



September 7, 2007

Mr. Rich Gannon
DENR – DWQ, Planning Section
1617 Mail Service Center
Raleigh, NC 27699

RE: Written Comments Regarding Jordan Lake Nutrient Management Strategy

Dear Mr. Gannon:

The City of Greensboro appreciates the opportunity to participate in the stakeholder process, as well as the public hearing process, and respectfully submits the following written comments with regard to the proposed Jordan Lake Nutrient Management Strategy. The City of Greensboro is optimistic that these written comments will be taken into consideration and that the proposed rules will be amended to meet attainable goals of improving the water quality in Jordan Lake.

1. **15A NCAC 02B .0266 - Existing Development Rule:** The existing development rule requires pollution removal or nutrient reductions from all previously developed areas by means of structural and/or nonstructural BMPs or by other load-reducing management measures. This requirement is currently more stringent than any other watershed rule in NC, is highly precedent setting, will be extremely costly (\$528 million), and will be technically difficult to accomplish. In addition, the effectiveness of such management measures are questionable and unproven, as well as undecided within the framework of DWQ's accounting methodology, which hasn't even been finalized yet. This rule could potentially cause utility rates to double, triple, or more throughout the region. Considering that the primary source of nutrients in Jordan Lake has been identified as agricultural runoff, the exorbitant cost of the proposed rule, and the questionable and unproven effectiveness of such pollutant removal technologies, we urge you to remove this requirement from the rules altogether.

The City of Greensboro would like to submit two examples (see enclosed copies) of local studies that have been conducted similar to the proposed feasibility study of the existing development rule which show that even the \$528 million dollar estimate may be based on assumptions that are potentially too conservative.

- A. In anticipation of an EPA 319 grant application, a site specific retrofit feasibility study conducted by Camp, Dresser, McKee (CDM) in November 2001 for the City of Greensboro evaluated 22 individual sites on public land for BMP placement along North Buffalo Creek for the purpose of water quality improvement. This study was initiated following the addition of North Buffalo Creek to the State's 303(d) list of impaired waters. The 22 sites treated a cumulative drainage area of 226 acres out of a 16 square mile watershed at a cost range of \$3.4 million to \$5.3 million. While a total nutrient reduction of 771 pounds per year was calculated to result in a 24% reduction of nitrogen from those 226 acres; when applied to a 16 square mile watershed, the pollutant removal was negligible. As a result of that conclusion, the City of Greensboro did not submit the grant application to construct those BMPs due to the City's opinion that the dollars expended versus benefit gained would not have been seen as worthwhile to the granting agency. However, for the basis of comparison and for the purpose of these

written comments, an assumption of cost can be made that is significantly different than what DWQ estimated in the fiscal analysis for the Jordan Lake rules. This is not to say necessarily that one set of assumptions is more right than the other, but to reiterate the fact that based on the assumptions utilized during the development of the fiscal analysis, one can generate significantly different costs associated with the implementation of this proposed rule. To summarize the specifics from the attached study, if it is assumed that we can feasibly remove 711 pounds per year of nitrogen from 226 acres at a cost between \$3.426 million and \$5.365 million, then it can be assumed that the cost per pound of nitrogen removal would be between \$4,818 and \$7,545 per pound. If you take the cost per pound and multiply it out by the existing development reduction goal (410,634 pounds) from page 59 of the fiscal note, it equates to a cost range from \$1,978,434,612 to \$3,098,233,530 (roughly \$2-3 billion). These costs assume the sites utilized for structural BMPs are located on public land and that the sites are able to obtain permits under current regulation. This is especially relevant given EPA's current position opposed to in-stream treatment of stormwater runoff. This regulatory position limits the individual BMPs ability to remove significant pollutant loads due to the small drainage area size constraints. Additionally, the 410,634 pounds listed in the fiscal note does not include the nitrogen that will need to be removed resulting from the addition of the existing development load between the baseline period (2001) and current conditions.

