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June 21, 2017

Ms. Veronica Fay, GIT
SC Department of Health and Env Control
Division of Mining and Solid Waste Management
2600 Bull Street
Columbia, SC 29201

RE: RDA, LLC - Application for Mine Operating Permit
RDA Mine - Williamsburg County

HAND DELIVERED

Dear Ms. Fay:

On behalf of RDA, LLC, I am submitting an application for a Mine Operating Permit for the above referenced site. All documents are held on the accompanying CD in pdf format. The below documents are on the accompany CD:

MR-400 - Application for Mine Operating Permit

- List of Adjacent Landowners and TMS Map
- List of Structures Owners w/in 1/2 mile of Blasting

MR-500 - Reclamation Plan

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

MR-700 - Land Entry Agreement for Land Leased by Mine Operator

Maps

- General Mine Permit Area and Adjacent Landowners
- Mine Map
- Reclamation Map
- LIDAR Topographic Map
- Environs' *Jurisdictional Waters Map, RDA, LLC, Williamsburg County*

Erosion and Sediment Control Maps

- RDA-East
- RDA-South
- Jumpin Run

Groundwater Evaluation Study

- Groundwater Management Associates, Inc.'s *Hydrogeologic Evaluation of the RDA LLC Property*
- Suggested Groundwater Monitoring Well Locations
- Suggested Well Complaint Investigation Protocol

Archaeological Study

- Brockington and Associates' *Cultural Resources Survey of the RDA Mine Tract*
- SHPO Concurrence Letter to Brockington's Recommendations

US Army Corps of Engineers JD Request by Environs, LLC

Threaten and Endangered Species Evaluation

- Environs', LLC *Protected Species Report - Proposed RDA Limestone Mine*

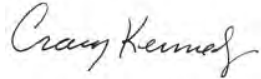
Page 2

The required attorney letters are not within this submittal. The letters are being prepared and will be forwarded to the Department in the near future.

The \$600 application fee is included.

If you have any questions, please do not hesitate to contact me.

Sincerely,

A handwritten signature in cursive script that reads "Craig Kennedy".

Craig Kennedy, P.G.
Principal

Attachments on CD

cc Clark Wooten



Mining Form MR-400

S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
BUREAU OF LAND AND WASTE MANAGEMENT
DIVISION OF MINING AND SOLID WASTE MANAGEMENT
2600 Bull Street, Columbia, SC 29201
Telephone Number(803) 869-4261 Fax Number: (803) 896-4001

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
BUREAU OF LAND AND WASTE MANAGEMENT
DIVISION OF MINING AND SOLID WASTE PERMITTING
2600 Bull Street
Columbia, SC 29201
Telephone Number (803) 896-4261 Fax Number (803) 896-4001

APPLICATION FOR A MINE OPERATING PERMIT
FORM MR-400 DATE VERSION ADOPTED 7/1/94

"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 invalidated." (Section 48-20-60)

I.APPLICANT INFORMATION

1. Name of Company: RDA, LLC

Check form of business entity: Corporation ___ LLC ___ Partnership ___
Limited Partnership ___ Sole Proprietorship ___

2. Name of Proposed Mine RDA Mine County Williamsburg

3. Home Office Address P.O. Box 527 910-385-4675
(Newton Grove, NC 28366) (Telephone No.)
(City) (State) (Zip Code) None (Fax. No.)

4. Local Office Address: Local Office not yet established Same as above
(Street and P.O. Box) (Telephone No.)
(City) (State) (Zip Code) (Fax. No.)

5. Designate to which office Official Mail is to be sent:
Home Office x Local Office

6. Name of company personnel and their title to be the contact for official business and
correspondence: Clark Wooten, Manager

7. Location of Mine: Seaboard Road Andrews, SC
State or County Hwy No. Nearest Town or City

8. Locate accurately on a county map, USGS 7.5' Topographic Map, or draw a detailed map to scale of: (1) how to get to your local office and (2) how to get to the mine and attach to this application.

9. If land is leased, complete the following:

A. Name of landowner: _____ Information on lands leased to mine operator is attached to the last page of this application form.

