



RIVANNA WATER & SEWER AUTHORITY

695 MOORES CREEK LANE • CHARLOTTESVILLE, VIRGINIA 22902-9016
(434) 977-2970 • FAX: (434) 293-8858 • WEBSITE: WWW.RIVANNA.ORG

RWSA BOARD OF DIRECTORS Minutes of Special Public Outreach Meeting January 20, 2005

A special meeting of the Rivanna Water & Sewer Authority (RWSA) Board of Directors was held on Thursday, January 20, 2005, at 6:00 p.m. in the Monticello High School Forum, 1400 Independence Way, Charlottesville, Virginia. The purpose of the meeting was to share information and receive public comment on the Ragged Mountain Expansion concept.

Board Members Present: Mr. William Brent, Mr. Michael Gaffney – Presiding, Mrs. Judith Mueller and Mr. Robert Tucker.

Board Member Absent: Mr. Gary O’Connell.

Authority Staff Present: Ms. Anne Bedarf, Mr. Richard Defibaugh, Mr. Bruce Edmonds, Mr. Tom Frederick, Ms. Mary Knowles, Mr. Glen Recknagel, Ms. Michelle Simpson, Ms. Andrea Terry, Ms. Jennifer Whitaker, Dr. Robert Wichser, and Mr. Roger Zieg.

Also Present: Ms. Becky C. Christensen – Facilitator; Mr. Bob Klein – Gannett Fleming Project Team Member; Mr. Neville Reynolds – VHB Project Team Member; Mr. Kurt Krueger – RWSA Attorney; City and County Government Officials; Albemarle County Service Authority, City, and County staff; members of the public; and media representatives.

1.0 Call To Order

The special meeting of the RWSA Board of Directors was called to order by Mr. Michael Gaffney on Thursday, January 20, 2005 at 6:09 p.m., and he noted that a quorum was present. He explained that due to the number of Board members present, legal requirements specified that this public gathering become an official Board meeting. No Board actions would be taken tonight. Minutes would be prepared and submitted for Board approval.

Mr. Gaffney welcomed and thanked the members of the public for their attendance at tonight’s meeting. He commented that he hoped everyone would have the opportunity to sign the meeting register to provide RWSA with a record of attendees. The public was also invited to provide their e-mail address on the sign-up sheets, if they had not done so previously, in order to be included on RWSA’s e-mail list for updates on the Community Water Supply Plan process. Information pertaining to the Public Outreach Meetings and the Community Water Supply Plan Update process were also being posted to the RWSA website at www.rivanna.org.



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Mr. Gaffney commented that he was not able to attend the December 2, 2004 Public Outreach Meeting. He thanked Ms. Mary Knowles for her efforts in preparing the minutes and expressed his appreciation for the detailed information she provided.

Mr. Gaffney explained that RWSA was in the process of studying four concepts to increase the water supply for this community. The four concepts included the South Fork Rivanna Reservoir (SFRR) Dredging, SFRR Expansion, James River Intake, and Ragged Mountain Reservoir Expansion. The purpose of tonight's meeting was to allow RWSA's consultant, Gannett Fleming, to present their factual findings on the Ragged Mountain Reservoir Expansion concept as a method of increasing the community water supply. Tonight's presentation would be posted to RWSA's website by early next week. He informed the audience that all four proposals are still under consideration.

Mr. Gaffney further stated that tonight's meeting concludes the series of four Public Outreach Meetings. Within 30 to 60 days after this meeting, comparison information on all four concepts would be developed based on the same criteria and would include environmental and project costs.

Mr. Gaffney reiterated that the topic of tonight's discussion would be the Ragged Mountain Expansion concept and not a comparison of all four concepts. He asked that citizens focus their questions and comments on this concept.

Mr. Gaffney added that after tonight's presentation, the public would be invited to ask questions and offer comments on the information provided by the consultant. He also requested that questions from the audience be held until the end of the presentation. Questions that could be answered in one to two sentences by the consultant and would add clarity at that point in the talk would be entertained during the presentation.

Mr. Gaffney noted that tonight's meeting was being videotaped by the Media Department of Monticello High School and will be aired on the local government cable television in the near future.

Mr. Gaffney next introduced Ms. Becky Christensen who will be facilitating tonight's meeting. He commented that many in the audience may be familiar with Ms. Christensen through her facilitation work at previous Public Outreach Meetings. He then turned the meeting over to Ms. Christensen.

Ms. Christensen thanked Mr. Gaffney and welcomed the members of the public in attendance at tonight's meeting. She asked the audience to indicate by show of hands if they had attended at least one of the previous meetings. She next

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inquired as to how many were attending their first meeting. She commented that RWSA appreciated the input provided by all perspectives represented at these meetings.

Ms. Christensen next briefly reviewed the meeting format. During the first 30 minutes, Gannett Fleming would present detailed factual information on the Ragged Mountain Expansion concept. Following the presentation, the public would have the opportunity to ask questions and provide comments on the information provided by the consultants. She asked that all speakers identify themselves and if they represented any organization. Ms. Christensen also requested that all questions and comments be directed into the microphone located in the center aisle so that they could be recorded for the meeting minutes.

