

An adjourned meeting of the Board of Supervisors of Albemarle County, Virginia, and special meetings of the Albemarle County Service Authority Board of Directors (ACSA), the Charlottesville City Council (CCC), and the Rivanna Water & Sewer Authority Board of Directors (RWSA) were held on Thursday, March 3, 2009, at 2:00 p.m. in "CitySpace" in the Charlottesville Community Design Center, 100 Fifth Street, S.E. (downtown mall side of the Market Street Parking Garage). The Board of Supervisors meeting was adjourned from March 2, 2009. The purpose of the meeting was to discuss the community water supply plan.

ALBEMARLE MEMBERS PRESENT: Mr. Kenneth C. Boyd, Mr. Lindsay G. Dorrier, Jr., Ms. Ann H. Mallek, Mr. Dennis S. Rooker, Mr. David Slutzky and Ms. Sally H. Thomas. Also present was County Executive, Robert W. Tucker, Jr., Attorney, Larry W. Davis, and Clerk, Ella W. Jordan.

ACSA BOARD OF DIRECTORS PRESENT: Mr. Jim Colbaugh, Mr. Robert R. Humphris, Mr. John Martin, Dr. Lizbeth Palmer, Mr. Clarence Roberts and Mr. Donald J. Wagner.

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

RWSA BOARD OF DIRECTORS PRESENT: Mr. Gary Fern, Mr. Michael Gaffney, Ms. Judith Mueller, Mr. Gary O'Connell and Mr. Robert W. Tucker, Jr.

Agenda Item No. 1. Call to Order.

Mr. Michael Gaffney, Chairman of the RWSA Board of Directors, welcomed everyone in attendance at this special meeting. He stated that the first item of business would be for the Chairman of each board to call the special meeting of its Board to order.

The adjourned meeting of the Board of Supervisors was called to order by its Chairman, Mr. Slutzky, at 2:00 p.m., and he noted that a quorum was present.

The special meeting of City Council was called to order by Mr. Norris at 2:01 p.m., and he noted that a quorum was present.

The special meeting of the ACSA Board of Directors was called to order by its Chairman, Mr. Wagner, at 2:03 p.m., and he noted that a quorum was present.

The special meeting of the RWSA was called to order by its Chairman, Mr. Gaffney, at 2:04 p.m., and he noted that a quorum was present.

Mr. Gaffney provided a summary of the consensus reached at previous meetings concerning the Community Water Supply Plan as follows:

Last summer, the Charlottesville City Council and the Board of Supervisors each unanimously re-endorsed the community's permanent Water Supply Plan by resolutions. Within those resolutions, they asked the RWSA to pursue the feasibility of dredging as a means of maintaining the South Fork Rivanna Reservoir. Rivanna's mission is to serve the overall interest of the City and the County through its elected officials and to sustain that mission they sought a better understanding as to the focus and desired outcome of the dredging study. These conversations led to a meeting of the chairman of each of the boards present today, and in that meeting the Joint Chairmen organized what became known as the South Fork Rivanna Stewardship Task Force of dedicated citizens from the community and prepared a statement of objectives for this Task Force.

Mr. Gaffney said the agenda for this meeting is simple. The boards and council will hear from the Task Force regarding its recommendations. They will then discuss the issues in an effort to reach agreement on a clear directive for further study by the RWSA. He feels that he speaks for all members of the RWSA Board of Directors when he says "we want the next steps to come from a broader directive that comes from this larger group of the four boards assembled today." Today's meeting agenda is simple and focused solely on this issue. He invited discussion to get all ideas on the table. He requested that the discussion stay focused on today's topic: "What dredging and other studies do we want Rivanna to perform with respect to the South Fork Rivanna Reservoir?"

Mr. Gaffney said Ms. Thomas would begin the discussion by presenting to the four boards a summary of the findings and conclusions of the Task Force. Prior to Ms. Thomas's presentation, Mr. Gaffney asked the members of the Task Force in attendance today to stand and be recognized and that the four boards, staff, and the public applaud their efforts. He had the opportunity to serve on the Task Force, and was truly amazed at the dedication of all the citizens who served. Most especially, all members of the Task Force thank Ms. Thomas for her guidance and leadership as Chairwoman and the tremendous personal effort she invested in organizing the meetings, keeping them all on task, helping them work through their differences, and her tireless efforts in the preparation of the final report. He believes every member of the four boards can agree that Ms. Thomas put forward an effort of outstanding

quality and it was a bargain for this community. As Ms. Thomas came forward to present her report, Mr. Gaffney asked that the members of the four boards give her that special recognition.

Ms. Thomas said she will not repeat the entire Task Force report but will present an illustrated version through a PowerPoint® presentation. She said the Task Force was “charged” to accept the adopted Water Supply Plan, so her discussion will focus on the recommendations as to the best way to maintain the South Fork Rivanna Reservoir (SFRR) given the Water Supply Plan and given all that has been invested in the reservoir. The SFRR has a role in the adopted Water Supply Plan; it is a very important body of water since 96 percent of the community’s drinking water comes from that reservoir.

Ms. Thomas next referred to a slide that listed the four chairmen’s charge to the Task Force, which are as follows:

- *How the Reservoir benefits our community.*
- *Measures to maintain those benefits.*
- *What will happen if no measures are taken?*
- *What “next steps” should be taken now?*

Ms. Thomas showed a slide of the reservoir which she felt illustrated its unusual contours. The SFRR is a long, narrow, seven and one-half mile body of water and shares characteristics with the Chesapeake Bay; it’s got a little bit of water for a large amount of watershed. The SFRR is a very good water supply source because it accumulates water. It takes only a small rainfall for it to fill up. However, the large watershed also brings along sediment. Its water quality is impacted by what has accumulated in the reservoir over the years, but with treatment, the water quality remains high. One field trip taken by the Task Force included a tour of the South Fork Water Treatment Plant. The group learned during that tour that RWSA utilizes a panel to test the taste of its water.

Ms. Thomas next referred to a slide that pictured some of the Task Force members during their August field trip to the SFRR. She thanked the University of Virginia rowing team for providing the boats, as they are the only people allowed to use gasoline-powered motor boats on the reservoir.

Ms. Thomas reported that the Task Force learned the value of the SFRR for things other than supplying the community’s drinking water. There are around 75,000 recreation hours spent on the reservoir by rowers alone, as well as the paddling and the educational programs that take place throughout the year. She was told there are 30-pound catfish in the reservoir, and officials that oversee the waterways and fish habitat in the Commonwealth could also brag about the sustained populations of Channel Catfish and other fish species. The fishermen that she spoke to regarded the SFRR as the best fishing hole in the County, and they suggested that there might be as many as 20,000 angler trips a year taken to this reservoir.

Ms. Thomas said the issue of accessing the SFRR was a focus of the Task Force. The present boat access points are awkward and dangerous. The County’s proposal for a better access point is not included in its capital plans until sometime after 2014. She said the Task Force was asked what would become of this reservoir if sedimentation continues at the present rate. Sedimentation will continue, the channel will become narrower, and as it becomes narrower, the velocity of the water will increase and drop out less sediment at the head of the upstream part of the reservoir.

Ms. Thomas showed slides that illustrate the results of a study conducted by Mr. Greg Harper of Albemarle County staff using aerial photographs and Geographic Information System data. The picture showed the areas of sedimentation along the banks of the reservoir and also Mr. Harper’s projections as to what will occur in the future. She noted the areas where the river slows down and the sediment is dropped off, such as the inside of curves, the outside of curves, and sometimes even cutting away at the banks.

Ms. Thomas referred to the slide that illustrates the projected impact on the storage function of the reservoir. Bathymetric studies have been conducted about every six or seven years. She pointed out transects where all the bathymetric studies took place. The results of those studies present a picture of the contour of the bottom of the reservoir and the location of its low points. She noted on a slide the lowest intake point for the water treatment plant. The decline in storage was part of the reason to push for development of a new water supply plan. Although the Task Force was not looking at the Water Supply Plan, what was occurring to the water storage capacity at the SFRR was a fact of life.

Ms. Thomas next addressed the slide that pictured the SFRR in a muddy condition following a storm event. The sedimentation rate varies tremendously, but it appears to be losing 16 million gallons of storage a year.

Ms. Thomas then reported that the fish status in the SFRR is healthy and is not expected to become unhealthy, but it may change to more of a river-like environment as the sides grow in on the reservoir.

Ms. Thomas said the Task Force became alarmed when it heard about an evasive grass called hydrilla; it prevents boaters from moving when the grass forms a dense mat. Hydrilla creates a good habitat for fish until it reaches a certain point and then it can become detrimental to even the fish habitat.

Ms. Thomas noted a red line on a slide which shows where the edge of the reservoir used to be; the next picture illustrated the current edge of the SFRR. Fairly large trees have grown in areas that used

to be in water and an island has formed at that point. She also pointed out logs that have been caught in a snag so that downstream the flow of water has slowed and it also drops out sediment at that point.

