quality.

Reclamation of Affected Area

State useful purpose(s) the affected land is being proposed for reclamation.

Grassland
Lake or Pond

Feasibility Documentation Attachment

NONE PROVIDED

Comment

NONE PROVIDED

Will the final maximum surface gradient (slope) in soil, sand, or other unconsolidated materials be steeper than 3 Horizontal : 1 Vertical (18 degrees or 33 percent)?

Yes

Surface gradients steeper than 3H:1V (18 degrees or 33 percent) may be required to submit geotechnical data and studies to demonstrate that the steeper slopes will remain stable following final reclamation.

How will the final slopes in unconsolidated material be accomplished?

The overburden stripped to expose the granite will be placed in overburden storage areas or earthen berms. The final overburden slope around the pit perimeter will be cut slopes at a 3:1 grade for stability and safety. Backfilling in the pit is not necessary to achieve final 3:1 slopes in the unconsolidated overburden.

If the slope will be by backfilling, demonstrate that

there is adequate material to accomplish the stated final gradient. If gradient is to be achieved by bringing in material from outside the permitted area, state the nature of the material and approximate quantities. If the gradient is to be achieved by grading, show that there is adequate area for grading to achieve gradient (i.e., adequate distance between the property line and edge of highwall).

Final slopes calculations or other supporting information attachment(s)

NONE PROVIDED

Comment

NONE PROVIDED

Describe the plan for revegetation or other surface treatment of affected area(s). The revegetation plan shall include but not be limited to the following: (a) planned soil test; (b) site preparation and fertilization; (c) seed or plant selection; (d) rate of seeding or amount of planting per acre; (e) maintenance.

Soil analysis will be performed to determine the need for pH adjustment and nutrients. Different soils will be sampled separately. Soil samples will be taken in advance of planting. Soil samples will be submitted to the cooperative NRCS or Clemson extension services or commercial lab for analysis.

(b) Site Preparation & fertilization

Grading, shaping, and other earth moving will be completed to the extent necessary to permit seeding or planting. Tillage shall be the minimum needed to break compaction; incorporate fertilizers when incorporation of them is required; and provide enough loose soil to cover the seed when seed are to be drilled or covered by harrowing or cultipacking.

Soil amendments will be added as necessary to promote conditions suitable for plant growth (i.e., organic matter). Agricultural limestone will be uniformly spread and incorporated as soon as possible to allow for the pH adjustment. Incorporation also benefits relatively immobile nutrients such as phosphorus when needed. Type and rate of fertilization will be determined based upon soil analysis.

(c) & (d) Seed or Plant Selection and Seeding Rates

Plants shall be selected based on species characteristics, site and soil conditions, the planned land use and maintenance of the area, the time of year the planting is made, and the needs and desires of the land user. Availability of seed will be one of the criteria for plant selection.

Piedmont
Spring Seeding Mix

Grass or legume Optimum
Planting Date Seeding Rate
(# per acre) Comments
Browntop millet April- August 10 Serve as short term cover
Bermudagrass (common)
or
Coastal Panicgrass March-June

February - June 4

20 broadcast, 12 drilled Hulled (chaff removed)

Pure Live Seed (PLS)
Annual lespedeza (Kobe) March - July 10 Use scarified seed and inoculate

Piedmont
Fall Seeding Mix
Grass or legume Optimum
Planting Date Seeding Rate
(# per acre) Comments
Rye (Abruzzi) or Oats Sept-Dec. 10 Serve as short term cover
Bermudagrass (common)
or
Switchgrass Aug-Nov

Oct-May 8

10 Unhulled (in chaff)
Crimson clover (optional) Aug - Dec 10 Serve as short term cover, inoculate

(e) Maintenance

The revegetated site will be maintained through periodic inspections to detect areas with significant erosion, seed germination failure or significant plant die off. Additionally, site will be inspected after significant storm events to detect wash outs or gullies in planted areas. Damaged areas will be repaired where necessary by fixing erosion damage and reseeding as necessary.

