



S.C. Department of Health and  
Environmental Control

## MINE OPERATING PERMIT

### PART I:

### RDA Mine RDA, LLC

RDA, LLC, a corporation, has been granted a Mine Operating Permit, Mine Permit Number I-002171 to operate the RDA Mine in accordance with the S.C. Mining Act (S.C. Code Ann., Section 48-20-10 *et seq.*, Rev. 2008 (Supp. 2018) and S.C. Code Ann. Regs. R.89-10 *et seq.* The operator shall conduct this operation as represented in documents submitted to The S.C. Department of Health and Environmental Control (DHEC) in support the issuance of this permit.

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JOE KOON, MANAGER  
MINING AND RECLAMATION SECTION

**PERMIT NUMBER:** I-002171  
**ORIGINALLY ISSUED:** March 25, 2019  
**MODIFIED:** NOT APPLICABLE

In accordance with Section 48-20-60 of the South Carolina Mining Act, this Mine Operating Permit shall remain valid unless it terminates, as set forth in R.89-270, or is revoked in accordance with Section 48-20-160 and R.89-280. The anticipated mining completion date is listed on the *Schedule for Conservation and Reclamation Practices in the Reclamation Plan*.

The approved *Permit Application, Reclamation Plan*, and all supplemental information referenced herein, are incorporated by reference into this permit. *Land Entry Agreements and Mine Maps* as identified in Part II and Part IV, respectively, are also incorporated into this permit.

I-002171

## RDA, LLC

**Home Office Address:** P.O. Box 527  
Newton Grove, N.C. 28366

**Local Office Address:** None

**Address for Official Mail:** P.O. Box 527  
Newton Grove, N.C. 28366

**Listed below is the Company personnel and title for the contact of official business and correspondence for the RDA Mine. DHEC should be notified in writing immediately of any change in contact, address, telephone or fax numbers:**

Clark Wooten  
Manager

Telephone: 910-385-4675  
Email: cwooten@buysod.com

**LOCATION:** The mine is located on the Trio Quadrangle, SC U.S.G.S. 7.5' Topographic Map. The approximate geographic coordinates for the site are:

Latitude: 33.48713      Longitude: -79.63996

The site is located off Seaboard Road in Williamsburg County, approximately five (5) miles northwest of Andrews, South Carolina. Specifically, the site is directly north of Seaboard Road at its junction with Jumpin Run Road.

## Part II: MINE OPERATIONS

RDA, LLC, also referred to as the operator, is permitted to mine limestone at the RDA Mine. The maximum depth to the pit floor shall be 65 feet below ground surface [to an elevation of -21 feet mean sea level (msl)] measured from the lowest ground surface elevation. Mining will take place on tracts of land owned and leased by the referenced operator. These tracts of land are identified in the submitted *Land Entry Agreements* (LEAs).

**MINE/PIT CHARACTERIZATION:** The mining process will begin with the timbering and clearing of existing vegetation and the stripping of overburden. The overburden will 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 for transport to the primary crusher. The material from the primary crusher will be conveyed by conveyor belt to the secondary crusher(s) for further processing.

**PROCESSING PLANT LOCATED ON MINE SITE:** The processing plant consists of primary and secondary crushers, screens, conveyors, and loading and hauling equipment. Waste screenings and other fines from crushing, washing, and screening the crushed stone will be used to backfill along the mined-out pit walls of mine segments.

**MINE DEWATERING:** The groundwater may be lowered within the active pit to allow the limestone to be mined. Groundwater levels shall be maintained a minimum of two (2) feet above the top of the limestone surface at the Perimeter Monitoring Well (PMW) stations as shown on the approved mine map. The water removed from the active pit will be pumped into the *Sediment Retention and Water Storage Basin* as shown on the mine map. Water discharged from the *Sediment Retention and Water Storage Basin* to Murray Swamp must be discharged through an outfall regulated by a NPDES permit. See Part X: *Additional Terms and Conditions* for additional requirements.

**BLASTING:** Blasting operations are permitted at this mine site. Blasting activities shall be conducted in accordance with R. 89-150.H, under the direction of a S.C. Licensed Blaster and in compliance with S.C. Fire Marshall regulations. A minimum distance of 250 ft. shall be maintained between the blast area and adjacent property boundaries. Pursuant to R. 89-150, the operator shall conduct a pre-blast survey prior to the initiation of mining. The survey shall be offered to owners of structures within 0.5-mile radius of any blasting.

