



Division of Parks and Recreation
NC Department of Natural and Cultural Resources

Governor Roy Cooper

Secretary Susi H. Hamilton

May 8, 2020

Brian Wrenn, Acting Director
NC DEQ/Division of Energy, Mineral & Land Resources
Via email: Brian.wrenn@ncdenr.gov

Re: Expand Wake Stone Triangle Quarry, Odd Fellows Tract adjacent to Umstead Park, Raleigh, Wake County, GS 20-0841

Dear Mr. Wrenn:

This document outlines the significant concerns of the North Carolina Division of Parks and Recreation regarding the Wake Stone Corporation Triangle Mining Permit No. 92-10 Modification Application, dated April 8, 2020. The modification permit would allow the expansion of Wake Stone Corporation's mining activity through a lease agreement with the Raleigh-Durham Airport Authority. The new mining production would be adjacent to Wake Stone Corporation's existing quarry at Harrison Avenue in Cary, NC. The new quarry location is directly adjacent to William B. Umstead State Park (Umstead Park), a unit of the North Carolina Division of Parks and Recreation (DPR).

After evaluation of the permit modification application, DPR requests that the Department of Environmental Quality (DEQ) consider the modification's potential significant impacts on Umstead Park and other publicly owned greenways adjacent to the park, as allowed by N.C. Gen. Stat. § 74-51(d)(5). This section states that "the Department may deny the permit upon finding... the operation will have a significantly adverse effect on the purposes of a publicly owned park, forest or recreation area."

DPR's concerns include noise, sedimentation and water quality, dust and air quality, traffic, habitat loss, blasting vibrations, and park expansion. DPR requests that DEQ also take into account the many changes since the initial permit approval almost 40 years ago, including increased demand for outdoor recreation, additional greenways construction adjacent to the park, and loss of habitat through increased urbanization in the vicinity of Umstead Park. DPR also requests that DEQ seek additional information from Wake Stone Corporation as will be described below, before making a final decision on the permit modification application.

North Carolina State Parks

The North Carolina State Parks System stretches from the highest sand dune on the East Coast at Jockey's Ridge to Mount Mitchell, the highest point in the eastern U.S. Between these points, DPR protects bay lakes, wild swamps, rare sandhills, piedmont river systems and mountain streams. All state parks offer opportunities for hiking, picnicking and nature study, and many have campgrounds and modern visitor centers.

Dwayne Patterson, Director
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NORTH CAROLINA STATE PARKS
Naturally Wonderful

The parks system was begun in 1916 when a group of citizens sought to protect the summit of Mount Mitchell. It became the first state park in the Southeast and among the first in the nation. Many of the state parks were initiated by local citizens with a strong conservation ethic. This tradition of grassroots conservation in North Carolina is reflected in the state's constitutional mandate that these precious natural resources be readily available to all citizens.

North Carolina's state park system has a three-pronged mission statement:

Conservation - To conserve and protect representative examples of North Carolina's natural beauty, ecological features, recreational and cultural resources within the state parks system;

Recreation - To provide and promote safe, healthy and enjoyable outdoor recreational opportunities throughout the state; and

Education - To provide educational opportunities that promote stewardship of the state's natural and cultural heritage.

William B. Umstead State Park

Until 1934, the land now occupied by Umstead Park was a farm community. Houses, mills and fields in various stages of use and abandonment dotted the landscape. Poor agricultural techniques, such as one crop farming, primarily cotton, led to the loss of topsoil and subsequently, a sub-marginal existence. Second-growth timber was then removed from some of the upland areas, which expedited the erosion process. Forests were cleared as agricultural interests sprouted.

During the great depression, the United States Resettlement Division began a program of purchasing sub-marginal farmland, and in 1934 a proposal to acquire and develop a recreational demonstration project was integrated generally within the area now known as Umstead Park. The development of this area was jointly supervised by the National Park Service and the Department of Conservation and Development until 1943. All development and land acquisitions were financed by Federal money.

