RWSA BOARD OF DIRECTORS
Minutes of Regular Meeting
December 17, 2019

A regular meeting of the Rivanna Water and Sewer Authority (RWSA) Board of Directors was held on Tuesday, December 17, 2019 at 2:15 p.m. in the 2nd floor conference room, Administration Building, 695 Moores Creek Lane, Charlottesville, Virginia.

Board Members Present: Lauren Hildebrand, Kathy Galvin, Dr. Liz Palmer, Jeff Richardson, Gary O’Connell, Dr. Taron Richardson.

Board Members Absent: Mike Gaffney.

Rivanna Staff Present: David Tungate, Lonnie Wood, Michelle Simpson, Austin Marrs, Andrea Terry, Victoria Fort, Jennifer Whitaker, Scott Schiller, Dr. Bill Morris, Phil McKalips, Vincent Deavers, Matt Bussell, Katie McIlwee, Bill Mawyer.

Attorney(s) Present: Kurt Krueger.

Also Present: Members of the public and media representatives.

1. CALL TO ORDER
Dr. Richardson called the December 17, 2019 regular meeting of the Rivanna Water and Sewer Authority to order at 2:15 p.m.

2. MINUTES OF PREVIOUS BOARD MEETINGS
   a. Minutes of Regular Board Meeting on November 19, 2019

Dr. Richardson asked the board members if there were any questions or comments about the November 19, 2019 meeting.

Dr. Palmer stated that she had put in one correction.

Mr. Mawyer stated that on line 178, and 179, the minutes reflected that he was stating that the Authority financed $17.6 million in bonds, on which they were paying 3.9% interest. He stated the words, “on which is about $17.6 million” should be deleted because it was redundant to the first sentence and was somewhat confusing.

Dr. Palmer moved that the board approve the minutes of the regular board meeting of November 19, 2019, with the change noted. The motion was seconded by Ms. Galvin and passed unanimously (6-0). Mr. Gaffney was absent from the meeting and the vote.

3. RECOGNITIONS
Dr. Richardson read aloud the resolution in appreciation for Ms. Galvin:

“WHEREAS, Ms. Galvin has served as a member of the Board of Directors for the Rivanna Water & Sewer Authority and the Rivanna Solid Waste Authority since November 2011; and
WHEREAS, over that same period Ms. Galvin has demonstrated leadership in water and sewer, solid waste and recycling services; and has been a valuable member of the Boards of Directors and a resource to the Authorities; and

WHEREAS, Ms. Galvin’s understanding of the water, sewer, solid waste and recycling operations of the City of Charlottesville, the Water & Sewer Authority and the Solid Waste Authority has supported a strategic decision-making process that provided benefits to the customers served by the City of Charlottesville as well as the community as a whole. During Ms. Galvin’s tenure and through her efforts, major projects were completed including:

- the Ragged Mountain Reservoir Dam
- the Rivanna Sewer Pumping Station
- Odor Control Improvements at the Moores Creek Advanced Water Resource Recovery Facility
- Granular Activated Carbon Filters for all water treatment plants
- a Refuse Transfer Station at the Ivy Material Utilization Center
- a Strategic Plan for both Authorities; and

WHEREAS, the Board of Directors of the Water & Sewer Authority and the Solid Waste Authority are most grateful for the professional and personal contributions Ms. Galvin has provided to both Authorities and to the community; and

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the Rivanna Water & Sewer Authority and the Rivanna Solid Waste Authority recognize, thank, and commend Ms. Galvin for her distinguished service, efforts, and achievements as a member of the Rivanna Water & Sewer Authority and the Rivanna Solid Waste Authority, and present this Resolution as a token of esteem, with their best wishes in her future endeavors.

BE IT FURTHER RESOLVED that this Resolution be entered upon both the permanent Minutes of the Rivanna Water & Sewer Authority and the Rivanna Solid Waste Authority."

The Board presented a plaque to Ms. Galvin.

Ms. Galvin stated that it was an honor to serve on the Board, noting that they had accomplished much work together that has kept the community alive and thriving. She stated that some things that may seem mundane (such as odor mitigation) are actually fundamental. She also gave her regards to staff for their pursuit of excellence, adding that it has been exciting to see the innovation.

Dr. Palmer stated that although the City and County do not always get along well, she very much enjoyed working with Ms. Galvin, and expressed her appreciation for their honest discussions.

4. EXECUTIVE DIRECTOR'S REPORT

Mr. Mawyer stated that there were many goals connected to the Strategic Plan. One of the goals is Workforce Development, and that he first wanted to recognize one of the staff, Mr. Vincent Deavers, who recently has worked hard to obtain his commercial driver’s license. He asked Mr. Deavers to speak about the experience.

Mr. Deavers stated that it was very trying.
Mr. Mawyer asked Mr. Deavers to explain what he had to do to obtain his license.

Mr. Deavers stated that the worst part was parallel parking and turning around.

Mr. Mawyer stated that he understood that it takes about six months of practice and training. He stated that there is a training area where they take the candidates for CDLs and they are trained on how to drive and park the bigger trucks and trailers. He stated that Mr. Deavers then had to take a written exam with the Department of Motor Vehicles, as well as a field driving test. He stated that it is a stringent requirement to receive the CDL and that he was pleased that Mr. Deavers was able to obtain it. He stated that there is a need for that service and congratulated Mr. Deavers.

Mr. Mawyer stated that the Board agreed to increase the Education Assistance Program on July 1, 2019 and there are two staff members who were using the program and pursuing graduate degrees with Rivanna’s support. He stated that this was a great thing, as Rivanna develops its workforce.

