

Attachment 8, Planning Commission Comments A0900004 Jordan Lake Critical Area

Meeting Date: August 11, 2009

Mr. Brine. I voted to recommend denial of these requests for the following reasons:

1) Even though Durham County has shore line on four water supply reservoirs (Lake Michie, Little River, Falls Lake, Jordan Lake), Durham (County and City) does NOT have any policy or any guidelines on how to "delineate the approximate normal pool elevation for backwaters of water supply reservoirs". It is apparent that there are multiple approaches. It is also apparent that DWQ wants Durham to find a solution. Without any policy or guidelines, property owners, surveyors, planning staff, planning commissioners, and elected officials are working in a vacuum without knowing what is acceptable and what is not acceptable. Without any policy or guidelines, any decision that the elected officials make is open to challenge. This is not an environment that is conducive to making progress.

2) The Ellerbe Creek boundary determination some years back differs significantly from the more recent New Hope Creek determination in several respects. In the Ellerbe Creek case, a party (the Army Corps of Engineers) was willing to stipulate when "normal flow in the creek" took place, so that the condition stipulated in the agreed-to normal pool definition was fulfilled. That did not happen with the New Hope Creek determination. In the Ellerbe Creek case, the survey measurements were witnessed by representatives of the community and by planning staff. That also did not happen with the New Hope Creek determination.

3) I concurred with the observation of Commissioner Jacobs that the proposed plan amendment does not really meet all the criteria for a plan amendment. Furthermore, in view of session law 2009-216 (Restore Water Quality in Jordan Reservoir), the associated costs of the clean-up could have a substantially adverse impact on both County and City budgets in the future.

Mr. Brown. I voted to deny. The criteria for this Plan Amendment has not met the criteria in this case, as set forth in the UDO. There was no justification for changing what is now in place.

Mr. Davis. I would have to say that in order to make a sound non-biased judgment we must have a survey that takes in account both methods of determining the normal pool elevation, from the same spot. Then and only then could I make a sound vote.

Ms. Jacobs. I am strongly opposed to the plan amendment and accompanying rezoning of the Jordan Lake Critical Area for the following reasons:

- The plan amendment does not meet three of the four required criteria that the Planning Commission is required to adhere to in UDO Section 3.4.7 which is used as the basis for considering all changes to the Durham Comprehensive Plan.
 - Section 3.4.7.A: Plan Consistency: The proposed change is not consistent with the intent, goals, objectives policies, guiding principles and programs of any adopted

plans. It is in direct conflict with Objective 9.1.4 Water Supply Protection of the Durham Comprehensive Plan which it to “*Protect Durham’s and the Region’s water supply sources from water quality degradation by maintaining low intensity uses on land near water supply reservoirs, reducing the risk of discharge of hazardous and toxic materials into the natural drainage systems tributary to drinking water reservoirs. Allow development and platting of lots in stream buffers only in limited, strictly regulated, and special conditions.*” The proposed plan amendment will lessen protection around Jordan Lake and the Upper Arm of New Hope Creek, both currently impaired waters, by allowing more intense development, more land disturbance and the creation of more impervious surface which will lead to further degradation of the New Hope Creek and Jordan Lake, which is a drinking water source for Cary, Chatham County and Durham in the future. Durham County and City are currently facing a significant financial burden with estimates ranging from more than \$25,000 to more than \$ 1 billion to remove the high levels of nitrogen, phosphorus and other pollutants from the lake water. This will translate into hundreds or thousands of dollars of cost to be paid by each Durham resident. In addition, Durham residents will be asked to pay for the cost of similar clean up requirements for Falls Lake. Allowing any reduction in the critical watershed area around Jordan Lake is inconsistent with the goals of Objective 9.1.4 Water Protection Supply of the UDO.

- In addition, allowing more intense suburban development, more sprawl toward Durham southern boundary and further intrusion into the last remaining small portion of designated Rural Tier is inconsistent with Durham’s Greenhouse Gas Inventory and Local Action Plan adopted in 2007 by both the City and County which “*recommended that Durham significantly reduce its emissions over the next 20 years with local government reducing its emissions by half and residential, commercial and industrial uses reducing its emissions by 30%*”. It has already been proven difficult to meet these goals as Durham’s greenhouse gas emissions increased by 3% from 2006-2008. Removing lands from the Rural Tier, expanding the Urban Growth Area and allowing more sprawling intense development in South Durham away from the City center’s core services creates more greenhouse gas emissions and leads to further degradation of Durham’s air quality.
- In addition, Durham Comprehensive Plan refers to the importance of maintaining lands as part of the Rural Tier and the value of rural lands to the citizens of Durham. Objective 2.3.1 Rural Tier discusses the importance of maintaining lands within the Rural Tier so that there are sufficient lands for agricultural uses, open space and recreation areas, wildlife habitat and for protection of our natural resources. Both Map 2-1 Tiers and Map 2-2 Future Land Use Map show that land designated as the Rural Tier in south Durham is very small and limited and it is therefore it is critical that we preserve what small area is still designated as Rural in this area of Durham. In The Durham Comprehensive Plan Report on Existing Conditions the importance of preservation of rural areas to the citizens of Durham is discussed and the importance of maintaining a diversity of landscapes and neighborhoods. “*This diversity of community and neighborhood types makes Durham a special place...Durham residents have expressed the desire to identify*