In addition to the development of four group camps, a lake, temporary roads and utility systems, the Civilian Conservation Corp (CCC) Work Force was responsible for important conservation measures such as tree planting and construction of check dams, which aided the stabilization of the soil. In 1934, under the Resettlement Administration, federal and state agencies united to buy 5,000 acres of this sub-marginal land to develop a recreation area. The Civilian Conservation Corps, as well as the Works Progress Administration, helped construct the site while providing much-needed jobs. Four camps along with day-use and picnic facilities were built and the park opened to the public in 1937.

The state purchased this area, known as Crabtree Creek Recreation Area, for \$1, and more facilities were built as the General Assembly made its first state parks division appropriation in the 1940s. In 1950, more than 1,000 acres of the park were established as a separate park for African Americans. This area was named Reedy Creek State Park. Crabtree Creek Recreation Area was renamed a few years later after former Governor William Bradley Umstead because of his conservation efforts. In 1966, the Crabtree Creek and Reedy Creek areas were united under the same name, and William B. Umstead State Park was opened to everyone.

Today, hikers, trail runners, bicyclists and equestrians cherish the extensive network of hiking and multi-use trails at Umstead Park. Trailheads on both sides of the park—accessible from Interstate 40 and US 70—surround three manmade lakes. The largest is Big Lake, offering canoe and rowboat rentals. At both access areas, picnic grounds surround shelters with fireplaces that can be reserved. Primitive group campsites are available as well as two group camps with cabins, mess halls, and

washhouses for group rental. Historic Maple Hill Lodge can be reserved for overnight group gatherings. A tent campground is open during summer months. In 2019 Umstead Park recorded over 950,000 visits and in 2018 it was the most visited park in the State Park System with over 1.14 million visits.

Between 1980, when the permit for Wake Stone Corporation was originally denied and then approved by the NC Mining Commission, and today, the popularity of the park has skyrocketed due to the rapid urbanization of the Triangle area. In addition, several municipalities have developed excellent greenway systems, including Reedy Creek and Black Creek Greenways, that lead to the park and have increased visitation to the park by runners, hikers and bicyclists. The park is dearly loved by its users.

The park carries several protective designations including the National Register of Historic Places, state natural heritage dedication, US Department of Interior National Natural Landmark, and federal Land and Water Conservation Fund protections. Properties purchased with funding from the NC Natural Heritage Trust Fund and the NC Clean Water Management Trust Fund carry natural heritage dedication protections.

Noise Impacts

As visitors come to a state park, there is an expectation of tranquility and quiet not afforded them where they live, even at a more urban park like Umstead Park. Additional noise from the proposed quarry expansion site would likely lessen this tranquility to a level that would harm park visitors' experiences.

Noise related to quarry operations reaches extremely high levels which can exceed 100 decibels (dBA). During the initial proposal of the current Wake Corporation quarry, several investigations took place to determine the potential increase in noise levels. Both noise estimates from NRCD and consultants hired by Wake Stone concluded that increased noise levels would be experienced in the park and these levels would decrease as operations moved farther from the park boundary.¹ DPR gathered noise data prior to the operation of the quarry and after quarry operations commenced. Information gathered from this work confirmed that noise increased by 5-11 decibels in the park after the quarry commenced operations.² Unfortunately, data gathering ceased after a few months. To DPR's knowledge, Wake Stone Corporation did not gather additional information on the impacts of noise after mining operations commenced. In addition to mining operations on site, trucks carrying rock away from the quarry also create significant noise impacts.

The noise analysis included in the recently completed Raleigh Durham International Airport Master Plan Study: Vision 2040 (Airport Master Plan) does not consider any quarry operation on land that RDU owns. The cumulative noise impact of this new quarry site needs to be determined in combination with all the other noise, including I-40, RDU aircraft and other large noise generators.

¹ August 1980. Wake Stone Quarry, Incorporated Cary Quarry, Wake County Mining Application Review. Prepared by James D. Simons, P.E. Land Quality Section, Division of Land Resources, Department of Natural Resources and Community Development.

² July 15, 1982. Memorandum to Mr. James S. Steven, Director, NC Division of Parks and Recreation from Mr. Richard B. Hazard. Status Report #4 Impact Monitoring Program.

