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**JOINT MEETING OF THE CHAPEL HILL TOWN COUNCIL AND  
THE ORANGE WATER AND SEWER AUTHORITY BOARD OF DIRECTORS  
MONDAY, MARCH 23, 1998 AT 5:30 P.M.**

The Mayor called the meeting to order at 5:34 p.m.

Council Members present were Julie Andresen, Flicka Bateman, Joyce Brown, Joe Capowski, Pat Evans, Kevin Foy, Lee Pavão, and Edith Wiggins. Staff members present were Town Manager Cal Horton, Assistant Town Managers Sonna Loewenthal and Florentine Miller, Assistant to the Manager Ruffin Hall, Long Range Planning Coordinator Chris Berndt, and Deputy Town Clerk Joyce Smith.

Orange Water and Sewer Authority Board members present were Alan Rimer, Pat Davis, Joal Broun, Dan VandeMeer, and Bill Strom. Orange Water and Sewer Authority staff members present Executive Director Ed Kerwin, General Manager of Operations Kathryn Kalb, Director of Planning and Development Ed Holland, and John Greene.

**Item 1 - Water Resources**

Mayor Waldorf thanked the OWASA Board for their participation in tonight's meeting.

Alan Rimer indicated that brief presentations would be made on each subject matter listed on the agenda.

Council Member Andresen asked if matters other than those listed on the agenda could be discussed, such as policy, sewer assessments, and the like. Mayor Waldorf asked if an additional meeting should be scheduled with the OWASA Board to cover these items.

Council Member Bateman indicated OWASA had passed a tentative sewer schedule, and the Council should probably follow OWASA's schedule.

Alan Rimer indicated the schedule was still tentative, and they were not ready to set a firm schedule at this time. He said when they were ready, they would ask to be placed on the Council's agenda.

Ed Holland gave a general description of where watersheds are located. He noted the location of OWASA's property at Jordan Lake and the location of the treatment plants. Mr. Holland briefly described how water is pumped to the treatment plants.

Mr. Holland stated the combined safe yield of Cane Creek, the Stone Quarry and Jordan Lake is 13.5 million gallons per day. He said about three percent of the time, these three sources will not produce 13.5 millions a day, due to weather or other factors, adding he expects the reservoir to last 100 years or more. Currently, Mr. Holland noted they are using approximately 8 million gallons of water a day, although more raw water is required because some water pumped is lost in the system, making this figure about 10 to 15 percent higher.

Mr. Holland indicated the rate of water usage increases about 3.5 percent each year, based on water

sales since 1977. He said if we continue to increase demand at this rate, in approximately the year 2010 our average daily raw water use will equal about 13.5 million gallons per day, so raw water supply will equal the average daily demand. Mr. Holland stated at that point, the demand will equal the reliable yield, adding that if our rate of increase were to increase 2.5 percent rather than 3 percent, then the 13.5 million gallons a day mark would not be reached until 2016. Mr. Holland noted we will not be out of water at that time, but we must be well on our way to developing new water sources through possible expansion of the Stone Quarry, Jordan Lake, and even water from Burlington, Durham, or other areas.

Mr. Holland said the treated water capacity from the Jones Ferry Road plant is determined by shorter term demands rather than annual averages. He stated the treatment plant is sized according to peak demands, so we are typically looking at a three-day peak demand, which is normally 50 percent higher than the annual daily rate, or 12 million gallons per day. Mr. Holland said this means that when we reach a daily demand of 10 million gallons a day, our three-day peak will be 15 million gallons. He stated we will meet those demands with new sludge treatment facilities. Mr. Holland indicated the existing capacity at the Jones Ferry Road plant is probably about 25 million gallons a day, and we expect that site to reach its peak in about 20 years.

Using a map of the Stone Quarry, Mr. Holland stated it contains about 200 million gallons of water. He stated OWASA owns property which includes the Nello Teer asphalt plant, which will be abandoned in about 2 years. He noted the active stone quarry land is leased by Nello Teer. Mr. Holland continued, saying the proposal is that American Stone will continue to mine into the OWASA property until the year 2030, at which time it will have to be turned over to OWASA. Mr. Holland noted part of the expansion project calls for American Stone to relocate Bethel Hickory Road.

Council Member Brown asked what are the existing boundaries of the existing permit, and what capacity OWASA would have if expansion took place. Mr. Holland said they do have options, such as for drought or other emergencies, so that they could increase the yield if necessary. He said they also know a certain amount of water is lost over the dam at Cane Creek. Mr. Holland stated if they would capture a portion of that water, then yield could be increased. He added that within that context, the geographic limit of that permit is not much beyond where they are now operating. Mr. Holland noted that if this property were mined out, the capacity of the quarry would be estimated at 1.3 billion gallons, and if the entire property were mined out, it would be about 3 billion gallons.