Mr. Mawyer stated that they also supported the Imagine a Day Without Water initiative, along with Ms. Hildebrand’s and Mr. O’Connell’s groups. He stated that this is a program where K-12 students are invited to submit their artwork on what it means to imagine a day without water. He stated that they celebrated with the winners at Mr. O’Connell’s office recently and were happy to participate in this program. He stated that there were over 300 poster submissions for the group effort. He thanked Ms. McIlwee for managing this.

Ms. Galvin asked if this initiative was evenly spread over the County and City.

Ms. McIlwee replied that the County had more submissions because they have more schools. She stated that it was evenly spread comparatively and proportionately.

Ms. Galvin noted that this was a lot of submissions.

Mr. O’Connell stated that it was also high-quality artwork.

Ms. McIlwee stated that she believed the first or second year of the initiative had the most submissions, but that this year had more submissions than the previous year.

Mr. Mawyer asked if there was an online voting program.

Ms. McIlwee replied yes. She stated that the City set up a website for fan-favorite voting and that there were over 1,800 votes.

Ms. Hildebrand stated that they had tried to expand this to high school, but that it did not seem to gain much traction. She stated that this was a first for this year.

Ms. McIlwee stated that it was also opened to Kindergarten and that they did have some submissions from them.

Mr. Mawyer stated that under the Infrastructure and Master Planning program, he, Mr. David Tungate (Director of Operations) and Mr. Rob Haacke (Wastewater Manager) attended the
Virginia Association of Municipal Wastewater Agencies (VAMWA) quarterly meeting in Richmond with a particular eye on what the State is currently doing with the WIP3 (Water Improvement Plan). He explained that “3” is the third phase of how to clean up the Chesapeake Bay. He stated that Virginia has to submit a plan to the EPA, and that they are monitoring if the State is being successful.

Mr. Mawyer stated that some of the concern, and what VAMWA is monitoring, are the regulations that the State has proposed to adjust on wastewater treatment plants to make Rivanna further reduce the nutrients that they release with treated wastewater (nitrogen and phosphorus). He stated that one concern they get, as noted in the Financial Report, was that they got a check for $78,763 that year for nutrient credits that they create. He explained they treat wastewater to lower nutrient levels than they have to, and thereby create the credits. He stated that with part of the new plan, Rivanna feels like the State is going to take RWSA’s ability to obtain those credits and revenue away.

Mr. Mawyer stated that VAMWA is monitoring the issue and this was a reason he attends the meetings so he can obtain information about issues like this.

Mr. Mawyer stated that regarding the South Rivanna Reservoir to Ragged Mountain Reservoir waterline easement effort, Rivanna has made offers to nine of eleven private property owners, and they had one acceptance so far, which they were pleased with. He stated that they continue to work with VDOT, and with the City for property owned near Ragged Mountain Reservoir, as well as with the County School Board as the pipe will be located behind Albemarle High School and Jouett Middle School.

Mr. Mawyer stated that they are continuing with negotiations on the Observatory Water Treatment Plant lease, noting it has been in UVA’s hands for the past few weeks and that Rivanna was expecting a response from UVA sometime soon.

Mr. Mawyer stated that he and Mr. Tungate also went to the Virginia Biosolids Council in Richmond. He stated that this is where they learn about biosolids regulations. He stated that the conversation now about PFAS being in biosolids and whether biosolids should be allowed for land application, is a hot topic. He recalled that they brought those alternatives to the RWSA Board a month or two earlier, and that the Board decided we would continue to compost all of the biosolids at the McGill facility in Waverly, Virginia. He stated that although they are still doing this, they want to be aware of regulations that are being proposed, as well as new technologies and opportunities.

Mr. Mawyer stated that Rivanna makes over 500 truck trips to McGill per year, delivering about 14,000 tons per year of biosolids. He stated that this is what is left at the end of the wastewater treatment process, and that the biosolids are spun, dried, and put on the truck almost every day, with some days having more than one truckload.

Mr. Mawyer recalled that the prior month, the Board was informed that Rivanna will start the new corrosion inhibitor product in the Crozet water distribution system. He stated that this was going well and that they have not heard any concerns from customers about odors, colors, or issues with the change in the corrosion inhibitor. He explained that the product helps to coat the interior of the water pipes and all fixtures in the home so that lead doesn’t leach into the drinking water.
Mr. Mawyer noted that Rivanna is continuing to streamline its documents. He stated that in Attachment 7B (Staff Report on Ongoing Projects), this is one of the most voluminous sections to the Board Report. He explained that they have gone to what he calls the “Executive Summary” format in that they list all the projects up front, and then they list the brief summary of the status of those projects. He stated that if the reader is still interested, they can go to the back and read the history and more information. He stated that they can also choose not to read all the history and focus on the first few pages.

Mr. Mawyer stated that there was also a new document in the board packet, in Attachment 7C (Staff Report on Operations). He stated that this will be a standard part of the packet where they will have the Wholesale Metering Program Report. He stated that as they finish the Wholesale Metering project, they will have a report every month in the board packet as a part of Consent Agenda Item 7C. He stated that the board will start to see those graphs grow. He stated that Ms. Victoria Fort would be telling the Board about the program, including a review of the growth data.

Mr. Mawyer stated that there was also a suggestion from the Board about Rivanna quantifying and documenting its sustainability efforts. He stated that they had an engineer coming early in February to help give some orientation and training on greenhouse gases, climate action plans, carbon footprints, and other topics to help bring Rivanna up to speed on those and how to calculate the metrics so that they can be reported back to the Board.

5. ITEMS FROM THE PUBLIC

Dr. Richardson opened the meeting to the public.

Mr. John Martin (White Hall District) stated that the week before, he attended the meeting at Agnor-Hurt Elementary School, hosted by the County to explain the project of devoting a parcel of land on the reservoir to a brewing company to build a brewery there. He stated that the meeting was attended by scores of South Fork Reservoir neighbors. He stated that those people clearly felt anguished about the proposal. He recalled that one woman who had been sitting near him was making comments about living on the reservoir, and that she abruptly stopped her comments as she was crying.