Ms. Christensen next referenced the "Requested Guidelines for Participation" that were included in the meeting agenda. She explained that the purpose for those guidelines was to afford everyone the opportunity to provide comments at this meeting. She asked that topics be focused on the Ragged Mountain Expansion concept. She reiterated the importance of speakers identifying themselves and their organizations and to speak into the microphone. Speakers were requested to limit their remarks to 3 minutes. Prepared written statements that took longer than 3 minutes to read, could be submitted to RWSA and would be posted to the website.

Ms. Christensen next introduced Mr. Bob Klein, Senior Project Manager at Gannett Fleming, and Mr. Neville Reynolds, Senior Environmental Scientist at VHB, who would be presenting the factual information on the Ragged Mountain Expansion concept. She then asked Mr. Klein to begin his portion of the presentation.

Mr. Klein thanked Ms. Christensen and stated that he appreciated the opportunity to participate in tonight's meeting and to answer questions from the public concerning the information provided during his presentation.

Mr. Klein reiterated previous comments by Mr. Gaffney and Ms. Christensen concerning the format for tonight's meeting. He stated that technical information would be presented during the first part of the meeting. After the presentation, the public would have the opportunity to ask questions and offer comments on that data provided by the consultants.

As indicated by Mr. Gaffney, Mr. Klein explained that there were four concepts under consideration. The purpose of tonight's meeting was to provide factual information on the Ragged Mountain Expansion concept. In July 2004, Gannett Fleming prepared a report which reevaluated a number of alternatives. Out of the

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over 40 alternatives, the four concepts that have been the topic of the Public Outreach meetings were selected for further review. Tonight's focus would be on the Ragged Mountain Expansion concept. He noted that investigations are still ongoing and asked that the audience bear that in mind during the public question and comment segments.

Mr. Klein stated that localities must abide by federal and state standards during the development of future water supply projects. A major federal requirement that needed to be addressed was to "select the least environmentally damaging, most practicable alternative." He asked that the audience consider this mandate during tonight's presentation.

Mr. Klein next referred to the U.S. Geological Survey (USGS) quadrangle map of the Charlottesville area where the Ragged Mountain region is located. The black lines represent the area surrounding the Ragged Mountain Reservoir basin. The Interstate 64 corridor where it intersects with Route 29 at Exit 118 is included as a point of reference in relation to the City of Charlottesville. He pointed out that Interstate 64 cuts through about 45 percent of the total watershed area. Another 25 percent is located between Interstate 64 and the Upper Ragged Mountain Reservoir. He further explained that the Upper Ragged Mountain Dam and the Lower Ragged Mountain Dam form this Reservoir.

Mr. Klein then discussed the USGS aerial photograph of the Ragged Mountain Reservoir area. He noted that the Lower Ragged Mountain Reservoir backs up to the Upper Ragged Mountain Dam.

Mr. Klein next reviewed the slide that pictured the Upper Ragged Mountain Dam. Records indicated that the structure was built in 1885 and was the first water source for the City. It was built at a time when the City was in need of a larger and more reliable water supply source. The structure is an earth embankment dam that is 47 feet high and 470 feet long. He also pointed out the gatehouse and explained that the structure's purpose was to regulate flow releases from the Reservoir.

Mr. Klein noted the slide illustrating the spillway of the Upper Ragged Mountain Dam, which allowed flows to transfer from the Upper Reservoir to the Lower Reservoir.

Mr. Klein next discussed the two slides featuring the Lower Ragged Mountain Dam. The first one contained a photograph of the Dam taken in 1908 as part of the dedication ceremony. The picture originated from a University of Virginia collection that documented the construction of the Dam. The Dam is 67 feet high and about 400 feet long. After 25 years of service, records indicated that

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modifications were made to the Dam in order to strengthen the structure. The Dam and the gatehouse in their present state are pictured on the second slide.

Mr. Klein next commented on the schematic illustrating how the interaction of both reservoirs forms one reservoir. The Upper Ragged Mountain Dam is located to the left of the Lower Ragged Mountain Reservoir, and the Reservoir is buttressed on the right side by the Lower Ragged Mountain Dam.

Mr. Klein stated that when the Upper Ragged Mountain Dam was originally constructed, it was meant to maintain waters at a certain pool level. A practice started about 20 years ago entailed operating the facility at a pool level equal to the pool level of the Lower Ragged Mountain Dam. This concept proposes the construction of a new concrete gravity dam at twice the height of the original dam. Information available to date suggested that a concrete dam was more suitable for this site than an earthen dam. The existing two dams would need to be taken out of service during the construction phase. The new dam would raise the pool about 45 feet and increase the current storage volume four times. This one concept on its own would be able to satisfy the projected 9.9 MGD deficit.