Does the possibility exist for (a) acid rock drainage; (b) where the National Pollutant Discharge Elimination Systems (NPDES) Permit has discharge limitation parameters other than pH and Total Suspended Solids (TSS); (c) chemically treated tailings or stockpiles (excludes fertilizer or lime for revegetation purposes)?

No

Describe the methods to control contaminants and permanently dispose any mine waste. This includes any soil, rock (overburden), mineral, scrap, tailings, fines, slimes, or other material directly connected with the mining, cleaning, and preparation of mineral substances mined. It also includes all waste material deposited on or in the permit area from any source.

Fines created from processing granite are not "clay slime"; thus, they will not create an unstable sediment mass in settling ponds. These fines will accumulate in the clarification ponds of the wash circuit and periodically removed and either sold as a by-product or placed in overburden storage.

Describe the method of reclaiming settling and/or sediment ponds.

Fines created from processing granite are not "clay slime"; thus, they will not create an unstable sediment mass in settling ponds. These fines, that are chemically inert, will accumulate in the clarification ponds of the wash circuit and periodically removed and either sold as a co-product or placed in overburden storage that will be reclaimed. Sediment basins to be established to control sediment from overburden storage areas and from erosion in disturbed areas will be evaluated at the end of mining. The basins will either be breached, graded and reclaimed as grassland or left in place to function as a detention pond.

Describe the method of restoring or establishing stream channels, stream banks, and site drainage to a condition to minimize erosion, siltation, and other pollution.

Streams to be impacted in phase 2 mining will be permitted and mitigate under the Corps of Engineers permit before any disturbance to the stream or buffer to the stream.

What are the maintenance plans to insure that the reclamation practices established on the affected land will not deteriorate before released by the Department?

Areas that have undergone final reclamation practices will be maintained through periodic inspections and conducting any necessary repairs in a timely manner

For final reclamation, submit information about practices to provide for safety to persons and to adjoining property in all excavations. Identify areas of potential danger (vertical walls, unstable slopes, unstable surface on clay slimes, etc.) and provide appropriate safety provisions.

Prior to commencing final reclamation activities, the operator intends to conduct both market, community, and zoning investigations to determine the best and proper utilization for post mine development. By example, this may include uses such as parks & community space, agricultural/timber, commercial ventures, or residential uses. Upon determination, any plans shall incorporate all necessary activities associated with necessary and responsible bonded reclamation requirements. This shall include continued focus to provide safety to persons and adjoining areas. The outer perimeter of the reclaimed pit will be secured by fencing or other approved and appropriate security practice.

The following mine segments will be reclaimed to provide safety to persons and adjoining areas.

Highwalls -- The relatively shallow overburden will be sloped to a 3:1 gradient around the pit perimeter. Due to the sloped overburden and water filled pit, exposure of rock highwalls will be limited.

Unstable Slopes -- All overburden storage areas will be sloped to 3h:1v gradient and vegetated. Soils placed to a 3:1 gradient are stable and are not prone to landslides.

What provisions will be taken to prevent noxious, odious, or foul pools of water from collecting and remaining on the mined area? For mines to be reclaimed as lakes or ponds, provide supporting information that a minimum water depth of four (4) feet on at least fifty percent (50%) of the pond surface area can be maintained.

The final pit will be reclaimed as a lake and will meet the above referenced regulatory requirement for sufficient depth. Areas of the affected land not reclaimed to ponds will be properly graded to prevent unwanted pools of water from collecting and prevent foul water from forming.

Identify any structures (e.g. buildings, roads) that are proposed to remain as part of final reclamation. Provide justification for leaving any structures.

The office building and other support buildings may be left upon final reclamation where future tenants on the property can use the facilities. Also, some of the haul roads may be left to provide access to the property. All areas will be sloped and stabilized to prevent erosion and control sediment.

Attach a copy of a map of the area (referred to as the RECLAMATION MAP) that shows the reclamation practices and conservation practices to be implemented. The following should be shown (A through P - see below):

[4-Edgefield RECLAMATION MAP-\(2\)- 24X36.pdf - 02/22/2024 10:59 AM](#)

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NONE PROVIDED

A. The outline of the proposed final limits of the excavation during the number of years for which the permit is requested.

