Digitally signed by:
ePermitting
Date: 2023.11.01 15:24:05 -04:00
Reason: Submission Data
Location: Columbia, South Carolina

Mines - Individual Operating Permit New

version 2.0

(Submission #: HPX-YKFK-G4J6K, version 2)

Details

Submission ID HPX-YKFK-G4J6K

Form Input

Form Instructions

The South Carolina Mining Act,&#65533; Sections 48-20-10 through 48-20-310, Code of Laws of South Carolina, 1976, as amended provides in part: &#65533;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obtained from the Department an operating permit which covers the affected land and which has not been terminated, been revoked, suspended for the period in question, or otherwise become invalid.&#65533; (Section 48-20-60)

Applicant Information

How are you applying for this permit?
As a Business Entity

Type of Business Entity
Limited Liability Company (LLC)

Applicant (Business Entity)

Organization Name
River Bend Aggregates, LLC

Phone Type	Number	Extension
Business	615-224-8077	

Fax
615-236-8095

Office Address

500 Duke Drive

Franklin, TN 37067

United States

Additional Contact(s) (1 of 3)

Contact Roles
Mining Contact
Mining Billing

Contact

Prefix
NONE PROVIDED

First Name	Last Name
Will	*Glusac*

Title
Vice President

Organization Name
River Bend Aggregates, LLC

Phone Type	Number	Extension
Business	615-224-8077	

Email
wglusac@turnkeyprocessing.com

Address
500 Duke Drive
Franklin, TN 37067
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
NONE PROVIDED

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 Billing

Contact

Prefix
NONE PROVIDED

First Name	Last Name
Maria	*Bracaglia*

Title
Accounts Payable Manager

Organization Name
River Bend Aggregates, LLC

Phone Type	Number	Extension
Mobile	615-419-7766	

Email
mbracaglia@turnkeyprocessing.com

Address

500 Duke Dr

Franklin, TN 37067

United States

Site Information

Name of Proposed Mine
River Bend Aggregates, LLC/ River Bend Quarry

County
Spartanburg

Proposed Mine Address

1234 Hammett Grove Road

Pacolet, SC 29307

Proposed Mine Physical Location
34.93549418842192,-81.76254370535136

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.
River Bend Aggregates, LLC

Parcel(s) owned by mine operator:

Tax Map Parcel Number	Landowner name (as shown on county tax records)
3-25-00-013.02	River Bend Aggregates, LLC
3-25-00-013.00	River Bend Aggregates, LLC
3-25-00-014.01	River Bend Aggregates, LLC
3-25-00-014.02	River Bend Aggregates, LLC
3-25-00-014.00	River Bend Aggregates, LLC
3-25-00-010.00	River Bend Aggregates, LLC
3-25-00-007.00	River Bend Aggregates, LLC
3-25-00-006.00	River Bend Aggregates, LLC
3-25-00-006.06	River Bend Aggregates, LLC

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.
The mining process will start with timbering and clearing of existing vegetation and stripping overburden. Removed overburden will 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. 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 scrapper and possibly pans.

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 crusher, 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.

Do you anticipate blasting as part of the mining operation?
Yes

Distance to the nearest inhabited structure not owned or leased by the applicant.
1,100 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.

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
River Bend Pre-Blast Survey Map w-Landowner List.pdf - 10/04/2023 11:30 AM
DHEC - River Bend Agg - River Bend Quarry - Landowners Pre-Blast Survey List.xlsx - 10/04/2023 04:30 PM
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.
500 feet bgs; Elevation of pit floor at maximum depth will be 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
443.1	

Total Permitted Acres
443.1

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
241.4

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 mine permit 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
95.8

Buffer Acreage
105.9

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 processes. The clarified water in the last pond in the closed looped system will be recycled to the plant and water reused. Should it become necessary to remove excess process water form the process water system, it can either be pumped to the pit and stored in the pit sump or discharged to NPDES effluent outfall 011.

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.
Groundwater seepage and stormwater directed into the pit will be collected in the pit sump. The water within the pit sump can be used by the water truck for fugitive dust suppression, pumped to the process plant for make water in dust suppression and wash water for stone processing or treated to meet NPDES effluent limits and discharged through outfall 010. Wash water from the plant process ponds will be able to discharge from outfall 011 should the need arise.