Mr. Klein referenced an aerial view illustrating the footprint of the Reservoir with a 45-foot pool rise. He noted that the increase would back waters into the areas where Interstate 64 traverses the watershed. The road embankment is about 140 feet high and the water would cover about 30 feet of that total area. The additional footprint would cover 133 plus acres. All the impacted land is owned by the City of Charlottesville. Filling the Ragged Mountain Reservoir at this increased height could be achieved by a number of means, which could include the natural filling from drain flows occurring in the watershed itself and supplemented by flows transferred by either the Mechums River or from Sugar Hollow Reservoir.

Mr. Klein next discussed the schematic illustrating the watersheds that comprise the existing facilities that Rivanna owns. He stated that under this concept, water would be transferred from either the Sugar Hollow Reservoir and/or Mechums River and would change due to seasonal conditions experienced by all the watersheds.

Question from Ms. Liz Palmer: "What do the black dots represent?"

Mr. Bob Klein: "The Black dots represent sub-basins within the total basin for [the] Rivanna River."

Mr. Klein continued his presentation by discussing how this concept was developed. It was based on current policy and practice for how flows are

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transferred today from Sugar Hollow with an instream release of 400,000 gallons per day into the Moormans River as long as Reservoir capacity is 80 percent or greater. Concerning the Mechums River Pump Station, there is a current permitting to withdraw flows from the Mechums River, with the maximum amount of withdrawal base on natural flows in the streams. If the flow in the stream is between 33 and 66 cubic feet per second (cfs), RWSA is allowed to draft about 2 million gallons per day (MGD) from the pump station. With flows exceeding 66 cfs, RWSA is allowed to draft up to 4 MGD. These two options provide viable means to fill the Ragged Mountain Reservoir in addition to natural flows within its own watershed.

Mr. Klein added that RWSA in concert with the design team is working with The Nature Conservancy (TNC) on the development of an Adaptive Management Program for instream flows within the Rivanna watershed. The preliminary target flow information provided by TNC would be evaluated on impacts to the proposed operations for this particular concept, as well as the other concepts under consideration, to not only provide the needed water for this community but also benefit the aquatic habitat in the various streams within the watershed.

Mr. Klein then referred to the photograph of the Mechums River Pump Station. The pump station was built in the late 1950's as a measure to provide water until the South Fork Rivanna Reservoir (SFRR) could be constructed and put into operation. The Mechums Pump Station served a short-term life because as soon as SFRR became operational, the facility was put out of service. The Mechums River Pump Station would require some rehabilitation in order to become operational again, and the cost estimates for this concept included this rehabilitation work.

A question from a citizen who did not identify himself: "Do those photographs represent normal flows or was that during the drought?"

Mr. Bob Klein: "This particular picture was during a normal season and was not taken during a drought season."

Mr. Klein resumed his presentation and stated that the two options under consideration with this concept entailed either raising the existing structure itself or building a completely new structure downstream. He referenced the slides which illustrated these options. The first slide pictured a Gannett Fleming project which involved modifying an existing dam. The structure was a concrete gravity dam which impounded the existing reservoir for the City of Baltimore. Concrete mass was being added in order to strengthen and raise the existing structure. The second slide illustrated a dam replacement project. This project involved raising the pool level approximately 30 feet, which was somewhat comparable to what

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was being proposed for the Ragged Mountain Dam. The new structure was constructed in close proximity to the existing dam, minimizing impacts downstream. The existing facility was kept in service during the construction phase. A third slide pictured the dam replacement project upon its completion.

Mr. Klein stated that after evaluating the issues associated with this concept, Gannett Fleming recommended that dam replacement was necessary to raise the pool level by 45 feet. The next step in the evaluation process was to look at impacts on the existing Reservoir around the rim. As previously mentioned, Interstate 64 transverses through part of the Reservoir and there is approximately 28 to 30 feet of water impounded up against the embankment. Their analysis indicated that there is no danger or threat to the highway being washed out even during storm events. The embankment serves as a dam in and of itself. Embankment stability was also evaluated. By inundating the area by about 28 feet, measures would need to be taken to buttress the slopes to prevent some type of "draw down scenario." These issues were factored into their investigation of this concept.

Mr. Klein noted the slide which contained a close-up picture of the inlet side and upstream end of the culvert. He stated that the culvert was about 740 feet long and stretches through the road embankment, which is 140 feet in height. Also included on the slide was information obtained from VDOT to help assess what issues might be relevant with this particular area of the Reservoir.

Mr. Klein commented that raising the Dam by 45 feet would also impact the hiking trails around the Reservoir. Many of the trails would need to be relocated. The raised pool would increase the surface area so that it would accommodate longer hiking trails around the Reservoir.

Mr. Klein added that although a slide was not included in the presentation on this issue, potential utility impacts were also evaluated. At this time, there are no known utilities. The facility is over 100 years old and predates many modern conveniences, such as telephone and electric lines.

Mr. Klein then asked Mr. Neville Reynolds to discuss the key environmental issues associated with this concept.

