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RWSA BOARD OF DIRECTORS
Minutes of Regular Meeting
May 24, 2016

A regular meeting of the Rivanna Water & Sewer Authority (RWSA) Board of Directors was held on Tuesday, May 24, 2016 at 2:15 p.m. in the 2nd floor conference room, Administration Building, 695 Moores Creek Lane, Charlottesville, Virginia.

Board Members Present: Mr. Mike Gaffney, Ms. Kathy Galvin, Mr. Maurice Jones, Ms. Judith Mueller, Mr. Gary O'Connell and Dr. Liz Palmer.

Board Members Absent: Mr. Tom Foley.

Staff Present: Ms. Jenny Basile, Mr. Tim Castillo, Ms. Victoria Fort, Dr. Rich Gullick, Ms. Teri Kent, Mr. Doug March, Mr. Scott Schiller, Ms. Michelle Simpson, Ms. Andrea Terry, Ms. Jennifer Whitaker, Ms. Betsy Wilson and Mr. Lonnie Wood.

Also Present: Mr. Kurt Krueger – RWSA Counsel, members of the public and media representatives.

1.0 Call to Order

The regular meeting of the RWSA Board of Directors was called to order by Mr. Gaffney on Tuesday, May 24, 2016 at 2:26 p.m., and he noted that a quorum was present.

2.0 Minutes of Previous Board Meeting

a) Minutes of the Regular Meeting of the Board on April 26, 2016

Mr. O'Connell moved to approve the minutes with no requested changes. Mr. Jones seconded the motion, which passed unanimously (6-0). Mr. Foley was absent from the meeting and the vote.

3.0 Recognition

There were no recognitions at this meeting.

4.0 Executive Director's Report

Mr. Wood reported that he would update the Board on the Sugar Hollow Reservoir. He stated that Sugar Hollow was overflowing due to the recent rain events, but beginning in March the levels of the reservoir were dropping quickly – even during times when they were not transferring significant amounts of water between the two reservoirs. So it became obvious they were releasing more from Sugar Hollow reservoir than was coming into it. He stated that Mr. Frederick had updated the Board in April about decisions to reduce the release, with DEQ's approval, and since then Rivanna has had several meetings with DEQ, with Ms. Whitaker spending a lot of time analyzing flow. Mr. Wood stated that there was one visit from DEQ at which time they put some temporary stream gauges upstream of the Sugar Hollow Reservoir at the South Fork and North Fork of the Moormans River, as well as below or downstream of the dam. He stated that what was going into the reservoir on that particular day was the same measured downstream flow coming from the reservoir. This raised a concern because on that day there was a release from the reservoir metering at 5.3 mgd. With stream gauges showing upstream flow at 7.5 mgd and downstream flow at 7.5 mgd, Mr. Wood stated that this could indicate a problem with the meter on release and possibly issues with the seepage factor and water going around the dam itself – although some seepage is typical for all dams.

Mr. Wood stated that in the assessment with DEQ, a plan of action was established to ensure that the components that are part of the release regimen are functioning properly and are accurately measured. He stated that this summer, Rivanna needed to calibrate the meter coming off of the release line programed into the SCADA system which can actually be monitored and controlled with the flow rate changes from the Observatory Treatment Plant. Mr. Wood commented that there are a lot of moving pieces to calibrating a meter. He stated that there is also a factor in the calculations used for seepage around the reservoir, using the Mechums River gauge within the permit, and the Authority feels that it is important to determine whether that is an accurate factor – which is also something staff is working on with DEQ. Mr. Wood stated that they also felt it would be important to get a more accurate accounting of water transfer between the two reservoirs, which is currently calculated and therefore the Authority is installing a new meter on the transfer line to more accurately pinpoint the flow data to help examine and identify trends and help accuracy. Mr. Wood stated that at the last Board meeting, staff discussed the possibility of a permit modification needed with some permanent gauges to be located upstream; however those are costly endeavors. So these initial measures may lessen or eliminate the need for those modifications to the permit if the current work being done by staff and DEQ finds that this is in fact a calibration issue.

Mr. Gaffney commented that if there was a two-million gallon difference, when they thought they were releasing 10 mgd, it actually could have been 12½ mgd – which would make a big difference.

Mr. Wood agreed that it would make the reservoir go down very quickly and explain the reduction in reservoir levels.

Mr. Gaffney asked what they would know for the next meeting.

Ms. Whitaker stated that Rivanna was trying to take all the variables and simultaneously pursue the necessary measures – purchase a meter and work on the installation, or gather more data so stream gauges that are in place can be correlated. She said that DEQ has offered to help with more instream flow monitoring on several days and has also allowed Rivanna to run several different scenarios with different volumes of release to determine the issue. Ms. Whitaker stated that the plan over the next 6-8 weeks is to flesh out each variable so they can establish where the potential differences are and eliminate some variables, focusing on others requiring further refinement.