and preserve the rural resources and landscapes that are the County's heritage". (page 17-48). The intense development of south Durham with the advent of Southpoint Mall and all of its surrounding large scale residential, commercial and office development has forever transformed the very recent rural, agricultural and low intensity landscape of south Durham. It is vital that we preserve the remaining Rural Tier that does remain in south Durham.

- Section 3.4.7 B Plan Compatibility: The proposed land use change would not be compatible with the existing land use pattern and designated future land uses in the area. As described in the staff report (page 3); *"The area exhibits primarily rural characteristics, due in part to the large amount of floodplain forest in the area. The west side of the lake has farmland as well as single-family residences. The east side of the lake, within the Critical Area, is largely undeveloped. The majority of the land to the north is floodplain owned by the Army Corps of Engineers. The area is designated for low density residential uses and recreation and open space."* Changing the Critical Protection Area for the lake and opening up hundreds of acres to high density development is not compatible with the existing land uses and pattern of development in the surrounding area or the designated future land use of this area which is designated as Rural in the Durham Comprehensive Plan Future Land Use Map. Furthermore, the adjacent development in Orange and Chatham Counties is also rural. This area is right on the border with Chatham County and very close to Durham's most southwest border with Orange as well. Any change to the rural land use of this area is incompatible with land within this region surrounding the Jordan Lake watershed as a whole which is also zoned rural.
- Section 3.4.7 C Adverse Impacts: The proposed land use change will clearly create substantial adverse impacts in the adjacent area and in the City or County in general.
 - We know that Jordan Lake is on the EPA list of endangered waters. We know that increasing sediment and pollutants in the lake results from increased stormwater runoff from development (more impervious surface (roofs, driveways, parking lots, streets) =less places for water to infiltrate (seep back naturally into the ground) = more dirt, pollution from lawn chemicals, air pollution dissolved in the rain water, motor oil, etc. ending up in our creeks which then end up in Jordan Lake. We know that the best way to protect water is to keep our natural buffers. This is the most effective way to keep the water clean and the cheapest method as well. That's why New York City has such high quality drinking water. Officials there figured out that it is cheaper to buy up land in Upstate New York and buffer all of the creeks and streams in the watershed and protect all of the drinking water reservoirs with buffers rather than to have to build expensive water treatment plants to clean up the water after it is full of sediment and pollutants. New York State and New York City made this decision based on economics and the huge expense involved in cleaning up water after it is polluted. It is cheaper to keep it clean in the first place. We must learn from this!
 - We already know that due to the approved Jordan Lake Rules we are going to have to foot the bill to clean up Jordan Lake because of the high levels of nitrogen

and phosphorus in the water. In addition, future required clean up of Falls Lake will add to this financial burden. We still do not know how much this will be but it will translate literally into hundreds or thousands of dollars per Durham resident. Our elected officials, who are charged with acting in the best interests of Durham residents as a whole and acting in the best interests of the Durham Community as a whole have a responsibility to do whatever can be done to protect the current water quality of Jordan Lake so that no further degradation takes place which will place further financial burden on the citizens of Durham. We know that limiting development within the lake watershed and maintaining a minimum of land disturbance and impervious surface is the best way to keep the lake clean. Engineered methods (BMP's) to control stormwater runoff cannot replace the effectiveness of natural infiltration and the most effective methods are the most expensive (bioretention filters, sand filters, infiltration trench). The cheapest method (dry basins) are the least effective.