Landowner's Address: _____
Street and PO Box _____ City _____
State _____ Zip Code _____ Telephone Number _____

B. Date lease became effective _____

Date of lease termination _____ Name of lessee _____

II. GENERAL CHARACTERISTICS OF MINE:

1. Material(s) to be mined _____ Limestone _____

2. Mining Method:

A. List equipment to be used for mining and provide a brief description as to how the mine will be operated.

Typical equipment to be used in the mining process includes hydraulic excavator, off road haul trucks, blast hole drill(s), bull dozers, road scrapper and possibly pans. The mining process will start with timbering and clearing of existing vegetation and stripping overburden. Removed overburden either be backfilled into mined out portions of the pit or placed in permanent storage areas at designated berm locations. The exposed limestone will be drilled, explosives loaded and blasted to fragment stone into manageable sizes to facilitate loading into haul trucks and crushing by primary crusher.

The groundwater will be lowered to allow for the limestone deposit to be mined dry. Groundwater levels will be maintained at the top of the limestone stratum or above at the mine permit area or where operator has a waiver from the landowner to minimize groundwater drawdown beyond the mine permit boundaries. Approximate elevation of the top of limestone ranges from 20 feet to 30 feet msl.

B. Will there be a process plant located at the mine site within the boundary of the permitted area? If so, please provide a brief description of the plant equipment and function of the plant.

The process plant will consist of a primary, secondary and tertiary crushers with conveyors to move and stockpile stone and screens to size stone for processing and creating marketable product. Surge pile will supply stone for the secondary crusher that will further reduce stone size for feed to shaker screen. Screen will separate stone sizes that will be blended and stockpiled in marketable products.

3. Do you anticipate blasting as part of the mining operation? Yes No If yes, provide the distance to the nearest inhabited structure not owned or leased by the applicant. Also, provide as an attachment to this application the names and addresses of all the owners of all structures within one-half mile from the nearest point of blasting during the life of the proposed mine. How will flyrock be prevented from being projected from the permitted area?

Initial viewing of satellite imagery estimates approximately 62 tracts contain structures within 1/2 mile of planned blasting operations. There will be a minimum 1,000 foot setback between blasting and the nearest inhabited structure not owned by the applicant. Flyrock will be prevented with proper blast design and procedures developed and implemented under the direction of a SC Licensed Blaster. A preliminary list of structure owners within this 1/2 mile zone is attached.

4. Has this site been mined in the past? If so, please indicate the present condition of the land.

No

5. What is the expected maximum depth of this mine? Provide any addition information about the final depth of the mine that would be useful to the Department. (Ex. Final depth of pit will be level to adjacent road, elevation above Mean Sea Level (MSL)).

Average depth of mining will be approximately 55 feet from ground surface with a maximum depth of 65 feet.
Maximum pit floor elevation will be -21 feet msl.

III. DETERMINATION OF PERMITTED ACREAGE, AFFECTED ACREAGE AND RECLAMATION BOND

1) Total acres for which permit is being requested:

529.6 Permitted acres owned by the operator

438.8 Permitted acres leased by the operator

Note: 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).

2. Total affected acreage:

Acres

A) Area used for sediment control ponds

9.9

Planned sediment ponds/traps, approximately 3 acres, will be located within the process plant area and included within the acreage of item D below. The 9.9 acre pond is a dual use pond adjacent to process plant that will capture any sediment from mine dewatering and to store water.

B) Area used for stockpiles of unprocessed minerals

0.0

C) Area used for spoil (overburden) banks, topsoil and disposal refuse (exclusive of tailings impoundments)

37.5

There are 7 planned overburden storage areas that will also provide visual screening for adjacent properties. Topsoil stockpiles will be strategically located along the perimeter of the pit that are within the pit acreage.

D) Areas used for on-site processing facilities and stockpiles of processed minerals

31.4

Stockpiles of process minerals are included within the processing facilities area. Shop and equipment storage area is included.

E) Areas used for tailings pond (waste material from mineral processing)

0.0

Process plant will have a wash circuit to produce washed aggregate. A series of ponds will be constructed within the process plant area to receive wash water and allow fines to settle. Periodically, the stone fines will be removed from the wash ponds. Fines not sold can be backfilled into pit. The acreage for wash ponds are included in the on-site processing facilities area.

F) Area for access or haul roads

9.1

G) Area for excavation during the period of this permit

NA

OR

If mining and reclamation are to be done in segments, state the size of each segment (acres) 20. Multiply the size of the segments by 3 and enter the resulting number. ----->

60.0

H) TOTAL OF 2A THROUGH 2G

147.9

3. Check acreage to be bonded: total affected acreage calculated from Section 2.

 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)

 x 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 89-20 B.