Ms. Thomas said the Task Force was instructed to address certain conditions related to the reservoir. One question was whether the wetlands that have formed on either side of the reservoir, along with some trees, are what officials would call wetlands. There are differing opinions between a layman and an expert. Laymen would say it is a wetland area. If the experts disagree, is that a reason to dredge in order to keep those wetlands from forming? On the other hand, those wetlands might be disturbed in the future if there were a good purpose to do so. It might be possible to mitigate for the disturbed wetlands. The Task Force did not resolve that issue and recommends that the RWSA be requested to find the answer.

Mr. Rooker said he was concerned that the Army Corps of Engineers and the Department of Environmental Quality (DEQ) probably would not approve another impoundment in this area since the County and City have the ability to use water from the James River. During the process of obtaining approval of the Water Supply Plan it was apparent that due to the way those agencies measure environmental damage, it would not be likely that a project such as a Buck Mountain Reservoir could be built – regardless of the Spiny mussel – because there is no way to show it is the least environmentally damaging option. If there is any possibility of reclaiming the capacity of the SFFR for future generations, the joint bodies need to make certain nothing happens today that will prevent that potential in the future.

Ms. Thomas said the Task Force is recommending that the question just raised by Mr. Rooker be answered before making any assumptions about the future. She continued by stating that during the study the Task Force became aware of all the recreational and educational activities occurring at the SFRR and how they were being constricted. There were questions from reservoir users about such things as removing the logs from the reservoir and who is in charge of doing that. The Task Force suggests a meeting between all the various users of the reservoir to address such issues. They suggested that PACC might get an initial conversation going.

Ms. Thomas said the Task Force suggests that using community groups, as well as the County's Water Protection Ordinances, be encouraged in order to reduce sediment which also brings along excess nutrients. She referred to a slide that listed some of the organizations that are working on upstream and downstream issues related to the waterways in this community.

Ms. Thomas said building a forebay is a way to keep excess sediment from coming into the reservoir. She explained that a forebay is essentially a deep or wide place that slows down the flow of the water so the water drops out its sediment at that point instead of farther down in the reservoir. This option was considered by VHB (Vanasse Hangen Brustlin, Inc.) some years ago, but they did not encourage its use. Although uncertain about its effectiveness, the Task Force is suggesting a re-examination of the forebay option. If it works, it would be a way to keep greater sedimentation from the main body of the reservoir.

Ms. Thomas said when Gahagan & Bryant (dredging consultants) visited the area they advised tackling the following question before undertaking a dredging project: Why dredge? The Task Force provided some answers in its report, but did not try to answer it for the community. It suggested that the community get a clearer idea of why dredging should be considered, particularly since the Task Force was to look at what to do with the reservoir when the Water Supply Plan was adopted.

Ms. Thomas showed a slide picturing hydrilla in the reservoir. She explained that it is an evasive species that was probably brought to this country by people who had aquariums who emptied them in waterways. The plant grows at a deeper level with less sunshine than almost any other aquatic grass; it chases away all other grasses. Since hydrilla grows down to 35 meters deep, the Task Force concurred that dredging would not remove the hydrilla and that another solution would need to be considered. For example, grass-eating carp have actually been introduced into Mint Springs Park in an attempt to get rid of the hydrilla.

Ms. Thomas said dredging obviously would increase storage capacity, but the amount of that storage is not known. However, what is at the bottom of the reservoir (stumps and trees, etc.) is unknown. The importance of identifying physical obstacles varies among dredging companies. If a decision were made to dredge, the Task Force suggested ways to proceed with the dredging operation. "Opportunistic" dredging is a term used by the Task Force when there is a market for the sand and gravel and it can be carried away as opposed to being stored. Some opportunistic dredgers said if there was a market for the dredged material, opportunistic dredging could be the least expensive option. Underwater video cameras can be used to get a picture of the reservoir floor to identify potential obstacles, such as stumps, rocks; even catfish could be located in those areas. However, consideration should be given to the possible negative impact dredging could have on the reservoir's water quality.

Ms. Thomas said that Mr. Stephen Bowler, who wrote the report entitled *South Fork Rivanna Reservoir and Watershed: Reflecting on 36 Years, Anticipating 50 Years*, was invited to a Task Force meeting as a consultant on watershed issues. She said he provided his services free to the Task Force. She concluded her presentation by thanking the four board chairmen for setting up the Task Force and giving it a clear charge. Although it took a lot of the time, she felt everyone had a good educational trip and she hopes the report is useful.

Mr. Gaffney thanked Ms. Thomas for the report and then opened the meeting for discussion. He added that Mr. Tom Frederick, RWSA Executive Director, was also in attendance and would be available to answer any questions and provide input to the four boards as needed.

Mr. Dorrier asked if hydrilla was similar to kudzu, which expands and covers whatever it is growing on. Mr. Gaffney responded that hydrilla was very similar to kudzu.

Mr. Rooker said the Task Force talked to various people about ways to address the hydrilla issue and found that at present there is no sure-fire method to accomplish elimination of that aquatic grass. Cutting the hydrilla, as well as a dredging operation, has the effect of spreading the hydrilla unless you get all the remnants out when dredging. Chemicals are available that can kill the hydrilla, but the Task Force felt it was not a wise idea to put it in drinking water. Grass-eating carp is one way that appears to be somewhat effective, but he does not think anyone has achieved complete success using that method. Hydrilla is seasonal; it dies out in the winter and comes back in warmer weather.

Mr. Roberts said he found a lot of information about hydrilla on Virginia Tech's website, and research indicates that an insecticide is the most effective way to eliminate it.

Mr. Slutzky said in reading the report he got a sense that there is a significant amount of sedimentation coming from upstream. The County has a very proactive policy for managing upstream sedimentation, but because of financial circumstances is constrained in its ability to implement some of that policy. It does not have the enforcement positions necessary. He wondered if the Task Force had explored the idea of those using the water system fund that enforcement mechanism as opposed to the general population in the County, particularly rural area property owners who do not use water from any water supply system.

Mr. Rooker said the Task Force did not explore who should pay for what. At this time it is not known how much sediment could be stopped from going into the reservoir by implementing land use measures. He asked Ms. Thomas if she would speak about the Rivanna River Basin Commission's work on sedimentation issues.

Ms. Thomas said that Commission has issued a report concerning best stormwater practices. It also has a grant application pending to put some models into effect in each county so it can be determined how to best capture stormwater. The probable source for much of the sediment in this area dates back to the 19th Century when the hillsides were denuded of trees and the erosion filled up what are now floodplains. Every storm that scrapes away at those sides brings sediment into the reservoir. The Commission is exploring many ideas, one of which is whether placement of small forebays throughout the watershed could slow the stream flow into some of those floodplains. She added that Mr. Rooker was right when he said no one knows the exact amount of sediment that could be captured. Even throughout the whole Chesapeake Bay a very good job of measuring outcomes from their different methods has not been done.

Dr. Palmer asked Ms. Thomas to explain the disconnect which occurred between the floodplains and the streams.

Ms. Thomas prefaced her response by commenting that this issue came to her attention from a person who owned land in the County and was "being hauled in by the nape of the neck" by a County staff member saying, "You've destroyed a creek." The man responded, "That's not a creek; it's right on top of the land." She said residents in Albemarle County and the Piedmont area are so used to creeks being deeply cut into the land that they don't recognize a creek as a creek if it's running right across the surface of the land. The floodplain that used to capture the overflow of water when there was a modest rainstorm is now eight, 10 or 15 feet away from being able to capture that water flow. Now it just rushes down through the deeply incised creeks and increases the problems in the receiving body of water. The question is whether the flow of water can be slowed down and the level of the creek increased so the floodplains do what they were intended to do.

Mr. Norris asked Ms. Thomas to characterize the public input received during the Task Force's deliberations, particularly from residents who live along the reservoir.

Ms. Thomas said the Task Force attempted several times to communicate with the public. They invited Ms. Lee Catlin, Albemarle's Communications Officer to a meeting to advise on the best way to get public input in addition to holding a public hearing. A questionnaire was distributed in printed form and also posted on a website; the Task Force received 317 responses. The survey was not scientific so conclusions could not be drawn on what the public wanted done, but the Task Force received good ideas and a sense of how people feel about the reservoir. People who live along the reservoir were ably represented on the Task Force by Mr. Tom Jones, who is in attendance at today's meeting.

Ms. Thomas said initially she was concerned that people who live along the reservoir might not like the idea of dredging because it's an industrial-type operation right outside of their door. It is her understanding that from all of the contacts Mr. Jones received only one response expressed that concern, which she felt was a reflection of the community's desire as a whole to take good care of the reservoir.

Mr. Dorrier said the Occoquan Reservoir located in Northern Virginia experienced a problem similar to that of the Rivanna. He asked if they had used dredging as a solution.

Ms. Thomas said she did not believe they dredged the Occoquan Reservoir, but they have undertaken a lot of watershed protection measures. That body of water taught local people the word "eutrophication."

Mr. Norris asked if there was any analysis of potential disposal sites, dewatering sites, etc., for the fill material taken from a dredging operation.

Ms. Thomas said that was not part of the discussion. She said there is a quarry nearby whose owner has expressed interest in its possible use as a disposal site. When opportunistic dredging was discussed, the Task Force dealt with individuals who indicated a one-acre dewatering site was needed for their operation but not a storage site. A buyer has already been identified who will haul away the fill as soon as it is dewatered.