- The Upper Arm of New Hope Creek, the major tributary of Jordan Lake that is involved in the proposed plan amendment is also the most polluted creek going into Jordan Lake. Removing the Critical Watershed Protection area from around any portion of this creek's watershed will also further impair this creek. New Hope Creek begins in Orange County's rural buffer as a healthy, clear creek full of aquatic life and several species of rare and endangered mussels. John Kent of New Hope Audoban has been testing the water quality of New Hope Creek monthly for more than 17 years. He tests the water quality of the creek at 6 testing stations. The first on Turkey Farm Road in Orange County and the last at the dam on Stagecoach Road - within the area that is part of this proposed land amendment. According to Kent's documentation and records from more than 17 years, the water of New Hope Creek becomes increasingly turbid (full of sediment), lower in oxygen (from the turbidity, and increased levels of phosphorus and nitrogen) and less aquatic life as it moves south through increasingly dense areas of development in Durham. We can not ignore the proven negative impact that development has on water quality and the need to protect the Critical Watershed Areas that currently protect the Upper Arm of New Hope Creek and Jordan Lake.
- According to the Durham Natural Inventory the area in the proposed plan amendment is also an important natural inventory site called the Stagecoach Bottomlands. Any site within Durham's Natural Inventory is deemed to be significant as a natural resource and to be preserved and protected.
- Jordan Lake is also a valuable recreational site, natural resource and wildlife habitat to the people of Durham. In order to maintain a high quality of life (which includes water quality and air quality) which will maintain Durham as an attractive place for people to live and to attract new residents and businesses to Durham, we must maintain our quality of life. If the water is undrinkable or expensive to clean for drinking, if the air is polluted and our ozone levels continue to rise, if Jordan Lake is filled with algae from all the nitrogen and phosphorus, and the creeks are filled in with sediment and trash and the fish are all dead and the birds can't live there anymore and people can't swim, boat or fish there anymore, then we have lost a tremendous resource for Durham and part of the

reason that people and businesses want to locate here. If we lose our precious environmental resources we will lose our economic resources as well.

- Studies have shown that for every \$1.00 that new development adds to the tax base in a community it costs that community \$1.40 in costs for new roads, new schools, parks, garbage collection, water, sewage treatment, firemen and policemen, amongst many other needs. Development of currently undeveloped areas that are not close to urban centers and their services puts even more stress on existing public services and government resources. It also adds to traffic and air pollution. We know that it is best to focus on infill development and focus on intense development close to major transportation corridors, especially where mass transit exists or is planned to be an option. The land use change proposed here is not within any major transportation corridor, is in an area of Durham that already has overcrowded schools and lacks parks and recreation centers, expands our Urban Growth Area when we need to be condensing it to promote mass transit, protection of green spaces and reduction of greenhouse gases so that Durham can have a high quality of life that will attract new businesses and residents to keep its economy vibrant.
- This is a regional issue and the proposed land use change will negatively impact adjoining counties and citizens who currently drink the water in Jordan Lake. We can not ignore the regional impact. People who live in Cary and Chatham County currently drink Jordan Lake's polluted water and Durham may one day need to use its permit to drink this water as well. The Chatham County Commissioners passed a resolution in December 2008 asking that the Critical Watershed Area remain unchanged noting the importance of protecting Jordan Lake as an important water quality, recreation and wildlife habitat resource for our region. Fred Royal, one of the Chatham County Commissioners addressed the Durham Planning Commission at the public hearing.
- In summary, any change to the existing Critical Watershed Area around Jordan Lake will have an adverse impact on Durham in terms of the burden to the Durham tax payer who will pay to clean up the lake, the economic cost of diminished quality of life due to water pollution, air pollution and destruction of Jordan Lake as a valuable natural resource and recreation area, the negative impact on adjoining counties and cities who are currently dependent on Jordan Lake for their drinking water and the burden on our public utilities, infrastructure and public funds from increased sprawl.

Additional Comments:

- There needs to be a Durham County wide procedure for how to determine the Normal Pool Elevation (NPE) of a lake. Until that has been determined there can be no acceptable survey of Jordan Lake.
- There are multiple ways to determine the NPE of a lake. Using the Surface Water Elevation or the Thalweg (measuring from the bottom of the creek bed) are just two of them and both are accepted methods that can yield different results. This is a very complicated thing to figure out that also involves considering average lake levels and average flow areas in creeks flowing into the lake, as well as topography and hydrology.