Mr. Martin stated that this all came down upon the residents with very little notice. He stated that the parcel of land he was referring to was at the end, where the reservoir does a turn and goes back up north. He stated that it was a parcel of land directly opposite the Ivy Natural Area land. He stated that it has been occupied by a church, which has combined its congregation with another church, and so they are moving out of the building. He stated that if this is no longer going to be a church, he wanted to consider what would be the highest and best use of that particular parcel of land on the reservoir.

Mr. Martin stated that going back to the water planning days 15 years before, they talked a lot about the history of the reservoir, and that one member gave several recitations of her knowledge of the history of the people who lived on the site of the reservoir before it was filled. He stated that this was fascinating information that he hadn’t known previously. He stated that there was a whole community called Hydraulic, and that there was a plant there where they mined sand and gravel, which was used to build UVA post-Civil War. He stated that this community has totally
vanished, and that it was something that should be better known. He stated that these are people
that should be remembered.

Mr. Martin stated that the highest and best use, in his mind, for that property would be to use it
as a site to do some sort of historical remembrance or recognition that those people existed, for
the benefit of the entire community. He stated that the subject parcel would be the perfect
location to do this.

Mr. Martin stated that in terms of going about this, he didn’t know, and he didn’t know what
money would be involved, but that it seemed to him that it would be very appropriate if Rivanna
(joint City and County) purchased that land, and condemn it if need be. He stated that they
should purchase the land with the City and the County, working out the financial aspect of it
together, and have Rivanna be the good steward that it is of the reservoir and administer the
property, going forward.

Mr. Martin stated that the prospect of there being a brewery there with signage and lights on the
reservoir was troubling, not only for the people who live around the reservoir, but the whole
community.

Mr. Martin asked if Rivanna would consider his idea, noting that time was of the essence. He
reiterated that the community didn’t know about the proposal until a few weeks earlier. He stated
that his suggestion would work toward the betterment of the reservoir and the lives of those who
live around it, as well as the betterment of the entire community (City and County).

6. Responses to Public Comments

Mr. Mawyer stated that Rivanna has been coordinating with the County (and specifically, with
Dr. Palmer) about its involvement in the project, which was minimal as it was a by-right
development and did not go through a formal development review process. He stated that the
Water Resources Manager, staff, and Ms. Fort have provided feedback to the County.

Mr. Mawyer stated that Rivanna never considered purchasing the property and that this hadn’t
been part of their plan.

Dr. Palmer stated that the project was going before the ABC Board for an ABC license in a
hearing in the beginning of the year. She stated that the development is by right, and there is a
State law that says a brewery can start with a tasting room anywhere in the County, or in
Virginia, if the zoning is RA. She stated that it is a horrible law that was passed a few years
earlier. She stated that she spoke with the ABC agent last Friday and that he told her that if
someone puts a pumpkin patch outside and makes one batch of pumpkin brew a year, they can
qualify as an Agricultural Operation. She stated that it is an amazing State law that the County
doesn’t seem to have any control over.

Dr. Palmer stated that what the Board of Supervisors would be looking at on Wednesday was a
resolution in support of the objectors of the ABC license. She stated that she could send this
resolution to the RWSA Board, noting that there was a lot of history of the property in it and that
the Supervisors worked very hard over the weekend.
Dr. Palmer stated that she personally thought the project was a travesty, and that she couldn’t believe it was happening for a variety of reasons. She stated that the Board of Supervisors only found out about it weeks before and that they had to scramble to figure out how to respond.

Dr. Palmer stated that purchasing the property would be a big deal. She stated that the City is an abutting owner, with the first several feet of the particular property on two sides of City property. She stated that she assumed that City staff was notified back when the ABC license was applied for, but that she didn’t know how this process works. She stated that Rivanna found out about the project from the Rivanna Conservation Alliance, and that it was an amazing set of circumstances. She stated that the County staff finds out when the ABC license is applied for, which her understanding was either September or October, but that the Board of Supervisors was not notified.

Dr. Palmer stated that if the City was interested in doing anything, the County would be interested in finding out.

Ms. Galvin asked Dr. Palmer to send her the resolution so that she, at the very least, could send it to her colleagues and the future Councilors-Elect who are assuming office January 1. She asked when the resolution would be read and passed.

Dr. Palmer replied that the Board of Supervisors would be doing this the next day (December 18). She stated that she assumed the Board would pass it. She stated that as soon as it goes through that process, she would send the resolution to the RWSA Board.

Ms. Galvin stated that it would be good to have a passed resolution from the County to use as a model. She stated that she could forward it along.

Ms. Galvin stated that she believed that the landscape is pristine and a shared amenity. She stated that she also found it troubling that the brewery was being proposed. She stated that zoning has been her nemesis ever since she took office, and that this was something that represented a problem they are dealing with at the State level.

Ms. Galvin stated that she didn’t know if it would help to bring this up to the UVA Rowing Team.

Dr. Palmer stated that the ABC Board only allows the Board of Supervisors to object on a very limited set of issues. She stated that she could also send this list when she sends out the resolution, as there are many “whereas” statements in the resolution, but that the objecting points are very short. She stated that this reflects what they are able to object to.

Ms. Galvin stated that this was very helpful. She thanked Mr. Martin for bringing the matter to the board’s attention.

7. CONSENT AGENDA
   a. Staff Report on Finance
   b. Staff Report on Ongoing Projects
   c. Staff Report on Operations
Ms. Hildebrand moved that the board approve the Consent Agenda. The motion was seconded by Ms. Galvin and passed unanimously (6-0). Mr. Gaffney was absent from the meeting and the vote.