- B. A 2001 internal alternatives analysis was conducted while applying for the USACE 404 permit to construct a regional water quality improvement project (structural BMP) on South Buffalo Creek. A letter dated June 1, 2001 to the USACE is enclosed for your review. In summary, item (a)1 of this internal study found that treatment of pollution (Total Suspended Solids or TSS only) from upland areas or small drainage basins (the only current regulatory option) would range from \$36 to \$44 million to address a 13 square mile drainage area. The City of Greensboro corporate limits are currently over 115 square miles in size. Based on the above listed numbers, an assumed cost to adequately retrofit existing developed areas within Greensboro for TSS alone could range from \$313 million to \$383 million. If you exponentially apply that to the Jordan Lake watershed of 1686 square miles, it could potentially cost between \$4,588,580,000 and \$5,615,113,043. Again, these numbers were based on 2001 figures and only address TSS. BMPs designed to address nutrients would only add to these costs.

Again, based on the assumptions utilized in generating the potential costs of implementing this rule, the City of Greensboro estimates that the \$528 million listed in the fiscal note is unrealistically conservative. If passed, these rules may ultimately result in billions of tax and utility dollars spent on largely unproven technology with questionable effectiveness regarding improved water quality, especially on a scale as large as the Jordan Lake watershed.

The City of Greensboro also feels that it is important to note that within the context of the existing development rule, there is also an assumption by DWQ and some of the special interest groups that the pollution load from existing development has not been or is not currently being addressed. The City of Greensboro would like to submit for the written record by reiterating that it has had a Phase I NPDES permit in place since 1994, and has developed and implemented numerous load-reducing activities or programs to address pollution from existing development. For example, the following programs or project have all been conducted throughout the baseline period to the present: street sweeping; illicit discharge detection and elimination; location and removal of leaking sewer lines/septic tanks; existing ordinances requiring stream buffers; a riparian reforestation project which restored native vegetation on over 11,000 linear feet of stream which were previously being mowed; numerous stream restoration projects; ongoing monitoring, education, and litter cleanup activities; extensive maintenance of the infrastructure; strategically located BMPs and other structural controls; etc. Not only are those efforts not proposed to be accounted for, but additional and unidentified load reducing activities will be required above and beyond those activities listed above. Phase II communities throughout the region are just

beginning to develop and implement these very same type of non-point source stormwater management programs. The future reduction rate or pollution removal allowance for those types of activities has not been determined by DWQ and will not be developed until after the rules are established and adopted. The current proposal to submit a feasibility study prior to implementation is extremely vague and of little substance. In essence, local municipalities are being asked to agree to a regulatory philosophy before knowing any of the details. If DWQ truly wants to address existing development, than statewide measures are needed which would not place our region at an economic disadvantage for years to come. *Recommended action: Remove the existing development rule altogether due to the unprecedented nature, exorbitant cost, and unproven effectiveness.*

2. 15A NCAC 02B .0262 - Designation of entire watershed as a critical water-supply watershed:

DWQ is proposing to designate the entire watershed of Jordan Lake as a critical water-supply watershed. Classifying an entire watershed as a critical water supply, especially one the size of Jordan Lake, could trigger a host of increased regulation now and in the future that may only further limit the potential economic opportunities for this region, especially given the fact that the Greensboro region already has similar rules for the Randleman Lake watershed (although less stringent than those proposed for Jordan Lake). Specifically, potential land-use density restrictions may affect how typical development occurs and could result in a less efficient use of developable land area and subsequently increasing urban sprawl. This would be counter to the low-impact development (LID) and other “green” building techniques that the City and others throughout the region are attempting to promote. The potential economic consequences of such a designation are especially impactful to the Triad region as it attempts to recruit new businesses and recover from the loss of textile and furniture manufacturing job losses over the previous decade. This designation is viewed by the City as simply a tool to allow DWQ to enforce Phase II type stormwater regulations in areas that otherwise could not be regulated. The City questions the actual legitimacy and necessity of such a far-reaching designation. The potential result from this designation could be devastating to the future growth and economy of the Greensboro region. *Recommended action: Remove this classification from the rule making strategy and find an alternative method of ensuring that non-point source management measures can be addressed throughout the watershed.*