B. The approximate final surface gradient(s) and contour(s) of the area to be reclaimed. This would include the sides and bottoms of mines reclaimed ponds and lakes.

C. The outline of the tailings disposal area.

D. The outline of disposal areas for spoil and refuse (exclusive of tailings ponds).

E. The approximate location of the mean shore line of any impoundment or water body and inlet and/or outlet structures which will remain upon final reclamation.

F. The approximate locations of access roads, haul roads, ramps or buildings which will remain upon final reclamation.

G. The approximate locations of various vegetative treatments.

H. The proposed locations of re-established streams, ditches or drainage channels to provide for site drainage.

I. The proposed locations of diversions, terraces, silt fences, brush barriers or other Best Management Practices to be used for preventing or controlling erosion and off-site siltation.

J. Proposed locations of the measures to provide safety to persons and adjoining property.

K. Segments of the mine that can be mined and reclaimed as an ongoing basis.

L. The boundaries of the permitted area.

M. The boundaries of the affected area for the anticipated life of the mine.

N. The boundaries of the 100-year floodplain, where appropriate.

O. Identify sections of mine where the final surface gradient will be achieved by grading and/or backfilling.

P. A legend showing the name of the applicant, the name of the proposed mine, the north arrow, the county, the scale, the date of preparation and the name and title of the person who prepared the map.

THE REQUIRED RECLAMATION MAP SHALL HAVE A NEAT, LEGIBLE APPEARANCE AND BE OF SUFFICIENT SCALE TO CLEARLY SHOW THE REQUIRED INFORMATION LISTED ABOVE. THE BASE FOR THE MAP SHALL BE EITHER A SPECIALLY PREPARED LINE DRAWING, AERIAL PHOTOGRAPH, ENLARGED USGS TOPOGRAPHIC MAP OR A RECENTLY PREPARED PLAT. RECLAMATION MAP SHOULD BE THE SAME SCALE USED FOR THE SITE MAP.

Schedule for Implementation of Conservation and Reclamation Practices




As stated in Section 48-20-90 of the S.C. Mining Act, reclamation activities, to the extent feasible, must be conducted simultaneously with mining operations. Identify which areas or segments of the mine are not feasible to reclaim simultaneously with mining. Provide reasons why reclamation can not proceed simultaneously with mining in these areas.

Not applicable

Schedule for Implementing Conservation and Reclamation Practices

Conservation & Reclamation Practices	Segment # or Area	Planned Amount	Planned Year	*Applied Amount	*Applied Year	Notes
Mark wetland buffer WSB-2 & property line buffers PLB-1; PLB-6	Access Road	7.0 ac	2026			NONE PROVIDED
Mark wetland buffer WSB-5	Pit-Phase 1	4.0 ac	2026			NONE PROVIDED
Mark wetland buffer WSB-2; WSB-3; WSB-12; WSB-13, WSB-14	Plant	13.2 ac	2026			NONE PROVIDED
Construct Sediment Basins SB-PT-1; SB-PT -9 and associated diversion channels	Plant	3.7	2026/7			NONE PROVIDED
Construct Fence	Permit Area	17,500 ft	2027			NONE PROVIDED
US Army Corps Nationwide permit to impact stream	Stream NWW-1	300 ft	2026			NONE PROVIDED
Construct Sediment Basins SB-P-2; SB-P-8 and associated diversion channels	Pit - Phase 1	3.3 ac	2026/27			NONE PROVIDED
Construct berms, slope and revegetate for plant area; slope and revegetate	South Berm/Ovbn	19.5 ac	2026/27			NONE PROVIDED
Mark wetland buffers WSB-1; WSB-4; WSB-5	East Berm/Ovbn	11.3 ac	2026/27			NONE PROVIDED