Pursuant to R.89-150.I, the operator must maintain a minimum distance of 1,000 feet between the nearest point of blasting and any structure not owned by the operator as of the completed application date. The operator may conduct blasting operations within 1,000 feet of a structure not owned or controlled by the RDA Mine, in which the structure owner has granted a waiver for blasting and the waiver is approved by DHEC. The operator shall be required to monitor each blasting event by seismograph and maintain blasting records documenting each blast. Blasting records shall be made available upon request to DHEC. DHEC shall be immediately notified following any incident of fly rock outside the permitted area. This notice shall be made within 24 hours of the blast, and within five business days the notice shall be followed with a written report and plan to adequately control flyrock. Prior to conducting additional blasting, the report and plan regarding the flyrock incident must be approved by DHEC.

**SIGNIFICANT CULTURAL OR HISTORICAL SITES:** A *Cultural Resource Survey of the RDA Mine Tract* (Survey), dated June 2017, was conducted by Brockington Cultural Resources Consulting. The survey identified one new archaeological site (38WG185) and two isolated finds (Isolates 1-2). The survey recommended site 38WG185 eligible for the National Register of Historic Places (NHRP) and Isolates 1 and 2 ineligible. As recommended by the Survey, site 38WG185 shall be protected by 50 feet of undisturbed buffer, and prior to mining in segments 1, 2, and 3, a perimeter fence shall be installed outside the 50-foot buffer. The State Historic Preservation Office (SHPO) concurred with the protective measure recommended by the Survey.

**VISUAL SCREEN:** To appropriately screen the operation from view, the operator shall maintain the buffers and visual screen features as shown on the permitted mine map. Property line buffers shall be utilized leaving existing vegetation. Additionally, a vegetated earthen berm shall be placed on the inside perimeter of the 50-foot perimeter buffer.

**NOISE MONITORING AND CONTROL:** The operator shall use Best Management Practices (BMPs) to minimize noise from the mine site. These noise BMPs shall include, at a minimum, proper maintenance of mufflers on equipment (trucks, trackhoes, pumps, etc.) and consideration of special buffering measures if planning to operate equipment during nighttime hours.

**OTHER STATE OR FEDERAL PERMITS:** The operator must obtain, maintain, and update, as appropriate, all necessary State and Federal permits to construct and operate the mine.

**LAND ENTRY AGREEMENTS:** The operator is required to furnish and maintain up-to-date *Land Entry Agreements* on all lands covered under this permit. If there is any change in ownership on any portion of land covered by this permit, the operator is responsible for furnishing the appropriate and completed *Land Entry Agreements* (Forms MR-600 or MR-700) to DHEC within 30 days of the change of ownership.

Land Owner(s) as Listed on *Land Entry Agreement(s)*:

TMS # 45-360-002, RDA, LLC  
TMS # 45-335-095, Jump N Run, LLC  
TMS # 45-360-001, Triangle 1065, LLC

Total acres of the contiguous tract(s) of land for which the permit is granted:

OWNED <u>529.61</u>	LEASED <u>438.79</u>	TOTAL <u>968.40</u>
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### **Part III: PERMITTED LAND**

This permit allows the operator to conduct mining operations within the permitted land as defined through the *Land Entry Agreement* submitted as part of the application. Permitted land as defined by Section 48-20-40(18) is "the affected land in addition to (a) lands identified for future mining to become affected land; (b) and undisturbed or buffer area that is or may become adjacent to the affected land." Therefore, this permit grants the operator the right to conduct active mining operations within the specified affected land, delineate land for future mine areas as future reserves, and establish undisturbed buffer zones to mitigate any adverse effects to the surrounding environment.

**AFFECTED LAND:** 594.7 acres of land are to be affected by the operator under the current mine plan. Of the total affected land, 119.0 acres are currently bonded. Of the bonded acres, mining is initially limited to the 53.2-acre Segment 6; any mining outside of Segment 6 shall require pre-approval from DHEC. The affected land is derived from the operator's response in the *Application for a Mine Operating Permit* and is shown on the approved mine map.