Mr. Boyd said he thought it took some time to dewater the material.

Ms. Thomas responded that the opportunistic dredgers claimed they had equipment that could handle the dewatering process on-site.

Mr. Norris asked if it was safe to say that's not necessarily the scale of dredging you would want to have if you were dredging for storage capacity purposes.

Ms. Thomas said that was correct.

Mr. Rooker asked if the community decided to conduct a dredging operation if the first step would be to locate a potential dewatering site.

Mr. Huja said he felt a detailed dredging study should be undertaken as soon as possible. If the reservoir is going to be preserved in some fashion, at least a study of dredging needs to be undertaken.

Ms. Thomas said it is somewhat of a "chicken and egg" situation. A lot of money could be spent studying how to dredge and then it could be decided that was not what was wanted. The Task Force is suggesting that the "why" questions be answered before undertaking an extensive study of how to dredge. If the why question has to do with recreation, there will be a different answer from the how to dredge question. Dredging for a water supply would also be a different type of dredging question.

Mr. Huja said the community should do a more detailed study than what has been done so far.

Mr. Taliaferro agreed with Mr. Huja's comment and said he is interested in the costs of the different options.

Mr. Boyd said it must first be determined whether to dredge for a water supply or for maintenance purposes since each one requires a different type of dredging study.

Mr. Taliaferro responded that he understood, but he still wants to know the cost.

Mr. Wagner said the cost would depend on the type of dredging undertaken.

Mr. Taliaferro said he would like to look at the options, but he still wants to know what it will cost.

Mr. Rooker expressed agreement with Mr. Taliaferro but added that a decision would be needed on which option to implement. The best expert in the country could be brought in to do a study and he could furnish a cost per cubic yard for the work; in the past the estimates for the removal costs were not that different.

Mr. Taliaferro said the cost has not been known all along. He sees the cost continuing to escalate and that really bothers him. There doesn't seem to be any firm figures on anything.

Mr. Rooker said he did not disagree, but he does not think there is ever going to be a firm cost on something until an RFP is issued and a contract signed. The last few things put out to bid have come in 15 to 20 percent under the engineer's estimate. A lot of it has to do with the time when a bid is solicited.

Dr. Palmer said she felt the boards were moving toward the question of what to dredge for. Is it for capacity which is part of the Water Supply Plan? She said dredging was not "taken off the table" because of its cost. It was taken off the table because it didn't supply the water needed. When RWSA's original consultants, Gannett Fleming, provided the estimated cost of dredging, the actual removal cost was very similar. RWSA decided to take dredging off the table because it didn't supply what was needed. RWSA did not pay them to do a complete study or to find a place to put it, store it or dewater it because it wasn't the best use of public funds.

Mr. Taliaferro said there was some debate about that decision too.

Dr. Palmer said there really wasn't. She said Gannett Fleming provided a cost for a dredging operation consisting of dredging 120 days out of the year from 9 a.m. to 5 p.m., five days a week, with the SFRR being completely dredged by 2055. Gannett Fleming never identified a specific disposal site because dredging was not determined to be the best use of public funds. If dredging is not to be undertaken for water supply reasons, then a decision needs to be made as to why it would be done. Opportunistic dredging is considerably less expensive and much easier to do than trying to go back and redesign the Water Supply Plan.

Mr. Slutzky said whether the SFRR is dredged for water supply purposes or not, that will not obviate the need to move forward with the larger scale water supply plan. Dredging the SFRR would enhance the storage capacity of the system in any event. It might have some strategic benefit such as reducing the risk of further sedimentation, creating more wetlands, and reducing the opportunities for 50 to 75 years in the future when extra storage capacity may be needed. There could be an argument for

evaluating the cost benefit of dredging for an expanded storage capacity independent of moving forward with the Water Supply Plan. He is convinced the Water Supply Plan that has been discussed extensively by the public and the various bodies needs to move forward. There may also be an argument for dredging the SFRR, and he would like to understand the cost if everyone agrees it makes sense to do it.

Dr. Palmer said her immediate reaction to Mr. Slutzky's comments is that the work needed should be prioritized. There is a lot of aging infrastructure to be taken care of and a Water Supply Plan to deal with. She thinks it would be hard to ask people to pay for 80 years worth of water supply. They have been asked to pay for 50 years; they are trying to phase that plan in over the course of several years in order to deal with its cost. There is no need to do a study now if the dredging would not begin for 20 years. She would not have a problem with keeping that open as an option after 2055. The Task Force said it needs to be explored, but there is a limited amount of money and a lot of infrastructure to deal with. In the short-term, if the area were in a drought situation, the Water Supply Plan would have to be implemented faster rather than adding something like dredging to it. She has a problem with spending that extra money.

Mr. Slutzky said that it is a fair argument. However, there is uncertainty about the cost of implementing the Water Supply Plan as it exists today relative to what might be a fairly humble cost for a dredging study. He does think the community should be racing forward to implement the Water Supply Plan – that means doing all the things necessary to move it forward as quickly as possible. On a separate track, a dredging study is a much smaller amount of money. He knows the infrastructure is dangerously old and vulnerable, so in his view it clearly makes sense to move forward. The incremental cost of doing a full dredging study for the SFRR is a marginal increase in the overall cost of infrastructure efforts. It might be relevant from a timing perspective to understand the urgent infrastructure process and whether it makes sense to also do dredging sooner rather than later.

Mr. Brown asked Mr. Slutzky to elaborate on what a dredging study should contain.

Mr. Slutzky said he thinks it's worth ensuring there is additional capacity over and above what the current Water Supply Plan will provide. A dredging study is done to answer the question, "How much would it cost and what would it be like to do such a dredging undertaking?"

Mr. Norris said dredging for a water supply is versus 'opportunistic dredging' to clear up a channel for rowing.

Mr. Slutzky said it seems like there are two realms. Either it's a conduit and there is no need to do the extensive dredging, or there is value in having the additional capacity for any number of reasons. If there is an answer to the question of "Why should we dredge?" it is that there could be extra capacity over and above what the Water Supply Plan would provide. If everyone is satisfied with the Water Supply Plan's capacity as it will exist, then the only reason to consider dredging is because there is some value in maintaining its recreational uses for the community. There is a significantly different evaluation process needed to analyze what it would take to do sufficient dredging to preserve those community benefits.

Mr. Huja said a full dredging study would cost only a few hundred thousand dollars compared to the hundreds of millions of dollars to implement the Water Supply Plan. In perspective, it does nothing to protect the future.

Dr. Palmer responded that the Task Force is suggesting a study to answer the question of "What do we need to do to maintain the reservoir for the future?" A full-blown capacity study is not needed to determine what the Task Force is recommending. The studies required to maintain the reservoir for future generations becomes the question to be answered.

Ms. Thomas clarified that the study pertained to just the wetlands question. She felt it was hardly worth calling it a study. It's a matter of getting several legal and regulatory experts together and getting an answer. A full dredging study could be just a waste of money.

Mr. Frederick said the only figures RWSA has on a potential cost for a dredging study came from Gahagan & Bryant Associates during their visit to the Charlottesville area last May when they threw out a figure of \$275,000 based on their assumptions.

Mr. Slutzky asked about RWSA's cost estimate for moving forward with the Water Supply Plan and all the included elements, which he believed carries a significantly higher burden. Mr. Frederick said an expert panel has been selected and will be reviewing technical issues related to the (Ragged Mountain) dam. When the study has been concluded and the technical issues resolved, there will be a new cost estimate of what the dam will cost.

Mr. Slutzky said the infrastructure element of the plan includes seven miles of City pipeline that is either past or close to the end of its useful life. He knows the RWSA does not want to burden the ratepayers with all of it at the same time, but there will be an additional burden at some point. Is there any sense of what that burden will be?

Mr. Rooker said there are cost estimates, but no one knows if the bids will come in on measure with the estimates.

Ms. Thomas said the capacity that dredging will create is a known figure. The lowest cost for a full-body dredge from local people who have never dredged but who have a good location for the spoils is about \$30.0 million. Even if the dam cost twice as much as anyone has suggested it would still cost less to have that storage capacity in the top feet of the Ragged Mountain Reservoir than dredging the SFRR.

There is no need for a \$250,000 study to know the water storage capacity in the SFRR and how much that would lower the dam at the Ragged Mountain Reservoir. If you look at the Water Supply Plan, you've got that kind of information.

Mr. Slutzky said he has looked at that information and does not see any rationale for changing the Water Supply Plan. In addition to moving forward with the Water Supply Plan, he thinks there are arguments suggesting that additional capacity has potential value. He said Ms. Thomas was probably right that the studies shouldn't look just at the excess storage that might be achieved through complete dredging, but rather is the cost estimate of \$30.0 million realistic. That is the only piece of information the community would have as it moved forward with implementation of the Water Supply Plan. That assumes the community will say it may be worth spending the money now because over time there will be erosion of that excess storage capacity. His only interest in funding and doing a study of dredging is to get "a handle" on the cost, not the storage capacity. He, personally, has no desire to see dredging done to replace anything in the Water Supply Plan. To him they are separate issues.

