July 12, 2007

Dr. David H. Moreau, Chair
North Carolina Environmental Management Commission
1617 Mail Service Center
Raleigh, NC 27699-1617

SUBJECT: Comments on Proposed Water Supply Nutrient Strategy for B. Everett Jordan Reservoir

Dear Dr. Moreau:

I appreciate the opportunity to comment on the proposed Jordan Lake Nutrient Strategy and Rules. As you may remember, well over a year ago, I approached you with some thoughts on alternative means to provide for a nutrient strategy for the B. Everett Jordan Reservoir (Jordan Lake.) I continue to believe that the proposed strategy which is the subject of this hearing is well meaning but does not adequately address the real culprit: non point source water pollutants. In addition, there may be other modeling scenarios which should be evaluated.

I thought it might be helpful to review again my suggestion for a possible "out-of-the-box" solution to manage part of the nutrient load which might find its way to Jordan Lake from both point and nonpoint sources within the Upper New Hope Arm. Currently, NC 751 and Fearrington Road cross the Upper New Hope Arm of Jordan Lake on man-made causeways. Through each causeway, there is a relatively small opening (probably less than 20% of the causeway length) through which water must flow from one segment of the lake to the next. These causeways serve as an effective barrier between segments and there is no complete mixing of the water within the Upper New Hope Arm. This man made constraint allows considerable nutrient buildup in each of these segments before it reaches the more completely mixed area below Fearrington Road within the Lower New Hope Arm.

I suggested that the Upper New Hope Arm be modeled without those constraints in place. This would involve removing the causeways and constructing bridges in their location. Such a configuration would provide significantly more capacity to completely mix the waters in the Upper New Hope Arm.

At your suggestion, I contacted the NC Division of Water Quality (DWQ) to determine if such a modeling effort could be completed. I was told that it would certainly be possible to model the entire New Hope Arm as described above, but the request would have to come from one of the constituent governments or a water and sewer authority in the area. It was further stated that there was no money to run such a model at the time, which would have made the request moot. There was also conjecture that by removing the segments through the construction of such bridges, the constituent nutrients entering the Upper New Hope Arm would find their way further downstream towards the dam.

One can certainly understand that once the constraints on the flow within the Upper New Hope Arm have been removed, that a more fully mixed water body would result. It would seem, however, that to assume that the nutrients might find their way further downstream into Jordan

Lake is not a sufficient reason to dismiss the alternative and ignores the possible benefits that might accrue from such a strategy. At a minimum, the modeling could provide som additional insight into the behavior of Jordan Lake.

At the present time, the DWQ *Fiscal Analysis* estimates that that the Nutrient Strategy and proposed Rules may cost $900 million to implement. In discussions with NC DOT several years ago, a back of the envelope cost for bridges to replace these causeways might amount to $50 million. I know that for my own community of Chapel Hill, OWASA would need to spend more than $500,000 per year at current wastewater flow rates and well over $1 million per year in today's dollars when the Mason Farm plant reaches full capacity over the next 15 to 20 years. These costs would be incurred for additional energy and chemicals needed to achieve the proposed 2016 mass load limit for TN. Some simple math shows that OWASA could end up spending $15-$20 million (not even counting for the amortization of any additional capital costs for treatment to achieve the required standards.) That ongoing investment would certainly help to defray some of the cost of the bridges to replace the causeways and be a one-time cost.

I am sure there will be a host of comments made on the proposed rules and that additional study may be undertaken. If that is the case, I would appreciate the Environmental Management Commission's consideration of a request to DWQ to model Jordan Lake as described above. At a minimum, this might help to establish whether there would be an impact on the required treatment by those point sources discharging in the Upper New Hope Arm.

I mentioned earlier that I believe adequate attention may not have been given to the potential for the contribution of nonpoint source pollution to the issues that create predicted chlorophyll *a* excursions in the Upper New Hope Arm. I recognize that the prediction of loadings from nonpoint source pollution is probably more of an art form than a science. We need to work with the communities to make some reasonable efforts at ascertaining what nutrient loads result from such nonpoint sources before we ratchet down on the point sources Thoughtful consideration of those loads and BMPs to reduce such loads would be a prudent first step. Ultimately, the goal is to protect the water quality of Jordan Lake but at costs which are reasonable for the citizens of the Triangle.

The State's effort to protect Jordan Lake is an important step in protecting and the public health. Thank you for all the hard work that has gone into the effort to this point. I appreciate the opportunity to comment.

Very truly yours,

Alan E. Rimer P.E. DEE

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