8. OTHER BUSINESS

a. Presentation: Wholesale Water Meter Program; Senior Civil Engineer, Victoria Fort, PE

Ms. Victoria Fort stated that now that they have reached the end of the project (noting it had been a long road to get to that point), they thought it was a good time to explain how they got to where they are, the next steps, and information about the report the Board will be seeing each month and what the information means.

Ms. Fort presented a map that had been provided previously in another presentation and that at one point, they were showing all the incomplete sites. She stated that the sites are now all green on the map, which means they are complete and in operation.

Ms. Fort stated that to provide an overview of where the project came from, it came out of the 2012 Water Cost Allocation Agreement. She stated that this Agreement essentially allocated the additional safe-yield that would come out of the implementation of the Community Water Supply Plan, and how the two agencies (City and ACSA) would share in the cost of the projects that make up the Water Supply Plan. She stated that the cost of the new Ragged Mountain Dam would be shared 85/15% between ACSA and the City, and the new pipeline that will connect the South Rivanna and Ragged Mountain Reservoirs would be shared 80/20%. She stated that the cost of dredging, if conducted, would be shared 50/50%.

Ms. Fort stated that the Agreement also contained a provision that required RWSA to implement a metering program to monitor each agency’s actual water usage.

Ms. Fort stated that following the signing of that Agreement, a contract was awarded to Michael Baker International in August 2012 to complete an alternative study and provide services all the way through design and construction.

Ms. Fort stated that by September of 2013, the study was completed, and a jurisdictional approach was selected, which means that any water that was crossing over the jurisdictional boundary would be metered rather than metering every single interconnect between the City and County. She stated that when this approach was put together, there were about 34 meters, and that this was eventually reduced to 25 meter sites.

Ms. Fort stated that they then proceeded with design, and the construction contract was awarded in November 2015 for $2.2 million to Linco, Inc. She stated that their original substantial completion date was in February of 2017, and by early 2018, there was still a struggle with delays in getting the construction contract completed. She stated that there was one site the contractor declined to complete due to site difficulties.
Ms. Fort stated that Rivanna in April of 2018 terminated the contract with Linco for convenience. She stated that staff managed completion of the rest of the project and all of the punch list in-house, primarily through Rivanna’s own maintenance staff, noting that staff has put a tremendous amount of work into the project.

Ms. Fort stated that between April of 2018 and March of 2019, Rivanna spent a lot of time completing the work and doing a lot of troubleshooting on the instrumentation. She stated that by March of 2019, they were able to move into calibration of the meters.

Ms. Fort stated that during that same period, in May of 2018, they completed the Wholesale Metering Administrative and Implementation Policy, which ACSA and the City have signed off on. She stated that from March through October of 2019, they worked through calibration of the meters.

Mr. Mawyer asked her to explain how calibration was performed.

Ms. Fort stated that calibration testing confirms that the reading from the meter is accurate within the manufacturer’s specifications. She stated that there were a few different ways of calibrating, and that most of them are done using a comparative test method, which uses a test meter and compares it to what the user’s meter is reading. She stated that if the reading is off by a certain percentage, the meter would fail and that if it was within a certain percentage, it would pass.

Ms. Fort stated that in the end, they closed out the CIP project in July of 2019, and the total project expenditures were $3.2 million.

Ms. Fort stated that the punch list and meter troubleshooting were completed between April of 2018 and March of 2019. She stated that in terms of the punch list, Linco declined to complete one of the metering sites. She presented a picture of this site (Meter Site 15), explaining that it was wedged between Ivy Road and the railroad, with overhead utilities and underground utilities. She stated that it was a difficult site to construct, and that this was completed under the on-call construction services contract with Faulconer Construction. She stated that this work was completed in June of 2018.

Ms. Fort stated that they worked through a massive amount of punch list items which included site restoration, paving, and instrumentation setup. She stated that one site was supposed to have an electrical service, but this was never completed, so staff had the electrical service and all the instrumentation installed at that site.

Ms. Fort stated that regarding the troubleshooting, they had a lot of problems getting the instrumentation up and running. She presented a picture of Site 14 as an example. She stated that most of the metering sites include the meter itself. She stated that the meter connects to a register. She stated that the register is the computer that logs and processes all the data, then
sends it to the transmitter. She stated that this is transmitted via cellular signal to a cloud server, where Rivanna can retrieve all the metering data.

Ms. Fort stated that getting the meters, registers, and transmitters to talk to each other was a challenge. She stated that staff spent a lot of time working with replacement of the two manufacturers of the selected meters (Mueller and Master Meter), on site, on the phone, and through email. She stated that they also had some issues with some of the bidirectional meters because when there was flow in a negative direction, the Badger transmitters could not transmit the negative numbers, and so many of the meters had to be reprogrammed.

Ms. Fort stated that some of the cellular transmitters (the end points that are part of the Badger AMA system) were faulty, and many of these had to be replaced. She stated that by March of 2019, they finally had all the instrumentation functioning and transmitting data, and so it was then time to move into calibration, which staff believed at the time would be the end. She stated that this proved not to be true.

Ms. Fort stated that they performed calibration in March, June, August, and October of 2019, with four separate visits from calibration crews. She stated that during the first visit in March, eight of 25 meters passed calibration, so eight of the meters were within 3% of the accurate value on the test meter. She stated that they then spent a lot of time with the engineering consultant and with the manufacturers of the meters trying to come up with reasons why the other meters wouldn’t calibrate.

Ms. Fort stated that Rivanna spent a lot of time with its own maintenance staff, ruling out possible causes of error such as improper grounding that causes some issues and trapped air. She stated that they looked at the makeup of the water itself to make sure that the magnetic signal wouldn’t be thrown off. She stated that they were able to find some issues, and that much of it was due to a learning curve by the calibration crew and staff.