Mr. Wood stated that staff would likely have more definite answers in July, with June being the time to explore the variables.

Mr. O’Connell asked if staff could see any near-term releases or transfers to Ragged Mountain.

Mr. Wood responded that the Ragged Mountain Reservoir was a half-foot below crest and went up to 0.2 below crest with recent rains, so staff did not feel it was necessary to do the releases from Sugar Hollow. He stated that on April 22, DEQ had instructed the RWSA to stop the transfer. RWSA has asked if it could resume the transfers but has not yet received a response.

5.0 Items from the Public

City of Charlottesville resident Ms. Dede Smith addressed the Board and noted that the agenda included an item on reservoir management, and mentioned that there was a meeting that night at Ragged Mountain Reservoir – also on management. Ms. Smith stated that it occurred to her that there should be dialogue between the two entities because these things impact one another, and commented that Ragged Mountain had great information that officially impacts this question. She added that the interest of both groups might be at odds, which is relevant particularly because they are putting money into reservoir management. Ms. Smith presented a map showing the sensitivity of the ecosystems at Ragged Mountain, noting that the piece adjacent to Ednam Forest is the most disturbed, with the most invasive species, and has been targeted by Charlottesville Parks & Recreation to have the most intensive uses – such as mountain biking, dogs, and other sources of carbon pollution. She stated that it may be good for Albemarle County from an ecological point of view, but may be the worst place from a water quality point of view, and she encouraged the RWSA to talk with City Parks & Recreation. Ms. Smith said that the Ragged Mountain area received the most impact, so she hoped their mutual goal was protection of the watershed and prevention of carbon pollution that caused the algal blooms and chlorine byproducts. She presented a letter from the Virginia Department of Health’s Division of Drinking Water sent to the RWSA in 2002 during the water supply planning that said, “Safe Drinking Water Act amendments and the U.S. EPA has placed greater emphasis on source water protection and preventing contaminants from entering water supply in lieu of the past practice of removing contaminants at the water treatment facilities.” Ms. Smith said that the Department of Health also mentions algal blooms in the South Fork and Beaver Creek and advises Rivanna to “watch for them” in other reservoirs. She thanked the Board for their work and stated that the reservoir management was a step in the right direction.

There being no further public comment, the Chair closed this portion of the meeting.

6.0 Responses to Public Comments – No Responses This Month

There were no responses to public comments from the April meeting.

Ms. Galvin stated that she would wait to hear the interim executive director's report, because her understanding was that carbon pollution was not caused by bicycles and dogs.

Mr. Wood said that it would be helpful to have the presentation on this first, with some follow-up on public communication and outreach after we hear from the consultants.

Mr. O'Connell asked if the meeting tonight was at the City Parks & Recreation Department, as he had difficulty finding it on the City's website.

Dr. Palmer noted that she had several people in her district following it very closely.

Mr. Jones said that there have been discussions between City staff and Rivanna staff.

Mr. O'Connell responded that the discussion tonight would focus more on trail usage, with an urban habitat study presented to help within the context of the use of trails by bicycles, dogs, etc.

Mr. Jones stated that they would be moving to provide recommendations back to City Council for consideration soon, and that was an important part of this process.

7.0 Consent Agenda

- a) *Staff Report on Finance*
- b) *Staff Report on Operations*
- c) *Staff Report on Ongoing Projects*
- d) *Engineering Design and Bid Phase Services – South Fork WTP Leaf Screen*
- e) *Contract Award – Term Contract for Water Distribution and Sewer Collection Engineering Services*
- f) *Engineering Design – Crozet Finished Water Pump Station*
- g) *Construction Management Services – Upper Schenks Branch Interceptor, Phase 1*
- h) *Personnel Matters – FY2016-2017*

Mr. Jones moved to approve the Consent Agenda as presented. Dr. Palmer seconded the motion, which passed by a 6-0 vote. Mr. Foley was absent for the meeting and the vote.

Mr. O'Connell stated that the RWSA needs at some point to look at amending the 1983 working agreement between the City, Albemarle County Service Authority, and Rivanna Water Sewer Authority. He noted that the RWSA had a \$1.088 million surplus this year, primarily because of wastewater flows.

Mr. Wood responded that a lot of that was built up during the first few months of the year, prior to changing the debt service arrangement.

Mr. Gaffney commented that the debt service change implemented would take care of most of that.

Mr. Wood confirmed that the debt service portion of the charges would not fluctuate anymore.

Mr. O'Connell asked if the wholesale meters would be in place by this time next year.