Mr. Boyd said he thought both things were on the table. He sees nothing in the Task Force Report that suggests a change in the 50-year Water Plan to the extent that doing nothing would not have enough storage capacity. By doing nothing the aesthetic value and other values of the SFRR would be lost. There is a plan we think will work and it's been approved through a very long process; we're also ready to move forward with that plan.

Mr. Boyd said there are the aesthetics of the SFRR; more needs to be known about how to maintain it for other interests. The most significant one now is the cost; the public is concerned that it's going to cost more to do the plan than what is in place now. There are a lot of unknowns with the dredging. He feels the annotated list in front of everybody today is a good recommendation for how to move forward with the recommendations of the Task Force. It's a logical step and does not deal with the water supply now.

Mr. Boyd said if everybody wants to change the discussion today to "Let's rethink the Water Supply Plan" then do that, but don't mix the two. He thinks there is a good plan for considering what should be done with the SFRR, and it's not very expensive. First is to talk to the regulatory authorities to determine how they are going to treat it. Are wetlands being created that will eventually not be able to be touched? Again, if the conversation is changed today to "Let's rethink the 50-year water plan" then it should be put on the table and talked about; there is no reason to get bogged down with the other aspects of it.

Mr. Boyd said there are a lot of unknowns in the alternatives put forward; mostly with regulatory approvals and regulatory authorities and what they will allow the RWSA to do. Those are not unknowns with Ragged Mountain and the pipeline. There are cost issues that are unknown and definitely he wants to "get a handle on them." He knows there are people who have differences of opinions about what the capacity needs are, but based on the experts and the plan now, it wouldn't be sufficient even if the SFRR was dredged back to its original supply, whereas there is no doubt that the Ragged Mountain approach would provide that capacity.

Mr. Boyd said there probably will be solid numbers on building that dam within the next year, once a panel is put together and the final study done. In order to get really good numbers on dredging as a water supply issue, the process would have to start over again. No one is going to give a price to dredge today or in the next six months without more study.

Mr. Slutzky said there are two additional risks by "reopening the can of worms" that is the Water Supply Plan. First, there is a risk the community would end up using the James River because the permission given previously cannot be replicated. Second, he is concerned that all sorts of hypotheications could be made, but the one variable not accounted for is an allocation between the rural areas of the County (which are not in the Water Supply Plan), and the urban areas. If over the next two years the Supervisors became proactive in trying to reduce the development potential in rural areas by shifting that development activity into the growth areas, it would increase the actual demand on the water supply system. That is one reason he is resolved to move forward with the Water Supply Plan.

Mr. Slutzky said he agrees that the recommendations of the Task Force make sense as the next step because they answer questions which would make it possible to do an intelligent estimate of the cost of dredging, even if the dredging were for additional storage capacity purposes. Without having these questions answered, it would be hard to come up with a meaningful estimate. Maybe two things should be agreed to today - one is to move forward as quickly as possible with implementation of the Water Supply Plan and all the requisite studies needed. Two would be to adopt the recommendations so that at a future time the raw information needed would be available on which to make intelligent estimates of that cost.

Mr. Brown agreed with Mr. Slutzky about the need to look at the water supply enhancement that could occur from dredging. However, he is uneasy about ratepayers in the urban ring of the City paying to dredge so people can row or fish. He does not think water users should pay for rowing or for fishing. He said the City and the County can talk about what needs to be done, and he thinks the University should be a big part of that equation. He is not interested in a study that looks at dredging to create lanes for rowers or dredging that is selective or opportunistic in order to enhance recreational uses. But, he does agree that Mr. Slutzky has made a good case that the more options for water, the better. The one flaw he sees in the Water Supply Plan is that it's phased over a long period of time. The real advantage to looking into dredging is that if more water is needed sooner, that becomes an available option.

Dr. Palmer said the Water Supply Plan was phased for financial reasons. If dredging were for water in the interim period while implementing the Water Supply Plan, it would make more sense to implement the Water Supply Plan quicker. When the Water Supply Plan was first developed, it was thought the dam could be phased also. However, it quickly became evident that the majority of the storage is in the upper reaches of the dam. If the Plan is phased it would not reach the amount of water needed until 2025. Looking at the difference in the height of the dam for the water needed for 2025 and 2055, it only showed the dam could be lowered by three feet, so Mr. Frederick suggested phasing the whole plan rather than phasing the dam. That is one way to stretch out the costs over a longer period of time.

Ms. Holly Edwards said Mr. Huja had asked that she make a statement about her service on the Task Force. She prepared something that she will share with the whole group:

My participation on the SFRR Stewardship Task Force was what I will always believe is time well spent. It was a comprehensive approach of providing facts, dialogs, and opportunities for hands-on exploration, commonly known as field trips. It was during the field trips that I became painfully aware of the reality that the beauty and aesthetic value of the river has been limited by class and opportunity. That reality propelled the focus on not the "who" of the river or the politics of the river but focused simply on the life of the river. This created a newness to the words of Langston Hughes, and for the first time I understood with empathy his words, *I've known rivers: I've known rivers ancient as the world and older than the flow of human blood in human veins. My soul has grown deep like the rivers.* The poem was written in 1922 and some 40 years later the City purchased the land for the reservoir – that was in 1962 and that's on page 5 of the report. The construction of the reservoir and the SFRR Dam was completed in 1966. Created by man, 'neither a lake or a river' – this is on page 6 of the report – and now more than 40 years later there is an opportunity to decide a responsible level of maintenance of past investment to ensure maintenance first sends a signal to all in the community that we really do believe in environmental sustainability. 'The public interest would best be served by issuance of a RFP for removal of sediment' – that's on page 23 of the report. This process should begin with dredging studies – a request for studies for real information to develop real costs. This information will provide the foundation for the feasibility of moving to the next steps. I also believe that the most sensitive time reason for this would be as outlined in the 'Next Steps' section in this report to investigate the impact of the encroachment of wetlands. It is possible that environmental restrictions on dredging will only get more burdensome in the future – and moving on with the other 'next steps – 'Identify and collect data from high priority areas for potential dredging.' And lastly, 'support the efforts to reduce sedimentation and excessive nutrients.' This should also include – I believe what we could do now – basic maintenance of removing trees, debris, trash, and there's even graffiti on the dam.

Our own local policies reflect the new international way that says 'environmental sustainability is essential to both economic vitality and the quality of life in our region.' It seems that during the 1960's clearly policymakers were looking ahead as evidenced by urban renewal and growth decisions that gave little thought to the long-term impact. This history shows we need a policy of continual stewardship at a range of all others. I support dredging studies. What didn't come up in the conversation about studies (and what I was interested in and why I chased the sludge material all around to find out exactly what happened to it), is what the content of the dredged material would be. With more sedimentation, comes more contaminated material. What if the reason why the water quality we have now is because we haven't dredged. Maybe we have reasons to leave things the way they are, but we won't know until we do a full analysis and that includes the dredging study. I really appreciate the 'egg before the chicken' because as I struggled with what should happen next, it went from one page to the other, but I really believe that should be the logical next step.

Dr. Palmer asked Ms. Edwards how she would define the dredging study she referenced in her statement.

Ms. Edwards replied that she would like any study to also include an analysis of the material in the reservoir and an analysis of the best place to start the dredging. The Task Force talked about the tree stumps and did not know whether it's even feasible to do the dredging for that reason.

Dr. Palmer asked if Ms. Edwards was suggesting that on top of the Task Force recommendations she would like to have additional studies of the content of the material, such as hidden tree stumps.

Ms. Edwards said she wanted additional studies as a complement to the Task Force recommendations. The people who actually do the dredging said it would take a bit of work because the stumps could be a potential barrier. Maybe there are other potential barriers that we should be aware of.

Dr. Palmer commented that the Task Force received some good suggestions with respect to the tree stumps. There are a lot of fishermen with cameras who travel around and look for fish. They can help answer that question, and she thinks Mr. Clarence Roberts (ACSA Board member) had a wonderful suggestion - get the Police Department out there with their underwater cameras and they might be able to help identify how much there is in the way of stumps.

Mr. Boyd said the question becomes "Are we going to do selective testing or are we going to do a full-blown test of the entire reservoir?" That's the real question and probably the biggest part of the cost.

Mr. Norris said he thinks the Task Force did exactly what they were asked to do and it did a very good job. He finds the biggest lesson learned is that publically financed dredging doesn't make a lot of sense outside of water supply gains. The Task Force methodically showed that dredging doesn't solve the key problems of the reservoir in terms of maintenance. There may be some selective dredging that UVA (University of Virginia) might pay for their rowers. But, the only rationale for a publically financed dredging is for a water supply. The questions raised about the other pieces of the Water Supply Plan lead him to believe that a full range of well-quantified options are needed before starting to implement it. As to the dredging study, the main piece of information he wants is whether there is a feasible disposal site available. Also, the question of how the stumps might affect dredging need to be answered. If there is not a feasible disposal site of the scale that's needed for a water supply, then it's pointless to even proceed down that path.

Dr. Palmer asked Mr. Norris if he agrees with the argument that the contours of the reservoir should be kept open so there will be no restriction on dredging past 2055. Also, there is no need to identify a storage site now if it will not be use for 50 years from now. Opportunistic dredging could keep the contours open to maintain that.