Ms. Fort stated that with the subsequent visits in June, August, and October, they were able to get all 25 meters to pass calibration testing and become fully operational. She stated that they now have 25 meters that they feel are accurate.

Ms. Fort stated that throughout the process, they had to replace about 10 meters. She stated that with some, they determined that the ones that had been replaced were actually accurate and that they have these meters in inventory as spares.

Ms. Fort stated that some of the meters were under warranty, and some were not. She stated that some of the cost was absorbed by contingency in the project, before it was closed out. She stated that some of the meters were covered under warranty and provided at no cost by the manufacturer, and with the remaining items, they had to pay out of the operations budget.

Dr. Palmer asked how often the meters have to be recalibrated and what their life span is.
Ms. Fort replied that calibration is recommended, at a minimum, every year. She stated that some manufacturers recommend calibrating twice a year. She stated that the finished water meters at the three plants are calibrated at least once annually.

Ms. Fort stated that in terms of life span, the meters should last ten years. She stated that the five or six Master ultrasonic meters are under warranty for ten years. She stated that the Mueller meters that make up the bulk of the program were only warranted for a year.

Ms. Fort stated that access to some sites was a challenge during calibration. She stated that the one site that is not on the Badger system (Meter Site 26) is located on Route 29 in a travel lane, in a manhole. She stated that they had to do lane closures, which VDOT only allows at night. She stated that they found out the first time they tried to calibrate it that at night, flows are very low, and they are below the minimum needed for calibration of that site. She stated that they then had to get ACSA and the City there the next time, do the same lane closures, and flow hydrants and check pressure so that they had enough flow for that meter to calibrate.

Ms. Fort stated that another challenging site was Meter Site 24 on Greenbrier Terrace. She stated that it is always full of water and mosquitoes. She stated that it is a 20-inch meter and is very difficult to manipulate. She stated that this meter had to be replaced during the summer of 2019, which was not easy. She stated that they also found that the test port was located too close to the meter itself, so a few months back, they installed a new test port outside of the meter hole so that they can accurately test it in the future.

Dr. Palmer asked how long it took to calibrate the meter on Route 29.

Ms. Fort replied that the entire process took about 3-4 hours.

Dr. Palmer asked if Route 29 had to be closed in that area.

Ms. Fort replied yes. She stated that they closed two lanes on the northbound side, noting that one was a left-turn lane and one was a through lane. She stated that this was coordinated with VDOT and that they were able to keep traffic going, but that there are restrictions on hours during which work can be done and when lanes can be closed.

Ms. Fort stated that once everything was calibrated, the project entered the implementation phase. She stated that she would provide some information on where the data comes from and how Rivanna compiles and reports it.

Ms. Fort stated that the data is retrieved from multiple sources, such as the Badger site. She presented a screenshot of the Badger site showing 24 of the 25 sites, explaining that all kinds of analytics can be pulled off the Badger site to get information. She stated that the last of the 25 meters is the one in Route 29, which comes from SCADA.
Ms. Fort stated that they have the production data for the three water treatment plants. She stated that there are City and ACSA swap meters, where in a few places in the system, there are City meters on the ACSA side of the water line, or an ACSA meter on the City side of the jurisdictional break. She stated that both groups are sending Rivanna data on all the swap meter accounts every month, which are factored into the equation as well.

Ms. Fort stated that they have a potable water meter at the Observatory Water Treatment Plant that gets subtracted out from the production number to give a net production at Observatory.

Ms. Fort stated that all of this data is put into a spreadsheet that Rivanna has provided to the City and ACSA as part of the implementation policy. She stated that the spreadsheet calculates the water usage of each agency for every month.

Ms. Fort presented the monthly board report and stated that she would explain where the data comes from. She presented the water allocation worksheet, explaining that they input the data from the jurisdictional meters, water treatment plant production numbers, and the swap meter accounts, and that it calculates the total monthly usage for ACSA and the City, average daily usage, and percent usage by each entity as compared to the total.

Ms. Fort stated that this chart is taken directly from the worksheet and put into the Board report. She stated that while all the details are not provided in the report, the summary is given. She stated that they will also include any other pertinent data that comes up each month about the meters, as well as the charts.

Dr. Palmer stated that she thought there were 25 meters.

Ms. Fort replied that there are 25.

Dr. Palmer stated that under “Jurisdictional Meter Sites,” there were 32 displayed. She asked if she was reading the information wrong.

Ms. Fort replied that the sites were originally numbered 1-32, and the numbering convention was maintained after the number of meters was reduced to 25. She stated they originally had 32 sites.

Dr. Palmer stated that she could then see the ones that were missing and understood.

Ms. Fort stated that throughout the design process, the sites were referred to by number and that they decided not to renumber them.

Ms. Fort stated that she would provide a brief overview of the charts included in the Board report. She stated that the Water Cost Allocation Agreement allocates the additional safe yield that they create out of the implementation of the community water supply plan. She stated that
the ultimate total safe yield, as part of that agreement, is 18.7 MGD. She stated that the City is
allocated 6.71 MGD, and the ACSA is allocated 11.99 MGD. She stated that with the annual
true-up that is done as part of the metering implementation policy, if the previous 12 months’
average daily usage exceeds the allocation of either entity, then a true-up would be required for
the payments for the projects.

Ms. Fort stated that to give a sense of how the number changes once a month, billing data is used
for the last 11 months. She explained that on the chart, where the numbers turn green and blue,
for the City and ACSA, respectively, this is the wholesale metering data. She stated that as they
obtain more metering data, more of this will turn green and blue, and they will be using the
actual wholesale data. She stated that this chart was more for demonstration purposes.

Ms. Fort stated that the chart shows that the average usage was 4.66 MGD by the City and 4.55
MGD by the ACSA for November. These averages are lower for both the City and ACSA as
compared to the annual allocation.