**FUTURE RESERVES:** 158.1 acres are identified as future reserves and are specified on the mine map. Prior to the initiation of activity in future reserves, the operator shall submit detailed mine and reclamation plans to DHEC for approval.

**BUFFER AREAS:** 215.6 acres are identified as buffer areas, setbacks, or areas that shall not be disturbed beyond the pre-mine natural state. These buffer areas are identified on the mine site map. Acres designated as buffer areas are not bonded under the reclamation bond. Any activity within the buffer areas (e.g. removal of timber) shall require prior notification and approval by DHEC.

**TOTAL PERMITTED AREA:** 968.4 acres.

## Part IV: MAPS

The permitted maps are listed herein. The maps are dated and further identified with DHEC assigned map number as listed and are part of the operating permit.

GM-2171-1V1, General Permit Area Map – prepared by KCS, LLC revised 6/3/18

SM-2171-1V1, Mine Map - prepared by KCS, LLC revised 11/16/18

RM-2171-1V1, Reclamation Map - prepared by KCS, LLC revised 9/8/2017

SedM-2171-1V1, ESCP for RDA East - prepared by KCS, LLC revised 7/3/2017

SedM-2171-2V1, ESCP for Jumpin Run Tract - prepared by KCS, LLC revised 12/5/2017

SedM-2171-3V1, ESCP for RDA South - prepared by KCS, LLC revised 12/5/2017

## Part V: RECLAMATION BOND

The Reclamation Bond is based upon the total affected acres. Pursuant to Section 48-20-70 and R.89-200, the reclamation bond for this mining permit is set at \$330,994.00. The reclamation bond shall remain in force and continuous throughout the life of the mining operation and shall only be released, partially or in full, back to the operator after the operator has completed reclamation in accordance with the approved *Reclamation Plan* and the minimum standards in R.89-330.

## Part VI: PROTECTION OF NATURAL RESOURCES

### **1. Description of the area of and around the mine site. Such as topography, surface water systems, wildlife habitats, residential houses, commercial properties, recreational areas, and/or public roads.**

The mine permit area is in the Carolina Flatwoods eco-region of the Coastal Plain within the Black River drainage of the Pee Dee watershed. The permit area was first utilized agriculturally, and subsequently has been used silviculturally for decades. Because of these past uses, there is limited potential habitat for listed threatened and endangered species. The primary surface drainage within the permit area is Murray Swamp which flows west to east into Johnson Swamp and finally the Black River. Seaboard Road borders the permit area to the south and Highway 521 is about 3,800 feet to the north. Tad Road is about 1,600 feet to the west and Wheeler Road, at its closest proximity, is about 400 feet to the east. Jumpin Run Road bisects the permit area running north/south between Seaboard Road and Highway 521.

### **2. Methods used to prevent physical hazards to persons and to any neighboring dwelling house, school, church, hospital, commercial or industrial building, or public road.**

A gate shall be installed at the entrance to the mine site and kept locked during inactive periods. *Warning* and/or *Danger* signs shall be posted around the perimeter of the property. Pursuant to R.89-150.I, the nearest point of blasting shall be a minimum distance of 1,000 feet from the nearest structure not owned by the operator. Blasting operations shall be conducted under the direction of a S.C. Licensed Blaster to alleviate fly-rock from leaving the permitted area. At any time and where necessary, DHEC may require fencing or other safety measures to be installed.

The Operator shall use BMPs to prevent accumulation of sediment/soil on public roads carried by trucks and other vehicles exiting the mine site; if needed, any accumulations shall be removed daily or more frequently by the operator. To reduce the potential of tracking debris on the highway, the operator shall provide and maintain an asphalt surfaced roadway from Seaboard Road to the office and scale area and a minimum of 100 feet on the approach to this area, from the direction of the processing plant. Roads interior to the plant and product stockpile area shall be maintained with crushed stone.

The operator shall establish a protected area or establish procedures to minimize fuel spillage or incidental spillage of other petroleum products during storage, refueling of equipment, or in the performance of routine maintenance on equipment. Contaminated materials resulting from contact with petroleum products shall be removed from the site and disposed of properly to prevent contamination to ground and surface water resources.