Mayor Waldorf asked what is the capacity of University Lake. Mr. Holland answered the capacity of University Lake is approximately 500 million gallons, adding the capacity of Cane Creek is 3 billion gallons.

Council Member Andresen asked about the safety of the road being installed, and if erosion is expected to be a problem. Mr. Holland said he did not expect erosion to be a problem.

Mayor pro tem Capowski asked if it was correct that if the quarry which is currently being mined were finished or mined to its total permitted volume and filled with water, its contents would be about 1.3 billion gallons. Mr. Holland said that was correct. Mayor pro tem Capowski asked what was did the 3 billion gallon figure represent. Mr. Holland said that figure represents the total

capacity if the permits were granted and the quarry was mined out to its limits. Mayor pro tem Capowski asked if these were the same numbers that have been reported over the last few years. Mr. Holland said yes.

Council Member Brown asked if the permits could allow even more mining. Mr. Holland said his information shows capacity at 1.3 billion.

Mayor pro tem Capowski asked if the 1.3 billion included the 200 million in the smaller quarry. Mr. Holland said no. Mayor pro tem Capowski stated that means the total figure is 1.5 billion. Mr. Holland said that was correct.

Council Member Brown said at some point we will reach capacity for growth, and she assumed OWASA was thinking about that. She asked how this fits into future plans to treat wastewater and in what direction growth would take place. Mr. Rimer answered the Council would set the ultimate growth, through zoning and the Comprehensive Plan. Mr. Rimer said the Master Plan which will be prepared over the next 18 months will focus on this issue.

Mayor Waldorf said if the current OWASA service area were built out to capacity, then yield would be about 20 million gallons per day, and currently we are at 13.5 millions gallons per day. Mr. Holland said that was correct.

## **Item 2 - Wastewater Management**

Katie Kalb, OWASA General Manager of Operations, said the current waste water treatment plant capacity is 9 million gallons per day. She stated the maximum monthly flow up to January of this year was about 7.9 million gallons per day. Ms. Kalb said the wet weather since January has boosted that maximum, with February's average monthly flow at 8 million gallons per day. She stated their quality limits stay essential the same, but because of the wet weather, the sewers are flooded and many repairs have been necessary. Ms. Kalb said normally we have about 10 inches of rain during this time of year, but we have experienced over 20 inches, causing an increase of inflow to the sewer system. She said we have \$17.5 million in construction planned over the next 27 months, so at the end of 1999 the treatment plant capacity should have been boosted to 12 million gallons per day. She indicated some of the older equipment at the plant would be replaced or rehabilitated. Ms. Kalb noted that the reclaimed water issue is still being discussed with the University whereby our treated wastewater effluent from the plant would be used on the golf course for irrigation. She added one other issue is the existing site constraints, commenting that right now they limit us to 16 million gallons per day, so the next expansion will take us to approximately the limits of the physical acreage that we now have. Ms. Kalb said they are looking at some innovative treatment processes for the future.

Council Member Andresen asked about the constraints Ms. Kalb had mentioned. Ms. Kalb said they are anticipating that when their State permit is renewed in 2002, some new limits may be imposed on nitrogen. She said they have found in the interim they have been able to control the nitrogen levels through other means. Council Member Andresen asked about the problems at Eastwood Lake. Ms. Kalb said over the last couple of years they have tried to reduce the inflow at Eastwood Lake, and have just completed a design which will increase the downstream sewer

around the lake which they feel sure will solve this problem. Regarding the Booker Greenway Project the Town has undertaken, Ms. Kalb said that happens to be an area where improvements are planned, so they are coordinating with the Town to make this a joint project so that the neighborhood will not be disturbed more than necessary.

Council Member Evans asked if wastewater could be used for irrigation in areas other than the golf course. Ms. Kalb said they were looking at other irrigation uses for this water, but storage is an issue, adding that plenty of reclaimed water could be produced.

Council Member Brown said from the OWASA report, they are saying there are no limits to the capacity. Ms. Kalb said their discharge goes to Jordan Lake, and if the State sets a limit it will probably be based on nitrogen and phosphorous amounts, but right now no limits have been set by the State.

Council Member Foy asked where the \$17.5 million was coming from. Ms. Kalb said it would come from the sale of bonds next year, as well as a CIP budget which has been building for some time.

Council Member Foy asked if 3 billion gallons of water were in the quarry, how would we direct that volume of water. Ms. Kalb said from a hydraulic point of view, Morgan Creek could handle that amount of water.

Council Member Capowski if the reclaimed water system would be funded through OWASA customers. Ms. Kalb said not the general rate customers, but the University would bear the cost through a new rate system.

Council Member Evans said one interesting thing of note is that the State concluded from their 1986 model that an increased flow into Morgan Creek would result in a greater aeration rate.