Mr. Mawyer noted that these were examples as they were not official data.

Ms. Fort stated that this was correct, adding that the data was based on billing and not on the
wholesale data. She stated that it will vary slightly from what is billed monthly.

Mr. O’Connell asked if the percentage was for the first full month.

Ms. Fort replied yes.

Mr. O’Connell asked if they would then build upon that until they get to 12 months.

Ms. Fort replied yes.

Ms. Fort stated that for next steps, they will be completing another calibration prior to the true-up
month (which is July of each year). She stated that they will complete another round of
calibration testing in the spring with all the things that staff has learned, adding that they feel this
will go much more smoothly. She stated that the annual true-up is in July of every year because
it requires 12 full months of data. She stated that the first real true-up will be in July of 2021. She
stated that they would probably go through the exercise to get a sense of what the process looks
like in 2020, but that it would be official in 2021.

Ms. Fort stated that the program requires periodic audits. She stated that once every five years,
they have an outside engineer review the program to make sure it’s still functioning the way it
was meant to and that it is meeting the objectives that were set forth by that Agreement.

Ms. Fort stated that any time updates are needed to the swap meter accounts, or new
development requires a new water connection across jurisdictional boundary, they may need to
add jurisdictional meters to the program as well. She stated that updates will be needed from
time to time, and this will continue to be considered on an annual basis.

Mr. Mawyer asked her to explain what a swap meter is.

Ms. Fort replied that a swap meter is a meter on the opposite side of the jurisdictional boundary
from the customer.

Mr. Mawyer stated that, as an example, it was a City meter that’s being supplied off the County
line.

Ms. Fort stated that this was correct, or vice-versa. She stated that there were not many of these.

Mr. Mawyer stated that these are swapped to keep the usage summation correct between the City
and ACSA.

Ms. Fort stated that she had mentioned that one of the methods of meter testing is using a test
meter. She presented a picture where two test meters were being tested to see if they were
reading the same. She stated that this was not a common setup, but that she wanted to show what
the test meter looks like. She stated that the test meter is used to validate the readings on the
meter they are testing.

Dr. Palmer noted that the project had been going on for many years. She stated that she was on
the ACSA Board when they were first discussing the project, and remembered how this cannot
be completely accurate. She stated that they could not put in enough meters to have it be, and
that there is a point at which the cost of the meters is too high, and that there was a discussion
several years ago about how valuable the project was, given the cost.

Dr. Palmer asked how accurate the meters are as far as a percentage.

Ms. Fort replied that she would have to go back to the design report to provide the correct
answer. She stated that it depends on the accuracy of the meters themselves, and then the fact
that they are not metering every interconnection, but only the ones across the jurisdictional
boundaries. She stated that there is some inherent inaccuracy associated with that, but they
should be within at least a few percentage points. She stated that she could provide a more exact
number to the Board.

Dr. Palmer stated that there was no hurry on this, but that perhaps this could be presented at the
next meeting. She stated that she would like to revisit and have that information in case there are
questions about it.

Mr. Mawyer stated that within the program of 25 meters, there is the possibility that a meter
could not be working correctly at any time. He stated that in fact, in the first report, there is one
meter that didn’t record correctly. He stated that the policy says that they go back and average historical readings and apply it to keep the summation as close as it can be. He stated that in terms of accuracy, it’s a very relative thing. He stated that they are accurate meters, but the collection of 25 data points and some of errors in the compounding of those readings need to be considered.

Mr. Mawyer stated that the main purpose of the whole project is to compare back to those allocation graphs of 6.71 MGD (City) and 11.99 MGD (ACSA).

Ms. Galvin stated that this is tied to the cost allocation agreement percentages between the City and County.

Mr. Mawyer stated that this was correct.

Ms. Galvin stated that it has a monetary implication, and that this was another check on this, which was a hard-fought formula. She stated that she remembered vividly how the City was involved with figuring that out. She stated that there were many closed-door sessions with a mediator from Richmond, and that it was an intense time.

Dr. Palmer stated that it was a very long process.

Ms. Galvin stated that she found it amazing to see, at her last Board meeting, a presentation on the very thing that was her first task as a new Councilor and board member to figure out the cost allocation agreement.

Dr. Palmer stated that she had forgotten how long they had been working on it.

Ms. Galvin stated that it had been eight years, as it started in 2012.

Ms. Hildebrand asked if it was possible that the City and the County could get the backup sheet, at least initially, to see some detail. She stated that they knew the detail based on the policy, but that it would be nice to see real numbers associated, rather than just a total, for those people who are more involved in the detail. She stated that this would be helpful.

Ms. Hildebrand stated that she was referring to the backup sheet that was showed.

Mr. Mawyer asked if the backup sheet was in the cloud.

Ms. Fort replied no. She stated that this was something managed internally.

Ms. Hildebrand stated that this would be helpful to have. She stated that she was also curious as far as the water loss calculations that are continuing to evolve and recommendations from the American Water Works Association. She stated that there is some discussions and serious
consideration as to whether it is necessary to calibrate things less often, and more often. She stated that some of those meters may fall into the category of being more often, as they are used for certain purposes. She stated that it wasn’t a question, but more of a comment of what is going on in the water loss conversation that continues to evolve. She suggested that perhaps revisiting this, especially with the water treatment plants.

Ms. Hildebrand stated that there is some conversation about large meters and having those calibrated every quarter. She stated that they would then look to have things that are less frequently calibrated, so instead of every year, they are calibrated every three years.

Ms. Galvin stated that the frequency in monitoring changes would depend on location.

Ms. Hildebrand replied yes. She stated that she was not sure what effect this would have on the metering, but that it was something that should be considered.

Mr. Mawyer stated that he would look into this.

Ms. Hildebrand stated that there was a consultant who was helping her to provide guidelines and that she could help inform that process.

