



NORTH CAROLINA
Environmental Quality

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

BRIAN WRENN
Director

July 23, 2020

Certified Mail

Return Receipt Requested

7014 0510 0000 4173 2582

Mr. Samuel T. Bratton
President and CEO
Wake Stone Corporation
P O Box 190
Knightdale, NC 27545

RE: Cary (Triangle) Quarry Mine
Mining Permit No. 92-10
Wake County
Neuse River Basin

Dear Mr. Bratton:

We have reviewed the application/modification request you/your company submitted for the referenced mine site. In order for this office to complete its review of the referenced project in accordance with GS 74-50 and 51 of the Mining Act of 1971, please provide the additional or revised information in accordance with the following comments and questions:

1. Please provide any correspondence and/or documentation regarding environmental review coordination (e.g., scoping requests, environmental assessments/impact statements, categorical exclusions) with local municipalities, other state agencies, or federal agencies for the proposed mine expansion.
2. The proposed mine expansion site, known as the Odd Fellows tract, appears to be deeded to Wake County, Durham County, City of Raleigh, and City of Durham. However, Wake County's tax map lists Raleigh-Durham International Airport as the owner. Please provide substantiation or documentation to support your answers to the following questions:
 - a. To whom is the title to the underlying property vested?
 - b. Does the entity identified in (a) meet the definition of a State Agency under GS 113A-9(9)?



- c. Does the proposed mine expansion site include 10 or more acres of public land, as defined in GS 113A-9(7)?
3. Does the proposed project involve any amount of public money, funding or other assistance? If so, please identify the amount of public money, funding or other assistance involved and the sources of such money, funding or other assistance.
4. Please provide documentation that the Raleigh-Durham Airport Authority has the legal right and authority to lease the Odd Fellows tract and to sell the mineral rights from this tract.
5. Please provide documentation that shows Wake Stone has complied with GS 74-50(b1): *the applicant or operator shall make a reasonable effort, satisfactory to the Department, to notify:*
 - (1) *The chief administrative officer of each county and municipality in which any part of the permitted area is located.*
 - (2) *The owners of record of land adjoining that lies within 1,000 feet of the permit boundaries.*
 - (3) *The owners of record of land that lies directly across and is contiguous to any highway; creek, stream, river, or other watercourse; railroad track; or utility or other public right-of-way and that lies within 1,000 feet of the permit boundaries. For purposes of this subdivision, "highway" means a highway, as defined in G.S. 20-4.01(13) that has four lanes of travel or less and that has not been designated a part of the Interstate Highway System.*
6. Please provide the actual estimated emissions of PM100, PM10, and PM2.5, from the crushing and processing plant for each of the last five years.
7. Please provide for the last 5 years, by year, the number of blasts per year of shot greater than 5-holes, and the average duration of shots.
8. Please provide a description of the Company's dust suppression activities at the current and proposed mine sites.
9. Please provide the following information for the proposed bridge over Crabtree Creek:
 - a. Design and construction sequencing details.
 - b. Design considerations for wildlife passage along the Crabtree Creek corridor.
 - c. A stormwater and sediment control management plan for runoff to and runoff from the bridge.
10. Please provide the following information for any proposed night-time production:

- a. A description and explanation of any planned fixed or mobile lighting.
 - b. Submit a plan to reduce light pollution above current ambient levels.
11. Please provide the following information for any proposed night-time maintenance:
 - a. A description and explanation of any planned fixed or mobile lighting.
 - b. Submit a plan to reduce light pollution above current ambient levels.
 12. Please conduct an aquatic survey for the Atlantic pigtoe mussel in Crabtree Creek within the project area of the proposed mine pit. We recommend consulting with the US Fish and Wildlife Service for appropriate field survey methodologies.
 13. Please provide a noise study that evaluates the potential for noise impacts to William B. Umstead State Park (Umstead Park). The protocol for the study must be approved by the Mining Program before the study is conducted.
 14. Please provide the following information concerning the berm along the northern and western portions of the Odd Fellows tract:
 - a. How long will it take to construct the screening berm?
 - b. When will construction of the screening berm begin?
 - c. How will the berm be vegetated, including the number and types of trees to be planted?
 - d. What is the long-term maintenance plan for the vegetated berms?
 15. Please provide additional information regarding screening for the following locations:
 - a. Future reserve section - The operation would be visible to I-40 and parts of Old Reedy Creek Road.
 - b. East side of the proposed pit - Pit operations may be visible from Umstead Park.
 16. Please provide a certification from a qualified professional engineer that that the geological structure with retaining walls left between Crabtree Creek and the pits will not breach, fail, or overtop in a major storm event.
 17. Please provide a determination from the Division of Waste Management, that the disposal of surplus overburden from the proposed modification area and pit into the existing pit is acceptable.
 18. Please provide a comprehensive archaeological survey conducted by an experienced archaeologist on the Odd Fellows tract. We recommend consulting with the NC Office of State Archaeology Review for guidance on field methodologies.

