

An adjourned meeting of the Board of Supervisors of Albemarle County, Virginia, and a special meeting of the Charlottesville City Council (CCC) were held on Wednesday, January 18, 2011, at 2:00 p.m. Room 241, of the County Office Building, 401 McIntire Road, Charlottesville, VA. The Board of Supervisors meeting was adjourned from January 12, 2011. The purpose of the meeting was to discuss the community water supply plan.

PRESENT: Mr. Lindsay G. Dorrier, Jr., Ms. Ann Mallek, Mr. Dennis S. Rooker, Mr. Duane E. Snow and Mr. Rodney S. Thomas.

ABSENT: Mr. Kenneth C. Boyd.

OFFICERS PRESENT: County Executive, Thomas C. Foley, County Attorney, Larry W. Davis, and Clerk, Ella W. Jordan.

CHARLOTTESVILLE CITY COUNCIL MEMBERS PRESENT: Dr. David Brown, Ms. Holly Edwards, Mr. Satyendra Huja, Mr. Dave Norris and Ms. Kristin Szakos.

ASLO PRESENT: City Manager, Maurice Jones.

Agenda Item No. 1. Call to Order.

Ms. Mallek called the Board of Supervisors to order at 2:04 p.m. She welcomed members of City Council and City staff. She said that her goal for today is to raise the information level and determine what remaining questions there are regarding the Water Plan. She said that she does not expect there to be any votes taken today.

Mr. Norris called City Council to order at 2:06 p.m. He thanked the Board for the opportunity to meet. He added that it is good for the public to see both bodies working together. He said that he believes the City and County are 90% of the way towards a mutually agreeable resolution. He hopes that they can work through the remaining issues and then start tackling other issues.

Ms. Mallek then recognized Mr. Tom Frederick, Executive Director of the Rivanna Water and Sewer Authority.

(Note: The following items scheduled on the agenda were discussed in tandem and not as separate items.)

Agenda Item No. 2. Permit Modification.

Agenda Item No. 3. Demand Analysis

Agenda Item No. 4. Automatic Triggers for Future Expansion if Some Form of Phasing Were to be Considered.

Agenda Item No. 5. Cost Comparison

Agenda Item No. 6. Role of Dredging

Agenda Item No. 7. Environmental Mitigation Plan

Mr. Frederick said that he was asked to provide some background information to begin the meeting. He stated that the community has been searching for its long-term water supply for a very long time. As early as 1983 the RWSA was purchasing land along Buck Mountain Creek. Determining a future water supply is a complex process. There is a lot of information and a lot to digest. Mr. Frederick stated that when he came to the RWSA in 2004 the Board of Directors had already approved a demand analysis and had identified 32 potential alternatives for future water supply and told him his goal was to get federal and state permits, which in itself is a challenging process. He explained that the Clean Water Act passed by Congress in 1972 has some rigorous requirements, including engineering work and environmental studies geared toward finding the least environmentally damaging practical alternative. Mr. Frederick said the term "least damaging" is a rigorous process of technical information gathering.

Mr. Frederick said that the RWSA also knew that in order to apply for a permit to be successful they had to have community support, so they organized extensive public information. Between 2004 and 2006, there were nine different public meetings along with numerous updates to elected and appointed boards. He stated that in 2006 there was a strong consensus around an alternative that had the potential of being permitted, and four boards unanimously approved this option, with a permit application filed and granted in 2008 by both the Department of Environmental Quality (DEQ) and the Army Corps of Engineers. Mr. Frederick said that the decision to be made now is whether to move forward with the permit or seek modifications to it. He emphasized that it is not a process that should be taken lightly or taken as a given. He emphasized that DEQ will need to receive a permit modification from the community and will rule on the merits of the law, not necessarily on the basis of what the community wants. Mr. Frederick said that the RWSA throughout the process has consulted closely with expert legal advice and continues to do so as a staff with information provided to their RWSA Board of Directors.

Mr. Frederick stated that the intent is to stay within the framework of the permit, and based on his involvement in this process this means that the RWSA has been permitted to expand the Ragged Mountain Reservoir as the least environmentally damaging practical alternative, a ruling determined by federal and state governments, with no prohibition on dredging but no reliance on it within the framework of the permit application and existing permits. He reported that the projected long-term demand is 18.7 million gallons per day, which is fundamental to the framework of the permit, and a 9.9 million per day deficit was identified, including a 4-million allowance for replacing future sediment deposited in the South Fork Rivanna Reservoir if the community chose not to dredge over the next 50 years.