Mr. Rimer said that regarding water demand, they have an aggressive plan to promote water conservation, as well as a plan to extend this conservation so that the number of people served will increase using the same amount of water.

Bill Strom stated we could increase our capacity by 20 years using aggressive conservation methods.

### **Item 3 - Comprehensive Master Plan**

John Greene, Director of Engineering and Planning, said the Comprehensive Master Plan would review all levels of operations. He said this would require about 15 to 20 months to complete. Mr. Greene stated they propose to take items such as historic and projected growth, zoning, treatment options, supply options, effects of conservation and reuse, and other items to produce a list of options that would provide information on delaying or speeding up capital improvements. Mr. Greene said they are currently reviewing ten proposals from consultants, and expect this process to begin in May and end in late 1999.

Council Member Brown said she would be interested in seeing a copy of the requests for proposals sent to the consultants. Mr. Greene said he would provide a copy to the Council.

#### **Item 4 - Emergency Water Interconnects**

Mr. Kerwin said OWASA has two interconnects, one with Durham and one with Hillsborough, for use during emergencies, such as water shortages, weather, power outages, as well as planned and unplanned maintenance. He indicated OWASA plans to develop an emergency water interconnection with Chatham County.

Council Member Foy, referring to IV.C. on page 3 of the materials provided to the Council, asked for clarification of that statement. M. Greene answered that the OWASA system and Chatham system work from different pumps.

Council Member Andresen said in other words in order to get water from Orange to Chatham in an emergency you would need some sort of tank. Mr. Greene answered it depended on the volume, and what type of pump that might require. He said a pump station would be required to get the water to Chatham. Council Member Andresen asked about the water pressure in the Heritage Hills area. Mr. Greene said one of the planned capital improvements was to build an elevated tank near Starpoint on US 15-501, but if something could be worked out with Chatham, then Chatham could supply water to Heritage Hills. Council Member Andresen asked about the flow pressure. Mr. Greene said the elevation of land is near the top elevation of their water tanks, which means pressure is lost.

Mayor Waldorf asked what was the necessary pressure required. Mr. Greene answered they needed to retain about 20 to 25 pounds of pressure to meet demands. He said 70 pounds of pressure is average for a home, but in the Heritage Hills area the amount is around 40 or 45. Mr. Greene said to fight a fire, you need pressure as well as volume, and the Heritage Hills area has an adequate supply at this time.

Mr. Horton reminded the Council that Heritage Hills is covered by Carrboro, not Chapel Hill.

Council Member Foy asked about our allocation from Jordan Lake. Ms. Broun answered about 10 million gallons.

Council Member Evans said Chatham's allocation is 6 million gallons per day. Mr. Greene said their treatment capacity is 3 million gallons per day, and their current demand is less than 1 million gallons per day. He said they have requested an increased allocation of water from Jordan Lake from the State, and this request is pending. Mr. Greene indicated OWASA's allocation of 10 million gallons per day is based on economics, and that it would be economically unfeasible to have less than a 10 million gallon per day allocation.

Council Member Foy asked if that meant we would lose the allocation if it was not used. Mr. Davis said we were in a good position to keep this allocation.

Council Member Capowski indicated that the Fire Chief had complimented OWASA in a recent

budget work session, saying Chapel Hill is the envy of other communities in the State because of our availability of water during fires. Mr. Rimer thanked the Chief for his comments.

Council Member Andresen said regarding the emergency water issue, the Council has been interested in the sale of water to other counties which may have land use implications, and thinks the Council is interested in establishing common understandings on how water sales to other counties proceed. She asked the OWASA Board to work with the Water and Sewer Boundary Task Force to develop this understanding.

Council Member Evans said she agreed it was important to establish emergency water linkages with our neighbors. She stated if the lack of water given to Chatham County had really hindered growth, as some think, then they would not have grown. Council Member Evans said they have shown their ability to extend water to that area on their own, adding she hoped that emergency water would be provided.

Council Member Foy said the issue is a water connect for short term emergencies. He asked what the definition of a short term emergency is, and how do you determine when that emergency is over. He asked if an emergency could go on for a year or even two.

Council Member Andresen said the Task Force is working on a definition for short term emergency. Mr. Greene said one of the handouts for tonight's meeting shows a listing of the amount of water transferred, but the agreements are fairly general and no specific time limits for the emergency transfers are noted. He said the Water and Sewer Boundary Task Force is close to reaching conclusions about the types of emergencies and the time limits to be placed on each. Mr. Greene agreed with Council Member Andresen that bulk water transfers issues and the constraints under which they might or might not occur must be established.

Mr. VandeMeer pointed out that over the last few years we have only sold about a 4 day water supply over a one year period, so historically not a lot of water is being sold for emergency purposes.

The meeting was adjourned at 6:56 p.m.