19. Please provide a certified plan, designed by a qualified professional engineer, detailing how and when flow from Crabtree Creek into the existing or proposed pit from fractures in the rock would be addressed.

20. Please provide revised plan drawings which include the following:
 - a. Coordinates in decimal degrees to 4 decimal places at locations along permit boundary as needed to accurately define the permit boundary.
 - b. Detailed plans including appurtenances and equipment for pumping water from the proposed pit to the existing pit.
 - c. A detailed construction sequence addressing practices that will prevent sediment loss to Crabtree Creek during retaining wall and bridge construction.
 - d. Written summary of retaining wall design calculations demonstrating that the design meets or exceeds the factors of safety reported on Sheet 6 of the S&ME plan set.
 - e. Consistent lines for riparian buffer delineation with labels for zone 1 and zone 2. Wake Stone has a 100' self-imposed buffer from centerline of Crabtree Creek. Regulatory riparian buffers are measured from top of bank, not stream centerline.
 - f. The entire construction entrance should be shown within the permit boundary.
 - g. In some basins, the skimmer outlet is in the footprint of the emergency spillway. The emergency spillway should be constructed in undisturbed soil and the skimmer outlet located outside of the spillway footprint.
 - h. Stable conveyances from channels or culverts into basins, in order to prevent erosion and internal system sediment loading into the basin mouth.
 - i. Adequate outlet protection devices at the end of slope drains and culverts on the plan sheet.
 - j. Overall erosion and sediment control (E&SC) plan for both pits that identify all stormwater discharge outlets (SDOs).
 - k. Planting plan (riparian where required) for screening and stabilization adjacent to proposed headwall.
 - l. Silt bag detail and maintenance requirements.
 - m. Dimensions of construction entrances on plan sheets.
 - n. Clarification that construction entrance would be installed before any timbering begins. Timbering is only allowed to the extent necessary to install perimeter E&SC measures.
 - o. Check dams as needed in diversion ditches to reduce energy of channelized water.
 - p. Plans showing diversion ditches routed so that discharge passes through at least 2 baffles prior to entering skimmer cell. Lower diversion ditch enters basins 5 & 6 in the skimmer cell.
 - q. Clarification that the location of the diversion ditch between basins 5 & 6 is correct.

- r. Plans indicating that disturbed areas between the primary perimeter ESC measure and diversion ditch will be seeded and mulched immediately.
- s. Reconciliation of the access road it is shown in the undisturbed buffer (sheet 4).
- t. A legend with symbols/icons to identify all proposed erosion and sedimentation control measures. Measures must be to scale. Use the symbols to identify the proposed location of the structures on the plan. Terminology must be consistent throughout the plan
- u. Identification of slope drain sizes on the plan sheets.
- v. Identification of pipe and culvert sizes on the plan sheets.
- w. Plans labeled with all structures (i.e. diversions, rip rap outlets, FES structures) to correspond with the associated design calculation.
- x. The symbol used for silt fence must be distinct and not hidden beneath the line type used to delineate the limits of disturbance.
- y. Areas identified where liners/matting will be installed using a symbol provided in the legend or identifying hatch pattern.
- z. An overall plan sheet for each phase of the erosion and sedimentation control. The overall map is to be at a scale so that the entire site fits on one sheet.
- aa. A supplemented seeding and planting plan that considers native vegetation in and around riparian areas.
- bb. Remove weeping love grass from the seeding plan.
- cc. Provide additional erosion and sedimentation control measures as required to protect the stream, all public, and private property from damage.
- dd. Immediate stabilization with seed and mat on basin side slopes upon construction.
- ee. A minimum of 5 feet between the toe of the slope and the installation of the silt fence.
- ff. Adequate space for the installation, maintenance and removal of perimeter silt fence. Specific maintenance requirements for all proposed sediment and erosion control structures included on the plan.
- gg. A plan detail and construction specifications for the silt fence and silt fence outlet that complies with the skirt trench requirements per the Erosion and Sediment Control Planning and Design Manual. The skirt is to be trenched in, at a minimum, 8 inches vertically and 4 inches horizontally.
- hh. A structure/device for dewatering the temporary basins prior to removal and/or conversion to a permanent structure. Provide a plan detail, construction specifications, and maintenance requirements for this device. Include the use of this device in the construction sequence.
- ii. A plan detail, construction specifications, and maintenance requirements for the sediment skimmer basin with riser. Include a stone pad for the skimmer to rest upon and a rope attached to the