The use of a vegetative filter (VF) will provide redundant sediment control consisting of land that will not be disturbed by mining, but may have or will be managed for timbered production. The vegetative filters are considered affected areas because they are part of the overall sediment control strategy to protect water resources. The 103.4 acres within the VF will not require reclamation practices and will have a reclamation bonding rate of \$0/acre.

Affected 622.7 Buffer 187.6 Future Reserves 158.1 Total Permit Area 968.4

4. Will this operation be covered by a blanket bond? If so, please list your company's other permitted mining operations in South Carolina giving mine names, permit numbers and state the present reclamation bond amount on file with this Department.

No

5. Number of years for which this permit is requested. 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, Form MR-500.

 20 years

IV. PROTECTION OF NATURAL RESOURCES*

1. Will there be a waste water treatment system at your mine site? Yes x No

Waste water 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 waste water and groundwater.

2. Will there be a point source discharge from your plant or mine requiring an NPDES Permit? If no, provide information as to how stormwater and groundwater will be managed. Yes x No

The point source discharge from the mine will be primarily groundwater from mine dewatering and stormwater routed in to 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 waste water and groundwater..

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

Yes No

The process plant requires an Air Quality Operating Permit issued by SC DHEC to operate. Based upon modeling to predict air particulate emissions, the Operating Permit will set air emission standards to protect air quality beyond the mine permit boundaries.

4. Do you anticipate pumping of groundwater? If yes, describe. Yes No

Groundwater will be withdrawn from a groundwater pump station that will lower the groundwater levels to facilitate mining. A groundwater evaluation was conducted by Groundwater Management Associates (GMA) to assess the extent of groundwater drawdown area that mine dewatering could expect to create. GMA's report, *Hydrogeologic Evaluation of the RDA, LLC Property Williamsburg County, South Carolina*, is being submitted with this application in Appendix D.

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

Mine plans are designed to first avoid wetlands. Where wetlands impacts will be unavoidable, RDA will mitigate for loss of Corps jurisdictional wetland functions per requirements of 404 Dredge and Fill Permit or appropriate Nationwide Permit. Attached to this application is the revised Jurisdictional Determination Request to the U.S. Army Corps of Engineers in Appendix F.

6. Are there any known cultural or historic sites located within the proposed area to be permitted? Yes No

Brockington and Associates conducted a Cultural Resource Survey for the RDA mine site in 2017. The report *Cultural Resource Survey of the RDA Mine Tract* indicates one site, 38WG185, be recommend for eligibility in the National Register of Historic Places (NRHP). SC Department of Archives and History's State Historic Preservation Office (SHPO) concurs with the recommendation. RDA will place the site within a buffered area and limit access to prevent disturbance to the site. This report is located in Appendix E.

The permit should state, "*Archaeological site 38WG185 is eligible for the National Register of Historic Places. This GPAC will be preserved in place and will not be impacted by the permitted activities.*"

7. Will any part of the permitted area be used as a solid waste disposal site? If no, describe how waste, trash, scrap metal material, garbage will be handled. Yes No

***NOTE: For questions 1-7 that need additional space for explanations, please provide additional information on an attached sheet to this application.**

8. 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.

The site is within the Black River drainage and lies within the Carolina Flatwoods (63h) eco-region. Most of the site has been used for silvicultural practices for decades. Prior to silvicultural uses the area was farmed for cotton and other crops. As a result, much of the terrain has been altered, and habitat potential for most of the listed threatened & endangered species is low to non-existent.

The primary surface drainage within the permit area is Murray Swamp. Murray Swamp flows west to east where it flows into Johnsons Swamp and finally Black River north of Andrews. Murray Swamp flows across the RDA South area north of the process plant. Minor tributaries to Murray Swamp are located along the southern and eastern permit boundaries.

The permit area contains wetlands as determined by Environ, LLC. Where possible, wetlands will be avoided both jurisdictional and isolated. Attached is the revised *Jurisdictional Determination Request* (Appendix F) to the U.S. Army Corps of Engineers for the RDA property.

There are no ponds or lakes located within the planned mine permit area.