Mr. Frederick said that phasing that is allowed under the current permit is for Reservoir expansion to take place before the new pipeline is built. In the section of the permit that talks about stream flow release requirements it provides them under three different conditions: 1) before the dam is built, 2) after the dam is built and filled but before the South Fork pipeline is built, and 3) after the dam and pipeline are built. He stated that the current permit is written around a permit application and technical support documents to build the entire dam and fill it to the full height. There is nothing in the existing permit that talks about phasing the filling of the Reservoir. If the community chooses to do that, it will entail modifications to the existing permit, but depending on how it is structured, it may not require significant changes to the permit.

Mr. Frederick said that City Council adopted a resolution on September 20, 2010 and on September 21, 2010, the four Boards met. There were many points that the four boards agreed upon with a few that they had not reached consensus on. He then highlighted the bullet points in City Council's resolution:

- *To aggressively promote conservation of water and reduction in leakage in the next 20-40 years;*

Mr. Frederick said he believes there is a consensus to do that.

- *To conduct restorative hydraulic dredging of at least Segments 1 – 3 of the South Fork Rivanna Reservoir, as identified in the "South Fork Rivanna Reservoir Dredging Feasibility Study" prepared by HDR Engineering, Inc., and to conduct continuous maintenance through hydraulic dredging of the South Fork Rivanna Reservoir. The Rivanna Water and Sewer Authority shall seek a separate state permit for these activities;*

Mr. Frederick commented that the two elected boards are probably still discussing what that means in terms of whether an RFP or commitment is sought and what segments it covers, so he has put that in the category of not yet resolved.

- *To commit to adequate water flow to the Moorman's River and South Fork Rivanna River, as expressed in the initial joint permit application for the water supply plan;*

Mr. Frederick said it is his understanding there is agreement on that issue.

- *Keep in place the pipeline from the Sugar Hollow Reservoir to the Ragged Mountain Reservoir for use in the event of a failure in the water transmission system;*

Mr. Frederick said he believes there is agreement on this item, but the current permit is very specific that once the South Fork pipeline is built, the Sugar Hollow pipeline will no longer be used to transmit water, so a minor adjustment to the permit may need to be made.

Mr. Rooker said that the Board has never dealt with that issue as a separate issue, so it cannot really be stated that they agree or not with it.

Ms. Szakos said that the only place there was agreement was at the meeting of the four boards where everyone at the table agreed that it was fine and to just move on.

Mr. Rooker said he personally has no objection to it, but he does not recall dealing with this issue as a Board member.

- *Permit a dam with a height of up to 42' by adding additional feet to the existing dam or by constructing a new dam up to a height of 42'. In case the existing dam is built upon, improvements, repairs and modifications to the existing spillway structure will be constructed to bring the dam into compliance with all applicable dam safety laws and regulations. The construction is to be done in phases – the first phase being the construction of a dam 13' in height and construction of up to an additional 29' as needed based on ten-year evaluations of actual use and population growth. The dam will be filled in phases, as water is needed.*

Mr. Frederick said that the boards have not yet reached consensus on this item.

Mr. Frederick said that he believes that everyone has all agreed to the next five items:

- *A new 36 inch transmission pipeline from the South Fork Rivanna Reservoir to the expanded Ragged Mountain Reservoir, which will replace the 18 inch pipeline from the Sugar Hollow Reservoir, constructed in 1927;*

- *The complete replacement of the piping and pumping transmission system between the Ragged Mountain Reservoir and the Observatory Water Treatment Plant, which will replace the two cast iron pipelines constructed in 1908 and 1949 and the Royal Pump Station;*
- *A major overhaul of the Observatory Water Treatment Plant to advance public health by providing state-of-the-art facilities that will increase the Plant's rating to 8 million gallons per day;*
- *The expansion of the capacity of the South Fork Rivanna Water Treatment Plant to 16 million gallons per day; and,*
- *The expansion of the capacity of the Observatory Water Treatment Plant to 10 million gallons per day.*

Mr. Frederick said he was also asked to address some confusion in the community about what \$142.0 million means, which is perceived by some in the public as a huge, massive project and a waste of money. The \$142.0 million is not just for one project, but is a 50-year plan of a whole bunch of stuff to keep the water system reliable over 50 years, and not all of it is required immediately. Of that \$142.0 million, he said, \$105.0 million is for future work that is not directly related to the Reservoir itself and all of it pertains to items the boards have already agreed upon.