Due to the proposed quarry's adjacency to the park, and in particular the popular Reedy Creek Multi-Use Trail, and because DPR lacks current data on both current and potential mining and trucking noise, DPR requests that a noise study be performed to determine cumulative impacts of the noise that would be generated by the proposed quarry, to include both continual noise and blasting.

Sedimentation/Water Quality

Sedimentation can significantly impact the health of a stream system. Sand and finer grained sediments, including silts and clays, can degrade stream habitats. In addition, fine suspended particles can reduce sunlight and harm aquatic plant species and species that depend on these habitats. Sedimentation of a stream is one of the significant indicators of diversity of macroinvertebrates which are an indicator of stream health.

The permit modification application includes erosion control measures identified for the quarry site. These measures are typically meant for a limited amount of time, e.g. a construction season, but not a 30-50-year operation. This potentially leaves a large gap in protections against sedimentation into nearby Crabtree Creek in the long term. DPR requests that DEQ ask Wake Stone to create plans for Stormwater Control Measures (SCM) which would be put in place to control stormwater runoff for the many years after construction. SCM's are typically what are constructed to protect water quality for the 30-50 years after a project is built.

DPR is concerned that the bridge across Crabtree Creek would function as a point of sedimentation into the creek. Trucks laden with rock could deposit dust and rock materials on the bridge which could easily wash into the creek which flows directly into the park. DPR requests that DEQ ask Wake Stone Corporation to share plans on how the bridge would be built and operated so as to minimize sedimentation, including having the bridge span the entire creek, ensuring that the horizontal and vertical clearances would allow for wildlife passage beneath the structure, and ensuring that bridge deck drains would not discharge directly into the stream. In addition Wake Stone's plan should address whether: a clear bank (riprap free) area of at least 10 feet would remain on each side of the stream underneath the bridge; all work in or adjacent to stream waters should be conducted in a dry work area; sandbags, rock berms, cofferdams, or other diversion structures would be used where possible to prevent excavation in flowing water; heavy equipment would be operated from the bank rather than in stream channels in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into streams; and only clean, sediment-free rock would be used as temporary fill and would be removed without excessive disturbance of the natural stream bottom when construction is completed.

DPR has documentation for sediments entering Crabtree Creek from a drainage contained within Wake Stone property. This was documented at the confluence of this drainage and Crabtree Creek. Once the situation was reported there was no apparent action taken for several months.³ Future impacts to Crabtree Creek from the proposed quarry will continue to pose a potential significant threat to the water quality of Umstead Park.

There are also concerns related to the potential impacts to the overall health of the stream and the impacts of developing two adjacent quarries next to a stream. As the new quarry is developed it is unclear how the hydrology of the area could be affected. When Crabtree Creek essentially becomes perched stream (a stream whose surface level is above that of the water table), how will this

³ July 15, 1982. Memorandum to Mr. James S. Steven, Director, NC Division of Parks and Recreation from Mr. Richard B. Hazard. Status Report #4 Impact Monitoring Program

potentially impact the hydrology of the area and how will this impact the quality and quantity of water in the stream? The permit modification application did not adequately investigate how the stream could be impacted and how the stream will be allowed to meander from its confined, perched position surrounded by deep pits. The potential impacts of hurricanes and severe storms on the perched stream is not addressed.

Because no data on this is currently available, DPR asks that DEQ request a hydrology study to determine potential negative outcomes.

Dust/Air Quality

Dust and fine particles degrade air quality, potentially damaging public health. DPR is concerned that the cumulative impacts on air quality from the new quarry have not been adequately assessed. Deforestation and the heavy machinery that would be used in the proposed quarry expansion would likely negatively impact air quality in the region. As the park and connecting greenways have become more popular there is a concern that blasting dust and other airborne particulates from traffic and mining operations could harm the health of many park users.