Stormwater from overburden storage areas, process plant area and from the pit during the early life of the mine will be directed into sediment basins that are designed to retain settleable solids and comply with NPDES stormwater limits through stormwater outfalls. Where it is not feasible to treat stormwater through sediment basins, stormwater will be managed where technically appropriate with BMPs, e. g, silt fencing, brush barriers, stone check dams, etc.

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

RIVER BEND QUARRY - SEDIMENT BASIN CALCULATION PACKAGE.pdf - 10/13/2023 02:08 PM
RIVER BEND QUARRY - Erosion & Sediment Control Details Sheets 1 - 5 Oct 16, 2023.pdf - 10/23/2023 10:07 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 or discharged.

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

River Bend Aggregates LLC_Groundwater Monitoring Plan_FINAL.pdf - 10/09/2023 03:02 PM
Riverbend Aggregates Hydro Report_FINAL_20231005.pdf - 10/09/2023 03:03 PM
River Bend Quarry_Modeling Report_20231020.pdf - 10/23/2023 10:09 AM
Comment
NONE PROVIDED

Will jurisdictional wetlands be affected, filled or altered in any fashion that will require a Section 404 Dredge and Fill Permit?
No

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

DC Wetland Delineation - Request River Bend Quarry Site FINAL.pdf - 09/26/2023 11:20 AM
Gmail - FW_ SAC-2023-01157 (River Bend Quarry Site).pdf - 09/26/2023 11:21 AM
Comment
A delineation concurrence from the US Army Corps of Engineers has been requested and will be submitted to DHEC upon receipt.

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

Please indicate these areas on your mine map with an appropriate undisturbed buffer distance.

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

River Bend Quarry Site Cultural Resources Report.pdf - 10/04/2023 04:29 PM
SPAR_Pacolet Quarry Site-Cultural Resources Reconnaissance Survey-Draft_23RL0300.pdf - 10/04/2023 04:29 PM
Comment
NONE PROVIDED

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 for 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.
A protected species survey was conducted by S&ME. Based upon USF&W Services and SCDNR databases, the Bald Eagle, Dwarf-Flowered Heartleaf and Tricolored Bat were identified as potential protected species in Spartanburg County. Field surveys of the site were conducted for the presence of these particular species or their habitat. As stated in S&ME's Protected Species Assessment, mining will have NO EFFECT on the Bald Eagle and Dwarf-Flowered Heartleaf species and a biological determination on the Tricolored Bat is not applicable at this time since it is not considered a federally endangered species.

The Pacolet River is located along the southern permit boundary. The permit area has several streams flowing across the area in northeast to southwest direction beginning near Hammett Grove Road, which is the top of the watershed, to the Pacolet River. No ponds are located on site.

Please provide any threatened or endangered species reports in support of your application.
Protected Species Assessment - River Bend Quarry.pdf - 10/09/2023 03:05 PM
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 land cover of the permit area consists of floodplain hardwood woodlands and mixed hardwoods along streams within the permit area. The majority of the mine permit area has planted pine trees. Adjacent lands are similar as the land cover in the mine permit area. Adjacent land uses include limited rural residential, a heritage preserve area, and mining operation.

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 to control the sediment from 10 year-24-hour storm events. 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, stone check dams, and stormwater diversions, etc. will be used where and as necessary to provide sediment control in 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 mine site is in a rural area of Spartanburg County and within the town limits of Pacolet, SC. The Town of Pacolet zoned the mine permit area for "Natural Resources" that allows mining operations (Aug. 24, 2023 letter to Jeremy Eddy from Ned Camby, Mayor). There are limited rural residential homes near the mine permit area. Hammett Grove Road is situated along the northern permit boundary with a minimum 50-foot buffer from the road right-of-way and along permit boundaries. The Pacolet River along the southern permit boundary is a natural barrier with a 200-foot buffer. Adjacent properties are heavily wooded.

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 1,100 feet and there will be no blasting within 250 feet of the mine permit boundary. (The structure at 1,100 feet is from the Phase 3 Pit that will not be mined until much later in the mine's life. The closest structure to Phase 1 Pit, where mining will begin, is 2,000 feet.) Explosives will not be stored on site and only 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 River Bend Quarry to adversely impact 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 the River Bend Quarry to determine any potential impacts to the groundwater levels from pit development and dewatering the open pit.

River Bend Aggregates 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 have been placed at strategic locations in the mine permit area to observe the response to groundwater dewatering in the mine.