Mr. Thomas commented that this is the first time he has heard the breakdown of the costs and the timeframe for them.

Mr. Rooker said that a huge percentage of the total is replacing infrastructure that all boards have been in agreement on.

Mr. Snow asked if the \$37.0 million is for the cost of the dam, or for additional work.

Mr. Frederick responded that when the plan was presented for public approval in 2006, the \$142.0 million figure was released for a 50-year plan, with \$37.0 million budgeted for the dam. He said that Schnabel Engineering has been proceeding with final design on the earthen dam and reached the 60% design milestone last week. He added that several weeks ago, the expert panel was scheduled to come back into town to review this progress and a new cost estimate was established that reflects this meeting. Mr. Frederick said he is prepared during this meeting to provide that new information. He added that the cost of the \$37.0 million is decreasing.

Mr. Snow asked if the expert panel was the one who was in town recently doing an assessment of the Black & Veatch dam. Mr. Frederick responded that the panel is the same one.

Mr. Dorrier asked how many gallons would be produced with a \$37.0 million dam. Mr. Frederick responded that it would provide a safe yield of 18.7 million gallons per day. Safe yield is defined as what you can sustainably withdraw from a water supply during a drought of record.

Mr. Rooker said that the total estimate for additional storage has been 1.7 billion gallons.

Ms. Mallek noted that the whole point of the bigger basin is to help during times of drought.

Mr. Frederick then distributed information that included the new estimate.

Ms. Szakos asked if there was a corresponding number that compares to the \$37.0 million.

Mr. Frederick explained that construction costs only are between \$15.9 million and \$19.5 million; engineering services total \$3.2 million; \$2.3 million for I-64 improvements; and \$3.4 million for mitigation required by the permits, for a total cost range from today forward, not counting money already spent, of \$24.8-\$28.4 million. He stated that the I-64 estimate comes from Volkert Engineering, and the mitigation comes from VHB, a firm that does mitigation design work.

Mr. Norris stated that the I-64 improvements only come into play if a dam over 13 feet in height is built, and if it is kept lower, the embankment will not be needed. It is his understanding that the mitigation is scaled based on the size of the Reservoir increase. He also said that the phasing in the 2006 plan also talks about phasing in construction, in the permit support document, for a replacement dam.

Mr. Rooker noted that a 13-foot dam by itself would not satisfy the quantity of water necessary to meet the permit requirements, and dredging for additional capacity is not allowed under the existing permit either. He said that to achieve 700 million gallons of capacity the project would have to include the cost of the 13-foot dam plus dredging costs estimated at \$34 million by HDR. He added you have something that is not permitted, and costs \$34 million plus whatever the cost of the 13-foot dam, which is substantially more than the cost to acquire almost three times as much water. Mr. Rooker further stated this is allowed within the permit, and that is not allowed within the permit.

Mr. Norris said that the numbers Mr. Rooker is using for dredging would be for doing it in a very short time period, which requires very large retaining basins and a lot of infrastructure, as most of the cost is for dewatering. The hope with the RFP is to find out from the dredging community what it would cost to dredge in a more market-oriented way. He added that there are no hard numbers on that yet. He cautioned about too much reliance on the \$34 million figure.

Mr. Rooker said that when HDR was asked that question at one of City Council's meetings, their response was that it would not cost less to dredge over a period of time, and it is not even covered under

the permit that was granted. He stated that going to a combined plan like that would be an entirely different plan that would require a new permit that would basically put this plan back 18 months to two years.

Mr. Norris responded that the City has not received any indication from the State that that would be the case. He added that the State said that the 13-foot rise would not meet the demand but would be an indication that the community is moving in the right direction as long as it is made clear that it is not stopped at 13 feet if more is needed.

Mr. Rooker said that DEQ does not generally respond to hypothetical questions. DEQ basically said in their last letter that if the locality has a different plan it should file a permit. He also stated that in their first letter they informed Mr. Norris and Mr. Slutzky that the plan would not meet their existing permit requirements. He stated the localities are going down a road that not only would cost a whole lot more for less water, but would not be allowed without significant modifications of the existing permit or new application, none of which this group as a whole just acknowledged they wanted to see take place.