**3. Methods used to prevent an adverse effect on the purposes of a publicly owned park, forest, or recreation area.**

Public parks, forests, or recreation areas are located at greater than one mile and buffered appropriately to avoid any adverse effects from mining operations.

**4. Measures taken to insure against substantial deposits of sediment in stream beds or lakes.**

The operator shall comply with the *NPDES General Permit for Non-metallic Mineral Mining and Stormwater Pollution Prevention Plan* developed for the mine. Active pumping and discharge of water from the active pit through the Sediment Retention and Water Storage Basin shall cease if the dewatering discharge causes flooding conditions, more than the FEMA delineated flood plain, to property downstream of the mine site. Murray Swamp and its tributaries shall be protected by a minimum 75 feet undisturbed buffer, except where reasonable access to the discharge outfall is needed. Additionally, the operator shall install appropriate BMPs to ensure that no sediment encroaches the swamp and associated wetlands; BMPs shall be installed at the mine side of the undisturbed buffer.

**5. Measures taken to insure against landslides or unstable mine walls.**

Final slopes shall be 3H:1V to minimize potential for landslides or unstable mine walls. During active mining, the operator is responsible for maintaining stable mine walls to prevent significant slumping. Appropriate setbacks and buffers along the property lines shall be observed to be protective of adjacent properties.

**6. Measures taken to minimize or eliminate fugitive dust emissions from the permitted area.**

The operator shall comply with DHEC Air Quality Construction Permit. Prior to mine development; the operator shall implement a Fugitive Dust Control Plan (FDCP) in accordance with its Air Quality Construction Permit. The mine operator will use appropriate measures (e.g. water truck, dust suppressants) to control fugitive dust created by moving equipment along haul roads. The operator, where feasible, shall establish vegetation in non-active mine areas barren of vegetation to stabilize the soil and reduce potential for wind erosion and dust emissions.

**Part VII: STANDARD CONDITIONS OF MINE OPERATING PERMIT**

**1) SURVEY MONUMENTS:** In accordance with R.89-130, the operator shall install and maintain the two required permanent survey monuments, or control points, within the permitted area, as shown on the mine site map. At the discretion of DHEC, the operator may be required to mark the area that will be affected with flagging or other appropriate measures.

**2) RIGHT OF ENTRY:** Pursuant to Section 48-20-130 and R.89-240, the operator shall grant DHEC, and/or duly appointed representatives, access to the permitted area for inspection to determine whether the operator has complied with the reclamation plan, the requirements of this chapter, rules and regulations promulgated hereunder, and any terms and conditions of this permit.

**3) RECORDS RETENTION:** All records are to be maintained in accordance with this permit and with applicable regulations. Records shall be kept on site, or at the office identified for receipt of official mail, and open for inspection during normal business hours. The records shall be maintained for a minimum of three (3) years or as specified by DHEC. The operator shall furnish copies of the records upon request to DHEC.

**4) PERMIT MODIFICATIONS:** Pursuant to Section 48-20-80, the operator may modify the permit and/or *Reclamation Plan* upon approval by DHEC. Requests for permit and/or *Reclamation Plan* modifications may be made to DHEC on Form MR-1300. During DHEC 's evaluation of the modification request, the operator shall submit any requested supporting data for consideration. If a request is determined to be substantial by DHEC, the modification request will be public noticed, pursuant to R.89-100, and a modification fee will be required as specified in R.89-340. If DHEC determines activities proposed under the *Reclamation Plan* and other terms and conditions of the permit are failing to achieve the purpose and requirements of the S.C. Mining Act and Regulations, pursuant to Section 48-20-150, DHEC shall notify the operator of its intentions to modify the permit and/or *Reclamation Plan*.

**5) TRANSFER OF PERMIT:** Pursuant to Section 48-20-70, this permit may be transferred to another responsible party. The transfer of the permit must be conducted in accordance with R.89-230. The transferor of the permit will remain liable for all reclamation obligations until all required documents, plans, and the replacement reclamation bond have been submitted and approved by DHEC. The transfer will be considered complete when all parties have received notification, by certified letters, of the approval of the transfer by DHEC.

