RWSA BOARD OF DIRECTORS
Minutes of Regular Meeting
November 13, 2018

A regular meeting of the Rivanna Water & Sewer Authority (RWSA) Board of Directors was held on Tuesday, November 13, 2018 at 2:15 p.m. in the 2nd floor conference room, Administration Building, 695 Moores Creek Lane, Charlottesville, Virginia.

Board Members Present: Mike Murphy, Mike Gaffney, Jeff Richardson, Liz Palmer, Kathy Galvin, Lauren Hildebrand, and Gary O’Connell.

Board Members Absent: None.

Staff Present: Phil McKalips, David Rhoades, Bill Mawyer, Katie McIlwec, Liz Coleman, Tim Castillo, Lonnie Wood, Michelle Simpson, Scott Schiller, Victoria Fort, and Austin Marrs.

Also Present: Kurt Krueger, RWSA counsel, members of the public and media representatives.

1. CALL TO ORDER
Mr. Gaffney called the regular meeting of the Board of Directors of the Rivanna Water and Sewer Authority at 2:21 p.m.

2. MINUTES OF PREVIOUS BOARD MEETINGS
a. Minutes of Regular Board Meeting on October 23, 2018
Mr. Mawyer noted that the date on the agenda should say “October 23, 2018.”

Ms. Galvin moved to approve the RWSA Board meeting minutes of October 23, 2018. Dr. Palmer seconded the motion, which passed 7-0.

3. RECOGNITION
There were no recognitions presented.

4. EXECUTIVE DIRECTOR’S REPORT
Mr. Mawyer reported that Rivanna had completed its draft of the Observatory Water Treatment Plant lease, which includes two leases and an easement to cover the treatment plant and the Alderman Road Pump Station shared with UVA, as well as all the raw and finished water piping
and storage tanks. He stated that they had surveyed plats completed and sent to UVA Facilities, and Rivanna would meet with them on November 27 to receive their comments. Mr. Mawyer noted that this was an effort where the old lease had the City’s water and sewer rates included in the lease, and everyone agreed that the two things should be separated. He clarified that it is a 99-year lease.

Mr. Krueger added that the advantage of this is taking a 1922 agreement that had been amended almost 15 times that was impossible to piece together, and dropping it into three consolidated documents.

Mr. Mawyer reported that Rivanna had executed easements for the Birdwood Water Line with the UVA Foundation after working for the last month on some of the finer details, and a construction contract had been awarded to E.C. Pace of Roanoke for $2.59 million, and that company was in the process of submitting its insurance and bonds. He stated that Rivanna would then issue a notice to proceed to them, and they were expected to start around November 26. Mr. Mawyer noted that RWSA staff would attend a Bellair Neighborhood Association meeting on November 15, and they have notified the Army Corps of Engineers that they were starting the construction project, as required by the permit.

Mr. Mawyer presented pictures that showed UVAF’s work underway reconstructing the Birdwood Golf Course, and Rivanna needed to keep up with that pace. He stated that the eastern side of the property is where the waterline would go, and he noted the path of the one-mile water pipeline, which would follow the tree lined edge.

Mr. Gaffney asked how the $2.593 million differed from the original bids.

Mr. Mawyer responded that it was $22,500 less than the original bid, and the same original low bidder won the contract. He stated that the second low bidder – Garney of Chantilly, VA – was also second in the rebid, with their price going up $4,500 to $2.6 million. He stated that the winning bidder, E.C. Pace, was a family-owned business operating since 1926 and they seemed to be excited about the project.

Mr. Mawyer reported that there had been several community outreach initiatives with water and wastewater, showing groups around various plants, and Ms. Whitaker was helping the Town of Scottsville with an emergency action plan. He stated that Mr. O’Connell and his staff, along with RWSA staff, had met with Supervisor Ned Gallaway and ACSA Board member Kim Swanson to review the Rivanna budgeting process and provided an overview of expenses, what they were for, and how the budget was developed.

Dr. Palmer stated that she was eager to see what Scottsville ended up doing.

Ms. Whitaker stated that Scottsville had reached out to RWSA to start discussions about what type of work they do.

5. ITEMS FROM THE PUBLIC
There were no items from the public.
6. RESPONSES TO PUBLIC COMMENTS

There were no responses to public comments.

