



**RE: Wake County Watershed Reclassification Rezoning**

Ventaloro, Julie to [Keith.Lankford@wakegov.com](mailto:Keith.Lankford@wakegov.com)

09/08/2016 03:28 PM

From: "Ventaloro, Julie" <[julie.ventaloro@ncdenr.gov](mailto:julie.ventaloro@ncdenr.gov)>  
To: "Keith.Lankford@wakegov.com" <[Keith.Lankford@wakegov.com](mailto:Keith.Lankford@wakegov.com)>

History: This message has been replied to and forwarded.

Keith,

Thank you for this thorough explanation and the interesting history behind the study of this area. I appreciate how thoughtful the County always is when it comes to watershed protection.

I've reviewed the attachments and the explanation below, and I concur that the County can process this as a minor adjustment to the local watershed boundary. I acknowledge that the local CA boundary will continue to exceed the EMC's required 1/2 mile CA.

Please submit the revised map to me upon local approval. I don't anticipate any issues with our approval based on the information you've provided.

Julie Ventaloro  
Stormwater Permitting Program  
NC Division of Energy, Mineral, and Land Resources  
1612 Mail Service Center, Raleigh, NC 27699-1612  
Phone: (919) 807-6370 Fax: (919) 807-6494  
Website: <http://watersupplywatershed.nc.gov>

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-----Original Message-----

From: [Keith.Lankford@wakegov.com](mailto:Keith.Lankford@wakegov.com) [<mailto:Keith.Lankford@wakegov.com>]  
Sent: Wednesday, September 07, 2016 2:05 PM  
To: Ventaloro, Julie <[julie.ventaloro@ncdenr.gov](mailto:julie.ventaloro@ncdenr.gov)>  
Subject: Wake County Watershed Reclassification Rezoning

Julie,

Attached is a copy of the rezoning petition for the watershed area reclassification rezoning that we discussed on the phone last month. This case is somewhat similar to previous cases that we processed and had approved several years ago except that the subject property for this case is located within the Falls Lake watershed and the other cases were in the Little River watershed. Wake County takes watershed protection very seriously and applies more restrictive standards than the state minimums throughout our zoning jurisdiction. Wake County views this watershed reclassification rezoning petition as a technical correction of the county's self-imposed critical/noncritical boundary line and not a change of the North Carolina Department of Environmental Quality's required critical/noncritical boundary. I thought that it may be helpful to provide you with the history behind the unique zoning boundary that we apply to the subject property and the surrounding area.

History of Wake County's Critical/Noncritical Zoning Boundary Near the Subject Property As background information, the critical area that Wake County applies in all of the watersheds within the county's zoning jurisdiction differs from our understanding of the state's general requirement in two regards as explained below. And the critical area that we apply to this particular portion of the Falls Lake watershed is even more restrictive. In other areas of the county's zoning jurisdiction the critical/noncritical (i.e.--R-80W / R-40W zoning) boundary line is set by measuring a half-mile plus 300 feet from the flood pool elevation of the relevant water body, versus the state's general requirement, as we understand it, of a half-mile from the normal pool level of the water body. So our critical area includes the extra 300-foot offset and it is measured from the flood pool elevation versus the normal pool elevation of the relevant water body.

The subject property for this rezoning petition is New Life Camp (a summer youth camp), which is located at 9927 Falls of Neuse Road (PIN 1718768824). This portion of the Falls Lake watershed, around the subject property, is the lone exception to the county's general half-mile-plus-300-feet rule that was described above. More specifically, the exception to that rule is for the area around the Lower Barton Creek and Honeycutt Creek arms of Falls Lake. The reason that the county voluntarily choose to apply stricter water quality protection standards around these two creeks is that this portion of Falls Lake surrounds a peninsula where the City of Raleigh's water treatment plant's intake is located. Please see the attached map entitled "Honeycutt and Lower Barton Creeks" for the relevant locations of these two creeks, Raleigh's intake, and the subject property.

The county, in collaboration with the City of Raleigh--and at the city's request--established this self-imposed critical/noncritical boundary line on September 15, 1997. This boundary line was based upon a 1992 engineering study that established a 200-minute time-of-concentration line for water entering the lake from those two creeks. This 1992 study, by the engineering firm Black & Veatch, is entitled "Watershed Study of Honeycutt and Lower Barton Creek". I have attached a copy of the resultant map from that study (see "Original 1992 Study Map" file).