Mr. Reynolds stated that in order to implement any of the four concepts under consideration it would be necessary to acquire state and federal departmental permits. Agencies that would be involved included the U.S. Army Corps of Engineers, the Virginia Department of Environmental Quality, and Virginia Marine Resources Commission. There would also be several resource agencies involved, such as the U.S. Fish & Wildlife Service, the Environmental Protection

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Agency, and the Department of Historic Resources. Some of their primary concerns included the effect that the expanded reservoir would have on adjacent lands. In particular, the focus has been on the wetlands, streams, cultural resources, and threatened and endangered species.

Mr. Reynolds noted that some field work has been conducted around the existing Reservoirs, which included the mapping of the existing stream channels. He referred to the USGS quad map which illustrated the proposed Reservoir elevation. The blue lines represented the stream channels that flow down into the Reservoir that would be inundated by the new water level, and the pink areas represented wetlands distributed around the current Reservoir.

Mr. Reynolds next referred to a photograph that illustrated the character of the wetland habitats that are located around the fringe of the Upper Reservoir.

Mr. Reynolds stated that inundation would impact about 0.1 acres of forested wetlands. One of the requirements is that the impacted wetlands acreage must be replaced with the same type of wetlands system. There is a ratio that is applied to the impact number. If you impact 0.1 acre, you need to replace 0.2 acres of wetlands.

Mr. Reynolds next discussed the slide which pictured the types of stream channels that flow down into the existing Reservoir and would be inundated by the increased elevation. He explained that 15 streams would incur back flooding for an estimated total of about 9,300 linear feet of current stream that flows down channel that would be converted to open water habitat. The U.S. Army Corps of Engineers and DEQ provide a formula to determine the compensatory mitigation figure for impacted stream channels. With this concept, RWSA would be required to mitigate on approximately 33,262 linear feet (L.F.) of stream channel to compensate for the 9,300 L.F. of impact.

Mr. Reynolds stated that there were a number of options available in providing mitigation for project impacts, which he described in further details as follows:

Restoration is probably the preferred alternative. This action would be taken in wetlands or stream habitats that have been degraded by ditching, filling, by altering or removing hydrology to prior wetlands. In these cases the wetlands hydrology is restored. For stream channels, the dimensions and patterns would be restored to reestablish the habitat value found in natural systems.

Creation is primarily associated with wetlands compensation and involved low landscape positions that have a number of sources of water. These landscape features are generally broadened and flattened to allow water to enter and be

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retained to establish wetlands hydrology that would then support a variety of woody and emergent wetland species.

Enhancement and preservation are often used in combination with the first two options. They are actions that could be taken to improve the characteristics of the existing wetland habitats or to preserve particularly valuable or pristine wetlands.

Another available option is monetary contributions to private wetland banks or to a trust fund that is operated by the U.S. Army Corps of Engineers and DEQ. Money contributed to these institutions is used to recreate wetlands and streams.

Mr. Reynolds commented that there were several mitigation goals. There are replacement ratios applied to impact numbers that elevate the amount of work needed over and above what has been impacted. Regulatory agencies generally prefer that the mitigation work is performed on-site, in-kind, and within the general boundaries of the area of the wetlands that have been impacted. A second option is mitigation work performed off-site and in-kind. It is preferred that the restoration be performed within the same watershed. If it is not physically possible to accomplish this within the boundaries of the project, the work might need to be done at a nearby site. Other elements or more watershed level improvements could be incorporated into a mitigation plan, such as reestablishment of buffers around streams.

Mr. Reynolds then referenced two slides which illustrated examples of wetland and stream mitigation projects, which incorporated the options described previously.

Mr. Reynolds next discussed the estimated costs for mitigating environmental impacts associated with this concept. Wetland compensation would amount to about \$3,400; stream compensation, \$5,140,400.

Mr. Reynolds stated that another particular concern to the U.S. Army Corps of Engineers and the Department of Historic Resources is the presence of cultural resources and the potential project impacts to those resources. Surveys were conducted around the two existing Reservoirs that identified a number of landscape features and structures with some cultural elements. The significance of each of those features had not been fully determined at this time and would need further investigation if the concept was selected for further review.

Mr. Reynolds then assessed the occurrence of threatened and endangered species around the project areas. This issue is of particular concern to the U.S. Fish & Wildlife Service, the U.S. Army Corps of Engineers, DEQ, and the Department of Game & Inland Fisheries. One of the primary issues in this particular area has

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been for the presence of the James Spiny mussel in many of the stream channels that flow into the Reservoirs. Surveys have been conducted in those channels, and no species have been found.

Mr. Reynolds turned the meeting back over to Mr. Klein who would next discuss the cost estimates.

Mr. Klein explained that as had been done for the other concepts, a cost estimate had been developed for this project. He referenced the slide which contained the significant raw water supply cost items, which included a new dam, breach of the Upper and Lower Ragged Mountain Dams, Interstate 64 improvements, Mechums Pump Station and Intake rehabilitation, replacement of the pipeline from Sugar Hollow to Ragged Mountain, environmental mitigation, engineering and contingencies.