Mr. Huja asked for clarification that dredging is not counted as part of the water plan, but is also not prohibited.

Mr. Frederick responded that that is correct. He added that the permit documents do not prohibit dredging but in order to dredge, new permits would need to be obtained. For purposes of maintaining the reservoir dredging can be done under a separate permit application.

Mr. Huja said that the City contends dredging for maintenance should be done, with a separate permit pursued as needed.

Mr. Rooker mentioned that the South Fork Rivanna River Stewardship Committee spent about a year looking into various ways to maintain the health of the reservoir. One thing recommended was to do opportunistic dredging, when materials can be sold, but that does not add capacity, it is a measure to maintain the existing health of the reservoir. He said that the Board is in favor of that measure, but no RFP has been pursued because the scope of the effort has not yet been defined by RWSA.

Mr. Snow asked for an updated cost for the 13-foot dam.

Mr. Maurice Jones replied that the estimate is \$10 million to 15 million.

Mr. Brown said that Black & Veatch is not as far along as Schnabel so this is a preliminary estimate.

Mr. Snow asked if there are any costs associated with dredging. Mr. Brown said that it depends on the scale, scope and how you go about doing the dredging.

Mr. Rooker emphasized that what has been discussed is dredging for maintenance of the reservoir. HDR and Gannett Fleming have provided estimates for dredging out the reservoir to create new capacity, which is in the range of \$34 million. He added both estimates are pretty close on that. He also said that the estimate for building on top of the existing dam is just the construction cost.

Mr. Norris said that there would be an additional \$5 million cost for the construction.

Ms. Mallek clarified that the figures presented are \$15 million to \$19 million for construction.

Mr. Snow pointed out that one is a new dam and the other builds on top of a 100-year old structure.

Mr. Rooker said that the reason the independent review team was brought in to look at this is because they do not have a "dog in the race" and are not hoping to get work out of this. They are considered some of the best dam experts in the country. They were retained for limited purposes to get their best opinion. He said that when they issued their opinion, the experts said there is considerable evidence in the records, correspondence, boring logs, lugient testing, etc., indicating that the integrity of the 100-year old existing cyclopean concrete dam is highly questionable and has been since its last fill. The ITRT seriously questions the overall safety of the existing dam with regards to seepage, overall integrity, cyclopean matrix, and sliding stability.

Mr. Rooker said that when taking out the dredging issue, there should be a comparison of the proposed dams and an effort to build the safest, most reliable dam. He stated that the problems with the dam have been cited in the history of the dam, and that is an issue that needs to be decided because money is being spent looking at this two different ways.

Ms. Mallek pointed out that there has been significant detail work done on the Schnabel dam, as well as the review by the independent team. That has not been done on the Black & Veatch model, so there should be caution used in comparing them.

Mr. Norris commented that the presentation by Black & Veatch in response to the ITRT review was very compelling and while there have been a lot of the issues that have been raised over the years about the existing dam, their opinion should provide reassurance that the dam is in much better shape than people think. He said that with the kind of repair work that Black & Veatch has proposed, there should be many future decades of life left in the dam.

Mr. Rooker asked why you would build on top of a dam that is over a hundred years old, especially in light of what independent experts say, when you could build a new one for a comparable cost. He said that Black & Veatch is in the business of doing that kind of work, but they are not telling you that is the best decision.

Mr. Norris said that utilizing the existing dam and building on top of it as needed, with 13 feet as an initial rise saves a tremendous amount of money for ratepayers.

Mr. Rooker responded that there would not be savings if \$34.0 million would be spent on dredging.

Mr. Norris stated that he does not necessarily think that the dredging would all be done at once, at that cost.

Mr. Rooker said that he has listened to a number of dredging presentations and met with dredgers several years ago. In fact the Board and City Council voted for a dredging plan around 2001. The community began seeking an additional water source in 1978 and pursued a permit for Buck Mountain in the early 2000s, but that was not approved by the state. He said that they then pursued a permit to raise South Fork by four feet with a bladder and then dredge and that was not approved by the regulators either. He said that if they think that they can just run down to the regulators and get them to approve whatever it is they have in mind, the history does not support that. They are now 32 years later and they never had before an approved plan that went through all of the process that is involved. Mr. Rooker stated that it is only after the public process and permit approval that a group formed to undermine this effort. He is concerned about approving a 13 foot dam that does not satisfy the permit requirements. Dredging requires a new application. He added that the most variable cost in dredging is diesel fuel. If dredging is dragged out over 50 years the cost of diesel is going to increase during that period of time. He also does not believe they could get anyone to agree to dredging over that long of a period of time at a cost with no increase. With the dam, they can get a cost estimate, bond it and know that it will be built at that cost.