Mr. Wood responded that it would depend on how the metering project is going, because they are having some issues with easements, however, the urban wholesale meters are in place at the plants which was part of the project.

Mr. O'Connell noted that this would be another City-County agreement in the making.

8.0 Other Business

a) Public Hearing on Operating Budget and Water and Wastewater Rates – FY2016-2017

b) Adoption of Operating Budget and Water and Wastewater Rates – FY2016-2017

Mr. Gaffney opened the public hearing on the FY 2016-2017 Operating Budget and Water and Wastewater Rates. There were no comments, and the Chair proceeded to adoption of the budget and rates.

Mr. Wood reported that he had not made any changes to the budget that was presented to the Board in March, stating that Mr. Frederick's notes pointed out that there would be additional costs related to the GAC project – specifically the carbon itself – and the initial purchase of material would go into the capital budget, however, the annual renewal of carbon being an expensive endeavor will affect the operating budget in the future. He stated that the RWSA would like to amortize the costs over three years. This coming year one third of the cost would be allocated in an effort to keep the rate increase less rather than including all the costs in one year.

Dr. Palmer asked for clarification that this would not be in the operating budget.

Mr. Wood responded that it would be going forward, but in the initial purchase of the carbon in the first year would be a capital cost to get the project to its intended operation. After the initial purchase the costs to replenish or repurchase the carbon are then part of the recurring operating budget. This coming year and over the next three years RWSA is spreading those costs out but putting one third of the costs in reserves or banked. Mr. Wood stated that next year (FY2018), the reserve would be used on top of the next one third increase to the budget, which helps spread the costs out.

Dr. Palmer asked what the total cost of the project was.

Mr. Wood responded that the total cost was \$24-25 million, with some additional costs for implementation.

Mr. O'Connell noted that there were water treatment plant improvements on top of that, so costs approached \$35 million.

Mr. Wood stated that Mr. Frederick had also made the point that RWSA was adding an IT specialist, with the SCADA system having grown significantly over the past five to six years due to the ENR project completion and the GAC project coming online. He emphasized that the system was IT driven, with the need for software updates and programming needs, as well as database analysis and management, networking, security, etc. Mr. Wood stated that Rivanna had a study to review the SCADA systems done about a year ago, with one of the big recommendations being to expand staffing to manage the system as a whole – so there was a new position in the budget, and that person would not be hired until funding became available July 1.

Mr. O’Connell moved to adopt the proposed FY2016-2017 Operating Budget and the Water and Wastewater Rates resolution as presented in the Board’s packet. Ms. Galvin seconded the motion, which passed 6-0. Mr. Foley was absent from the meeting and the vote.

c) Presentation on Reservoir Management Study – DiNatale Water Consultants

Ms. Terry reported that the consultant was present to discuss the reservoir management study and said there were lots of reasons to be doing the study, noting that last year the RWSA had spent \$94,000 for a contractor who provided lake treatments in the reservoirs. The Authority wanted to explore other options for managing the reservoirs. She stated that Kelly DiNatale has his own firm in Boulder, CO, specializing in water supply, water quality, and advanced system modeling. Ms. Terry noted that Dr. Alex Horne of University of California-Berkley was also present, noting that he was a world-renowned limnologist.

Mr. Kelly DiNatale stated that the Rivanna staff had been fabulous, and complimented the work of Ms. Terry, Stuart Wilson and his staff, Dr. Gullick, and David Tungate and Konrad Zeller at the water treatment plants. Mr. DiNatale stated that they started this study from scratch and added 14 sample points throughout the Rivanna water system, with more than 100 profiles taken with a Sonde instrument to measure pH, dissolved oxygen, temperature and conductivity, as well as sensors that measure chlorophyll and blue-green algae. He stated that 234 samples were sent to the lab, with more than 1,400 separate chemical analyses done, algae counts, and chlorophyll and Secchi disk measurements. Mr. DiNatale stated that the value of the sampling and data analysis that was performed by Rivanna staff exceeded \$185,000 last year, and that was work undertaken by staff in addition to their normal duties.

Mr. DiNatale reported that the project objectives were established based on the significant presence of algae blooms previously at Beaver Creek and South Fork Reservoir, which can cause taste and odor compounds, cyanotoxins, natural organic matter, disinfection byproduct precursors (DBP), clogging of filters – which can affect the water treatment plant, and has recreational impacts. He stated that currently, chemical treatments are required to manage algae on Beaver Creek and South Fork, so the goal was to establish whether there are more effective approaches. Mr. DiNatale presented an image showing a large blue-green algae bloom that occurred on South Fork on August 21, 2015, but noted that the water quality overall is good. He stated that in 2015 there was \$94,000 spent on chemical treatments for the reservoirs – primarily at Beaver Creek and South Fork, with that cost at \$59,000 in 2014. Mr. DiNatale said that one part of the study was to

start to develop an ongoing database so they can really understand what is happening with future trends.

