

ORANGE WATER & SEWER AUTHORITY

Quality Service Since 1977

October 21, 2003

Mr. W. Calvin Horton,  
Town Manager  
Town of Chapel Hill  
306 North Columbia Street  
Chapel Hill, NC 27516

Dear Mr. Horton:

This letter is in response to your staff's request for information about the ability of the community's water supply to accommodate the Carolina North development proposed for the University's Horace Williams Tract.

OWASA's *Comprehensive Water and Sewer Master Plan*, which was completed in 2001, projected an approximate doubling of water and sewer demands by the year 2050. This was based on trends of the past 20 to 25 years, plus information provided by Carrboro, Chapel Hill, Orange County, and the University. Shortly after OWASA's *Master Plan* was completed, UNC announced new plans for accelerated growth between 2002 and 2008 and for more intense central campus buildout than previously anticipated. These more recent plans for the central campus (rather than for Carolina North, where buildout projections have remained consistent with earlier OWASA estimates) have resulted in revised projections of future raw water supply needs that are 1.3 million gallons per day (mgd) higher than the *Master Plan's* demand of 18.5 mgd projected for 2050.

However, the continued recycling of water treatment plant process water and the future implementation of a non-potable wastewater reuse system on the UNC campus are expected to reduce these overall community needs in 2050 by 3.6 mgd, resulting in an ultimate raw water demand of 16.2 mgd, which is less than our 2001 *Master Plan* estimated.

OWASA's previous projections and more recently revised supply and demand estimates are shown in the attached figure. Please note that the horizontal "available supply" lines on the graph do not reflect our five mgd Jordan Lake water supply storage allocation; and the "revised demand projection" curve does not reflect potential additional reductions that might be achieved through more water-efficient technologies and practices. The demand curve is based on the rather general water use assumptions currently available for Carolina North. OWASA will continue to revise the long-term demand projections as information becomes further refined with respect to the future type, timing, and intensity of Carolina North development.

OWASA staff have worked very closely with the University's staff and consultants in evaluating future water and sewer service needs of the central campus and Carolina North and in developing

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plans for a wastewater reuse system that will increase the long-term reliability of our water supply. We are keenly aware of the need for similar principles of sustainability in providing utility services to Carolina North and have proposed to the University that water reuse and other state-of-the-art technologies and practices be incorporated into plans for Carolina North. A copy of *Initial Suggestions for Guiding Principles Relating to Water and Sewer Utility Services for Carolina North*, which was drafted by OWASA staff and included as an Appendix to the recent report of the University’s Carolina North Infrastructure Advisory Group, is attached as information.

It is useful to recall that the Agreements of Sale and Purchase through which the water and sewer assets of the University, Carrboro, and Chapel Hill were originally conveyed to OWASA include contractual commitments by OWASA to furnish potable water “in such quantity as may be required by the University to meet its needs” and an “unequivocal assurance and pledge to develop and provide the augmented water supply facilities necessary to meet the long term needs of the area.” These Agreements contain similar commitments to the Towns of Carrboro and Chapel Hill as well.

The University understands that all development at Carolina North will be subject to OWASA’s water and sewer availability fees, which are based on cost-of-service rate-setting principles. This will assure that the University will pay its fair share of the costs for water and sewer capacity needed to serve Carolina North.

We will keep you apprised of any further refinements or revisions to the estimates presented in this letter and the attachments.

Please let me know if you have any questions or need additional information.