Ms. Fort stated that currently, they have budgeted twice-annual calibration for the sites, noting that this seems to be consistent with most calibration firms that they are talking to for meters used for this purpose. She stated that they will also have to assess after they see how things go the next go-around with calibration and whether doing it more often or less often would make sense.

Mr. O’Connell stated that there was a lot of good engineering value related to all this besides the financial results that come from it. He stated that it is available to all engineering departments through an annual water audit, which was part of the water loss prevention approach.

Mr. O’Connell asked if Ms. Fort could talk about the water treatment plant metering, as this was another major component of the project. He noted that all but one water treatment plant was about to upgraded.

Mr. Schiller stated that the Scottsville site was almost done. He stated that they still have to calibrate its meter, but that it was installed and is functional.

Mr. O’Connell stated that there were brand new meters at all the treatment plants, so the water volume information was much more accurate.

Mr. O’Connell asked if there was also more frequent calibration.
Ms. Fort replied that it was once a year. She stated that all three of the urban water treatment plant meters were replaced as part of the program. She stated that this was done with the GAC construction, and so those have been completed for a few years.

Mr. O'Connell asked if they had more accurate numbers coming out of the treatment plants in terms of the water used.

Ms. Fort replied yes.

Mr. O'Connell stated that there would be more accurate usage within the system as well.

Mr. Mawyer stated that this was a project where large meters, vaults, and underground pits were not like the water meter boxes in people's yards that can be opened and meters easily installed. He stated that this was a much bigger project with many challenges over several years. He expressed appreciation for Ms. Fort, Ms. Jennifer Whitaker, and Mr. Scott Schiller, as well as Maintenance staff, who all worked to get the project done. He stated that it was painful many times with the Service Authority expecting completion and RWSA not meeting the commitments.

Mr. Mawyer stated that fortunately, they made it to the end, and it will be an ongoing project with calibrations every year, repairs, and maintenance. He stated that this was thus not the end, but was a different beginning, of the wholesale meter project.

Dr. Palmer stated that they were warned at the beginning of the project by Mr. Mawyer’s predecessor that the project was going to be a difficult one.

b. Presentation: Industrial Pretreatment Program; Lab Manager, Dr. Bill Morris

Mr. Mawyer introduced Dr. Bill Morris as Rivanna’s Lab Manager. He stated that they manage the industrial wastewater pretreatment through Dr. Morris and his staff.

Dr. Morris stated that he also worked with Mr. Haacke (Wastewater Manager) on the program as well.

Dr. Morris stated that the purpose of the program is to protect the sewer system and the treatment processes. He stated that it is also required by the Environmental Protection Agency and the Virginia Department of Environmental Quality. He stated that they have to submit a report on the industries monitored annually.

Dr. Morris stated that even though the program is required, it is in Rivanna’s best interest to do this, because if anything comes into the plant that they cannot deal with or that overwhelms the plant, and then they discharge something that puts them over the regulatory limits, then they are responsible for that. He stated that prevention is the best course of action to take.
Dr. Morris stated that under the Virginia Pollutant Discharge Elimination System (VPDES), Rivanna is required to implement a pretreatment program that complies with the EPA’s Clean Water Act. He stated that they have to submit an annual report on the pretreatment program by January 31 of each year. He stated that this details all the industries that are permitted, and all the activities or any changes to things that they may have done in that year.

Dr. Morris stated that there are wastewater discharge limits. He stated that the pretreatment program looks at certain constituents, including fats, oils, and greases (FOG). He stated that typically, ACSA and the City handle FOG, and that this is primarily from restaurants and other large food processing facilities. He stated that metals (manganese, copper, lead, and other heavy metals) that are bad for the environment and drinking water are also monitored.

Dr. Morris stated that nutrients are more typically monitored out of the plant. He stated that they didn’t have any large industrial producers of nitrogen or phosphorus, but that they do still make all the industries test for that whenever they renew their permit, which is every three years.

Dr. Morris stated that pH was very important to control, and that they require that everyone’s discharge be between 6.0 and 9.0 (not too acidic, not too basic). He stated that they also look at biochemical oxygen demand because they have to meet certain requirements dealing with this. He stated that biochemical oxygen demand involves putting nutrients into a sample along with bugs to see how much oxygen the bugs consume, which shows the potential for pollution in water. He stated that this was one measurement of it.

Dr. Morris presented a picture showing a pH adjusting system. He stated that it was not the exact one that Microsystems has, but one of the industries that we regulate has one of these that takes all of their waste and automatically adjusts the pH before discharging it to the sewer.

Dr. Morris presented a picture of what people call a “fatberg.” He explained that this is what happens whenever there are a lot of fats, oils, greases, and baby wipes that are flushed. He stated that all these things stick together and create fatbergs that clog up the sewers. He stated that they can become very big. He stated that London has a very old sewer system at 150 years old and a couple years ago, they had a fatberg the size of the Statue of Liberty that they had to deal with.

Dr. Morris stated that when there is a fatberg, people have to be sent down to the sewer to break it up. He stated that it is very dangerous work because the fatbergs can contain pockets of gases such as methane or carbon dioxide, which if released, can be deadly. He stated that prevention was recommended.

Dr. Palmer asked what is being done to prevent that in the system.

Dr. Morris replied that ACSA and the City require that all restaurants, breweries, or major producers of food to have FOG (fat, oils and grease) traps. He stated that those traps catch the
FOG as it goes through, before it gets to the sewer system, and then the grease traps are emptied, and some other industrial waste hauler hauls it away and disposes of it properly.

Mr. Mawyer mentioned that companies such as Valley Proteins collects and reuses waste oils.

Dr. Palmer asked if the other chemical discharge companies have their own sewage treatment plants, or if this only kicks in when it is a large company.