During mining if a neighboring well is determined by SC DHEC to be impacted due to pit dewatering of the River Bend Quarry open pit, River Bend Aggregates commits to repairing the impacted well or re-drilling a new well to ensure the affected neighbor has water. River Bend Aggregates will also provide a temporary water supply to the neighbor until the affected well is repaired or a 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.
The Pacolet River Heritage Preserve is located southwest of the mine permit area and the Pacolet River. To prevent adverse effects, the water quality of discharges will comply with NPDES permit requirements and air emissions will be controlled to comply with the Air Construction and Operating permits. A 200-foot buffer along the Pacolet River will provide additional protection to the preserve area.

Please locate on a map any of these facilities that are within one (1) mile of the proposed affected property, if applicable.
Spartanburg GIS - Location of Pacolet River Heritage Perserve.pdf - 09/26/2023 12:54 PM
Comment
NONE PROVIDED

Describe measures to be taken for screening the operation from view from public highways, public parks or residential areas.
A 50-foot buffer will be established along Hammett Grove Road right-of-way. A 200-foot buffer along the Pacolet River will be established for protection but will provide visual screening along the western, southern, and southeastern permit boundaries. Additionally, where the process plant will be located, a vegetated earthen berm will be constructed to provide additional visual screening. Much of the mining activity will be conducted inside the mine permit area where mining operations will not be visible.

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):

RIVER BEND QUARRY - Existing Conditions Plan 10-16-23.pdf - 10/23/2023 10:12 AM
RIVER BEND QUARRY - Overall Site Plan 10-16-2023.pdf - 10/23/2023 10:13 AM
RIVER BEND QUARRY - Disturbance Map 10-16-2023.pdf - 10/23/2023 10:13 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.

0. 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.

Spartanburg GIS - Adjacent Landowners List with Map.pdf - 10/04/2023 11:34 AM
DHEC - River Bend Agg - River Bend Quarry - Adjacent Landowners.xlsx - 10/04/2023 11:36 AM

Comment
NONE PROVIDED

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 Letter - September 29 2023 Ltr to DHEC re Application for Mine Operating Permit - Turnkey Processing.PDF - 10/03/2023 03:31 PM

Comment

NONE PROVIDED

Additional Information for consideration

Signed letter from Pacolet Mayor to DHEC.pdf - 09/26/2023 01:00 PM

RIVER BEND QUARRY - MINING CONCEPTUAL PLAN - Full Set 10-16-23.pdf - 10/23/2023 10:15 AM

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, 105.2 acres will be undisturbed buffer to provide additional protections to adjacent properties, creeks and other sensitive areas. The protected species assessment by S&ME did not find endangered species or sensitive habitats on-site.

The River Bend Heritage Preserve is located southwest of the mine permit area on the opposite side of the Pacolet River. The mine permit area has preserved sites of soap stone outcrops mined by pre-historic native Americans. These soapstone sites are listed on the National Registry of Historic Places (NRHP) and will be avoided and protected with 40-foot buffers. Refer to S&ME's Cultural Resources Reconnaissance Survey for the River Bend Quarry site for details.

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.

Describe proposed methods to limit significant adverse effects on known significant cultural or historic sites within the proposed permitted area.

The soapstone quarries mined by native americans will be avoided and protected by 40-foot undisturbed buffers as approved by State Historic Preservation Office. Additionally, a 100-foot buffer around the Lee Cemetery will be observed to protect any unmarked grave sites.

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. On final reclamation, a fence or other suitable and approved barrier around the pit will be constructed. The undisturbed buffer will provide wildlife corridors and natural habitat.

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 qualify for 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
Not applicable -- Typical reclamation practices to be used to establish grassland of mined land and to established a pond within the mined quarry. Hydrogeologic studies indicate sufficent groundwater to establish a pond within the quarry.

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)?
No

How will the final slopes in unconsolidated material be accomplished?
The overburden stripped to expose 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 is not necessary within the pit to achieve final 3:1 slopes.

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
To establish final 3:1 slopes in the unconsolidated overburden in the quarry perimeter does not require backfilling. All 3:1 slopes along the quarry perimeter will be cut slopes.

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.
(a) Planned Soil Test
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.
Final reclamation of the settling ponds will be determined near the end of mining. Depending on surrounding land uses, settling ponds will either be graded over and revegetated or left as a detention pond to manage stormwater runoff.