Mr. Norris said we may well choose to dredge earlier if that proves to be a more economically responsible and environmentally responsible path.

Mr. Slutzky said opportunistic dredging might be chosen, not exclusively to protect the non-water supply benefits, but rather to preserve the potential water supply benefit if it was needed 50 years from now. He feels that the Task Force recommendations to gather this information are the next logical step along with proceeding with implementation of the existing Water Supply Plan. When this information is available, it will inform future decisions and future policymakers.

Ms. Thomas asked Mr. Slutzky what kind of information he was requesting. There will always be a disposal site, and it will depend on how much is paid for it; that is why Gannett Fleming's price was so high. They assumed Albemarle County prices for land. Now there is someone who is at least informally suggesting that there's a piece of land that could be used at a cost of about \$30.0 million instead of \$120.0 million. Whatever the cost, at some point a decision must be made as to whether this is the move to make in order to do the Water Supply Plan. There are already enough figures to make a good comparison now, but the actual cost of the dam will probably not be known until the end of summer. If it's going to be cheaper by a factor of three to add the full height to the Ragged Mountain Dam, how many dollars should be spent finding out more about dredging the reservoir?

Mr. Slutzky said to him it is not an issue of finding out more about dredging so it can be compared to the cost of rebuilding the existing Ragged Mountain Dam. He is convinced the dam needs to be built to the full height and the pipeline constructed and he would like to do that as soon as possible. He understands that a lot of the cost puzzle is not available at this point, but good water has to be provided for the people who live in the community. His interest in dredging is a separate issue unrelated to that. It may well be that in the near term it would be prudent to engage in some form of maintenance dredging to preserve the potential to add water capacity if the 50-year Water Supply Plan proves to be insufficient, which is what he fears.

Ms. Thomas asked if the first step would be to find out what the story is with the wetlands with regulatory authorities.

Mr. Rooker asked if consideration had been given to the order of these recommendations. If the answer to the first question is that wetlands are being created that would be difficult to ever remove, then steps to preserve the ability of this area to consider it as a storage capacity in the future need to be taken. If the answer is that it is not really going to be a problem, then the immediacy goes away.

Mr. Wagner asked if anybody has any objections with the first five bulleted recommendations.

Ms. Mallek asked if the Task Force had considered the existing sand masses in the reservoir, some of which have things sprouting in them. To her that seems to come before No. 1; after that the others are fine. She does want somebody to be thinking about this immediacy issue.

Mr. Rooker said he thought the intent of the first bullet was to get a wetlands expert to look at the situation and give some advice. A person well skilled and knowledgeable in this area may need to be engaged to give a legal opinion based on the ability to reclaim capacity. Over time, regulations have become stricter. Sitting in several meetings with regulators, it was clear to him that the favored Water Supply Plan from the regulators' perspective was running a pipeline to the James River. If the Water Supply Plan which was adopted were to be changed, the new plan would have to go through the process again to show that it is was less environmentally damaging than the plan being abandoned. That would move the RWSA back to maybe step three or four in the twelve-step process to getting a water plan approved.

Mr. Slutzky said he thinks ending up with the James River as the only option would frankly be a disaster.

Ms. Mallek said at the 19-agency meeting several years ago, it was quite clear that RWSA would never get permission to get more than nine million gallons a day out of the James because there are already other users.

Mr. Slutzky said to him the bigger problem is the fact that the James River is not in a Charlottesville/Albemarle watershed. Neither control input or any upstream diversions. There are many reasons why the James River was ultimately rejected through the public process as the preferred water supply source. There may be an argument for adopting the recommendations of this Task Force so that intelligent decisions about dredging can be made. Should the SFRR be dredged, and if so, would it be done for a water supply or for benefits that are not directly applicable to the ratepayers? He thinks that is all the information that would be gathered by following the recommendations of the Task Force.

Mr. Norris said he fully agrees with the first five recommendations. He is not convinced that dredging is necessary for other public benefits, period. He is not particularly interested in doing a full study of selective dredging or opportunistic dredging. He wants better information about a disposal site, because the amount of fill is already known. He said the people who own the quarry don't care what's in the fill. What we need to know is if there is a feasible disposal site of a scale that would help create a water supply.

Mr. Boyd asked Mr. Norris if he could agree with maintaining the contours of the reservoir as an acceptable dredging plan as opposed to full dredging or multi-use. He feels that maintaining the contours makes a lot of sense so it could be used.

Mr. Slutzky said he is suggesting that gathering information would show what might be necessary to hold the status quo in the event the regulators undermined the area's ability to create capacity at a later date. It might make sense for the community to invest in selective dredging to preserve the potential for later using whole-scale dredging, if sedimentation has not gotten worse, if an extra water supply were needed later. Selective dredging might be done to protect the reservoir's storage capacity for the long run.

Mr. Norris said this seems to just be delaying getting the information a lot of the members want.

Mr. Slutzky asked Mr. Norris what in particular was being delayed.

Mr. Norris said if a good amount of time, energy and money would be spent investigating steps that might eventually get this to a broader study, just go ahead and do the broader study.

Mr. Boyd asked if Mr. Norris is talking about taking this to the point of putting out an RFP for full-blown dredging for water capacity.

Mr. Norris responded that he would not be opposed to doing that.

Dr. Palmer said this would allow a dredging study to be better defined. It would give some basis on which to move forward. There is no rush to enhance the Water Supply Plan as it exists. Even considering the \$85.0 million for the dam and the \$56.0 million for the pipeline, adding dredging is the most expensive because dredging has to be done in combination with other things. Putting different combinations of items together still ends up with a more expensive per gallon cost for storage capacity. She does not think it is a delaying tactic. It's a prudent use of public funds to answer these questions first. The question now is: "What do we want to do from here?"

Mr. Slutzky said the first bullet will have a lot do with how this moves forward. So the question is: "Doesn't it make sense to agree to endorse these recommendations in their entirety, so we can have the Authority move forward."

Mr. Wagner read the sixth bulleted item as follows: "Investigate selective dredging when decision makers conclude that benefits may be worth the cost." He asked who the decision makers are who would determine if it's worth the cost.

Mr. Huja replied that the decision would be made by the Board of Supervisors and City Council.

Mr. Norris agreed that it certainly would be a collective determination by the two elected boards.

Mr. Wagner said he asked the question to point out that this unelected board (ACSA) will be asked to pay some of the cost.

Mr. Brown asked if the reservoir were dredged completely, would there be an appreciable amount of the wetlands that have been created and spread that the regulators might say could not be touched.

Ms. Thomas responded that through bathymetric studies the storage capacity of the reservoir is known, but there is actually not a clear answer to that question. A person whose profession is to analyze wetlands did an analysis for free, and it was his opinion that the kind of wetlands being created will not be declared wetlands that can't be touched. The Task Force thought it would be worth getting a paid consultant to answer that question. Just saying the sides can't be touched does not necessarily say a good deal of storage capacity cannot be restored.

Mr. Rooker said if the wetland areas cannot be touched without jumping through significant regulatory hurdles (there are areas that will become wetlands over the next ten years), the areas that haven't emerged as wetlands yet might be dredged in order to preserve the ability of the reservoir to serve as a storage basin in the future. If the wetlands cannot be touched, there is no need for a dredger to come in and say he is going to charge to remove the wetlands. An opportunistic-type dredging operation might prevent those areas from becoming wetlands in the future. That is not a response to a request to get a bid in the next six months for dredging the entire reservoir and storing the material. He is not aware

of any site for storage other than the quarry for the amount of material that would be taken from an entire dredging of the reservoir. He has met with the "Dominion" people a number of times, and they have an interest in doing it, although they don't control the site. That site might not be available five years from now, so the community needs to be prepared to tie down the site long-term. The uncertainty in dredging is the issue of finding a site for dewatering and storage long-term. Looking at most dredging operations in reservoirs, they were done in areas that had a lot of flat land around them. It's more difficult in this terrain to find areas to store the dredged material.

Mr. Norris said Mr. Rooker was right. There is a big "if" about whether this alternative is feasible, workable and enforceable. Initially, he saw a figure of \$220.0 million for dredging including disposal - now there is an estimate of about \$30.0 million. That changes the dynamics of the equation, so he wants to know is that a feasible number.

Dr. Palmer said dredging would need to be combined with other things.

Mr. Norris agreed that dredging absolutely has to be combined with other things. Dredging alone would not solve the water supply need. If dredging could be done for \$190.0 million less than some people estimated it might cost, then the ratepayers and the taxpayers deserve to have the feasibility of that option explored - then figure out if that changes the equation of the Water Supply Plan.

Mr. Gaffney offered one point of clarification. The \$30.0 million figure is for a one-time dredging effort over the next couple of years. The larger number was for dredging from now until 2055.

Mr. Norris responded that he had met "with those folks" on several occasions and was told they would do it all. These are estimates that he would like to have "nailed down." He does not think it would cost \$300,000 for a study to make that determination.

Mr. Rooker said the only way to "nail that number down" would be to put out an RFP for the dredging. He asked if an RFP would be put out when it is not certain a contract would be issued.