- Establishment of a County wide procedure for determining the NPE must be determined by professional water quality experts, surveyors, mapping experts and hydrologists not politicians, citizens or planners.
- Once an acceptable county wide procedure for establishing NPE of lakes is adopted then an independent publically Durham City and County funded survey of Jordan Lake should be undertaken to establish where the lake is and where the Critical Watershed and Protected Watershed areas should be. Any plan amendment changes to the Durham Comprehensive Plan must be based on this survey.
- Using a privately funded survey to make a watershed change that affects the entire Durham Community and counties beyond is irresponsible. It would also unleash the potential for endless legal challenges to zoning and land use decisions. Zoning is not a right. It is a privilege. A property owner owns their land but they do not own the zoning or the right to do whatever they want to do on their property. That decision is made by a government in the best interest of all citizens and for the common good. Government officials are elected by citizens to be their representative and to make decisions that are in the public interest.
- It would be even better if a regional survey of the entire lake was undertaken with all counties within the Jordan Lake Watershed contributing to the cost of the survey (Orange County, Chapel Hill, Cary, Wake County, Chatham County). A Clean Water Trust Fund Grant might be a possible funding source for a Durham only or regional survey.
- Durham has had a one mile Critical Watershed Protection Area in place for more than 15 years. The state only provides a minimum standard to meet. Durham exceeds this standard as we do in many other of our ordinances because we are trying to go beyond the minimum to protect our environment and provide a high standard of living for our residents. We know from the many impaired streams in Durham (Ellerbee Creek, Lick Creek, Upper Arm of New Hope Creek for example) that even our current environmental standards do not go far enough to protect our natural resources. That is why the JCCPC recently convened the Environmental Enhancements to the UDO Committee (EEUDO) to recommend changes to the UDO to strengthen environmental protection related to soil erosion, stream buffers, stormwater runoff and trees because what we currently have in place is not working and citizens in Durham want to live in a community that has trees, natural areas to walk in and clean water to drink. The One Mile Critical Watershed boundary should not be changed. This would be a giant step backward.
- In terms of UDO Section 4.11.2 D and 4.11.3, these sections clearly refer to situations in which property is bisected by the watershed boundary or where a parcel is ½ acre or less. Neither of these situations pertained to the property of the Southwest Durham Development Inc. or the Seven Five One Investments. In the reading of these sections of the UDO it is clear that administrative changes are appropriate for minor changes referred to as above. For major changes to the watershed boundaries the UDO and Comprehensive Plan is clear that a public hearing process and then vote by elected officials is required just like any text amendment, plan amendment or rezoning case.

Mr. Martin. No, the public body needs to come up with a better standard for normal goal. Also the public body need take into consideration the comments at the hearing by Attorney Miller.

Ms. Mitchell-Allen. Voted to deny. In reviewing the criteria for a plan amendment, it is my opinion that the proposed plan does not meet the criteria. Furthermore, I have concerns with respect to the surveys that were completed as both utilized different standards. I believe that a separate and independent survey be completed by the city and county jointly using an agreed upon standard. By doing this we would resolve any concerns around bias in regards to the surveys completed.

Lastly, I feel that it is imperative that a policy be created in regards to determining the normal pool elevations in these types of situations as this would also cure future issues like the one currently presented to us today.

Mr. Moffitt. This is a complex case that begins with division of water quality's requirement that changes to the critical and protected watersheds first be approved by DWQ, then through the local government's legislative process.

The question now is whether the normal pool should be defined by the ground contour – the “thalweg” – or by the surface water elevation.

When New Hope Creek is not flowing. What remains is the normal pool. That's defined by the thalweg.

This application seeks to define the normal pool via the surface water elevation, and should be denied.

Mr. Monds. I voted to deny. I feel that doing otherwise will have an extremely adverse impact on Lake Jordan and the water quality in the area.

Mr. Smith. Durham City and County need a policy to determine normal pool. Some survey methods may be more appropriate to flat, steep, slow flowing, fast flowing, standing waters and it is scientists, not politicians, who should determine which method is appropriate to each situation.

In consultation with the scientific community Durham should conduct a publicly funded survey of all of Jordan Lake that is in Durham County not just New Hope Creek.

I voted to deny the plan amendment because it does not satisfy the criteria in the UDO, especially “c” regarding adverse impacts, for amending the Comprehensive Plan.

Mr. Summers. The list of reasons to deny this is lengthy, and the reasons to approve it seem non-existent, save a single party's personal profit. This is an already impaired waterway. We are stewards of this precious resource of drinking water for our neighbors and our future generations.

The citizens spoke with strong accord, and sound science as to why this is a bad idea. A multitude of experts shared their professional opinions and many residents as well. Not a single person offered scientific testimony in support of the change.

I ask the elected officials to listen to the citizens/voters on this issue.

Mr. Womack. I voted against because I do not believe the development fits this rural environment and would only add to current solution problems of Jordan Lake.

I also feel the 2 methods of survey needs to be decided which is best and appropriate for Durham and to be consistent with good science.

I feel any surveys would be inadequate without deciding on one method.