Conservation & Reclamation Practices	Segment # or Area	Planned Amount	Planned Year	*Applied Amount	*Applied Year	Notes
Construct Sediment Basins SB-OB-3 and associated diversion channels East Berm/Ovbn 1.1 ac 2027/28	East Berm/Ovbn	1.1 ac	2026/27			NONE PROVIDED
Development of overburden storage ♦ grading to 3:1 slopes and revegetating East Berm/Ovbn 17.8 ac	East Berm/Ovbn	17.8 ac	2027 - 2035			NONE PROVIDED
Mark property line buffer, PLB-5, and wetland buffer WSB-11; WSB-13; WSB-14	West Berm/Ovbn	22.7 ac	TBD			NONE PROVIDED
Construct Sediment Basins SB-OB-11; -SB-OB-12 and associated diversion channels	West Berm/Ovbn	2.5 ac	TBD			NONE PROVIDED
Development of overburden storage ♦ grading to 3:1 slopes and revegetating	West Berm/Ovbn	45.8 ac	TBD			NONE PROVIDED
Deploy silt fencing and/or other sediment control BMPs	Where necessary	As necessary	TBD			NONE PROVIDED
Slope overburden to 3:1 slope along terminal pit wall and revegetate	Pit ♦ Phase 1	25.0 ac	TBD			As mining reaches a terminal wall and feasible to conduct final reclamation
Mark property line buffer, PLB-2, and wetland buffer WSB-1; WSB-6; WSB-7; WSB-8	North Berm/Ovbn	19.7 ac	TBD			NONE PROVIDED
Construct Sediment Basins -SB-OB-4; SB-OB-5; SB-OB-6 and associated diversion channels	North Berm/Ovbn	3.4 ac	TBD			NONE PROVIDED
Development of overburden storage ♦ grading to 3:1 slopes and revegetating North Berm/Ovbn 60.1 TBD	North Berm/Ovbn	60.1 ac	TBD			NONE PROVIDED
Mark property line buffer, PLB-3; and wetland buffer WSB-8; WSB-9 Northwest Berm/Ovbn 8.7 ac TBD	Northwest Berm/Ovbn	8.7 ac	TBD			NONE PROVIDED
Construct Sediment Basins SB-OB-7 and associated diversion channels	Northwest Berm/Ovbn	1.1 ac	TBD			NONE PROVIDED
Development of overburden storage ♦ grading to 3:1 slopes and revegetating	Northwest Berm/Ovbn	20.9 ac	TBD			NONE PROVIDED
Prior to mining in jurisdictional streams NWW-8, NWW-9, NWW-14, NWW-15, & wetlands H & L, a Corps of Engineers 404 permit will be obtained Pit ♦ Phase 2, TBD TBD 404 permit to be issued before wetland, stream or stream and wetland buffers are disturbed	Pit ♦ Phase 2	TBD	TBD			404 permit to be issued before wetland, stream or stream and wetland buffers are disturbed
Prior to expanding Plant area into jurisdictional stream NWW-10 & NWW-11, a Corps of Engineers 404 permit will be obtained	Plant Area	TBD	TBD			404 permit to be issued before stream or stream buffers are disturbed

Conservation & Reclamation Practices	Segment # or Area	Planned Amount	Planned Year	*Applied Amount	*Applied Year	Notes
Route stormwater into pit	Pit  Phases 1 & 2	As necessary	At all times			Route stormwater into pit Pit  Phases 1 & 2 As necessary At all times Where feasible
Slope overburden to 3:1 slope along terminal pit wall and revegetate	Pit  Phase 2	TBD	TBD			As mining reaches a terminal wall and feasible to conduct final reclamation
Temporary stream crossing restored to original grade and reclaimed	Stream NWW-1	0.1 ac	End of mining			Temporary stream crossing restored to original grade and reclaimed Stream NWW-1 0.1 ac End of mining Haul road to West Overburden
Remove mine equipment, process plant equipment, and stone stockpiles	All	All	End of mining			NONE PROVIDED

*Applied fields to be completed by department

MR-600 Land Entry Agreement for Land Owned by Mine Operator

[MR-600 Document Link](#)

MR-600 Signature Attachments

[MR-600 Executed - Edgefield.pdf - 03/14/2024 03:03 PM](#)

[SC_Edgefield_Wilkie LEA Letter dated March 5, 2024.pdf - 03/14/2024 03:03 PM](#)

[Edgefield Boundary Survey.pdf - 03/21/2024 09:22 AM](#)

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NONE PROVIDED