Dr. Palmer added that the quarry would have to belong to the RWSA or it would have to be leased for 50 years because it could not be assumed it would always be available.

Mr. Slutzky said Mr. Norris's comments raised the idea that if there could be dredging at a feasible price it might somehow influence the way in which the already committed to Water Supply Plan moved forward. He finds merit in exploring the possibility of dredging the SFRR for water storage purposes. He thinks the recommendations of the Task Force put this in a good position to get an answer to that question. He does not think some component of the existing Water Supply Plan could be supplanted by dredging the SFRR.

Dr. Palmer said she is not trying to be an alarmist, but if the Water Supply Plan is to be reconfigured, it will be very important to get legal advice on what that means with respect to the water protection permit. The implications need to be understood before pursuing that idea.

Mr. Slutzky asked if everybody would want to add "legal" to bullet No. 1.

Dr. Palmer suggested adding legal counsel with respect to changing the storage at Ragged Mountain and changing the Water Supply Plan.

Mr. Rooker said these recommendations do not encompass changing the adopted Water Supply Plan. Both City Council and the Board of Supervisors have previously said the Water Supply Plan is a given. The questions being discussed today were posed by the Task Force, and this is the best answer to those questions at this time.

Mr. Brown said part of the issue comes from the question of why dredging isn't part of the current plan. He received an e-mail from a Sierra Club representative on the Task Force who said, "Dredging was rejected because it was too expensive." A perception that exists within the City is that a decision was made based on bad information - it was said that it was going to cost \$200.0 million to dredge; therefore, dredging was not even considered. A lot of the neighborhood associations in the City asked if there a cheaper option. He believes it was not rejected because of the cost, but because it would not provide enough water. There were a number of options that had to do with dredging or building a new dam. Most were generally rejected as not being good sources for a water supply. He knows that advocates for a 'Sustainable Water Supply' would say to look at Chris Greene Lake or Beaver Creek Lake, but he does not think those are good options.

Mr. Brown said in order to represent the different jurisdictions the elected officials have to listen to the concerns expressed by their constituents. For that reason he thinks the issues involved in dredging, both to protect the reservoir as a potential use in the future, and to find a suitable place to dispose of the material extracted, should be answered. That way, the citizens would no longer say "You didn't even look at dredging; you just dismissed it out of hand because you had faulty estimates as to how much it would cost." He agrees that if any of this touches the Water Supply Plan a legal opinion should be obtained. He would like dredging to go ahead. He agrees with the first list of recommendations and would like to see if there could be a study that answers the question of the cost of dredging.

Mr. Wagner referenced Mr. Brown's earlier comments that ratepayers should not pay for dredging other than for water supply purposes. He asked Mr. Brown if he thought the ratepayers should pay for studies for dredging.

Mr. Brown replied affirmatively.

Mr. Wagner asked Mr. Brown the difference in these two things.

Mr. Brown said the ratepayers are paying to study the cost of the new dam.

Mr. Wagner said dredging will not create a sufficient water supply to satisfy the 50-year plan. Any dredging done for capacity would be to extend its life past the 50 years.

Mr. Rooker said in considering dredging there has to be a market for the material that will be removed. The cost disparity is huge depending on how the material is disposed and where it is put. No matter what everyone in this room thinks it will cost, there is no way to know that cost until an RFP is put out and somebody makes an offer. People are not going to respond to an RFP if they think it's not going to be awarded. It could actually be done for political purposes because there are people out there raising these questions. At the end of the day will the information really be useful? He questions whether it would be.

Dr. Palmer said engineers are being paid to study the costs of the dam because it has already been approved. This has been through a long process; the Water Supply Plan has been approved and now it's ready to move forward. Those engineers would not be paid to design a dam if it hadn't already been approved as part of the Water Supply Plan.

Mr. Boyd commented that dredging alone won't provide the capacity needed, although there are people who have a different opinion. It appears now that the dredging can be done cheaper than what was originally planned. Then the Water Supply Plan would need to be reopened in order to study all these other options to make sure there is the right capacity. It's not just a matter of saying, "We'll find out how much it costs to dredge and that will solve the problem" because then we would have to figure out if there should be a shorter Ragged Mountain Dam or use of the Chris Greene Lake, and other things. He thinks the constituents of both City Council and the Board of Supervisors are looking to them to solve this problem, not set it back years.

Mr. Norris said the other pieces of information needed will be addressed through other studies already underway – to which all agreed. This is the last piece of the puzzle. He does not think anyone at this table today wants to go back and consider the Buck Mountain reservoir issue or the James River. He does not believe any of them think that Chris Greene Lake would be a viable alternative. These other studies are already commissioned and agreed to and will provide information to help move forward in an informed way and within the framework of the adopted plan.

Mr. Boyd asked Mr. Norris about having a shorter dam at Ragged Mountain.

Mr. Norris replied that there could be a shorter dam at Ragged Mountain; conservation efficiency is being studied. He knows there is disagreement about how that would impact the water supply so it is not going to be discussed today. Dredging the reservoir and the size of the pipeline are under review now. If that can be "nailed down" he thinks an argument can be made to the ratepayers and taxpayers that the viable options have been vetted, here's the best estimate of the costs, and then move forward.

Mr. Slutzky said he would be supportive of implementing the recommendations of the Task Force, which in effect provide the raw material for what Mr. Norris described, if legal advice were sought on the degree to which a modification of the current approved Water Supply Plan would open that plan to being shifted to outcomes that none support. That would be an addition to bullet No. 1. Maybe that proposal should be on the table – "Do we want to approve these recommendations with that addition to the first bullet?" He asked if that is kind of a consensus now.

Mr. Norris said he has no problem with adding that bullet, but he thinks the hang-up now is on the sixth bullet; he thinks the majority of Council members will speak to that now.

Mr. Huja said he thinks all five Council members would like to see more done than what this report recommends.

Mr. Norris asked Mr. Huja what he would like to have done additionally.

Mr. Huja replied that he would like to see a more defined study.

Mr. Rooker commented that there was an RFP presented to RWSA that sets out the parameters. He asked if Mr. Huja was suggesting that the RFP created six or more months ago be followed through on.

Mr. Huja replied affirmatively to Mr. Rooker's statement.

Mr. Rooker said he questions whether at the end of this there will be the information Mr. Huja is hoping to have. It will give a whole new bathymetric study; there will be science scans, there will be soil samples, there will then be all the technical information necessary to do an RFP on dredging, but it will not give the cost of dredging.

Mr. Norris said he is interested in a study because he is interested in "cutting to the chase" and finding out if there is a feasible disposal site and the cost of filling it.

Mr. Rooker said there is a debatable disposal site.

Mr. Norris said there is a question about whether that site is available or if this use could be permitted.

Dr. Palmer said if Dr. Hurt's quarry were to be used, it would have to be secured. If the dam at Ragged Mountain were to be lowered by any appreciable amount, that quarry would have to be secured for the 50-year life of the Water Supply Plan. If one-time dredging is wanted, the Ragged Mountain Dam could be lowered by five feet but it would only save \$5.0 million. If other sites are considered, it must be decided whether to secure that site for the next 50 years or secure it for right now for a one-time dredging. To issue an RFP with no intention of going through with it would just be irresponsible to this community.

Mr. Rooker said he does not think there would be any responses to such an RFP. Who's going to spend all the time and effort to respond to an RFP, which requires significant engineering work, study, etc., if they really don't think there will be a contract issued?

Mr. Gaffney said there must be a permit anyway to put out an RFP.

Mr. Rooker commented that obtaining a permit could be included as a requirement in the RFP.

Mr. Slutzky asked Dr. Palmer's basis for the \$5.0 million figure she mentioned for a lower Ragged Mountain Dam.

Dr. Palmer said Mr. Frederick gave that figure in his presentation some months ago.

Ms. Thomas said the bathymetric studies actually show what is being dealt with so that is not an unknown as far as quantity is concerned.

Dr. Palmer added that she thought the figure was 360 million gallons and asked Mr. Frederick if he wanted to comment further.

Mr. Frederick explained that last spring/summer, in preparation for the City Council work session, he went back to the dredging report Gannett Fleming did and looked at the assumptions developed from the 2002 bathymetric survey; that is the latest detailed information available on the reservoir. He used their assumptions as to how much sediment could be removed from the water supply pool through a complete dredging; he took that volume number and then went to what is called a "stage-storage curve" for the Ragged Mountain area based at this particular point in time on topographic information as to the number of feet that could come off of the 45-foot raise to equal the same volume. The conclusion from that set of calculations was that it would reduce the height by five feet. That was based on dredging one-time; that's not based on dredging continuously for the next 50 years.

Mr. Frederick said if dredging continued forever after the initial dredging to consistently remove what continues to come into the reservoir, a separate calculation was done and the answer to that calculation was 15 feet. The calculations were based on assumptions made from the 2002 bathymetric survey. He thinks it is obvious that if a bathymetric survey is done in 2009, there will be a different set of data because the sediment picture has changed over the last seven years. New calculations would be needed to come up with new results. He does not think there is anybody in this room who could predict what the numbers might be after doing a new bathymetric survey.

Mr. Slutzky said there could be no more reduction in the height of the dam because there would be less storage capacity because of the interim sedimentation that has occurred. He asked if that is correct.