Park Rangers see significant amounts of dust on the leaves of trees, plants and ground along the western boundary of the park that is adjacent to the existing quarry. The dust is visible from the boundary to about 500 feet inside of the park near the Reedy Creek parking area and Company Mill and Inspiration Trail. There are several documented examples of dust impacts on recreation areas in the park and these impacts persist.^{4 5} Because dust and other air pollutants can harm both people and plants and wildlife, DPR requests that DEQ seek information from Wake Stone Corporation about its plans to limit dust and emissions of air pollutants at the proposed new site.

Truck Traffic

Umstead Park shares an entrance with the current Wake Stone quarry off the Harrison Ave. access to the park. This location is the primary entrance location for the park and would also continue to serve as the primary location of trucks entering and leaving the quarry. Over the years there have been several challenges associated with the shared access point. Truck traffic is constant when the quarry is operating and has resulted in conflicts with visitors, especially those biking into the park. Trucks leaving the quarry often cross the center line due to challenges associated with the turning radius, posing a potential safety issue. In addition, truck traffic is likely to increase at this already crowded intersection, exacerbating safety issues, as timber is removed from the site, the bridge is built, and associated quarry activities at the new site ramp up.

Blasting

In addition to the noise impacts from blasting previously discussed, blasting vibrations could also negatively affect both park visitors and facilities. Significant vibrations could mar the very peace and quiet that visitors come to Umstead Park to experience, and each year many thousands of people enjoy the Reedy Creek Multi-Use Trail adjacent to the proposed site. Vibrations could also damage buildings including park staff residences. Because of these potential problems, DPR requests that

⁴ May 9, 1985. Memorandum from Jim Simons to Stephen G. Conrad regarding Proposed Wake Stone Berm Expansion.

⁵ May 1, 2020. Correspondences from Scott Letchworth, DPR to Brian Strong DPR. Persistence of quarry dust in William B. Umstead State Park.

DEQ seek information from Wake Stone Corporation about the distance from which vibrations from blasting will extend, and at what intensity, to assess potential damages.

Loss of Wildlife Corridors

Habitat loss and fragmentation is the largest contributor to biodiversity loss on the planet. The proposed permit modification would permanently fragment healthy wildlife habitat directly on the parks' border.

Some species require the conditions found within the interior of forests, and encroachment upon forest interior habitat is a known factor in the reduction of some once-common species. Continuing fragmentation of natural areas near the park would reduce the amount of interior forest and could contribute to species loss. The quarry perimeter provides an introduction site for invasive exotic species, the second highest threat to biodiversity in the US. Disturbed habitat is one of the main sources of invasive introduction, and the mine being directly on the border of the state park would create a direct threat to the state park that would require permanent expenditures for control.

Development of this parcel would eliminate an important wildlife corridor linking conservation lands between the county park and the state park. Many species of birds and mammals are known to utilize corridors such as this. Given the already isolated island of natural habitat that the park has become, this connectivity to neighboring conservation lands assumes greater importance.

Park Expansion

Because population growth in the Triangle region and visitation to Umstead State Park are rapidly increasing, the park's master plan calls for expansion of the park through land acquisition. Approval of the permit modification could cause significant delay, by 30 years or more, in the potential transfer of the existing quarry property to the park, which would limit the park's ability to meet increased public demand in the meantime.

In conclusion, the North Carolina Division of Parks and Recreation requests DEQ fully consider the potential negative effects to Umstead State Park when evaluating the permit modification request, including noise, sedimentation, dust, traffic, wildlife habitat, blasting vibrations, and park expansion. DPR also urges DEQ to seek additional information from Wake Stone Corporation as outlined herein. DPR appreciates the opportunity to provide these comments on the proposed permit modification. Thank you for your consideration.

Sincerely,

A handwritten signature in black ink that reads "Dwayne Patterson". The signature is written in a cursive, flowing style.

Dwayne Patterson, Director
North Carolina Division of Parks and Recreation

cc: Susi H. Hamilton, Secretary, NCDNCR
Reid Wilson, Chief Deputy Secretary, NCDNCR
Carol Tingley, Chief Deputy Director, DPR
Brian Strong, Deputy Director of Planning and Natural Resources, DPR