This 200-minute time-of-concentration line extends much further inland from the lake than either the state's required half-mile distance ((i.e.--2,640 feet from the lake's normal pool level) or even the county's higher standard of 2,940 feet from the lake's flood pool level).

I have produced three maps (see the attached map file entitled "Proximity to Lake Versus Half-Mile Standard") to show the relative distances noted herein. The first of these three maps shows the location of the subject property relative to the state's general requirement of a half-mile (i.e.--2,640 feet) from the nearest point of the lake for the critical area boundary. The 66.85-acre subject property is located at the northwestern corner of the intersection of Falls of Neuse Road and Durant Road and is outlined in light blue. On the second map, I made a measurement in our GIS from the widest point of Honeycutt Creek just above where it enters Falls Lake to the closest point of the subject property. Even at that point, slightly upstream of the lake, the measurement to the subject property is approximately 4,400 feet, as shown on the second map in this file. That difference is 1,760 feet (i.e.--1/3rd of a mile) further inland than the state's half-mile critical area requirement. The third map shows the county's current critical/noncritical zoning line, which is based upon the original study's 200-minute time-of-concentration line. The distance to that zoning line measures at 5,774 feet (i.e.--1.09 miles) from that same point upstream of the lake surface (see the third map in this file).

Petitioner's Basis for Rezoning Petition The basis of the petitioner's

rezoning request is the availability of much more accurate topographical information now versus what was available during the development of the 1992 study. More specifically, the petitioner used the most currently available LIDAR topographic data with far more accurate 2-foot contours versus the 1:24,000 scale USGS maps with 10-foot contours that were used for the 1992 study's original boundary determination. The attached map from the 1992 study shows the vague small-scale illustration that was the basis for setting the critical/noncritical zoning boundary line in this area. Wake County applies a Residential-80 Watershed (R-80W) zoning district to the critical areas of the various watersheds in the county (regardless of how the critical area is determined) and a Residential-40 Watershed (R-40W) zoning district to the noncritical watershed areas.

The 1992 200-minute time-of-concentration study map was the basis for the R-80W / R-40W zoning line as shown on the "Wake County Zoning Map" that is included in the attached file. Wake County restricts nonresidential development, such as this youth camp use, in the R-40W noncritical area to 12% impervious surface coverage and to 6% in the R-80W critical area.

The petitioner has indicated that this rezoning petition (case # ZP-889-16) for the 66.85-acre New Life Camp parcel is intended to make a technical correction to the zoning boundary line within the subject property to reflect a more accurate representation of the 200-minute time-of-concentration line from the 1992 Black & Veatch Watershed Study. If the rezoning petition is approved, the zoning line would shift approximately 600 feet to the northwest and a net area of 16.89 acres would be reclassified from R-80W (critical area) to R-40W (noncritical area). The proposed/requested zoning line would still be approximately 5,174 feet (i.e.--0.98 mile) from the point in Honeycutt Creek just above where it enters Falls Lake--almost double the state's minimum half-mile requirement.

The petitioner's stated purpose is to allow for the reconstruction of a number of existing cabins that operate as a summer youth camp due to their age and deteriorated condition. The petitioner has indicated that various provisions of the State Building Code will necessitate that the replacement cabins will be larger than the existing cabins on a per occupant basis. The petitioner has indicated that there is no proposed increase in the number of campers at the facility, although they have mentioned making some minor, ancillary improvements such as sidewalks, improving emergency vehicle access, and a maintenance area.

Currently the majority of the New Life Camp cabins lie within the R-80W zoning area which is restricted to 6% impervious surface coverage. Some of these cabins were built in the 1930's with 18 of the 19 cabins having been built prior to 1950. The New Life Camp board of directors have determined that all of the cabins will need to be replaced from a safety/liability point of view. The issue is that the camp is already over the 6% impervious surface limit allowed under the county's R-80W zoning (that overage was legitimately grandfathered as the cabins predated the application of Wake County zoning in this area) and replacing the cabins under the current State Building Code requirements will increase impervious surfaces on the site.