**6) DURATION OF MINE OPERATING PERMIT:** In accordance with Section 48-20-60, this Mine Operating Permit will remain valid unless this permit terminates, as set forth in R.89-270, or is revoked in accordance with Section 48-20-160 and R.89-280. The proposed anticipated mining completion date is shown on the *Schedule for Conservation and Reclamation Practices* in the *Reclamation*.

Pursuant to R.89-80(B), the operator shall conduct reclamation simultaneously with mining whenever feasible. Reclamation shall be initiated at the earliest practicable time, but no later than 180 days following termination of mining of any segment of the mine and shall be completed within two years after completion or termination of mining on any segment of the mine.

## **Part VIII: ENFORCEMENT ACTIONS**

Pursuant to Section 48-20-30 of the S.C. Mining Act, "DHEC has ultimate authority, subject to the appeal provisions of this chapter, over all mining, as defined in this chapter, and the provisions of the chapter regulating and controlling such activity." This allows DHEC to assist, cooperate with, or supersede other State agencies in taking enforcement action on violations of the State Regulations, or violations of the S.C. Mining Act, to ensure the purposes of this Act are enforced.

**COMPLIANCE:** At all times, the operator shall comply with all conditions of this mine operating permit. Non-compliance with this mining permit, statute, or regulations could lead to permit revocation and bond forfeiture pursuant to Sections 48-20-160 and 48-20-170 or other enforcement action allowed by law.

Compliance with the Mine Operating Permit requires the operator to conduct the mining operation as described in the approved *Application for a Mine Operating Permit*. Variance from the *Application for a Mine Operating Permit*, this permit, statute or regulation, without first receiving DHEC approval, shall be deemed non-compliant with the permit.

An operator or official representative of the mine operator, who willfully violates the provisions of the S.C. Mining Act, rules and regulations, or willfully misrepresents any fact in any action taken pursuant to this chapter, or willfully gives false information in any application or report required by this chapter, shall be deemed guilty of a misdemeanor and, upon conviction, shall be fined not less than one hundred dollars nor more than one thousand dollars for each offense. Each day of continued violation after written notification shall be considered a separate offense.

The operator is responsible for all mining activity on the permitted mine site.

## Part IX: REPORTS

**1) ANNUAL RECLAMATION REPORTS:** The operator shall comply with Section 48-20-120 and Regulation 89-210 and submit an *Annual Reclamation Report* on Form MR-1100, as supplied by DHEC. The form for the report will be sent by regular mail to the operator to the mailing address shown on the previous year's *Annual Reclamation Report*. The operator should receive the report form from DHEC by July 1 of each year; however, the operator is ultimately responsible for obtaining the *Annual Reclamation Report* form and is not excused from penalty fees for failure to submit the report timely.

The Annual Operating Fee is a part of the *Annual Reclamation Report*. Failure to submit a complete *Annual Reclamation Report* and fee, in accordance with Section 48-20-120 and R.89-340, will result in a late penalty payment. The *Annual Reclamation Report* and Annual Operating Fee are required if there is any permitted land not fully reclaimed and released by DHEC by June 30 of each year.

**2) SPECIAL REPORTS:** At any time, DHEC may request information, data, or explanations from the operator regarding conditions relating to the permitted mine site. Such requests from DHEC shall be made in writing, to the operator with an appropriate time frame stated for the submittal of the requested information to DHEC. The operator must produce the information requested within the timeframe specified by DHEC.

## Part X: ADDITIONAL TERMS AND CONDITIONS

### General

1. If archaeological materials are encountered prior to or during the construction of mine facilities or during mining, the S.C. Department of Archives and History and DHEC should be notified immediately. Archaeological materials consist of any items, fifty years or older, which were made or used by humans. These items include, but are not limited to, stone projectile points (arrowheads), ceramic sherds, bricks, oyster shell, worked wood, bone and stone, metal and glass objects, human skeletal remains, and concentrations of charcoal and stones below the ground surface. These materials may be present on the ground surface and/or under the surface of the ground.

2. Temporary or permanent placement of refuse and debris from off-site locations is prohibited. An exemption for the temporary placement of recovered materials (e.g., concrete, brick, asphalt) for a Recovered Material Process Facility may be granted with an acknowledgement letter from the Solid Waste Permitting and Monitoring Section of DHEC. Topsoil fill approved by DHEC may only be brought in from off-site sources for the purpose of mine land reclamation.