Mr. DiNatale explained that the project objectives were to evaluate whatever information was available on existing watershed and reservoir data, and to identify factors and sources of existing or potential water quality concerns. He stated that the factors were primarily related to algae and the team was not looking up into the watershed, as the Authority was undertaking separate source water protection projects. Mr. DiNatale noted that additional objectives were to develop a monitoring plan focused on establishing baseline data for long-term trending, because it was uncertain what would happen in the future unless you developed a very solid database; and to develop strategies of management of water quality in the reservoir, and to recommend additional studies as appropriate. Mr. DiNatale stated that the desired outcomes of the project were to eventually have protection and improvement of the reservoir quality; to improve water treatment operations, to make the treatment plants easier to run; to protect and improve the finished water quality and to recommend alternatives to chemical treatments as practicable and appropriate. An ancillary benefit may be enhanced recreational opportunities.

Mr. DiNatale presented pictures of Rivanna staff who were working on the project with sampling, with the Sonde to be dropped at various depths in the reservoir, with hundreds of samples taken with the YSI Sonde instrument, which allowed for gathering of real-time data. He stated that they sampled all five reservoirs and presented a map showing Sugar Hollow and Beaver Creek, as well as the Crozet Water Treatment Plant, and noted that both Sugar Hollow and Beaver Creek were contained within the greater South Fork Rivanna watershed. Mr. DiNatale referenced the Ragged Mountain Reservoir, stating that it had its own small contained watershed, with water transferred from Sugar Hollow and eventually from South Fork. He pointed out the location of the Totier Creek reservoir watershed and Scottsville Water Treatment Plant in the southeastern part of the county. Mr. DiNatale noted that they did some very preliminary water sampling and established that the most significant issues were with the Beaver Creek and South Fork reservoirs.

Dr. Alex Horne addressed the Board and stated that Sugar Hollow was a pristine watershed, but this year it had a major algae bloom – with the reservoir low and the oxygen level low – so he needed to establish what was going on at the bottom of the reservoir. Dr. Horne emphasized that the study was largely about nutrients such as nitrate, ammonia, phosphates and phosphorous. He stated that there were some problems with the reservoir, so they need to examine the water quality to see if there is anything they have missed, as well as establish better baseline monitoring. Dr. Horne said that chemical treatments were becoming less favorable to the public, but they should always be available and should be kept and used as needed. He stated that if the reservoir gets algae blooms again, they would like to find other ways to address them. He noted that because that water was not taken directly to any treatment plants, but instead there was some river or piping activity in between – that usually changes the problem.

Dr. Horne stated that Ragged Mountain Reservoir is also pristine, it is small, and the water quality there is good, with more depth than other reservoirs and several years are needed for it to settle down after having recently finished being constructed. He noted that he would not be surprised if Ragged Mountain developed problems soon, as none of the area's reservoirs were particularly large in many ways, and they had nutrients and light going in. Dr. Horne added that the possibility

of algae blooms blocking the pipes was also a concern, and chemical treatments may be the way to address them. He stated that Totier Creek reservoir is has a lot of sediment in the reservoir that is recirculated – and there are not lake management tools to effectively address these issues.

Dr. Horne pointed out that Beaver Creek had significant problems, with the current concerns being the compounds produced by the algae that can affect taste and odor, and levels of toxins. He stated that algae was not consistent in its production of compounds such as cyanotoxins. Iron and manganese are produced when there is no oxygen at the bottom of the reservoir, but those can be addressed at water treatment plants. Dr. Horne emphasized that algal toxins are an emerging contaminant and are the greatest concern at the moment, with one of the toxins produced being a nerve toxin. He stated that the EPA knows this, but has gone slowly and carefully about how to regulate it, and it was hard to find studies on it. Dr. Horne noted that algal problems have been around forever, but they were something they had to deal with in the present because of the potential impacts. Dr. Horne stated that algae could clog filters and prevent adequate supply of clean water, and if they were blocked too much, the water supply would be impaired and would require either reservoir cleanup or eventually building more filters. He stated that from a recreational standpoint, most people do not like algal blooms in the water, and limited dissolved oxygen in the deep water can also affect fishing and can even cause fish kills in large quantities, especially in the fall. Dr. Horne stated that there is concern that overtreatment with chemicals will allow algae to build up resistance to them, but Rivanna is not treating with them enough currently to have that be a problem. He noted that algaecides that are peroxide-based that do not contain copper do not build up in the sediments, but they are more expensive.