The petitioner, Withers and Ravenel Engineering, has indicated that this need for additional impervious surface allowance is what inspired them to investigate how the critical/noncritical zoning line was initially established, and after reviewing the 1992 watershed study they initiated discussions with Wake County planning staff to consider a rezoning.

Re-creation of 1992 Study with LIDAR Topographic Data The petitioner, Withers and Ravenel Engineering, met with the Wake County planning staff, and members of the City of Raleigh's Public Utilities and Stormwater Management staff, to

discuss a possible rezoning petition based upon a re-creation of the original 1992 study using currently available LIDAR topographical data. The participation of members of Raleigh's staff at the outset of the discussion was important because the original 1992 watershed study was done at the city's request to provide additional water quality protection around the city's water treatment plant's intake on the peninsula between Honeycutt Creek and Lower Barton's Creek. It was agreed among all parties that Withers and Ravenel would recreate the original 1992 study as closely as possible, but would use the most recently available LIDAR topographical data to determine the accuracy of the original 1992 study's resultant critical/noncritical zoning line. As part of this discussion I directed that the petitioner's engineer and the city's stormwater engineer review and agree upon the basic assumptions and parameters that were used in the original 1992 Black & Veatch watershed study, and that would be used in the new study.

Hunter Freeman, the engineer with Withers and Ravenel who sealed the new study and resultant map, has stated that the new study was "done in a manner consistent with the previous [i.e.--original 1992] study" and noted that the "more accurate [topographic] data allows for a more detailed flow travel time analysis". Attached is a file with background information related to his re-creation of the original 1992 study. The new study calculated the time-of-concentration from the downstream end of the pond on the New Life Camp site to Falls Lake at 205 minutes (versus the 1992 study's 200-minute time-of-concentration line). The result was that the more accurate mapping of the 200-minute (actually a more conservative 205 minutes) time-of-concentration line should be shifted 600 feet to the northwest of the currently R-80W / R-40W zoning line (i.e.--towards the lake) as shown in the attached "Proposed Zoning Line from 2015 Study".

As noted, that requested/proposed zoning line would be almost a mile (i.e.--5,174 feet) from the closest point of Fall's Lake--well beyond the state's required half-mile from the normal pool level of the lake. The City of Raleigh's Public Utilities and Stormwater Management staff have indicated that they agree with the results of the new study and that they have no objection to the rezoning petition.

#### Wake County Request for Feedback

Wake County considers this rezoning request to be a minor, technical, zoning boundary adjustment--especially since the boundary adjustment is to Wake County's more restrictive, self-imposed critical area boundary and not to the state's required half-mile critical area boundary. We hope that the North Carolina Department of Environmental Quality staff concurs with this assessment and that this case can be processed in the same manner as the previous watershed reclassification cases that the county had processed several years ago. In those cases it was our understanding that provisions in the North Carolina Administrative Code and the state's Model Ordinance allowed minor adjustments to the watershed protection boundaries without prior approval by the North Carolina Environmental Management Commission. Then, upon local adoption by the governing board (if the rezoning is approved) we would submit the revised map to the DEQ staff for formal approval by the EMC, or its designee, if needed. Given the previous understanding we wanted to provide you with a copy of the relevant materials (attached below) and request your comments on this rezoning petition to modify the county's watershed zoning boundary on this parcel. Please let me know if you need any additional information (such as a copy of the original 1992 study or the 2015 recreated study) or if you have any questions. Thanks for your assistance!

(See attached file: New Life Camp Rezoning Petition.pdf) (See attached file:

Honeycutt and Lower Barton Creeks.pdf)(See attached file: Proximity to Lake versus Half-Mile Standard.pdf)(See attached file: Original 1992 Study Map.pdf)(See attached file: Wake County Zoning Map.pdf)(See attached file: Withers and Ravenel Revised Study.pdf)(See attached file: Proposed Zoning Line from 2015 Study.pdf)

Keith A. Lankford, AICP, CZO  
Planner III  
Wake County Planning, Development and Inspections  
Phone: (919) 856-7569  
Fax: (919) 856-5824  
Web site: [www.wakegov.com/planning](http://www.wakegov.com/planning)

Permit forms, applications and fees link:  
[www.wakegov.com/planning/zoning/Pages/forms.aspx](http://www.wakegov.com/planning/zoning/Pages/forms.aspx)

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