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

Land cover within the planned mine permit area is primarily pine trees as managed forest using accepted silvicultural practices. Scattered hardwood trees are located along the surface drainage boundaries and low lying wetland area. Managing and harvesting timber is a necessity on the upland buffers, vegetative filters and in future reserve/impact areas. The timber will be managed and harvested using appropriate silvicultural practices.

Surrounding areas contain managed timberlands, agricultural field and rural residential.

10. 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. Attach any supporting documents (engineering designs, calculations, sediment & erosion control plan, setbacks, geotechnical information, acid prediction test etc.) to this application.

(1) Sediment will be controlled by routing stormwater into the pit. 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. To increase the effectiveness of sediment control, land disturbance will be kept to a minimum to what is necessary to support mining activities.

To provide redundancy and back up to the primary sediment control practices (e.g. brush barriers, silt fencing, etc.), existing vegetation and/or timbered areas where stumps and woody debris from accepted timbering practices are left on the ground will be used as vegetative filters (VF) to trap and control any inadvertent sediment from mine areas.

(2) Limited depth of mining and mining on slope will minimize potential for landslides. As the final cut in the overburden removal is completed adjacent to the mine limit, the overburden will be graded to a stable 3:1 slope.

(3) Not applicable to this geology

V. SAFETY

1. 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 be permitted.

Lands neighboring the mine are primarily woodlands, timber management, agricultural and rural residential. Within 1/2 mile of the mine permit boundaries, approximately 51 tracts of land containing at least one structure where presumably the majority of these structures are residential.

Within 1/2 mile of the permit boundary, there are scattered residential structures throughout the area, but the highest concentration of residences are located west of the permit area. The public roads near the permit area are Wheeler Road near the eastern boundary of the permit area; Seaboard Road south of the permit area; and, Jumping Run Road - unpaved road, currently closed because of a washed out bridge, is located along the boundary between MHS and Jump N'Run tracts. (*RDA is actively pursuing permanent closure of Jumpin Run Road with Williamsburg County. The road would be closed at RDA's northern property line.*) The major public highway is US Hwy 521 located 3/4 mile north of the permit area. Tad Road is located approximately 1,700 feet west of the RDA's western permit boundary. Other structures, i.e., schools, churches, hospitals, commercial or industrial buildings, are not located on neighboring lands to the mine permit area.

The mining operations will present few if any direct physical hazards to the surrounding community due to buffers established along property lines and with inhabited structures. The mining operations will not use chemicals in the mining or processing of the limestone; consequently, there will be little to no potential for contamination from chemicals. Proper mine designs (3:1 slopes for stability), shallow depth of mining and buffers will prevent land slumps or slides that could impact adjacent properties.

Blasting

Explosives will be used to mine the limestone. 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. Additionally, blasting will not occur within 1,000 feet of an inhabited structure and not within 250 feet of the mine permit boundary. 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

Groundwater Management Associates, Inc. (GMA) conducted a hydrogeologic evaluation of the RDA mine site. The report, *Hydrogeologic Evaluation of the RDA, LLC Property Williamsburg County, South Carolina* is being submitted as part of this mine operating permit application in Appendix D. This information is used in estimating groundwater drawdown and volumes of groundwater to be discharged.

The mine will be dewatered. Base of the limestone stratum to be mined is at approximately -21 feet mean sea level (msl), which generally corresponds to a depth of approximately 50 feet below ground surface. Drawdown of groundwater will be limited to this limestone and the overlying sand and clay sediments. Consequently, groundwater drawdown will be no greater than 50 feet in the mine permit area.

During dewatering, groundwater levels will be maintained at or above of the top of the limestone stratum at the mine permit boundary or on property boundaries where the mine operator has obtained a waiver on groundwater levels from the property owner. This will reduce the ultimate distance of groundwater under the influence of pumping at the mine and minimize exaggerated low groundwater levels beyond the mine permit area. Furthermore, maintaining groundwater above the limestone will greatly reduce or eliminate the potential for land surface collapses (sinkholes) due to mine dewatering.

Groundwater monitoring wells will be placed at strategic locations around the perimeter of the mine permit area to observe the response to groundwater dewatering in the mine. The perimeter groundwater monitoring wells will become compliance points where the groundwater level will be maintained at or above top of limestone. Upon approval and issuance of the mine permit, the monitoring wells will be constructed, top of limestone located within each well and elevation for top of casing determined. Included in GMA's *Hydrogeologic Evaluation of the RDA, LLC Property Williamsburg County, South Carolina* is a recommendation for monitoring well locations.