7. CONSENT AGENDA

a. Staff Report on Ongoing Projects

b. Staff Report on Operations

c. Approval of Additional Employee Holidays

d. Approval of Board Meeting Schedule for Calendar 2019

e. Approval of Engineering Services, and Update on Award of Construction Contract – SFRR To RMR 36-Inch Raw Water Main; Phase 1 Birdwood Golf Course

Dr. Palmer moved to approve the Consent Agenda as presented. Ms. Galvin seconded the motion, which passed 7-0.

8. OTHER BUSINESS

Joint Session with RSWA Board

a. Presentation: Quarterly Strategic Plan Update; Katie McIlwee, Executive Coordinator and Communications Manager

Ms. McIlwee reported that there were 6 goals, 12 strategies, and 78 tactics for the first year of the strategic plan. She stated that overall, they were where they were expected to be, with overall plan completion at 52%. Most of the groups were in the “green,” with one group in the “yellow” and two groups in the “red.”

She stated that the Workforce Development goal team was in the green and had completed 64% of their first-year tactics. The master staffing plan was presented to the Board in August and they have been working with PVCC to develop manager training. She stated that some of the next steps were to continue reviewing the staffing master plan and develop a budget for new positions in the plan, and to continue to conduct training needs assessments for the workforce and develop a Development Plan Program for the workforce – to include things such as employee training, operators licenses, and the needs of each individual employee.

Ms. McIlwee reported that the Operational Optimization goal team was tracking slightly behind where they should be – they are in the yellow, but they can catch up quickly. She stated that they were completing the sealing of digester three and the corrosion inhibitor study, which will then be reviewed and an implementation plan will be developed.
Mr. Mawyer stated that it was anticipated that the corrosion inhibitor study and recommendations would be presented to the Board within the next 4-6 months.

Ms. McIlwee stated that the next steps for the Communication and Collaboration goal team was to analyze the website statistics, using Google Analytics, to track hits on the website and see where pages needed to be streamlined, enhanced, and/or deleted. Analyzing the statistic will allow us to examine what information the public was seeking from the Rivanna website. She stated they needed to complete the internal employee portal to enhance internal communications with all employees. Ms. McIlwee noted that this goal team also collaborates with some of the other goal teams to help them achieve their objectives.

Dr. Palmer asked whether people frequently went through another point to get to the website, such as the City or County website.

Ms. McIlwee responded that typically it is a Google search for terms such as “Ivy MUC,” allowing the user to bypass the main page and go straight to the page returned in their search. She stated that some of the highest-hit pages with information relating to are Ivy MUC, HHW, and McIntire Recycling Center. She stated that pages, such as the Community Projects page, see very little traffic because they are buried or are not of general interest, whereas transfer station hours were more public facing.

Dr. Palmer stated that people were not really using websites anymore – they just Googled and used a link to go directly to the information – and she wondered if this was sufficient to disseminate all the information needed.

Ms. McIlwee explained that Rivanna would try to make the information users were searching for the most easier to find, and while there was a lot of good information on the website, it might crowd the more important information – so they would try to bring forward the more important items. She clarified that there were approximately 100 pages on the website, and the goal was to avoid having people click multiple times just to find something simple, like a fee schedule or a facility phone number.

Mr. Mawyer added that they also wanted to make sure there were pages that didn’t have to be updated frequently if people were not looking at it – versus other time-sensitive information.

Mr. Henry asked about the schedule for the employee portal.

Ms. McIlwee responded that it was hoped to be done by the end of the calendar year, as it was mostly complete, and she needed to coordinate with HR to make sure that frequently requested items and forms were on the site.

Ms. McIlwee reported that the Environmental Stewardship goal team was in the red – they had nine total tactics, with one being 100% complete and only two not started at all. She stated that they had decided to include an environmental stewardship column in the bimonthly employee newsletter, and that was part of the collaboration with the Communication and Collaboration goal team. She noted that they were also continuing to attend external meetings with
environmental partners, and some of their next steps were continued coordination with the
Communications and Collaboration goal team, as well as identifying and planning activities to
engage employees in some of their green projects – which would involve development of a
budget.

Ms. McIlwee reported that the Solid Waste Services goal team was also red, but their main
barrier was the Ivy Master Plan – and once that was complete, the team could complete their
other items. She noted that the goal team had three tactics 100% complete and was continuing to
coordinate with UVA to develop the composting partnership at the Ivy MUC.