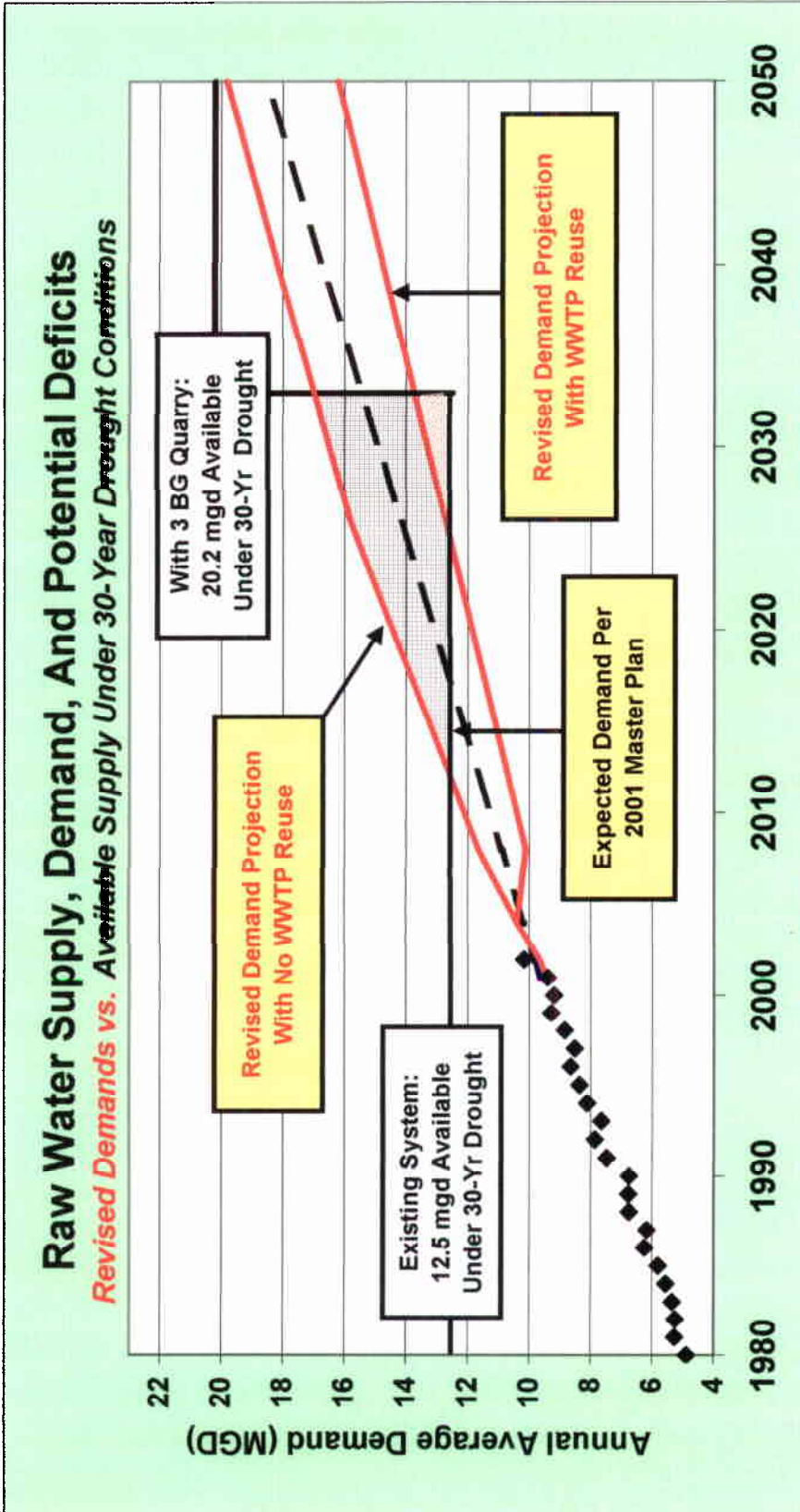
Sincerely,



Ed Kerwin  
Executive Director

attachments

cc: Board of Directors





**ORANGE WATER AND SEWER AUTHORITY**  
**Some Initial Suggestions for Guiding Principles Relating to**  
**Water and Sewer Utility Services For *Carolina North***

The water and sewer service needs of the University's *Carolina North* campus area should be met in an economical and environmentally compatible manner that also strengthens and builds on the mission and vision of *Carolina North*. Following are some suggested guiding principles for water and sewer infrastructure planning and development for *Carolina North*:

- The University should **provide leadership in promoting sustainable and innovative water resources management**, thereby serving as a model for the community, and the people and organizations it serves.
- The University should collaborate with OWASA and others on the planning, design, and installation of **consolidated utility corridors** where feasible. Where practical, **utility system improvements should be co-located** to reduce capital costs and environmental impacts, and to minimize the potential for conflicts with future construction on the *Carolina North* property.
- The University should strive to **minimize the need for additional water and sewer service capacity by incorporating state-of-the-art water conservation and demand management measures** in the development of *Carolina North*. Such measures may also reduce the need for major additional off-site water and sewer infrastructure improvements, and potentially reduce the water and sewer availability/connection fees and service charges ultimately paid by the University.
- The University, in partnership with OWASA, should **evaluate and incorporate, where feasible, the use of reclaimed water** to minimize the demand on the community's water resources. Two primary options are: (a) extension of future reclaimed water mains originating at the Mason Farm Wastewater Treatment Plant, or (b) development of a new state-of-the-art water reclamation and reuse "skimming" facility on the *Carolina North* site. The reuse system facilities could serve as a "living classroom" for the various educational programs at the University.
- The University should **design the landscape to minimize the impact on the community's water supply and surrounding streams**. Where technically and economically feasible, excess stormwater runoff should be captured, stored and beneficially reused to meet landscape water needs and other non-potable water needs at *Carolina North*. The University should incorporate native plants and xeriscaping principles into the landscape design.
- The University should provide **a reasonable level of certainty in projecting the ultimate water and sewer service demands** at *Carolina North*.
- New development at *Carolina North* should **not have any adverse wastewater characteristics** that will affect the integrity of the public wastewater collection and treatment system.

April 2003