Dr. Horne reported that the RWSA does not have much data, although there are bits of data in the literature on the reservoirs from various studies over the years. He stated that the water quality is dominated by blooming algae, and in the spring there is a finer algae present that the fish like to eat – so that is not as much of a problem as the blooming algae and associated cyanobacteria. Dr. Horne stated that the lower depths of the Beaver Creek Reservoir are void of oxygen from June through the fall, which is not surprising given the presence of algae and nutrients in the spring that sink to the bottom and rot, with oxygen not able to be replaced because of the heat layer on top. He noted that the depth of the reservoir is about 35 feet, so there is not much oxygen stored on the bottom and it must last until the fall. Dr. Horne stated that the spring algae come in and die off at the bottom, creating nutrients that then cycle through the bottom with the lack of oxygen, and there is also the presence of nitrogen in all the reservoirs, with a significant amount in some areas. He said that the nitrogen can be due to farming practices, but in some areas of Virginia it is also due to untouched forests that are producing more nitrogen into the water.

Dr. Horne stated that phosphorous is the likely limiting nutrient for growth of algae in the reservoirs, so they should focus attention on reducing that in order to reduce the algae. He emphasized that the present problem is that nutrients are coming from both internal and external sources, with the nutrient cycle as he described and the external nutrients coming from the watershed. Dr. Horne noted that there are best management practices (BMPs) being done by way of barriers to keep things out of streams, and while those projects do a lot of good, those things are really not going to significantly reduce nutrient inflow. He stated that with one exception, there is not a way to reduce nutrient inflow, and it is hard to regulate point sources coming from things such as lawns and small orchards. Dr. Horne stated that they needed to focus more on the internal

versus external nutrient loading to determine the causes. He presented information on dissolved oxygen in the context of seasons/time, and the depth of the reservoirs, stating that nutrients are being produced from July through the fall, which is a long time for nutrient production.

Dr. Horne presented information on the South Fork Rivanna and blue-green algae blooms, which he said were increasingly present in the U.S. even though it was an unusual species. He stated that the RWSA had a program for the use of algaecide as an option for treating the growth, as well as removal with activated carbon – and emphasized that they needed to look at the watershed, reservoir and treatment plant as a single process that should be optimized for the best performance at the least cost. He stated that a number of watershed measures had been implemented over the last several years by various external groups. Dr. Horne said that one way to make the reservoir better is to oxygenate it, – which disrupts the nutrient cycle. He stated that oxygen itself is inexpensive, with most of the cost associated with the installation of the system, and installing such a system at Beaver Creek was estimated to cost about \$1 million. Dr. Horne noted that he has had excellent success with oxygenation projects at both large and small reservoirs. He noted that this solution was predicated on the fact that internal loading was the major cause of the algae blooms, and they have not proven that yet. Dr. Horne stated that air can also be used – with a 20% oxygen content – but this stirred the reservoir and made it warm by activating the warm-water layers, and it was ideal to preserve the cold and warm layers.

Dr. Horne stated that you could also affect the sediment by doing things such as adding alum (aluminum sulfate), which is used widely in water-treatment facilities and binds the phosphorous so it cannot get back out again – but the issue with this approach is that phosphorous will continue to come in from external sources and build back up again. He noted that you can also take out the sediment, but again, it will return and fill back up again. Dr. Horne stated that these treatments were usually designed for situations where sewage treatment plants were being taken out of a reservoir to be put somewhere else. He said that as a current practice, he recommends that Rivanna not use algaecide as much as they do currently, but should have it on hand as a tool to be used in the event of an emergency. Dr. Horne noted that algaecide costs are only \$50,000, with oxygenation being more expensive but also having some auxiliary benefits. He added that he implemented a vigorous mixing method that leaves the warm layers on top – and said that you essentially make every day a windy day by introducing air. He stated that the idea is to do things to the water that the algae does not like, with its preferred environment being warm water that is in layers, with the mixing compromising the algae's ability to produce energy so they lose their blooms. Dr. Horne noted that other algae may still thrive, so this is not a perfect solution.

Mr. DiNatale stated that there would be a final report available in about four weeks, with a lot of statistical analyses and possibly a second document created that is geared more for the layperson. He stated that the team's recommended next steps are: (i) to continue with the current algae monitoring; (ii) to implement the modified monitoring program for 2016; (iii) working with staff and placing a greater emphasis on Beaver Creek and South Fork Rivanna, to establish some inflow measurements to get a better handle on internal versus external loading to see the effect of nutrients coming from the watershed into the reservoir; and (iv) taking core samples of the lake sediments, which was not dredging but was just looking at the top layer to see how much it is contributing to internal loading. Mr. DiNatale stated that they would update the charts and analyze them along with the 2016 data, as it was hard to draw conclusions and make recommendations from just one

year's data, especially given that lakes do not behave the same way every year. He added that they also want to continue evaluation of the in-lake management methods to refine cost estimates to implement some of the systems. Mr. DiNatale noted that they also wanted to continue coordinating with the authority on the RWSA's existing source water protection planning efforts in the watershed and possibly have those plans address nutrients. He stated that they would provide a report addendum in early 2017, which would have two years of data and recommendations for a long-term monitoring program of the water supply.