- skimmer for maintenance in the plan detail. Include the basin surface area dimensions, depth, side slopes, dam height, embankment width, length of emergency spillway, barrel diameter and barrel length, skimmer size, skimmer orifice size, and dewatering time on the plan sheets.
- jj. Anti-flotation calculations for the riser structure. Include the dimensions of the riser structure, barrel pipe, and anti-flotation block on the plan sheets.
 - kk. Description of how water will be discharged into the basin in a manner to prevent erosion. Provide a stable conveyance from diversions into basins (i.e. rip rap lined channel, slope drain, tarp, etc.) Use diversions to channel runoff into the basins and prevent sheet flow.
 - ll. Construction specifications for the skimmer basin are to include the excavation, embankment construction, spillway construction, and skimmer basin installation. Specify on the plan detail that an impermeable liner is to be installed on the spillway. The emergency spillway is to be installed in undisturbed ground (not over the skimmer pipe). Include a stone pad for the skimmer to rest upon and a rope attached to the skimmer for maintenance in the plan detail. Include the basin surface area dimensions, depth, side slopes, dam height, embankment width, length of emergency spillway, skimmer size, skimmer orifice size, and dewatering time on the plan sheets.
 - mm. Design calculations for peak discharge rate for the 25-year storm. Provide all supporting data for the computation methods used (rainfall data for required storm events, time of concentration/storm duration, and runoff coefficients used). Several basins are noted to be designed using the 10-year storm. It is not clear which storm is used to calculate diversions and rip rap structures.
 - nn. Provide design calculations, a plan detail, construction specifications, and maintenance requirements for the outlet stabilization structures. Construction specifications for the outlet stabilization structure are to include the width of the apron at the pipe outlet and at the end of the apron, the length of the apron, the stone size, and depth of stone.
 - oo. Provide liners/matting to aid the stabilization of planned channels and temporary diversions when the runoff velocity will exceed 2 ft/sec on bare earth during the 2-year rainfall event that produces the peak runoff. The product(s) selected must have a permissible shear stress that exceeds the shear stress of the design runoff event. If liners/matting are to be installed, provide a plan detail, construction specifications, and maintenance requirements. Include the installation of liners in the construction sequence.

Please note, this office may request additional information, not included in this letter, as the mining application review progresses. Be advised that our review cannot be completed until all of the items listed above have been fully addressed.

In order to complete the processing of your application, please forward two (2) copies of the requested information to my attention at the following address:

Division of Energy, Mineral and Land Resources
Department of Environmental Quality
1612 Mail Service Center
Raleigh, NC 27699-1612

As required by 15A NCAC 5B.0113, you are hereby advised that you have 180 days from the date of your receipt of this letter to submit all of the requested information. If you are unable to meet this deadline and wish to request additional time, you must submit information, in writing, to the Director clearly indicating why the deadline cannot be met and request that an extension of time be granted, not to exceed one year. If an extension of time is not granted, a decision will be made to grant or deny the mining permit based upon the information currently in the Department's files at the end of the 180-day period.

Though the preceding statement cites the maximum time limit for your response, we encourage you to provide the additional information requested by this letter as soon as possible. Your prompt response will help us to complete processing of your application sooner. Please contact me at (919) 707-9228 if you have any questions.

Sincerely,



David Miller, P.E.
State Mining Engineer

Enclosures

cc: Mr. Bill Denton, P.E., Raleigh Regional Office
Mr. Brian Wrenn, Director of DEMLR
Mr. Toby Vinson, P.E., Section Chief, DEMLR
Mr. Michael Landguth, CEO, Raleigh-Durham Airport Authority