Mr. Frederick said if the argument is accepted that there is more sediment in the reservoir now than in 2002, a complete dredge now compared to 2002 would pull out more sediment. If that is measured against the 50-year plan, it might change the height, but he does not think it would change it much. But you're not going to get exactly the same number that you got from the computations made based on the information available last summer.

Mr. Slutzky said if the savings for lowering the dam five feet was \$5.0 million, what would be the cost savings if the dam was lowered 15 feet.

Mr. Frederick said the numbers provided last summer were based off of the conceptual estimate of \$37.0 million for the dam. At this point if reliable information about the costs of different heights is wanted, the best thing is to have the patience to let the expert panel do its study and give a better cost estimate than what is available now.

Mr. Norris asked Mr. Frederick how often bathymetric studies have been conducted on the SFRR.

Mr. Frederick responded that in the past there's been no set rule for how often a bathymetric survey was done. It has been the subject of budget discussions by RWSA in the last couple of years, but was not approved for funding. The last one was done in 2002. In order to put another data point on the graph Ms. Thomas showed, there would have to be another survey.

Mr. Norris asked if RWSA conducted the survey historically over time regardless of any discussion about dredging.

Mr. Rooker said there was a recommendation that one be done every five to six years.

Mr. Frederick said he has heard a couple of comments in the community suggesting that DEQ mandates a bathymetric survey every five years. That information is not correct. The new permit issued last February by DEQ states that a bathymetric survey be performed by the time the new Ragged Mountain Dam is placed into operation. They put that provision in because when the new dam becomes operational, according to the permit, a different set of stream release rules at the SFRR go into effect based on the percentage of usable storage. They wanted a new calculation of what is usable storage. Comments suggesting there is a regulatory requirement that is past due are not correct.

Mr. Slutzky thanked Mr. Frederick for that clarification. He asked Mr. Norris if he is suggesting that the recommendations be adopted and that the first one be amended to obtain a legal opinion concerning any impact on the existing permit by "tampering" with the plan. He asked what in addition to that Mr. Norris was asking all agree to do.

Mr. Norris said he thinks the bathymetric information needs to be updated soon. Also, he suggests that a little money be spent – not \$250,000 – to identify the feasibility of a disposal site for a large-scale dredging operation.

Mr. Slutzky asked what Mr. Norris meant by suggesting a "feasibility study."

Ms. Mallek asked that someone explain the bullets in recommendation No. 6.

Mr. Norris replied that identifying physical obstacles, such as tree stumps, is essential.

Ms. Thomas asked if Mr. Norris is saying there should be a full disposal site identified for a full dredging study in addition.

Mr. Norris said he was trying to answer Mr. Mallek's question about the bulleted items in No. 6. He does not necessarily agree with all of those items, but a couple of them probably should be identified. Physical obstacles need to be known if even talking about dredging.

Ms. Mallek asked if there would ever be any interest in the dredging of Ivy Creek. It has one section east and south of the Woodlands Road Bridge that should be excluded because of the major wetlands that exist there. That's in that first bullet and it would help delineate where the work could be done.

Mr. Rooker said if everybody agrees the first five recommendations should be done, that part could be approved. If the thought is to have some kind of an RFP for a dredging analysis, including a bathymetric study, he does not think that can be done today. If the City has an interest in putting that together, he thinks it should be done by people with the technical capability to put it together. It could then be exchanged back and forth and ultimately a mutual resolution with respect to that component adopted. He thinks talking about the component parts of a dredging study is beyond the capability of those at the table today.

Mr. Huja said Mr. Frederick mentioned earlier today that there was an RFP a few months ago. He thinks what Mr. Rooker just suggested has already been done.

Mr. Tucker suggested the City study that RFP to determine if it meets their needs

Mr. Rooker said he presented that RFP to the Task Force for its consideration. At one point he suggested that it be incorporated into the report, but that was not the majority view. It is not before the boards today. Also, in light of some things said today it may not be exactly what people have in mind. It would not provide a cost estimate for dredging. It's an RFP to get a study of the things that would be necessary to ultimately issue an RFP on dredging.

Mr. Norris said he thinks cost estimates have to be a part of the analysis, even though he knows they would not be exact numbers.

Ms. Thomas said she thinks it is right to zero in on a disposal site, because the estimates on dredging costs are almost identical to whoever is making the estimates. She is concerned the public will be misled by suggesting that there will be a dredging study and from that study there might be a decision to do something other than the adopted Water Supply Plan. She is interested in what City Council would like to see in a study. In terms of moving forward today, there have been some practical suggestions made.

Mr. Brown said he agrees in part with the comments made by Ms. Thomas. He also understands Mr. Rooker's comments that it's probably beyond the ability of those present to outline everything the City would want to accomplish with dredging. He indicated that he had a few suggestions "to throw out." For the third circle under the sixth bullet where it says "Identify physical obstacles (e.g., tree stumps) to selective dredging of reservoir" he would like it to read: "Identify physical obstacles (e.g., tree stumps) to selective or large-scale dredging of the reservoir." He thinks that would imply there are serious physical obstacles to doing any type of dredging operation.

Mr. Brown said that in the next bullet (seventh bullet) where it says "Undertake bathymetric surveys in the critical areas for [selective] dredging", he would like to delete the words "in critical areas for [selective] dredging" so it just says to do the surveys. In the eighth bullet reading "Identify access, staging, and dewatering areas for selective dredging" he would like to add the words "or large-scale" before the word "dredging." He feels some small things could be added that would give enough information to get a

sense of what dredging in a big way might entail. It wouldn't answer every question, but it might be something that wouldn't be expensive to do.

Dr. Palmer said if all obstacles that could possibly impede dredging up and down the seven and one-half mile length of the reservoir are to be identified, that's going to require more than what the Task Force suggested.

Mr. Brown said he had assumed that every square inch of the reservoir could not need to be studied. If the choice was to dredge comprehensively, there are some physical obstacles (such as the one at Ivy Creek), that would prohibit dredging. That obstacle would be easily identified. Once beyond the main channels there's a tremendous amount of debris along the edges that would make it difficult.

Dr. Palmer said identifying access staging in the bordering areas for selective or large-scale dredging would require a larger area. She asked Mr. Brown if he wanted someone to inquire about the price of the land and whether the price could be assured for the next two years. She just wonders how you would identify a price on a site without knowing what is to be done and how much is to be put there. When Gannett Fleming looked at different sites, certain sites were for large-scale dredging but they were rejected because they weren't flat enough. Concerning the quarry, there are too many unknowns to try and tie that down.

Mr. Brown asked if a quarry is the only feasible place for putting the dredged materials from a large-scale dredging operation. If it is, he would like to know that now. If there are a number of sites that could be used, he would also like to know that. He inquired about the issues involved with using the quarry. Since, the owner could not just sign a contract for its use over the next 50 years it would have to be tied down in some way, preferably by buying it.

Mr. Huja said that on a relative scale the cost is minor compared to the whole scope of what is being talking about, "so it is no big deal."

Mr. Slutzky responded that it isn't a big deal if in fact there's useful information gathered. In other words, there are some fundamental questions worth pursuing with the first five bullets modifying the first bullet to answer the riddle. He thinks that once the expanded version of the first bullet is answered, all will realize that if the permit is changed it won't take much to trigger the risk of going back to the James River.

Mr. Huja said he has always supported the approved plan. He just wants some additional information, and wants to be reassured it's the right decision.

Mr. Rooker said he does not want to support a recommendation where the cost is completely unknown. He is not sure what the cost of the study being talked about would be. He would be more comfortable if the purpose of the study was presented in writing and then somebody provided an estimate of its cost.

Mr. Norris asked Mr. Frederick if the RFP (mentioned earlier) or the study proposal of dredging drafted by RWSA was costed out – was there a cost estimate attached to it when it was prepared for presentation to the RWSA Board?

Mr. Frederick said initially they began preparing an RFP, and then the joint chairmen met and said, "Whoa, let's have the Task Force first." So, they stopped work. At the time they stopped that work, they were thinking about a process similar to what Gahagan and Bryant recommended. They did not go beyond the statement that was made publicly last May; they did not try to estimate any cost. He thinks the best way to get the cost is to put out an earnest RFP and ask the responders to submit a cost figure.

Mr. Norris said it was a \$275,000 estimate from Gahagan and Bryant, but a significant chunk of that was for the bathymetric study – all have agreed that study probably needs to be done anyway.

Mr. Frederick said that from 40 percent to 50 percent of that \$275,000 estimate could be for the bathymetric survey.

Mr. Rooker said if that RFP is being talked about, RWSA could go through the process to get a cost on it. Sitting at this table and adding things concerns him. Instead of having a \$275,000 study, it could end up being a \$500,000 study. He thinks the first five of the bulleted recommendations could be approved and the RWSA asked to restart the process that was cut off when the Task Force was appointed.

Dr. Palmer said she thinks all City Councilors are saying they support the Water Supply Plan, but they want to know how much dredging costs. She asked if her understanding was correct.