Mr. Gaffney asked if the recommended costs were for treatment in both reservoirs.

Mr. DiNatale responded that the cost for the hypo limnetic oxygenation system was \$1.1 million for each reservoir, not for both.

Dr. Palmer asked how that would work in the South Fork, given that it is a "run of the river" type of reservoir.

Mr. DiNatale responded that they have pictures in another presentation that they could send to the Board, and explained that the method being recommended includes a "speece cone" that sits about eight feet high and could be mounted on the shore, as well as the oxygen generator. He stated that the equipment would take up about a conference table-size footprint, with the cone either on shore or submerged near the dam with a small amount of piping. Mr. DiNatale explained that the system takes the anoxic cold water from the bottom of the reservoir and puts it through the cone, bringing the oxygen levels up to about 100 mg per liter – and then puts it back in the reservoir, where it would spread along the bottom of the reservoir.

Dr. Palmer asked how far it would spread.

Dr. Horne responded that it would go all the way upstream, and in the case of South Fork Rivanna it would go all the way under the bridge – but he was not sure he would recommend it for that reservoir. He stated that it travels about a centimeter per second and you don't need piping everywhere, and while you can put tiny bubbles in a reservoir, they tend to escape in a shallow reservoir before they dissolve properly. Dr. Horne said that in the middle of the season, because there is a run of the river with a good wind blowing down it, the South Fork's oxygen naturally gets to the bottom and mixes and turns over, so that would require a different approach.

Mr. O'Connell asked if that was what made Beaver Creek and South Fork different – the fact that Beaver Creek was static.

Dr. Horne responded that Beaver Creek was more stratified, which is why the algae was different, and said that it contained a single-fiber algae that likes to be stirred around to some extent – so the big difference is the turnover in the season and the fact South Fork is a run of the river reservoir.

Dr. Palmer asked for clarification as to what the "layperson" version of the report would be.

Ms. Terry responded that she had talked with Ms. Kent, the consultants and Mr. Wood about how they should provide this highly technical information to the public, and asked that the Board provide suggestions if they had ideas about it.

Dr. Palmer suggested that they start with a layperson version and go from there, and said that they would also need a non-internet version for people in the watershed who may not have access.

Ms. Galvin asked if they treated the algae blooms chemically year after year, if it would mean the algae debris would drop and rot and crowd out oxygen so that it would ultimately be a “dead” reservoir.

Dr. Horne responded that this was true if they used the peroxide, which was far more regulated, but it really would not matter how it was killed, as there would be so many tons of algae grown, and they would treat it and kill it – and it would drop to the bottom.

Ms. Galvin asked if the internal loading kept generating algae would it needed to be treated by chemicals.

Dr. Horne confirmed that was the case.

Mr. DiNatale explained that the reservoir would be completely mixed when it was cold in the wintertime, and at that point oxygen would be present in the surface layers.

Ms. Galvin asked if there would be a point at which they constrained the amount of oxygen in the supply.

Dr. Horne responded that he did not think so, and they could continue treating with algaecides for a very long time.

Mr. DiNatale stated that if they don't use the algaecides, the algae levels really explode, so by using the chemicals it keeps them from getting out of control in order to maintain some oxygen and prevent the algae from releasing other byproducts.

Ms. Galvin commented that using chemicals did create new compounds that were not necessarily healthy.

Dr. Gullick added when you don't use the algaecide and the algae populations explode and they die and decay which lowers the oxygen. Proactively RWSA monitors, and measures the algae and the type of algae very closely. And that triggers our treatment: RWSA uses the minimum amount of algaecide possible to keep the algae under control and from becoming a bigger issue.

Dr. Horne responded that there was always that possibility, but it was not as much of a concern, with copper – and with peroxides, it was similar to the problem with treating water with ozone. He stated that some of those compounds exist in the natural water supply but they are extremely diluted, and because they are not drinking the water directly, there is not as much of a concern with the effects.

Dr. Gullick mentioned that the copper toxicity was short-lived, and it changed its form in effect.

Dr. Palmer stated that they mentioned additional studies that informed what should be done, but would also have recommendations in a month – so she would like them to go over the approach for each reservoir.

Mr. DiNatale stated that they are currently concentrating on Beaver Creek, with the recommended internal lake management method already known – but a lingering question as to how much of the problem that will solve if there is a very significant influx of nutrients coming in from the watershed.

Dr. Palmer asked how they differentiated between those two.