### Wetland Buffers and Murry Swamp Crossing

3. The operator shall maintain a minimum fifty (50) foot undisturbed buffer between any land disturbance activity and wetland areas. Additionally, for wetlands associated with Murray Swamp, the undisturbed buffer shall extend a minimum 75-feet or to the +35-foot msl contour, whichever is greater. These buffers shall be permanently flagged prior to the initiation of any mine activity or preparation. The flags shall be maintained throughout the active mine operation of the site.

- The conveyor system crossing Murray Swamp shall be designed and constructed to withstand flooding conditions (e.g., increased surface water levels, increased flow velocity, impacts from floating debris). The conveyor supports shall be designed and constructed to withstand a 100-year flooding event on Murray Swamp.
- Conveyor undercarriage, (e.g., drive head, return belt, motors) shall be constructed at an elevation above the 100-year flood event on Murray Swamp as based on the 2012 FEMA Flood Insurance Study.

4. The operator shall monitor the wetlands using methods described in the *Technical Standard for Water-Table Monitoring of Potential Wetland Sites* by the USACE. Monitoring wells shall be installed to a depth of 15 inches in wetlands #4, #6 and #14, which are designated on the mine map. (Wetland #4 shall be used as a control group.)



### **Water Well Inventory**

5. An inventory of all water wells for domestic or agricultural purposes within the pre-blast survey ½ mile radii area shall be conducted prior to the initiation of mining. Ponds observed will also be inventoried. Additional inventories at a greater distance from the pit may be required during mining if deemed necessary by DHEC. The information collected at each well shall be used to establish the existence, condition, and productive use(s) of the well. The inventory shall include the following information where available and as able to be determined, and as access is allowed by the property owner:

- A. Location of well.
- B. Name and address of property owner, use of the well water, use of property.
- C. Well completion details as documented from drillers logs or DHEC well form 1903.
- D. Pump details such as type and depth as documented.

### **Perimeter Compliance Monitoring Wells**

6. Prior to the start of pit dewatering, the mine operator shall conduct additional investigative work to locate the top of limestone along the mine permit boundary, utilizing either geophysical methods or auger drilling. This additional information shall be used to adjust the nine Perimeter Monitoring Well (PMW) locations as identified on the approved mine map. Locations along the mine permit boundary, where the top of limestone has the highest elevations, shall be selected for monitoring well compliance points. Final PMW locations shall be approved by DHEC and installed prior to pit dewatering.

The PMWs shall be installed by a certified well driller in accordance with R.61-71, SC Well Standards and Regulations. Each well location shall be surveyed to establish the well's latitude, longitude, and elevation relative to msl. Monitoring Well Records (DHEC Form 1903) shall be submitted to DHEC in accordance with R.61-71. The elevations set in each compliance well shall be based upon either the driller's log recorded on form 1903 or a SC Professional Geologist's stratigraphic log.

Groundwater drawdown from pit dewatering operations shall remain at elevations equal to or greater than two (2) feet above the top of the limestone elevations at PMW compliance points along the permit boundary. Groundwater levels shall be measured to the nearest inch (0.08 ft.) and shall begin after well development is complete and continue thereafter. Automatic data recorders (ADRs) shall be utilized to measure water levels at all PMWs at a frequency of once per day. The measurement frequency may be adjusted upon DHEC approval. The data from the ADRs or manual measurements shall be maintained onsite. A summary report with time/water graphs for each well shall be submitted to DHEC on a quarterly basis.

If at any time the groundwater level at a PMW falls below the compliance point, pit dewatering shall immediately cease and DHEC shall be notified within 24 hours. Within five (5) days of the notification, the operator shall submit a plan to maintain groundwater levels at or above the compliance point(s). DHEC will review the plan and pit dewatering shall not resume until DHEC has given written approval.

### **Sinkhole Monitoring and Contingency Plan**

7. The mine operator shall implement the *Sinkhole Monitoring and Contingency Plan (SMCP)* and any amendments or revisions thereof as a condition of this permit. Any amendments to the SMCP will be under the direction of a S.C. Professional Geologist and approved by DHEC. DHEC shall regularly review sinkhole and monitoring well data to guide future modifications. Prior to mining outside Segment 6, the operator shall submit a revised SMCP to DHEC for review and approval. All wells, which are identified on the mine map, shall be installed by a certified well driller in accordance with R.61-71, S.C. Well Standards and Regulations.