3. 15A NCAC 02B .0265 - New Development Rule: Based on the DWQ assigned land use based nutrient export rates and loading assumptions established in the fiscal note, to achieve the proposed nutrient reduction targets will require up to 3 BMPs at some new developments, even before a buy-down rate can be utilized to remove the remaining load. On most commercial or industrial sites, this is often infeasible and cost prohibitive on already limited or constricted sites. The need for three BMPs is based on DWQ established BMP removal efficiencies. Better or different removal efficiencies just do not exist at this time per the recently published State of North Carolina BMP guidance manual. The rule as proposed would make any new economic development much more difficult and expensive, driving up the costs of homes, land, and commercial development. These targets would also place the portions of the Triad that are tributary to Jordan Lake at a significant economic disadvantage as this region attempts to recruit major businesses and recover from the losses of textile and furniture industry.

Recommended action: Allow time for the Phase II rules throughout the region to be implemented, and continue monitoring the basin through an adaptive management approach.

4. Inequitable burden of responsibility and potential lack of water quality improvement: The modeling data shows that the majority of the nutrients entering Jordan Lake are from non-point source pollution (runoff), and that the majority of the nutrients in that runoff is from agricultural areas. Although the agricultural community has been included in the rules, the proposed rules place very little pollutant load reduction requirement, cost (estimated at \$2,570,000), or compliance accountability upon them. The vast majority of the pollutant load reduction, cost of compliance, and impact of these rules will be placed on municipalities (cities and counties) through expensive technology upgrades at wastewater treatment plants (estimated at \$256 million throughout the region; \$75 million specific to Greensboro alone),

additional requirements for new development and redevelopment (\$1,113,000), and expensive programs to address existing urban runoff (\$528 million). Additionally, the NCDOT and universities throughout the watershed are being given a load reduction requirement. Addressing existing pollutant load from roadways and university areas is also precedent setting and very costly (an anticipated price range of between \$78 million and \$616 million). Any compliance costs will also have to be passed on to taxpayers which will only further place our region, and potentially our whole state, at an economic disadvantage. While the proposed rules are viewed as neither an equitable solution nor economically reasonable, the real problem with this approach is that ultimately it may not improve the water quality in Jordan Lake because the rules do not truly address the identified source of the problem; the agricultural runoff.

Requested action: Reconsider the pollutant load compliance targets among the various sources to ensure a fair, reasonable, equitable, and adaptive approach that would result in measurable water quality improvement.

- 5. Lack of clear criteria for determining compliance or measuring water quality improvement.** The rules as currently written have a pollutant load compliance target at, or very near, the lake itself. However, there is little additional monitoring and no scheduled modeling to occur in the upper reaches of the watershed. As such, compliance with the proposed rules will only be determined by water quality conditions at, or near, the lake. Determining whether a community such as Greensboro, Guilford County, Burlington, etc. is in compliance with the rules, or even whether the problem continues to be one of non-point source or point source will not be reasonably possible, much less scientifically valid. As holders of permits (issued by DWQ) for both stormwater and wastewater, it is anticipated, as historically shown, that municipal wastewater and stormwater programs will continue to bear the inequitable burden of responsibility for additional pollutant load reduction activities if required should water quality improvement not be deemed sufficient.

Requested action: Include and fund additional monitoring and modeling efforts to ensure fair, reasonable, and equitable implementation of the rules which support an adaptive management approach. The rules should also include some protective language or safeguard against future pollutant load reductions (either point or non-point) until current capital improvements to comply with these rules are paid for.

If you have any questions regarding any of the written comments or need any additional information, please contact me at (336)373-4578 or kenney.mcdowell@greensboro-nc.gov.

Sincerely,



Kenney McDowell, PE
Stormwater Management Division Manager
City of Greensboro Water Resources Department

Cc: Allan Williams, PE, Director, Water Resources Department
Linda Miles, Attorney, City of Greensboro Legal Department
Dr. Dave Moreau, Chair, NC Environmental Management Commission
David Phlegar, Water Quality Supervisor, Water Resources Department

Enclosures: 1) June 1, 2001 letter to US Army Corps of Engineers
2) November 2001 study by CDM regarding North Buffalo Creek BMP siting evaluations