Mr. DiNatale responded that they would need to get some flow measurements for Beaver Creek and Watts Creek.

Dr. Horne added that they would need to get some nutrient analysis, with phosphorus known to be hovering around the danger level – but not the volume coming in. He stated that with South Fork, they do not yet know the internal and external sources.

Mr. DiNatale stated that because the methods were expensive, they wanted to have the soundest data possible before making any recommendations.

Ms. Terry stated that they have already started collecting information from sites at Beaver Creek, and would be adding new sites to collect data.

Mr. Wood clarified that the more data will be gathered this summer and an addendum or more formal report would be presented in early 2017 that will address recommendations.

Mr. O’Connell asked if the lay document would come with the report or at a later time.

Ms. Terry stated that this was not something reflected in the scope of work, so they would have to consider it as part of cost estimates.

Mr. Wood said that there was contingency left in the project.

Mr. O’Connell asked about the approach for Totier Creek.

Mr. DiNatale responded that they might move the intake structure, which sits off the main flow channel in a thin area – with a lot of siltation present.

Dr. Horne noted that there are not a lot of other examples like it or a lot of data available, as reservoirs with this much sediment are not typically used for drinking water.

Dr. Palmer asked if the intake was just a little ways up from the reservoir.

Ms. Terry responded that it is located behind the water treatment plant when you go straight as you enter the reservoir, and the monitoring is slightly downstream from the bridge.

Dr. Horne stated that they could always expand Totier Creek for a bigger reservoir so things would settle down, but if it has clay, it would not settle.

Ms. Galvin asked if they were recommending that the lower intake be taken out of the system.

Dr. Gullick responded that they were not, as it served as a backup supply used for emergencies and when pumps were tested, for an hour or so, but other than that they always tried to use just the creek source intake. He said that they would apply algaecide as necessary to maintain it as an acceptable level for the water to be used, which they did once last year.

Dr. Gullick added when you don't use the algaecide and the algae populations explode and they die and decay which causes lower oxygen. RWSA monitors and measures the algae and the type very closely and when it triggers, we treat using the minimum amount of algaecide possible to keep the algae from exploding into a bigger issue. Ms. Whitaker stated that about 10 years ago, the capital plan included a project to move at least part of that intake, but it was removed from capital planning in favor of other priority projects. She said that there were ways to move the intake to a healthier part of the reservoir, and the new data gathered with this study seems to confirm that there are better locations for it.

Dr. Palmer asked if there might be situations encountered with the drought since water was being taken out of the stream.

Ms. Terry stated that RWSA could use the reservoir intake in that situation.

Mr. Wood said that during the drought of 2002, there were very few problems there, and the quality of water was very high.

d) Executive Director Search Update and Discussion

Mr. Wood reported that he had requested several proposals from qualified executive search firms and had updated the Board on that via email, and after careful consideration had decided to hire the Titan Group, a firm that had good references and has worked with the City and County before. He stated that Rachel Meyer from Titan would update the Board on expectations and the hiring process.

Ms. Rachel Meyer addressed the Board and stated that that she would review the process and answer any of their questions. Ms. Meyer explained that the next step would be for them to sit down as a group and go through some questions, with the intent being for her to learn from the Board what has worked well and what has not – and this information would be developed into a profile that she would turn into a blueprint used in order to perform the search. She stated that in addition to the profile, a strategy as to how they would present the search to candidates, as well as a decision as to whether to do a regional search or national search would be forthcoming. Ms.

Meyer said that this process would take one or two days, and the Board would help guide which stakeholder groups and staff were involved in this step, as well as what days they were available. She stated that while one-on-one opinions were valuable, she liked group discussions for this part of the process, and added that the timeframe for this step is the first or second full week of June. Ms. Meyer said that she would also be doing a candidate calibration meeting, at which time she would proactively look for candidates who may not have responded to advertisements. She stated that her firm had just done a similar search and had found a niche with water and solid waste executives.

Ms. Meyer explained that she will uncover roughly 65-100 candidates narrowed down to about 25 interviews phone interviews. The second meeting is a candidate calibration meeting where the Board will review a short list of 10 candidates. Together, they will narrow the pool down to roughly 5 candidates who Titan will behavioral interview. The Board will be presented with a one-pager developed to accompany each candidate's resume, and behavioral-based competencies measured in interviews as well as technical strengths. She stated that they will also do an assessment called a PXT, which assesses several different categories such as numeric and verbal reasoning, leadership capabilities, aptitude to learn, and other measures. Ms. Meyer said that applicants would be asked to take a survey, with a job match, behavioral match, and skills match developed for the role. She stated that the assessment will also include follow-up questions and is not a standalone item, but is an additional tool they can use in their recruitment process.