Attached to the Application for Mine Operating Permit, as Appendix D, is the *RDA Quarry Groundwater Monitoring and Remediation Plan with Well Complaint Investigation Protocol*.

2. Describe methods to be used to prevent an adverse effect on the purposes of a publicly- owned park, publicly-owned forest, or publicly-owned recreation area. If any of these facilities are within one (1) mile of the proposed affected property, please locate on mine location map and the submitted U.S.G.S topographic map for this application.

A publicly- owned park, publicly-owned forest, or publicly-owned recreation area is not within one mile of the mine permit area.

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

Location of homes and public roads around the mine at their closest approach are primarily located along the eastern and southern boundary. Wheeler Road, at its closest, is 400 feet east of the mine permit boundary. Additionally, due to locations of wetlands to be avoided by mining and protected with buffers will provided additional distance and visual screening to residents east of the mine permit area. Homes along Tad Road are typically greater than 1,000 feet from the planned active mine area.

Visual screening along the western boundary line will be accomplished by the existing dense vegetation along the property line. Vegetated berms can be constructed if existing vegetation and distance is not adequate for visual screening and noise abatement.

VI. MINE MAP

1. Provide the U.S.G.S. topographic map(s) that contains the proposed mine site. The proposed permitted area should be outlined on this submitted topographic map.
2. Attach **two (2)** copies of a map of the site (referred to as the MINE MAP) that shows the following:
 - 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.

3. Provide the most recent county tax map that shows all contiguous land owners of the permitted mine site. Provide name and addresses of all land owners contiguous to the proposed permitted mine site.
4. Provide letter from an attorney attesting to (1) the ownership if 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.

We hereby certify that all information and details contained hereinabove, within any supporting documents and on the map are true and correct to the best of our knowledge. We fully understand that any willful misrepresentation of facts will be cause for permit revocation.

The applicant acknowledges that Section 48-20-130, Code of Laws of South Carolina, provides in part:
 "Upon receipt of the operator's annual report or report of completion of reclamation and at any other reasonable time the department may elect, the department shall inspect the permit area to determine if the operator has complied with the reclamation plan, the requirements of this chapter, regulations promulgated by its authority, and the terms and conditions of this permit. Accredited representatives of the department at all reasonable times may enter upon the land subject to the certificate of exploration or operating permit for the purpose of making the inspection."

Clark Wooten BDA LLC
 Signature of Applicant/Operator or his Authorized Representative

CLARK WOOTEN RDA LLC
 Printed Name of Applicant/Operator or his Authorized Representative

MANAGER
 Title

June 20, 2017
 Date

=====
 Department Use Only

Application No. _____ Date Application Approved _____ Date Bond Rec'd _____
 Bond Amount _____ Blanket or Single Bond _____ Permit Issuance Date _____

ACTION TAKEN ON THIS APPLICATION

_____ Approved _____ Denied _____ Approve with additional Terms and Conditions

By: _____
 DIVISION DIRECTOR

Date: _____
 DHEC 3102 (08/1997)

Leased Land Landowner Information

Continuation of Question 9 on page 2:

9. If land is leased, complete the following:

A. Name of landowner: MHS, Holdings, LLC

Landowner's Address: 112 W. Main Street Kingtree
Street **and** PO Box City

SC 29556 843-355-2800
State Zip Code Telephone Number

B. Date lease became effective June 1, 2017.

Date of lease termination _____.

Name of lessee RDA, LLC.

If land is leased, complete the following:

A. Name of landowner: Jumpin N Run, LLC

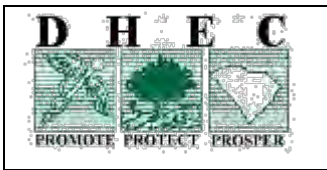
Landowner's Address: PO Box 527 Newton Grove
Street **and** PO Box City

NC 28366 _____
State Zip Code Telephone Number

B. Date lease became effective June 1, 2017.

Date of lease termination _____.

Name of lessee RDA, LLC.