Mr. Klein further stated that the total project cost estimate was about \$57.75 million, which excluded costs for water treatment and other improvements. He added that the focus for all four concepts at this phase of the study has been on raw water supply. The cost for the Ragged Mountain Expansion only would amount to about \$3.97 per gallon per day of safe yield added. To remove and replace the pipeline would add about \$1.86 per gallon per day of safe yield added, for a total of \$5.83.

Mr. Klein reviewed the benefits and risks associated with this concept. One of the key benefits is that it meets all the raw water needs for the next 50 years. It also addressed the need for dam repairs at the two existing facilities at Ragged Mountain. It also increased the surface area in the Reservoirs. Some of the risks involved the reliance of water transfers from the Mechums River and Moormans River. The Reservoir recharge duration would be dependent upon the natural flows and rainfall. There are also relatively high stream impacts as compared to the other concepts.

Mr. Klein turned the meeting over to Ms. Christensen for the public question and comment segments.

Ms. Christensen invited the members of the public who had questions concerning tonight's presentation to proceed to the microphone at this time. She also requested that the audience consider the broad questions included on the meeting agenda during the public comment segment.

Ms. Leslie Middleton – City of Charlottesville: “What have you learned about the siltation into these two portions of the Ragged Mountain Reservoir and any expected siltation rates?”

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Mr. Bob Klein: "When Gannett Fleming was asked to look at this Dam - we actually were hired on about two years ago to look at this particular Dam for possible repairs needed – we did soundings at the Dam to see what silt levels were going to occur. They were very minimal when looking on the grander scheme of things. It is certainly not on the order of magnitude of the SFRR. It is basically what you would expect for a facility that is 100 years old. As far as siltation, one of the benefits is that we have a small watershed that does not have a siltation problem and we are transferring waters and relying on natural filling. From that perspective, we don't have the uphill battle of losing that source capacity over time due to sedimentation like we do for the other concepts."

Ms. Liz Palmer: "Did you say how many years it would take to build this? I just heard you say that it would be dependent upon the natural flows. Do you have an estimate as to how long it would actually take to fill them?"

Mr. Bob Klein: "Yes. Based on natural flows and looking at historic records of stream flow gauges here in this area, it may be on the order of about six years. That is the reason we are looking at trying to supplement and shorten that time frame by getting flows from either the Mechums River or the Moormans River."

Ms. Liz Palmer: "Is this just with the Sugar Hollow pipeline and the surrounding area of the Ragged Mountain in your estimates?"

Mr. Bob Klein: "That is just with Ragged Mountain's two-mile drainage area on it"

Mr. Patrick Punch: "Some of your reports talk about repairs being necessary to the Dam anyway. Have the costs of those been deducted from your costs for this option since they are going to be necessary in any case?"

Mr. Bob Klein: "When we are comparing the various concepts amongst themselves, we are including them. So, if we are not going to pursue this option, then the costs for repairs would be added to the SFRR crest gate concept. They are not included here because we are going to be replacing those dams. They are factored in on the grand scheme when comparing one concept to the other."

Mr. Patrick Punch: "What about expansion of Observatory water filtration plant that would be necessary if this was used as a major water source?"

Mr. Bob Klein: "When I put up the summary slide to show the total costs, that cost was not factored in to this concept."

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Mr. Patrick Punch: "Should it be to give it an apples to apples sort of comparison?"

Mr. Bob Klein: "Each of the concepts will require some sort of upgrade to the treatment plants, depending on where the raw water is coming from. We are just not at that point in the study."

Ms. Martha Levering – City of Charlottesville: "If a truck carrying hazardous wastes has an accident on Interstate 64 over the culvert, what kind of impact might that have? Is there enough land buffer?"

Mr. Klein: "That is a good question. What we were planning for the Interstate 64 improvements would include some sort of containment system. If there was an accident on Interstate 64 in the vicinity of the Reservoir, there would be a means to contain that so there would not be a direct discharge into the Reservoir itself. That Reservoir has the same vulnerability as it stands today, so we see it as an improvement as part of this concept to provide those facilities."

Mr. John Via – City of Charlottesville: "I did not quite understand when you were talking about drawing off the Sugar Hollow and Mechums River. At the year 2045 when the population begins to maximum out, this is going to be real harsh on those two streams. I mean we had problems this past drought. What's going to happen when you are at the max?"

Mr. Bob Klein: "Imagine if you will a bank account ...you store money when money is flowing freely. When there are hard times, you rely on that bank account and not on your paycheck to meet your needs. Basically that is what we are doing here. We are storing water during the wet years. Then when the dry years come, we pull off of the Reservoir rather than relying on stream flow. "

Mr. Morgan Butler – City of Charlottesville: I am just curious do you have any sort of estimate of the total overall cost of the project? What percentage of that is made up of removing the two Ragged Mountain Dams?"

Mr. Bob Klein: "The cost for removing those two dams is on the order of about \$500,000 to \$750,000."