Dr. Morris replied that there were a couple things that could trigger having this. He stated that he has to identify significant industrial users, which fall into two subgroups: categorical, which falls into a category that has been preordained by EPA as something that needs to be monitored (metal finishing, semiconductor manufacturing); and non-categorical, which is any company who doesn’t fit into one of those categories, but still discharges more than 25,000 gallons per day.

Dr. Morris stated that an industry could also be non-categorical if Rivanna has determined it could adversely affect the treatment process, as they have the discretion to choose places that need permits. He stated that they just spent a lot of time and money on the odor control project, and that although sulfate and sulfur are particularly dangerous industrial wastes, they can cause serious odor problems. He stated that if they were experiencing this or suspected that an industry might be doing that, Rivanna could look into it and regulate them, and make them pretreat or have to dispose of their waste some other way besides the sanitary sewer.

Dr. Morris stated that examples of businesses that discharge pollutants of concern are restaurants, breweries, wineries, dentists, and drycleaners.

Dr. Morris stated that currently, there are three significant industrial users that Rivanna monitors, and that all three of them are categorical. He stated that Microsystems is a metal finishing company that makes very fine gratings that are used in medical equipment and guided systems for focusing lasers.

Dr. Morris stated that Northrup Grumman makes metal components for submarines and navy ships, and the reason they are categorical is because they have one tiny scrubber in their plant that serves to deburr metal. He stated that they put soapy water into it and have lots of metal parts in it that sloshes it around. He stated that the outflow of that is considered categorical industrial waste, and Northrup Grumman has to send Rivanna a report on it twice a year. He stated that it’s never been in levels that have been of concern, but because they are categorical, they have to do it.

Dr. Morris stated that Virginia Diodes makes semiconductors for radio telescopes and are also categorical. He stated that whenever they test, nothing of concern was ever found. He stated that most of the materials they work with are made out of quartz, which isn’t concerning. He stated that still, they are categorical and must have a permit.
Dr. Morris stated that permits were just recently reissued because all three of the companies had permits that went from 2016 and expired July 1, 2019. He stated that the new permits will expire in 2022 and throughout the entire period, they will have to submit semi-annual reports, mostly since they are categorical, and as semiconductors and metal finishers, it will be of different metals. He stated that whenever the companies renew, they will have to test for everything again, such as BOD, phosphorus, ammonia, FOG, etc.

Dr. Morris presented a questionnaire that is used if there is a new industry coming to town, or if there is an industry that Rivanna suspects may have a process that they would need to look into. He stated that the company can fill out the questionnaire and Rivanna can evaluate it prior to making them go through the entire permit application, which is a long process that involves a lot of testing.

Dr. Morris stated that the company has to include a lot of information and have to account for exactly how much water they produce and how much they discharge, and they have to provide an entire schematic of their process. He stated that Rivanna tries to start out the process simply by screening before going through the more involved process.

Dr. Palmer asked at what point the companies actually need their own treatment plants. She asked what is required to meet the permit as far as treating. She stated that Dr. Morris showed a picture of one machine that adjusts pH. She asked if some were requiring a larger operation to get ready to get into the larger sewer system.

Dr. Morris replied that the biggest company is Microsystems, which has the pH adjustment and some other methods for filtering out metals. He stated that they have a process where their waste goes into a container, and then they put this through the pH adjustment and perhaps a metal scrubber. He stated that it then comes out, and then they can discharge it to the sewers. He stated that they have to send Rivanna what they are discharging and when they do their semiannual report, they have to send Rivanna the water that has gone through their process before going to the sewer.

Dr. Morris stated that Northrup Grumman’s waste comes right out of the machine and that it doesn’t have that many pollutants in it, as it is mostly soapy water. He reminded that because the company is categorical, they must be permitted.

Mr. Mawyer stated that their equipment has to reduce the metals level below the EPA and Virginia standards, and then they can release it into Rivanna’s wastewater. He stated that it is up to the companies how they do this and whether they treat it with equipment or hire a hauler to take it away, but that they have to get their product down below the federal and state standards before they can put it in the sewer system.

Dr. Morris stated that if they choose to have it hauled away, then Rivanna doesn’t have to do anything, and this is an option. He stated that the matter is more about the waste released to the sewer.
Mr. O'Connell stated that this is essentially what the grease traps do. He stated that these are
capturing the waste, and these are inspected to make sure the companies are regularly doing this,
noting that some of them do not. He stated that there are probably more issues with grease in the
system than with the metals.

Dr. Morris stated that they didn't have very many large industrial generators. He stated that
Virginia Diodes' process is incredibly benign. He stated that Rivanna makes them test at the
beginning of every permit system, but that they almost never have anything of concern. He stated
that what they have to do semiannually is submit a form signing off saying that they are not
releasing any toxic organics.

9. OTHER ITEMS FROM BOARD/STAFF NOT ON AGENDA
Mr. Mawyer stated that 2019 has been a great year for the Authorities. He stated that they would
miss Ms. Galvin. He stated that 2020 would be another big year they would be looking forward to
Mr. Mawyer stated that they would be jumping into discussions in February, March, and May for
the CIP and Operating Budgets, and that staff was currently working on this. He stated that they
would be convening with Mr. O'Connell and Ms. Hildebrand as the subcommittee for the budget
issues starting in January and will begin to talk about CIP projects and how much they will cost.
Mr. Mawyer wished Ms. Galvin the best.

10. CLOSED MEETING
There were no closed meeting items.

11. Adjournment
At 3:24 p.m., Dr. Palmer moved to adjourn the meeting of the Rivanna Water and Sewer
Authority. The motion was seconded by Mr. O'Connell and passed unanimously (6-0). Mr.
Gaffney was absent from the meeting and the vote.

Respectfully submitted,

Jeff Richardson
Secretary - Treasurer