Mr. Norris said he fully supports the basic framework of the Water Supply Plan, but does think the Water Supply Plan is not pre-scripted; the Water Supply Plan is permissive. It does not say dredging cannot take place. In fact, the Water Supply Plan allows for the possibility of dredging. The Water Supply Plan does not say a 45-foot dam must be built. It says it can be build up to 45 feet. There's a legitimate question about whether tweaking any of the numbers means the process has to go back to square one on the permit; he agrees that question needs to be addressed. He fully supports the new pipeline. He fully supports the idea of linking the two reservoirs and improving infrastructure. He said there are some other pieces that all have already agreed to study, and this is the last piece that needs to fall into place. Once all these pieces are in place, implementation of the Water Supply Plan can begin.

Dr. Palmer said if the storage capacity at Ragged Mountain is changed, that really does change the plan; it changes the flow regime that RWSA has been permitted by the State. She suggested that the legal implications of that be determined prior to deciding to tie down prices on disposal sites and what it means to lower that dam. She thinks that should be a first step so everyone understands what it is.

Mr. Rooker said he did not think the RFP that was prepared for the RWSA included a cost and time limit on a site. Everyone cannot leave this meeting with the idea that RWSA can be asked to pick that up and carry it forward.

Mr. Slutzky suggested that everybody agree to the first five bullets mentioned with the first one modified to address the changing of the water plan, and the RWSA be requested to move forward. In the meantime, City Council should review the work that's been done and come up with a recommendation for how it would like to see the dredging issue pursued. Then, after forwarding that information to the Supervisors, if the two bodies agree they could go forward with a joint resolution, or convene another meeting. If it is found that tweaking the Water Supply Plan is more problematic than first thought, dredging might be looked at through a different lens (long-term storage capacity and other community benefits). He asked if that is a reasonable way to handle this.

Mr. Norris said he would have no problem with what was just spelled out.

Mr. Slutzky asked if that works for everyone else.

Mr. Wagner asked for a clarification. He said if the City and the Supervisors are going to decide what to do, he would assume that means they're going to pay for it.

Mr. Norris and Mr. Slutzky both stated that is not what they meant.

Mr. Slutzky said he thinks a scope of work should be issued first and then all four bodies would have to weigh in on it.

Mr. Rooker then asked, "When you were considering your RFP before, who was going to pay for that RFP?"

Mr. Wagner inquired as to which RFP that was.

Mr. Rooker said it was the RFP referred to during this meeting.

Mr. Fern said that RFP was never brought forward.

Mr. Wagner said he thinks he is safe in saying that it is the position of the ACSA Board of Directors that the present Water Supply Plan meets the water supply requirements for the next 50 years. That's what they are asking their ratepayers to pay for. He would be very uncomfortable asking their ratepayers to pay for something else.

Mr. Slutzky said if there is to be further study and even dredging, the issue of who is going to pay for it can be tackled later. There's clearly a will on the part of the City Council to look further at this issue. He thinks his proposal is still on the table - City Council would bring back for collaborative endorsement something that makes sense to all four boards.

Mr. Norris said he thinks that in the end it is a Rivanna decision.

Mr. Thomas said she does not want to leave this meeting the way the last four-party meeting ended. There was a set of minutes and she thinks RWSA was supposed to read between the lines to determine what they were supposed to do. She asked Mr. Frederick if what was just suggested for RWSA to do is clear or not.

Dr. Palmer asked if she was referring to the first five bulleted items.

Ms. Thomas positively confirmed that it concerned the first five bullets.

Mr. Rooker said he would offer a **motion** for the Board of Supervisors that the first five items on the bullet summary be approved with a change in the first item to accommodate some opinion or legal information on what might trigger having to either amend or get a new permit.

Mr. Norris said he didn't mean to interrupt the motion, but he thinks they need to know the ramifications of approval of the motion. He does not know exactly what it means – does it simply mean that we go back and do another six-month process. If it means we have to go back to the James River, then he is not interested.

Mr. Rooker and Mr. Slutzky both replied that the wording in the first bullet would be amended to state that a legal opinion would be obtained about the legal implications of making changes to the existing plan.

Mr. Huja said he was worried that we may never get to No. 6.

Mr. Norris said that's the next part of it.

Mr. Rooker then offered motion that the Board of Supervisors adopt the first five recommendations with the first bullet modified as stated. Ms. Mallek seconded the motion.

Mr. Slutzky asked Mr. Frederick if he had a clear sense of what was being voted on.

Mr. Frederick asked that the first bullet as amended be restated.

Mr. Slutzky said they would add to the task in the first bullet "additional legal advice with respect to what would be the potential ramifications of modifying the existing Water Supply Plan."

Mr. Mallek said it would be the legal advice needed before proceeding with actions that might put the Water Supply Plan in jeopardy.

Mr. Slutzky said he wants to know what 1) looking at dredging that suggests changing the height of the dam might do to the permit; and, 2) is there a risk that we might reopen the permit thus triggering the need for a new permit.

Mr. Norris confirmed the additional wording in bullet No. 1 as follows: "What are the legal implications of modifications to the Water Supply Plan."

Mr. Slutzky asked Mr. Frederick if he could agree with those modifications to the first bullet.

Mr. Frederick said he is all right with that modification. He assumes the legal advice would be given to the RWSA Board. Legal advice is usually privileged.

Mr. Rooker noted that the Albemarle County Attorney was in attendance at this meeting. He stated the following for Mr. Davis's input. "The question would be whether or not the information we got back from counsel is something that we felt would be problematic waiving the privilege with respect to."

Mr. Davis responded that assuming it is private or even privileged it can be received as confidential information. The bodies could certainly waive the privilege.

At this time Mr. Slutzky called for a roll call on the previous motion. The motion passed by the following recorded vote:

AYES: Ms. Mallek, Mr. Rooker, Mr. Slutzky, Ms. Thomas, Mr. Boyd and Mr. Dorrier.

NAYS: None.

Mr. Norris asked for a motion from City Council.

Mr. Brown made the same motion that was just approved by the Supervisors.

Mr. Norris suggested amending the City's motion to clarify that in addition to approving the first five bullets they are going to review the RFP that was drafted by RWSA for consideration of a full dredging study and bring that back to the County and the ACSA for further consideration.

Mr. Brown said he would add that as part of his motion.

Mr. Huja said he felt Council should wait to make any motions until the RFP is prepared.

Mr. Slutzky said we'd like to move forward and get the legal opinion as quickly as possible. Council could choose how to move forward with the RFP because that's not constraining the first half. But, if you hold off on the first half, then you're holding up the whole process. He does not think that is what Council means to do.

Mr. Norris said Council wants to make sure it is doing it in the right order, but it's all going to happen.

Mr. Huja asked "What does it matter if we hold up the process?"

Mr. Slutzky said it matters to us a lot. You might vote against it later.

Mr. Norris added that we're not deciding today in what order these things are going to happen. We're simply saying we've agreed to this scope of work – at least half.

Mr. Huja expressed his concern about making the motion at this time. In response to comments from some other board members that it was up to the City as to whether the motion would be approved, Mr. Huja stated that it was not up to the City alone, but the City and County together.

Mr. Brown said everyone has to look at No. 6 and decide what they are comfortable doing. That's the process. That's the intent.

Mr. Norris further explained that everybody understands that if the City is not behind the Water Supply Plan, the path forward is not going to happen. So, Council takes it seriously.

Mr. Martin requested that the motion be restated.

Mr. Rooker commented that the Supervisors has already passed its motion.

Mr. Brown said the City's motion is basically mimicking the County motion, which includes the first five bullets – the first bullet being amended with legal advice on legal ramifications of tinkering with the Water Supply Plan – the components – and then adding in an element that City Council will review the RFP that came before RWSA previously and amend it as necessary and that will then be considered by the other boards as Council's amendment.

Mr. Huja asked if the motion would be considered by the Supervisors and City Council or by all four boards.

Mr. Rooker responded that ultimately he thought RWSA would need to approve it and then suggested approval by all four boards.

Ms. Edwards then **seconded** Council's motion.

Mr. Norris asked that all in favor of the motion so signify by saying "Aye." All City Councilors so signified so the motion carried.

Mr. Wagner asked for a motion from the ACSA Board of Directors in support of the same motion passed by the Supervisors.

Mr. Colbaugh **moved** that the ACSA Board of Directors approve the motion passed by the Supervisors. The motion was **seconded** by Dr. Palmer.

All members of the ACSA Board of Directors voiced "aye" so the motion carried.

Mr. Gaffney asked for a motion from the RWSA Board of Directors to pass the same motion adopted by the Supervisors.

Mr. Tucker **moved** that the RWSA Board of Directors approve the motion passed by the Supervisors. The motion was **seconded** by Mr. Fern. All members of the RWSA Board of Directors voiced "aye" so the motion carried.

Mr. Gaffney said RWSA will diligently pursue the legal ramifications, and would appreciate the City moving forward quickly, because if it is decided to do a full-blown dredging study they don't want it to drag on forever.

Mr. Norris responded that Council fully agrees. They will work on it as expeditiously as possible.

Agenda Item No. 2. Adjournment. With no further business to come before the Board, the meeting was adjourned at 4:29 p.m.

Chairman

Approved by the Board of County Supervisors

Date: 07/01/2009

Initials: EWJ