Mr. Morgan Butler: "If you did just the partial removals, do you have any sort of estimate of how much that would cost?"

Mr. Bob Klein: "It would obviously be less than that, but we did not get into that depth of detail at this time."

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Ms. Christensen stated that the floor would now be open to comments as well as to any remaining questions.

Ms. Sally Thomas: "I'm intrigued by the whole concept of mitigation. I wonder if you could talk about a little bit more because in some ways it sounds like simply self-discipline and having us put money into our watershed through the Groundwater Conservation District. For example, we are already doing a lot of stream mitigation. Are the dollar figures here your estimate of what it would cost to get the certain linear feet done or does EPA and others put a dollar figure and tell us we have to spend that amount of money?"

Mr. Bob Klein: "Mr. Reynolds can add to this if I don't quite get it correctly. From a conceptual level cost estimate standpoint, we are basing it on past experience with other projects as far as what regulators might expect us to do. We are at the very initial stages of the development of something like that. This is to again have the numbers so we can compare one concept to another. Whichever concept is selected, at that point in time it would be warranted to sit down with the regulators and get their feedback to see whether they agree with our assumptions on how to proceed with something like that. At that point there would actually be a lot of interaction and coordination for a certain time frame to make sure that we achieve the goals that they would want us to achieve."

Mr. Neville Reynolds: "I'll just add one comment. I agree with everything that Mr. Klein said. The estimates that we have now are based on physical replacement of the impacted areas at the ratios that are generally specified by the agencies. To answer your question ... no, they are not telling us that we have to spend x number of dollars on that. The only difference being is that if one of the concepts would allow you to go to The Corps Wetlands Trust Fund or Aquatic Restoration Trust Fund, then they will do a calculation and they will tell you this is how much you owe for your impacts."

Mr. John Martin – Albemarle County: "Based upon all the information that is available to the public to date concerning the Ragged Mountain proposal, and based upon a lot of other information that I have gained over the years, in my mind this Ragged Mountain proposal or any of the five alternatives which include the Ragged Mountain proposal, are the most environmentally damaging and most impractical of any of the water supply alternatives that have been advanced to date. I say that because of questions about exactly what the net inflow is going to be into this new elevated Ragged Mountain Reservoir. The Sugar Hollow pipeline can deliver 4 MGD maximum is my present understanding. Even with the Mechums Pump Station, that pipe can only deliver 4 MGD to Ragged Mountain or to Observatory Water Treatment Plant. If another pipeline is built from the pump station, than more could be delivered. But also, the treatment

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plant is going to be increased to some level – 4, 5, 6, 7 – I don't know what it is. I just don't see where the inflow is going to be coming from based upon the data that has been presented.

“Secondly, I think that whatever the answers to those questions are, this proposal would contribute to the permanent degradation of the Moormans River in particular, which has been struggling for years to deliver 4 MGD and has suffered and is dry half the year. This is no solution to the Moormans River. Tonight has been the very first time I have ever heard Rivanna or their consultants talk about considering instream flow in the Moormans as a part of an analysis. Perhaps, more information can come.

“Also, in terms of impracticability of this, the lynchpin of this proposal, which has been given very little discussion tonight ... the lynchpin, whether it succeeds or fails, whether it works or doesn't work, is the ability to inundate the culvert under I-64. If you can't do that, you can't raise the pool level. That is absolutely essential. Based upon information that I have ... I talked to Mr. John Maiser of the Federal Highway Administration today, and it's my understanding that he is the contact person for FHA on I-64 in matter like this. He has received one phone call from VDOT about this concept – no written information, no drawings, nothing technical, one phone call from VDOT. Apparently, I may be wrong, the consultants had not contacted the Federal Highway Administration who has to make the decision. Mr. Maiser said that they will consider it if it comes to him, but he's not necessarily going to say yes. I just can't understand why we are here tonight with there being no more consideration than that, the most essential part of this whole thing. It certainly leads me to believe, quite frankly, that Rivanna is not really serious about this proposal. It also leads to the conclusion, maybe I'm wrong, that you are not serious about this alternative or some of the other alternatives because there is an institutional bias in favor of going to the James River.

“Another thing that reinforces this thought in my head, whether it's right or whether it's wrong, is some other information that I've gained about the Dredging alternative. I've learned that the Albemarle Airport has building plans to extend its runway. There is a Master Plan that is going to the Board of Supervisors the first week in February. In that Master Plan, they talk about some improvements to the end of the runway to lengthen it. I talked to the Executive Director of the Airport Authority within the last two days. He told me that in order to lengthen the north end of that runway, they would need 1.8 million cubic yards of fill. I said, 'what about the Reservoir fill?' He said, 'that's very interesting.' Nobody ever asked him about that before. Rivanna apparently didn't even know; that wasn't even investigated that it was a source for disposing of a substantial portion of the sediment. They have to make sure that it is compactable and it's made up of the right substances, but the sediment has never been tested. We just don't

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know. To me, as a citizen, that again looks like some fairly superficial consideration given to that proposal, which reinforces in my mind that there is something wrong with everyone of these alternatives in terms of cost or whatever and that there is a bias towards going to the James River. I'm just hoping for more open and complete consideration. I should say further that if Rivanna – and this is my last comment – does have an institutional bias to go to the James River, that's fine. Rivanna is paid to come up with opinions and to make recommendations. If there is a bias, let's put it on the table and let's talk about it. Thanks.”