Describe the method of restoring or establishing stream channels, stream banks, and site drainage to a condition to minimize erosion, siltation, and other pollution.
Impacts to streams will be permitted and mitigate under the Corps of Engineers permit before mining activities disturb the wetlands or wetland buffers. Where a 404 permit is issued to mine through streams, the mined streams channels will not be restored to original grade. The impact to that stream will be mitigated to comply with the Corps' standards.

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. 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 barrier.
The following mine segments will be reclaimed to provide safety to persons and adjoining areas.
Highwalls -- The 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 shop building and other support buildings may be left upon final reclamation for use by future tenants on the property. 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):
RIVER BEND QUARRY -Conceptural Reclamation Map 10-16-2023.pdf - 10/23/2023 10:16 AM
Comment
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.
The open pit of the rock quarry operations cannot be mined and reclaimed in segments. Once the pit expands to a terminal wall, the overburden can be sloped and revegetated.

Overburden storage areas will be reclaimed in sections as soon as feasible.

Schedule for Implementing Conservation and Reclamation Practices

Conservation & Reclamation Practices	Segment # or Area	Planned Amount	Planned Year	*Applied Amount	*Applied Year	Notes
Mark wetland & property line buffers along access road & berms	PLB-2	6.0 AC	2025			NONE PROVIDED
Mark wetland buffers for Pit Phase 1	F, D, E, G, G&#65533;, WC, WD & Pacolet River	17.5 AC	2025			NONE PROVIDED
Mark wetland buffer along process plant & Cemetery	J, J&#65533;, K, K&#65533; & C-1	5.3 AC	2025			NONE PROVIDED
Construct groundwater monitoring wells	MW22-01A, MW22-02, MW-22-03, MW-22-04	4 WELLS	2023			NONE PROVIDED
Construct Sediment Basins and associated diversion channels Pit Phase 1	P-SB-1 & P-SB-2	2.0 AC	2025/26			NONE PROVIDED
Construct berm, slope and revegetate	Process Plant & Hammett Grove Rd	1.3 AC	2025/26			NONE PROVIDED

Conservation & Reclamation Practices	Segment # or Area	Planned Amount	Planned Year	*Applied Amount	*Applied Year	Notes
Construct Sediment Basins and associated diversion channels in EOB-2	E-SB-1 & E-SB-2	1.9 AC	2026			NONE PROVIDED
Develop of overburden storage grading to 3:1 slopes and revegetating	EOB-2	39.1 AC	2026			BEGIN OVERBURDEN STORAGE IN 2026 BUT UNDETERMINED WHEN FINAL RECLAMATION WILL BE COMPLETED
Deploy silt fencing and/or other sediment control BMPs	WHERE NECESSARY	NONE PROVIDED	NONE PROVIDED			WHEN NECESSARY
Slope overburden to 3:1 slope along terminal pit wall and revegetate	PIT PHASE 1	13.2 AC	TBD			When and where feasible
Prior to mining, jurisdictional streams will be permitted by the Corps of Engineers	PIT PHASE 2	NONE PROVIDED	AT ALL TIMES			NONE PROVIDED
Route stormwater into pit	PIT PHASES 1 & 2	NONE PROVIDED	NONE PROVIDED			NONE PROVIDED
Slope overburden to 3:1 slope along terminal pit wall and revegetate	PIT PHASE 2	12.4 AC	TBD			When and where feasible
Develop of overburden storage grading to 3:1 slopes and revegetate	WOB-1	42.6 AC	TBD			NONE PROVIDED
Modify permit to relocate process plant and develop Phase 3 Pit	PIT PHASE 3	43.4 AC	TBD			NONE PROVIDED
Modify permit to shift future impacts area to affected land	FD-1, FD-2, FD-3, FD-4	97.4 AC	TBD			NONE PROVIDED
Install perimeter fence or other suitable barrier around final pit	PIT	18,000 LF	END OF MINING			NONE PROVIDED
Remove mine equipment, process plant equipment, and stone stockpiles	PROCESS PLANT	43.3 AC	END OF MINING			NONE PROVIDED
Monitor reclamation for sustainability	ALL	2 GROWING SEASONS	NONE PROVIDED			Until reclamation is approved and reclamation bond released by DHEC

*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 LEA River Bend-Pacolet Quarry.pdf - 10/03/2023 03:48 PM

Comment

NONE PROVIDED

Revisions

Revision	Revision Date	Revision By
Revision 1	9/26/2023 10:21 AM	Craig Kennedy
Revision 2	10/23/2023 10:02 AM	Craig Kennedy