Mining Form MR-500

S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL BUREAU OF LAND AND WASTE MANAGEMENT DIVISION OF MINING AND SOLID WASTE MANAGEMENT 2600 Bull Street, Columbia, SC 29201 Telephone Number(803) 869-4261 Fax Number: (803) 896-4001

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL BUREAU OF LAND AND WASTE MANAGEMENT DIVISION OF MINING AND SOLID WASTE MANAGEMENT 2600 Bull Street; Columbia, SC 29201 Telephone Number (803) 896-4261 Fax Number (803) 896-4001

RECLAMATION PLAN FORM MR-500 DATE VERSION ADOPTED: 7/1/94

As required in Section 48-20-90 of the South Carolina Mining Act, "An operator shall submit with his application for an operating permit a proposed reclamation plan. The reclamation plan for an operating permit only must be furnished to the local soil and water conservation district in which the mining operation is to be conducted. The plan must include as a minimum each of the elements specified in the definition of 'reclamation plan' in Section 48-20-40 and information required by the department. The reclamation plan must provide that reclamation activities, particularly those relating to control of erosion, to the extent feasible, must be conducted simultaneously with mining operations and be initiated at the earliest practicable time after completion or termination of mining on a segment of the permitted land. The plan must provide that reclamation activities must be completed within two years after completion or termination of mining on each segment of the area for which an operation permit is requested unless a longer period specifically is permitted by the department."

I. APPLICANT INFORMATION

1. Name of Company: RDA, LLC

2. Name of Proposed Mine: RDA Mine County: Williamsburg

3. Home Office Address: P.O. Box 527 (Street and P.O. Box) 910-385-4675 (Telephone No.)

Newton Grove NC 28366 (City) (State) (Zip Code) None (Fax. No.)

4. Local Office Address: Not Established (Street and P.O. Box) (Telephone No.)

(City) (State) (Zip Code) (Fax. No.)

5. Designate to which office Official Mail is to be sent: Home Office: x Local Office:

6. Name of company personnel and their title to be the contact for official business and correspondence: Clark Wooten, Manager

II. ENVIRONMENTAL PROTECTION

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

The mine permit area is located in a rural area with land cover consisting of hardwood and managed pine forests for timber. On land neighboring the mine permit area, the land uses include agricultural, managed timberlands, rural residential. Of the 968.4 acres of permitted land, undisturbed buffers are used to provide additional protections to adjacent properties, creeks and other sensitive areas. The nearest public road, Seaboard Road, fronts a relatively small area of the mine permit area to the south, will be buffered with a 200 foot wide undisturbed buffer.

2. 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, 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.

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

An intensive archaeological survey of the proposed permit area was conducted by Brockington and Associates. One archaeological site, 38WG185, was identified during the survey as being eligible for inclusion in the National Registry of Historic Place (NRHP). This 1.2 acre site will be "green spaced" and protected with a 50 foot undisturbed buffer around the site. Permanent markers will be established to locate and protect the site.

4. 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, clean up of any spillage of petroleum products, 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.

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

5. 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 ultimately 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.

III. RECLAMATION OF AFFECTED AREA

6. State useful purpose(s) the affected land is being proposed to be reclaimed to. More than one purpose may be checked, but information should be submitted to support the feasibility for each proposed purpose.

- | | |
|---|--|
| a. Lake or pond <input checked="" type="checkbox"/> | f. Grassland <input checked="" type="checkbox"/> |
| b. Agriculture _____ | g. Recreation _____ |
| c. Woodlands _____ | h. Wetlands _____ |
| d. Residential _____ | i. Park _____ |
| e. Commercial _____ | j. Other _____ |

7. State the final maximum surface gradient(s) (slope) in soil, sand, or other unconsolidated materials on reclaimed land. 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.

The final maximum surface gradient for slopes in overburden storage areas and slopes in overburden in the pit will be 3:1.

8. How will the final slopes in unconsolidated material be accomplished? 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 bring 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 (ie. adequate distance between the property line and edge of highwall). Operator should show calculations or other appropriate information to demonstrate that there is adequate materials in backfilling and grading to meet the requirements for final slope.

The overburden stripped either will be placed in berms or backfilled into the pit. The primary post mine land use for the pit will be a lake with most, if not all of the backfill covered by water at depths greater than 4 feet.

9. 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 test, seed bed preparation, seed mix selection, soil amendments (fertilizer, lime, growth stimulants, etc.), cover and seeding rates will be based upon SC DOT's *Supplemental Technical Specification (SC-M-810-2(04/11)) for Seeding*.