Ms. Mallek pointed out that the cost and feasibility of the mitigation required is not known, if the Ragged Mountain Dam is done in phases because it is going to be very difficult to protect the existing water when a second round of timbering is done. She stated it is a messy business, and the periphery is really difficult to protect to make sure they are not wrecking the water that they are spending a lot of effort to create. She also said that there is a lot of captured methane in the silt that would be released if this is pumped out, and some science estimates say it is more than the surrounding trees could capture. Ms. Mallek stated that there is a big gap in information as to how much that process would cost.

Mr. Thomas asked Mr. Norris how long ago he saw the plan that City Council is pursuing. Mr. Norris said they saw the plan back in December.

Mr. Rooker clarified that the City brought in Black & Veatch to respond to the ITRT report and to refine their estimates. He added that he does not think the information has been accurately portrayed.

Mr. Brown said that since the City paid from Black & Veatch's engineering, they came and gave a report on it.

Mr. Rooker said the information provided to City Council was some information and some of the estimates were refined. He added that the threshold decision is whether to build on the existing dam or build a new dam, and that decision needs to be made now. There is a lot of information available now including cost estimates.

Mr. Huja commented that there is also a cost difference in the dredging, whether it is maintenance dredging or dredging for the water supply. He also said that the water supply plan abandons use of the Sugar Hollow pipeline and that could still be a potential water source.

Mr. Rooker asked Mr. Frederick to clarify the Sugar Hollow status.

Mr. Frederick explained that there is a provision in the currently issued permit that the Sugar Hollow pipeline would not be used once the South Fork pipeline is built, so based on that review it will take an amendment to the existing permit to accomplish that. He stated the permit clearly allows the Sugar Hollow pipeline to be used until the South Fork pipeline is built. Mr. Frederick further stated that after the new pipeline is built the permit does not allow the continued use of the old pipeline.

Mr. Rooker said that Mr. Huja's point at an earlier meeting was maybe they should leave it in place in case something ever happens with the other pipeline and that sounds like a reasonable idea to him.

Mr. Huja agreed that this is his position.

Mr. Jones asked what accounts for the \$5.0 to \$8.0 million reduction in the Schnabel estimates.

Mr. Chris Webster, Charlottesville Branch Manager with Schnabel Engineering, explained that the preliminary design estimate was based on a conceptual-level design, with higher contingency factors used, and now at the 60% design stage a contingency factor of 10% is being used on both the plus and minus side. Mr. Webster stated that the firm performed an extensive geotechnical investigation last winter and that included several additional test borings, several test bits, and several water pressure tests in the area of the principle spillway, which is a tunnel. He said that with the earth fill for the core of the dam,

Schnabel had initially considered three layers, sand and crushed shell, silt, and a clay material, and found that the clay-like soils were much more extensive than previously anticipated. Because the other soils' properties were not dissimilar, Mr. Webster explained, the layering could be reduced to just two layers, including shell and core, with the transition zone lessened by about one-half million cubic yards of material. He added that the rock found in the abutment was much more intact and less fractured than assumed, so the tunnel was able to be refined. Mr. Webster said that design services are anticipated to be completed in April to meet the DCR criteria, and a 90% design estimate would be completed at that time with a more exact figure of total cost.

Ms. Mallek asked what the contingency numbers are for the Black & Veatch proposal.

Mr. Jones responded that the contingency is approximately \$4.5 million.

Ms. Mallek asked if the extra would include the mitigation.

Mr. Norris said that there would be an extra \$1 million needed to do it in two phases.

Mr. Brown said that their logic was that if they built a dam in the first place that was thick enough to handle expansion they would have done the bulk of the work already.

Mr. Snow asked if these figures taken into account rebuilding the roads, bringing the additional materials back in again, cleaning it all up, and the affect on local neighbors.

Mr. Norris pointed out that the \$1.0 million dollar figure included all of the remobilization costs of doing the project in two phases. He said that it might be helpful for Black & Veatch to come back and address the Board so that they can get the information directly.