Dr. Palmer asked about how many qualified applicants applied for the position she had mentioned in her recent recruiting efforts.

Ms. Meyer stated that she did not have a lot of applicants who responded directly to the ads placed, but instead used her networks of contacts and worked with the board of that organization. She noted that they had about 25 people apply in response to an ad – but only 2 were qualified – and said that she liked to see at least 65-75 applications for an ad, or she would keep looking. Ms. Meyer stated that she wanted to make sure they got the word out about the executive director position, so there were some local sources that needed to be tapped, with about 99% of the people she placed being people she sourced or found online, with about 3,500 online contacts. She said that she started out with initial screening, then went to a phone interview, then moved onto some of the other tools before narrowing down to an interview group, then a smaller group that would be narrowed down to three finalists. Ms. Meyer said that she provides weekly updates on the process, with a number of individuals who will be screened out along the way. She stated that she has a workflow chart of candidates that she could share with the Board, although she tried to avoid any preconceived biases on balance with not wasting time on certain candidates. Ms. Meyer said that they should be able to do final interviews by the end of August or beginning of September, and all internal candidates would go through the exact same process as the external candidates.

Mr. Jones asked how they would involve the stakeholders, and whether that would be a focus group or individual conversations.

Ms. Meyer responded that she would defer to her clients on that approach, and always ensured that the process was entirely confidential – with the Board, staff, and other stakeholders each having a

different perspective. She emphasized that they wanted to convey the real role of the position in order to have a successful hire, and they needed to be careful about not having too many interviews as that process could be chaotic.

Mr. Wood stated that he was thinking about separate groups with directors and managers.

Mr. O'Connell said that it is effective to separate supervisors from other personnel. He stated that there is not necessarily an "advisory group" for Rivanna, although there is community interest at different levels at different times.

Ms. Meyer asked that she would urge the Board provide input as to whether there is a group not represented on their Board, and wanted individuals involved to understand that they would not have an actual vote in the process. She stated that they would want to be sure not to exclude anyone who felt they should be included, and who could provide valuable input into the process. Ms. Meyer emphasized that there is typically not a broad public meeting, only groups that include stakeholders who are close to the organization.

Dr. Palmer recalled that there was a large group involved in the hiring of Mr. Frederick.

Mr. Gaffney pointed out that the group was only involved in interviewing the three final candidates, not the entire field, and while they had input they did not have a vote.

Ms. Meyer said that if they feel there is a group to be involved, they should be included at the stage of the final candidates – but not throughout the entire process. She emphasized that she would like to solidify those individuals and groups involved, and have a very deliberate process that leads to a unanimous final vote.

Dr. Palmer stated that someone like Cheryl Gomez at the University of Virginia should be involved.

Mr. Gaffney suggested that Mr. Wood look at the list of those involved with the last ED hiring process.

Ms. Meyer said that once the process was greenlighted, she would like to see the Board suggest any referrals or internal candidates in the organization.

Mr. O'Connell asked how "total compensation validation" worked.

Ms. Meyer responded that her firm has an HR compensation team that will do a comprehensive market analysis based on size, location, and employee base in the context of comparable organizations – taking into account a compensation philosophy – and the firm would then provide the Board with a suggested compensation level within the 50th percentile. She also suggested that the Board review the questions she had sent and provide some input on them.

Ms. Galvin asked if the candidate meetings would need to be separate from Board meetings.

Mr. Krueger mentioned that the Board would go into closed session to discuss individual prospective candidates, with the intent of protecting the privacy of the individual, but if they were only discussing the qualities for candidates in general, that would have to be done as a public meeting.

Ms. Mueller asked how they decided whether to do a regional versus national search.

Ms. Meyer responded that they would begin locally and continue radiating out regionally until they found the appropriate candidate(s), with an overall effort to save costs in the process.

Mr. Jones stated that advertising through the association would effectively make it national.

Ms. Meyer said that this would be part of her search strategy, again keeping in mind that they did not want too many candidates.

Mr. Wood stated that they would set up the Board and staff meetings, and he would provide information on how the citizen group was established before, and he would provide Ms. Meyers' email address to Board members. He said that the next meeting would be the candidate calibration meeting, and that would likely be a closed meeting as it would involve discussion of specific candidates.

Dr. Palmer said that this position could quickly get into the limelight.

Mr. Wood pointed out that there were no elected officials involved last time, which was why the public group was deemed necessary, and that composition had changed with City Council and the Board of Supervisors now represented.

9.0 Other Items from Board/Staff not on Agenda

There were none presented.

10.0 Adjournment

Dr. Palmer moved to adjourn the RWSA Board meeting. Mr. Jones seconded the motion, which was approved by a vote of 6-0.

There being no further business, the meeting adjourned at 4:15 p.m.