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

10. Provide, as a separate document, a closure plan of the mine and permitted facilities to prevent a release of contaminants from being harmful to the environment. A closure plan is not necessary for all mines, but is required where the possibility exist for (a) acid rock drainage; (b) where the National Pollutant Discharge Elimination Systems (NPDES) Permit have discharge limitation parameters other than pH and Total Suspended Solids (TSS); (c) chemically treated tailings or stockpiles (excludes fertilizer or lime for revegetation purposes).

Reclamation for the pit will not require a closure plan. A) The limestone does not oxidize to form acid and thus, create acid mine drainage. B) This mine qualifies for coverage under the *NPDES General Permit for Discharges Associated with Nonmetal Mineral Mining Facilities (SG-730000)* with no additional parameters other than pH and TSS. C) No chemicals will be used in the mining process.

- 11. Method of control of contaminants and disposal of mine waste soil, rock, mineral, scrap, tailings, slimes, and other material directly connected with the mining, cleaning, and preparation of mineral substances mined and includes all waste materials deposited on or in the permit area from any source.**
Fines created from processing limestone are not "clay slime"; thus, they will not create an unstable sediment mass in settling ponds. These fines will be accumulated in the clarification ponds of the wash circuit and periodically removed and either sold as a by-product or backfilled into the pit.
- 12. Method of reclaiming settling and/or sediment ponds.**
Any process ponds associated with the process plant will be backfilled to original grade, topsoiled and revegetated.
- 13. Describe method of restoration or establishment of stream channels, stream banks and site drainage to a condition minimizing erosion, siltation and other pollution.**
Appropriate setbacks and buffers will be established to protect the streams and wetlands that will be avoided by mining. Wetlands to be impacted by mining will be permitted by US Army Corps of Engineer's 404 permit or appropriate Nationwide permitting with appropriate mitigation measures utilized.
- 14. 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.
- 15. 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. These provisions can include but are not limited to setbacks, fencing, signs, benching, guardrails and boulders.**
The following mine segments will be reclaimed to provide safety to persons and adjoining areas.
Highwalls -- The relative shallow overburden will be sloped to a 3:1 gradient around the pit perimeter. With the sloped overburden and high water table, there will not be any exposed vertical highwalls.
Unstable Slopes -- All overburden storage areas (i.e., berms) will be sloped to 3h:1v gradient and vegetated. Soils placed to 3:1 gradients are stable and are not prone to landslides.
- 16. 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.
- 17. 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. 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.

18. Attach two (2) copies 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. 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 of 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.

IV. SCHEDULE FOR IMPLEMENTATION OF CONSERVATION AND RECLAMATION PRACTICES

19. 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

20. Section 48-20-40(16)(l) of the S.C. Mining Act requires a, "time schedule, including the anticipated years for completion of reclamation by segments". This time schedule should meet the requirements of Section 48-20-90 of the Mining Act.

SCHEDULE FOR IMPLEMENTING CONSERVATION AND RECLAMATION PRACTICES

Conservation & Reclamation Practices	Segment or Area	Planned		*Applied		Notes
		Amount	Year	Amount	Month/Year	
Establish 50' wide upland buffers for wetlands to be avoided along the access and haul roads in RDA-South	Access Road Process Plant & Murray Swamp Crossing	1,200 ft	2018			
Locate archaeological site 38WG185; mark site with two permanent marker post; establish 50' buffer around site.	38WG185	2.4 ac	2018			Prior to start of mining
Deploy silt fencing, Sediment traps and/or other sediment control BMPs	Process Plant	~2,400 ft	2018			
Excavate Sediment & Water Storage Pond	Process Plant	9.9 ac	2018			
Establish 50' wide upland buffers for wetlands to be avoided and mark buffers.	Seg 5 & Wetland 10	200 ft	2018			Prior to mining in Segment 5
Mark 250' property line blasting setback	Seg 5	1,300 ft	2018			Prior to mining in Segment 5
Mark 50' undisturbed buffer along property line.	Berm 3	1,300 ft	2018			Prior to mining in Segment 5
Deploy silt fencing and/or other sediment control BMPs	Berm 3	1,300 ft	2018			Prior to mining in Segment 5
Strip and stockpile topsoil need for reclamation	Seg 5	As needed	2019			
Strip overburden and mine limestone	Seg 5	45.0 ac	2019 - 2024			
Slope overburden to 3:1 slope along terminal pit wall	Seg 5	~ 2.0 ac				South side of Segment 5
Route stormwater into pit	Seg 5		All times			Use sloping & diversions and other appropriate BMPs
Spread topsoil, seed & fertilize as necessary in areas above the planned ultimate pool level lake surface water	Seg 5	As needed	When feasible			Concurrent reclamation with mining will occur as soon as feasible in each segment.
Strip and stockpile topsoil need for reclamation	Seg 6	As needed	2023			
Strip overburden and mine limestone	Seg 6	53.2 ac	2023 - 2028			Use sloping & diversions and other appropriate BMPs
Route stormwater into pit	Seg 6		All times			
Slope overburden to 3:1 slope along terminal pit wall	Seg 6	~3.5 ac.	2023 - 2028			West side of Segment 6
Spread topsoil, seed & fertilize as necessary in areas above the planned ultimate pool level lake surface water	Seg 6	As needed	When feasible			Concurrent reclamation with mining will occur as soon as feasible in each segment.