Ms. Liz Palmer, of the Albemarle County Service Authority Board, said that Black & Veatch was using Schnabel numbers for the earthen dam in assessing the road costs, and a concrete dam would require more changes and construction to the road.

Mr. Rooker explained that almost all of the material for an earthen dam could be found onsite, whereas material for a concrete dam would need to be brought in.

Mr. Norris said this is the first time he has heard that a road for an earthen dam will look any different than a road for a concrete dam.

Mr. Brown suggested getting more information on that issue.

Mr. Snow pointed out that all of the truck trips would be coming off of the interstate and bypass, through the neighborhoods and through UVA, noting that this area is located in his magisterial district.

Mr. Norris commented that that would be true for either plan.

Mr. Snow said that he would like to hear an explanation of how much material would be trucked in under the earthen dam scenario. He also asked how many truck trips could be anticipated.

Mr. Webster explained that when Schnabel did its preliminary design work they considered a concrete dam, larger than what the City's consultant has looked at, and compared the truck traffic between to that of an earthen dam. He said that with the earthen dam all of the soil would be obtained onsite, with materials brought up Reservoir Road consisting of gravel and sand for the drains as well as some concrete trucks for some of the auxiliary structures. Mr. Webster said that with a concrete dam, there would be approximately 9,000 more trucks carrying aggregate, but this would probably be less if the old dam were built onto. Regarding gravel and sand trucks, he said, there would still be several hundred loads needed and Reservoir Road has a prescriptive right of way so major improvements are to be avoided as much as possible. He emphasized that Schnabel is very mindful of how truck traffic will affect local residents, including Camp Holiday Trails.

Mr. Norris asked how many acres of forest would need to be clear cut for the earthen dam plan.

Mr. Webster responded that with a 42-foot raise, approximately 100 acres would need to be removed around the perimeter of the reservoir in order to meet water quality requirements, as well as an additional 40 acres in the area excavated for the borrow. He added that the area around the reservoir including the haul roads would ultimately be below the water level of the reservoir after it is raised.

Mr. Rooker asked what the mitigation plan calls for in planting of new trees. Mr. Frederick responded that the plan calls for planting 200 acres of new trees.

Mr. Norris asked how many trees this would be.

Mr. Webster responded that he does not know the exact number of trees, adding that part of their design was to consider fish habitat and get input from the Department of Forestry and Department of Game and Inland Fisheries. He said that the earthen dam plan includes construction of fish habitat, primarily in the section of the reservoir that is raised, and the DGIF has been very appreciative of that effort. Mr. Webster stated that with a phased approach there would be an additional impact with the loggers coming back in and an increased potential for erosion, and the DOF feels that a single clearing

would be advantageous. He also said that with the 90% design phase more detail can be provided about truck traffic, clearing and impacts.

Mr. Rooker commented that there would be some environmental impact regardless of what option is chosen, and when this plan was established this dam scenario was determined to be the least environmentally damaging practical option. He said that the existing reservoir displaced some trees, as did the South Fork Reservoir. He mentioned that in the area of southwest Virginia where he grew up, the New River was dammed for hydro-electric power and Claytor Lake ended up being one of the finest amenities in Southwest Virginia. Mr. Rooker said that once this dam is constructed locally, it will be a very used amenity for people who live in the area, providing that accesses are created.

Ms. Szakos suggested itemizing the things that need to be known, and then moving on to evaluate the demand analysis.

Ms. Mallek asked if there is new information available on the demand analysis.

Mr. Snow commented that water is the number one issue facing localities, so regardless of what the demand analysis says, all of the experts contend that the issue will remain.

Mr. Norris said that the reason the demand analysis is somewhat academic at this point is because both plans will allow for an abundance of water. The City has been very clear to say if the phased approach is used, that is spelled out in the permit support documents that everyone agrees too, that it will increase capacity if, and when it becomes necessary. He thinks that some people in the County are suspicious of that commitment and do not trust the City to live up to that commitment. Mr. Norris added that he personally would be open to a legally-binding trigger that would implement phase two of the dam if demand necessitated it.

Mr. Snow stated that in 2006 the City and County entered into an agreement, which was reaffirmed in 2008, and he is concerned that 10 years from now they could be sitting here again. He added that if your word does not mean anything the first time around, it is hard to imagine that it would mean anything the second time around.

