



South Carolina Department of Natural Resources

Robert H. Boyles, Jr.
Director

Lorianne Riggan, Director
Office of Environmental Programs

March 30, 2023

Kaylin Joye
SCDHEC
2600 Bull Street
Columbia, SC 29201

Benjamin F. Thépaut
SCDHEC OCRM
1328 McMillan Ave
North Charleston, SC 29405

RE: Solutions, LLC - Edge Road Mine, I-002375, Horry County

Dear Ms. Joye and Mr. Thépaut,

Personnel with the South Carolina Department of Natural Resources (SCDNR) have reviewed the applicant's response to SCDNR comments dated March 17, 2022, and the corresponding hydrologic assessments.

Updated Project Description

The proposed project includes mining of sand/clay material within 2 phases and 4 proposed segments. Segment 1 will be mined to a depth of 30 ft and the remaining segments will be mined to 50 ft. The applicant has proposed to funnel discharge from segment 2-4 into the basin at segment 1. Segment 1 has already been impacted and buffered with 50 ft through SCG731593, onsite wetlands will be buffered with 50 ft buffers, and sections with adjacency to Lewis Ocean Bay Heritage Preserve (LOBHP) will be buffered with 100 ft buffers. The reduction in depth for Phase I will enable the applicant to transition that segment more quickly from active mining to a sediment/recharge basin. Additionally, the depth may be less in some sections of the pit depending on continuity of sand deposits. Mining will occur in 10-20 ft benches with rim ditches proposed to manage groundwater and stormwater within the pit. Water will be discharged into segment 1 or through NPDES outfall 001 at Boggy Swamp utilizing a floating intake. The proposed area of disturbance includes 21.7 acres for mining and 0.9 acre of haul road to Edge Road.

The proposed reclamation plan includes a series of littoral zones in three corners of the mine property. The littoral zones will range in depth from 5 to 8 feet below the water surface. The total area of the littoral zones are approximately 2.5 acres which would be approximately 10% to 11% of the pond surface area. The applicant is proposing to follow SCDNR planting recommendations as provided in the agency's initial comment letter.

Hydrology and Geology Assessment Comments

The SCDNR has reviewed the hydrologic impact report assessing impacts to wetlands onsite and those located on LOBHP and find it is complete and adequately represents potential impacts to the adjacent wetlands identified on LOBHP. The results of the drawdown calculations show the radius of influence of the mine and the potential for a minor impact in a small portion of wetlands on LOBHP. To ensure impacts are avoided, the applicant has provided a groundwater monitoring plan utilizing wells within onsite wetlands to ensure wetland conditions are maintained and there is no wetland degradation associated with the mining activity. The SCDNR appreciates the inclusion of a groundwater monitoring plan but find it necessary to add a minimum of two additional groundwater

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monitoring wells on LOBHP to monitor any potential impacts that could occur. Should this request be abided, coordination with the SCDNR will need to occur regarding permissions for the placement of the monitoring wells on state owned property per SCDNR policy.

To assess the likelihood of limestone sediments and potential sinkholes in the area, the applicant reviewed six borehole logs provided by the SC Geological Survey collected in the vicinity of Edge Road Mine. Results of the assessment showed a lack of soluble rock in four of the six boreholes. The limestone found in the boreholes likely do not represent a limestone bed, and should the mining plan encounter a limestone product, mining would be required to cease as the permit only includes mining for sand. The SCDNR reviewed the provided data and concur with the applicant's assessment that there is limited to no risk of sink holes within the mining area.