AA – Affected Area; BMPs – Best Management Practices; Fert. – Fertilize; PL – Property Line; SB – Sediment Basin; ST – Sediment Traps SW – Stormwater; TS – Topsoil; WL – Wetlands;

NOTE: The year and amount for deployment of conservation & reclamation practices are estimates and subject to change depending on market conditions and rate of mining.

* Completed by the Department

SCHEDULE FOR IMPLEMENTING CONSERVATION AND RECLAMATION PRACTICES

Conservation & Reclamation Practices	Segment or Area	Planned		*Applied		Notes
		Amount	Year	Amount	Month/Year	
Establish 50' wide upland buffers for wetlands to be avoided and mark buffers.	Other mine segments and berms	TBD	TBD			Establishing dates and amount of conservation & reclamation practices will depend on market conditions and rate of mining.
Mark 250' property line blasting setback		TBD	TBD			
Mark 50' undisturbed buffer along property line.		TBD	TBD			
Deploy silt fencing and/or other sediment control BMPs		TBD	TBD			
Strip and stockpile topsoil need for reclamation		TBD	TBD			
Strip overburden and mine limestone		TBD	TBD			
Route stormwater into pit		TBD	TBD			
Slope overburden to 3:1 slope along terminal pit wall		TBD	TBD			
Spread topsoil, seed & fertilize as necessary in areas above the planned ultimate pool level lake surface water		TBD	TBD			
Remove mine equipment, process plant equipment, and stone stockpiles	All areas	TBD	TBD			At end of mining and final reclamation
Stabilize barren soils by sloping to minimum 3:1 slope and establishing vegetation						Concurrent reclamation with mining will occur as soon as feasible in each segment.
Cease pumping of groundwater to fill last pit to final pool elevation						
Monitor vegetation to establish 75% coverage over two growing seasons. Inspect vegetation and repair as necessary.	All non-water areas					During active mining and reclamation activities.

AA – Affected Area BMPs – Best Management Practices Fert. – Fertilize PL – Property Line SB – Sediment Basin ST – Sediment Traps SW – Stormwater TS – Topsoil WL – Wetlands

NOTE: The year and amount for deployment of conservation & reclamation practices are estimates and subject to change depending on market conditions and rate of mining.

* Completed by the Department

YOU ARE NOTIFIED THAT:

- 1) you, the operator, must file an application to modify the reclamation plan in the event actual reclamation varies from the set forth hereinabove, and
- 2) if at any time it appears to the Department that the activities under the reclamation plan are failing to achieve the purposes and requirements of the S.C. Mining Act, the Department may modify the RECLAMATION PLAN in accordance to Section 48-20-150.

Clark Wooten RDA LLC
Signature of Applicant/Operator or his Authorized Representative

Clark Wooten RDA LLC
Printed Name of Applicant/Operator or his Authorized Representative

MAWA GC
Title

June 20, 2017
Date

Department Use Only

Permit No. _____ Date Application Approved _____ Date Bond Rec'd _____
Bond Amount _____ Blanket or Single Bond Permit Issuance Date _____

ACTION TAKEN ON THIS RECLAMATION PLAN

_____ Approved _____ Denied _____ Approved with Additional Terms and Conditions

By: _____
DIVISION DIRECTOR

Date: _____