Mr. Rooker pointed out that City Council has not even agreed to dredge for capacity, but the concept of opportunistic dredging has been agreed to although an RFP has yet to be established. He said that he questions whether the 13-foot expansion meets any of the permit requirements if it did not include dredging. He also added that it was said early on that a plan would not be pursued if it meant major time delays or not meeting permit requirements.

Mr. Norris said that there is a lot of speculation about what DEQ will allow, but they are looking at the City and the County to come to an agreement and then approach them.

Mr. Rooker commented that their response as an agency is to respond to applications, so if a new application is brought forth they will look at it under their purview as to whether it meets the requirements set out by law. He noted that this did not happen with Buck Mountain or the last dredging plan; neither of which got permitted.

Ms. Szakos said that DEQ did offer to come down and talk to the localities, but the Board said that they were not interested.

Mr. Rooker pointed out that that is not the role they were put in, and they will not accept the role being defined with that kind of meeting. He emphasized that DEQ has been very definitive that their responses are based on specific proposals that include supporting technical data. In fact it took them one year to respond in a letter to a question raised in a meeting in their office with Mr. Norris and Mr. Slutzky. Mr. Rooker added the role they were invited to come in as was a mediator, not to sit here and tell us what they would do or would not do. He further added that is quite a difference.

Ms. Mallek commented that in all three letters recently, the DEQ has stated that the permit already issued is the permit they have determined would protect the rivers to the Clean Water Act standard and anything less than that would have to be considered in light of all factors.

Ms. Szakos commented that part of their role was to provide technical background information, not just to mediate.

Mr. Dorrier said he would like to see if the Board and Council can come to a meeting of the minds on areas of agreement.

Ms. Mallek said she considered this meeting as an information session today rather than trying to push people into a corner and get answers. Ms. Mallek asked if there are other questions people have that have not been answered that can be directed to staff.

Mr. Norris said that he does not think the City and County are far apart on dredging, and at this point they could issue an RFP to the dredging community to move forward with an estimate on the best process for dredging at least Phases I, II and III.

Ms. Mallek asked if that includes the forebay, where the inlet of the river comes into the reservoir and starts to widen out.

Mr. Rooker responded that the scope of the dredging must be defined before costs can be estimated, and it is not really a capacity issue but a maintenance issue.

Mr. Norris stated that regardless it would generate additional capacity while serving other community needs.

Mr. Brown asked what is needed to get that process moving.

Mr. Frederick explained that in November, the RWSA staff presented to its Board two options for developing an RFP and there is a fundamental decision that needs to be made up front. He said that there is a traditional approach, with the scope of work being predefined and contractors basing proposals on this; or a separate PPEA process by which a more open, less defined scope of work allows contractors to submit proposals on how they would proceed. Mr. Frederick stated that the RWSA Board asked for additional time to contemplate the pros and cons of each approach, and he would be bringing it back before them at a meeting next week. With the approach they have been discussing with the Rivanna Board, staff would define the criteria, the scope of what they want dredged, and the proposer would define the details such as what type of dredge would be used, where the roads would be, how it would be accessed, etc. You could, even for example, write the RFP such that the proposer is responsible for land acquisition, easements, etc., as long as what they are doing is legal. They would not be limited to using landowners who are in the HDR report. Mr. Frederick said he would propose that they put in the agreement that Rivanna receive a copy of whatever access agreements are reached prior to the work beginning. On the other hand Rivanna can hire its own engineer, design it and then ask for competitive pricing on one specific approach.

Mr. Huja commented that the second approach seems to provide more opportunities.

Ms. Mallek asked Mr. Davis if there would be zoning issues related to removal of material since it is located in the rural areas.

Mr. Davis responded that it would depend on how it is proposed to be done, but if it is a rural commercial operation then it would definitely involve zoning issues.

Ms. Szakos asked how commitments by each party to conservation could be written into an agreement.

Mr. Huja said that a trigger could be put in based on maximum daily use.

Ms. Szakos responded that if use has no control, it would be problematic.

Mr. Rooker commented that the most effective conservation measure is cost. The existing plan assumes that they will use less water per person.

Ms. Szakos said that in the City if cost is only considered then the poorest residents are penalized.

Mr. Rooker stated that it would be the other way around, as a family of three or four in a house could be billed at a lower rate.