Mr. Mitch King – City of Charlottesville: “It's my understanding that there are two major feeder streams to the South Fork Rivanna Reservoir and that's the Moormans and the Mechums. Of the two of them, the Moormans has the better quality and that is why that water is clearly diverted today from Sugar Hollow and the headwaters of the Moormans over to the Ragged Mountain Reservoir. That suggests to me that the silt problem that exists in the South Fork Rivanna Reservoir is due to silt moving through the Mechums River system. I'm wondering if I pick up the water from the Mechums River through the expanded Mechums River Pumping Station and move it over to the Ragged Mountain Reservoir, aren't I just picking up the silt and putting it into the Ragged Mountain Reservoir instead of letting it flow in the South Fork Rivanna?”

Mr. Bob Klein: “That is a good point. There are ways to combat that. You have the right to choose when you draw off that water and what quality at the source at the Mechums. There are ways to filter that water too at the pumping station.”

“Just to add comment to the previous person's comment about I-64 and getting technical clearance from Federal Highway – We are expecting a letter this week from VDOT. We have met with VDOT a couple of times to broach this particular concept, as well as others ...The impacts to the bridges at the SFRR are other key issues on these concepts. I spoke with VDOT officials this week. They had cautioned us that in looking at anything at I-64 and what might happen to it, they not only have to have a say in it but so does Federal Highway. We sent them a letter about two months ago. They ran it up the chain of command at the state level all the way to Central Office. Central Office then passed it on to Federal Highway. Just within the last few weeks, they got a response from Federal Highway basically saying that they see no policy issues that would prohibit them from discouraging us from pursuing this alternative as long as engineering issues could be satisfied. As a design engineer, we have dealt with these types of issues before. Based on information we have to date, we don't think their issues are insurmountable.”

Mr. David Carr – Albemarle County: “You mentioned earlier something about instream flow on the Moormans in the system. Are you working with a consistent that is if you are or discuss that generally please?”

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Mr. Bob Klein: "When you say consistent flow, are you talking about some sort of constant flow?"

Mr. David Carr: "I'm talking about having the same instream flow requirement for the different alternatives."

Mr. Bob Klein: "Yes, there has been a benchmark and that benchmark is based on current policy and practice for releases from Sugar Hollow and current permitting conditions for Mechums. We have had to set some sort of benchmark to be able to compare these alternatives and those are the levels that we used."

Mr. David Carr: "So you're using the existing release of 400,000 gallons per day, and you're using that even for this Ragged Mountain alternative where you would be taking more water out to bring into Ragged Mountain?"

Mr. Bob Klein: "Yes."

Mr. David Carr: "Couldn't the permitting authorities require an additional instream flow requirement since this is a new option?"

Mr. Bob Klein: "For the permit for this overall project, that issue will certainly be discussed with regulators, depending upon which alternative is selected and moved forward. Some issues have different stream flow issues. Once we get to a selected alternative, those issues would be visited with the regulators as far as what kind of requirements they might want to impose. The release right now is strictly voluntary."

Ms. Dede Smith – Ivy Creek Foundation: "It seems pretty clear to me that the inundation or raising of the Reservoir will virtually eliminate most of the trails as we said are out there. Are there plans to help the Ivy Creek Foundation build new trails, either financially or in some other way?"

Mr. Bob Klein: "That level of mitigation has not been pursued at this time. We feel we could easily replace those trails and don't see that as a major cost item. They could probably be absorbed in the contingency."

Ms. Dede Smith: "I'd just like to note that actually the major impact would be the land that we use as a bridge to create two small trails. I assume this is irreplaceable?"

Mr. Bob Klein: "Right now at this level of study, we did point that actually out in the memo you will see on Rivanna's website. We did call attention to that. If this project were selected, one of the things we would revisit is perhaps the possibility

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of some sort of footbridge; something that could span across a narrow stretch of the Reservoir.”

Ms. Leslie Middleton: “I want to follow up on Mr. Carr’s question because while I’m heartened to hear the RWSA is working with The Nature Conservancy to start to consider instream flow, what I would also hope to see when in the 30 to 60 days you start to display a comparison of all alternatives that those factors are very clearly demonstrated what your thinking is vis-a-vis each option and how one might accommodate instream flows for each option – which is easier or harder, etc. I am hoping that that will happen and be very visible to the public.”

Mr. Patrick Punch: “For those of us who were not at all the meetings, could you tell us what the bottom line figure per gallon per day yield is for the four alternatives? This one is \$5.83. Could you give me that number for the other three as well?”