### **Pit Water Flow Monitoring**

8. The operator shall install and maintain an automatic shut off valve in the pipe that transfers pit water over Murray Swamp. The valve shall be installed on the north side of Murray Swamp. The operator shall continuously monitor upstream of the automatic shut-off valve on the north side of Murray Swamp and log the pumping rate and duration of water removed from the pit. This log shall be maintained onsite. The pit dewatering flow rate shall be adjusted per the SMCP; however, DHEC may impose pit dewatering flow rate limitations, if necessary.

### **Domestic or Agricultural Water Supply Protocol**

9. Mine dewatering shall not adversely impact a neighboring domestic or agricultural water supply well. Upon receipt of a water well supply complaint reported to RDA, LLC, the complaint(s) shall be reported to DHEC within 24 hours of receipt. DHEC will determine if dewatering activities at the RDA Mine are the cause of the reported problem. If DHEC determines that dewatering activities at the RDA Mine are adversely impacting the function of the water well, the operator shall be responsible for deepening or re-drilling the well, installing a new well, or connecting the resident or commercial business to a public water supply, if available. Until a determination is made on the cause of the water well malfunction, DHEC has the discretion to require the operator to provide a temporary potable water supply. If the malfunction is determined to be caused by the mine, the temporary water supply will be continued until a permanent drinking water supply becomes available. If DHEC determines that the operator has caused an adverse effect to a pond, that effect shall be mitigated for by the operator.

### **Wildlife Monitoring Requirements**

10. Spotted Turtle (*Clemmys guttata*) – Prior to any land disturbance, a qualified consultant approved by SCDNR shall conduct a visual survey of Murray Swamp floodplain and associated wetland habitats within the initial mine permit site. The consultant shall look for spotted turtles within and near the conveyor corridor across Murray Swamp. If spotted turtles are in the project area, the mine operator shall consult with SCDNR to develop a project specific management plan, including but not limited to, collection and radio tracking, capture and relocation, or no further action. Mine operator shall train mine staff to identify the spotted turtle. Staff will be directed to protect any identified turtle and take pictures, if possible, without disrupting the turtle's activity. Upon confirmation of the turtle's identification by the mine operator's contract biologist(s), the siting shall be reported to SCDNR for consultation.

11. Gopher Frog (*Lithobates [Rana] capito*) and Eastern Tiger Salamander (*Ambystoma tigrinum*) – Prior to mine disturbances of US Army Corps of Engineers jurisdictional wetlands and non-jurisdictional wetlands, additional on-site surveys shall be conducted by a qualified consultant approved by SCDNR, to search for the gopher frog and tiger salamander. These surveys shall be conducted on an annual basis between January and May and include nocturnal vocalization studies. The jurisdictional (JW) and non-jurisdictional (NJW) wetlands subject to the surveys are identified as follows:

- JW, #5 and #27 in mine segment 3
- NJW, #1, #2, #3, and #13 in mine segment 4
- NJW, #15 and #38 in mine segment 7
- NJW, #11 in mine segment 2
- NJW, #12 and #18 in mine segment 1
- NJW, #39 through #45 in mine segment 10

If either of these species are in the project area, the mine operator shall consult with SCDNR to develop a project specific management plan, including but not limited to, collection and radio tracking, capture and relocation, or no further action. If none of these animals are identified during the two-year survey, then the operator can request to SCDNR that no additional work is needed and forward the response to DHEC for consideration.

## APPENDIX A

### MODIFICATIONS TO MINE PERMIT I-002171

NUMBER	DATE	DESCRIPTION OF MODIFICATION (PA= Permitted Acreage; AA= Affected, Bonded Acreage; FR= Reserves Acreage, B= Buffer Acreage)
Issued	3/25/2019	Permit issued; PA = 968.4 ac., AA = 594.7 ac., FR= 158.1 ac., B =215.6 ac.

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## **APPENDIX B**

### **Sinkhole Monitoring and Contingency Plan**