Ms. Szakos responded that she is talking about water conservation measures such as water reuse, low-flow devices, etc., that could be implemented not because of shortage but because of a desire to reduce usage.

Mr. Rooker commented that a number of those things are already being done in the County.

Mr. Snow mentioned UVA's expansion and additional usage for them as well as DIA.

Mr. Rooker commented that the biggest wild card is business and industrial use, and the locality does not want to be in a position of chasing away a business because it is a big water user.

Mr. Norris said that both plans accommodate water demands for the next 50+ years.

Ms. Szakos stated that she is not talking about scarcity, but voluntary conservation.

Mr. Rooker said that the ACSA has a very aggressive conservation program including putting a tiered rate structure in place, which has been very effective in cutting down outdoor water use.

Mr. Huja asked about the inclusion of triggers based on future usage and possible expansion in three to five years if it becomes necessary without coming back to the City and County to get additional permission.

Mr. Snow responded that it sounds good in theory, but to add on the roads would need to be reopened to accomplish additional clearing and construction. It becomes a lot more labor intensive to remove that lumber out in future years than it would in the beginning.

Mr. Rooker said that the difference between constructing it all at once versus in phases is not significant in terms of cost, so there is an opportunity to satisfy water needs for 50 years with a plan that was agreed upon as the least environmentally destructive. He asked why the plan would not be moved

forward, given that the costs estimates have come down and there is uncertainty about the permitting of a 13-foot addition.

Ms. Mallek asked what the great advantage would be in not filling this now, as there would be a tremendous recreational asset in addition to the other things stated.

Ms. Szakos said that there is already recreational value there, as residents already use it for hiking. She also stated that not as many City people would use a larger water body.

Ms. Mallek said that a lot of City residents try to access South Fork but there is limited access there.

Mr. Brown clarified that Ms. Mallek's original question was related to the cost and impact of tree removal.

Mr. Norris said he has not heard anyone suggest that the cost is equivalent in building a full height dam versus building a 13-foot rise.

Mr. Rooker explained that for a very small additional amount of money a dam can be built to the projected height needed and have it over with.

Mr. Norris said that he does not find \$12.0 million to be a small amount of money.

Mr. Rooker said that the difference is more like \$5 million.

Mr. Norris said the total package in the new Schnabel estimate is \$27.0 million and under Black & Veatch a 13-foot rise at the high end is \$15.0 million plus the embankment and mitigation.

Mr. Rooker said Mr. Norris is comparing apples to oranges.

Mr. Snow stated that the estimate for the Schnabel dam is \$24.8 million to \$28.4 million, and the total price for the Black & Veatch is not known, but the concrete dam would be \$10.0 million to \$15.0 million, without considering the dredging that could add \$20.0 million on the low end and \$30.0 million on the high end. He added the earthen dam is still cheaper.

Mr. Norris said that the interest costs would have to be added in versus paying for annual dredging.

Mr. Rooker responded that those costs were extrapolated in the analysis, and a price for dredging would not be the same over a 20-year period if the process was phased. He said that engineers provided estimates for dredging at roughly \$34.0 million.

Mr. Norris said they won't know until the RFP is put out; everything is speculative.

Ms. Edwards commented that she also has environmental concerns about the embankment improvements needed on I-64.

Mr. Frederick responded that those issues were addressed in the permitting process.

Ms. Szakos said that some citizens had hoped to avoid the I-64 issue.

Mr. Rooker stated that the agreement was to pursue ideas that would not require major amendments to the permit that had been issued, yet all of the new ideas mentioned here would require a major change to the permit that would require a substantial period of time for approval. He said that he just does not understand why they continue to go down those roads.

Mr. Huja asked if tree planting would be part of the mitigation plan. Mr. Frederick replied, "yes".

Mr. Rooker commented that it would be helpful to have Black & Veatch come before the Board because the decision about building a new dam versus building on the old one needs to be made first. He asked if Black & Veatch had indicated how long the dam would last if it were expanded on top of the old one, and what the maintenance issues would be.

Mr. Norris responded that he is not sure they gave a certain figure, but he recalls that it was at least 100 years. He also said that City Council would discuss next steps tonight at its Council meeting, adding that Black & Veatch addressed the most costly concerns raised by ITRT.

Agenda Item No. 8. Adjourn

There being no further business, the meeting adjourned at 3:49 p.m.

Chairman

Approved by Board
Date: 07/06/2011
Initials: EWJ