Mr. Bob Klein: “Unfortunately, I don’t have that breakdown. I could easily provide it and post it on Rivanna’s website; a table that specifically does that. If you don’t mind digging a little deeper, all the previous reports for the three concepts are posted on the website right now. You could just pick those numbers off of there and prepare your own table. If necessary, we could prepare a table and post it on the website.”

Ms. Becky Christensen: “As a reminder, we do have a plan to bring all this back together. Some of you have wanted to do the comparisons, and we have wanted to be very loyal to our process here, scoping on each alternative as we promised we would do. That work is still to come, and we know that the comparison data is important to many of you.”

Ms. Liz Palmer: “Because the treatment plant needs are different for the different alternatives, at what point are you going to bring those into the plan so we can compare them more directly to the others?”

Mr. Klein: “I believe that within the next few months we are going to be factoring those issues in as well.

Mr. Mitch King: “One of the implications of all the presentations that we have seen so far is that the critical metric as far as you are concerned, turned out to be the number of dollars per million gallons per day of safe yield that we are getting. As a user, I’m aware of the fact that we are not going to need a lot of that safe yield till way out in the future, so that people in the relatively short term may have to pay rather high prices per gallon of water that they actually consume in order to pay off or amortize the upfront expenses through this extended capacity that nobody really needs to till 10 years down the road or 20 or 30 years down the

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road. One of the metrics I'd like to see when you are doing this comparison of alternatives, as a consumer, is what is my estimated cost per gallon that I use in my household. I would expect that this may change over time. I'm not worried about inflating it; just taking a look at it. In fact, there will be more consumers with more gallons in the out years than there are in the in years that I think my price per gallon ought to go down if there is no inflation. I would like to see that to be sure. "

As there were no further questions or comments, this concluded the Public Participation segments of the meeting. Ms. Christensen stated that she felt the questions and comments from the public were very intelligent and heartfelt, and RWSA appreciated everyone's perspectives. She also encouraged citizens who did not have an opportunity to speak tonight to submit their comments to RWSA and they would be posted on their website.

Ms. Christensen then asked Mr. Gaffney to discuss the next steps in the Community Water Supply Plan process.

Mr. Gaffney thanked Mr. Bob Klein of Gannett Fleming and Mr. Neville Reynolds of VHB for their very clear and concise presentation, which will be posted to the RWSA website. He also asked that the citizens in attendance tonight inform others in the community that the meeting had been videotaped by the Media Department of Monticello High School and would be aired on the local government cable television in the near future.

Mr. Gaffney stated that tonight's discussion completed the four Public Outreach Meetings on the four water supply concepts currently under consideration. The next step in the process would be a summary presentation by RWSA staff covering all four concepts. This presentation was scheduled to be made on the following three dates: (1) To the Albemarle County Board of Supervisors at their regular meeting starting at 9:00 a.m. on Wednesday, February 2, 2005; (2) To the Charlottesville City Council at their regular meeting starting at 7:00 p.m. on Monday, February 7, 2005; and (3) To the Albemarle County Service Authority Board of Directors at their regular meeting starting at 9:00 a.m. on Thursday, February 17, 2005. Each of these meetings is open to the public.

Mr. Gaffney also announced that a Joint Work Session of the Albemarle County Board of Supervisors, the Charlottesville City Council, the Albemarle County Service Authority Board of Directors, and the Rivanna Water & Sewer Authority Board of Directors has been scheduled for Thursday, March 3, 2005 at 9:00 a.m. at the Albemarle County Office Building – 5th Street in Conference Room A. This work session is also open to the public.

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Mr. Gaffney reported that cost comparisons on the concepts would be released publicly in advance of this work session. It was expected that discussion on comparing concepts would take place at the work session as the process narrows toward a final selection. Details regarding the agenda and how public comment would be received are still being arranged.

Mr. Gaffney added that there is no specific schedule at this time as to when the preferred alternative would be selected. It is anticipated that this would occur sometime this summer. The community would be kept informed in advance as all arrangements are finalized. The public was also invited to stay informed through RWSA's website at www.rivanna.org.

Mr. Gaffney commented that RWSA continues to offer the opportunity for civic and community organizations to learn more about the process through the use of Rivanna's speakers' bureau. A program on the Community Water Supply could be presented at an upcoming meeting tailored to the group's time frame and to topics of interest. Citizens were asked to contact Mary Knowles, Executive Secretary, at 434-977-2970, ext. 101, for more information.

Mr. Gaffney stated that RWSA would appreciate citizens taking a few minutes to complete a meeting evaluation form to let Rivanna know whether tonight's session had been worthwhile and how future meetings could better serve the community. He also reminded the public to sign the meeting register on the table located at the entrance of the Forum and to also provide their e-mail address if they had not done so already to receive updates on the Community Water Supply Plan process.

Mr. Gaffney wished everyone a safe travel home and stated that he hoped to see them again at the next meeting.

Mr. Gaffney adjourned the special meeting of the RWSA Board of Directors at 7:20 p.m.

Respectfully Submitted,

Mr. Robert Tucker
Secretary - Treasurer