State Protected Species Comments

Spotted Turtle

As noted in previous agency comments, the spotted turtle (*Clemmys guttata*) is a state-threatened species and a federal At-Risk species (ARS). Because the project area contains a variety of wetlands and the fact that spotted turtles are known to move considerable distances between and within habitats^[1] and the fact that they are known to occur near the proposed project on LOBHP, the SCDNR recommends the applicant assume spotted turtle presence on the proposed project site and to prevent the take of a spotted turtle abide by the following:

- Avoid any construction in areas within or adjacent to aquatic resources (wetlands, streams, etc.) from January 15th through May 31st.
- Prior to any construction activity, install silt fencing from November 15th through January 15th. Silt fencing should include 45-degree arms to direct spotted turtles to the uplands adjacent to the waterbody and away from the construction site. The 45-degree arms should be placed at a minimum of 100 ft from the waterbody and no more than 300 ft from the waterbody. Additionally, silt fence arms should extend at least 50-ft and extend in each direction so that the ends of each 45-degree angle to the fence meet to form a triangle. Silt fencing should remain in place throughout the duration of the proposed construction activities.
- Prior to construction, monitor the silt fencing to ensure it is effectively working properly on a monthly basis. This should effectively exclude the species from the project area prior to construction activities. Once construction activities begin, the silt fence should be monitored weekly for the integrity of the fencing and the presence of spotted turtles or other herpetofauna or small wildlife species. If spotted turtles are encountered, the SCDNR state herpetologist should be notified immediately by calling 843-527-8448.
- Spotted turtles may be allowed to be relocated into areas of suitable habitat, management, and conservation status; however, any plans for relocation should be submitted for review to SCDNR with a detailed description and images of the current and future habitat and proposed work plan and methodologies as it pertains to a relocation project. It should be noted that not all habitats are suitable for relocation.

Should the applicant find that the spotted turtle avoidance and minimization measures cannot be completed, the SCDNR would then request that a survey for the presence of spotted turtle onsite be completed. Surveys should be conducted from February 15th – April 15th. The best window for

^[1] A male can have a home range of five hectares, where females have been documented to have home ranges of 16 hectares (Litzgus and Mousseau 2004).

visually identifying spotted turtles as well as successfully trapping is February to early May. Visual surveys are usually most effective from February to April and trapping, usually March to May. All of this depends on water levels in the surveyed wetland habitat. If dry or extremely low water levels, neither method will be effective or appropriate. Spotted turtles utilize wetland habitat during certain times of the year, but during periods of drought or low water levels, spotted turtles will aestivate in the surrounding forests adjacent to wetlands. The SCDNR recommends one of the methods detailed in the Spotted Turtle Assessment Protocol developed by the Spotted Turtle Working Group in the attachment be utilized. Following completion of surveys, the results should be submitted to SCDNR, and further coordination occur if spotted turtles are found to be present onsite.

Southern Hognose Snake

The SCDNR continues to recommend exclusion measures are utilized to avoid the take of the state protected Southern hognose snake. Southern hognose snakes are most active and vulnerable above ground during the spring (March-April) and fall (September-early November). The SCDNR recommends activities during these times be minimized, especially the use of heavy equipment, to reduce impacts to highly fossorial species underground from soil compaction and crushing. In the event these windows cannot be accommodated the SCDNR recommends the following exclusionary methods:

- Erect silt fencing around the project area in the winter when snakes are dormant. If the timing of this would impact project timelines, the SCDNR asks that the silt fencing be erected now and that a monitoring plan be in place to walk the perimeter of the silt fence daily the week prior to construction beginning to ensure that any herpetofauna within the project footprint along the fencing be moved to outside of the project area prior to any work taking place.
- Monitor the silt fencing to ensure it is effectively working properly on a monthly basis prior to construction activities occurring. This should effectively exclude any herpetofauna and other small wildlife species from the project area prior to excavation. Once construction activities begin, it should be monitored weekly.

Provided that the permit is conditioned to address the concerns outlined above and the applicant updates the groundwater monitoring plan to include monitoring wells within the wetlands within the potential area of impact on LOBHP, the SCDNR does not object to the proposed project. If you have any questions related to these recommendations, please contact me at JamisonM@dnr.sc.gov or by phone at 843-953-9003.

Sincerely,



Maggie Jamison
Coastal Environmental Coordinator
Office of Environmental Programs
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References

Litzgus, J. D., & Mousseau, T. A. (2004). Home range and seasonal activity of southern spotted turtles (*Clemmys gullata*): Implications for management. *Copeia*, 2004(4), 804–817.
<https://doi.org/10.1643/CH-04024R1>