Ms. McIlwee reported that Infrastructure and Master Planning goal team was in the green and
was completing the Asset Master Plan Awareness Training and program development
workshops. She stated they were creating an inventory and analysis of all existing master plans
and critical assets, in addition to looking at and identifying other areas where there may be need
for a master plan.

Mr. Gaffney commented that he was impressed with the follow-through with the strategic plan,
as it wasn’t one that just got shelved.

Ms. McIlwee responded that a lot of the goal teams meet regularly and keep their goals and
tactics in mind.

Dr. Palmer asked what “increase internal environmental engagement” meant, under the
Environmental Stewardship goal team.

Ms. McIlwee replied that this was Andrea Terry’s goal team, and her understanding was that it
fed into the environmental stewardship tips in the employee newsletter and engaging the
workforce in some of the green initiatives and other things her team did – communicating that
with the rest of the workforce.

Mr. Mawyer stated that it also involved wastewater treatment and making sure it was
environmentally friendly, as well as managing the chemicals used, ensuring that staff understood
the importance of environmental stewardship.

Mr. Richardson commented that it was essentially leading by example to encourage practices
that were good for the environment.

Ms. Galvin stated that it seemed to be cultivating a sense of mission within the organization, and
at some point it would be internalized as such. She stated that in what she has read about
leadership, it encourages staff to become innovators.

Mr. Mawyer agreed, stating that it was becoming increasingly woven into their organizational
fabric, and staff was embracing it.

*The RSWA Board adjourned its meeting at 2:41 p.m.; the RWSA Board continued its meeting.*
b. Presentation: Wet Weather Operations at Moores Creek AWWRF -- David Tungate, Director of Operations and Tim Castillo, Wastewater Manager

Mr. Tungate reported that the RWSA had two pump stations that received the sewage at Moore’s Creek -- the Rivanna Pump Station and the Moores Creek Pump Station. He stated that Rivanna took about 65% of the flow, with Moores Creek taking about 35% of the flow. He stated that the Crozet Interceptor went to Moores Creek, and Rivanna took the north half of the City and the northern urban area. Mr. Tungate presented images showing the pump stations and noted their locations. Additional slides showed the screens and dumpsters for solids cleaned off of the screens. He brought a bag with material that came out of the chutes into the dumpster from screens, noting that the dumpster was pulled about every two weeks.

Mr. Tungate explained that there was also a grit removal system new this year, which took the solids -- inorganic material such as sand and other grit, the size of coffee grounds -- and filled the dumpster at the bottom. He stated that the grit is separated from the water and is cleaned, then ends up in the dumpster.

Mr. Castillo pointed out that with the previous process, the grit settled out in the EQ basins and personnel would have to go in every few years and remove it manually -- and it prevented abrasive materials from wearing out pumps and other equipment.

Mr. Tungate stated that the waste material passed through the grit removal to the primary treatments, which are shown on the side of the building, and there were covers as well as an odor collection system. He noted that the odor collection system had a carbon filter, with air going through the odor control with water coming down, then a final scrubber that has really helped control the odors.

Ms. Galvin commented that the results had been amazing.

Staff clarified for Dr. Palmer that the cost had been $10 million.

Mr. Tungate pointed out the four secondary clarifiers were uncovered as shown and could be seen as you were driving out of the site, and the sand filters were by the Rivanna Pump Station on the left before you get to the bridge. He explained that they disinfected the water with UV disinfection before it went back into Moores Creek, and the effluent flume went into the creek with water that had been through the system and was aerated. Mr. Tungate noted that the outfall was visible to the left as you went over the bridge.

Mr. Mawyer commented that this was where the measured how much water was treated, and that was how they billed out.

Mr. Tungate noted that in the process of the primary and secondary, they did accumulate sludge -- so there were centrifuges in the solids handling building, then the trailer got hauled to Waverly, VA for composting.

Dr. Palmer asked if they were reselling it, as she was thinking about the controversial biosolids.
Mr. Mawyer responded that they composted our solids by mixing it with food products and sold it at McGill Environmental Facility in Waverly, VA.

Mr. Castillo clarified that they created a "premium compost product," which was printed on the bags—and when staff visited there, the composting officials stated that the Washington Redskins used that material as their field base.

Dr. Palmer asked if it was heat-treated first.

Mr. Castillo responded that it did get heated.

Mr. Tungate stated that in addition to the wastewater solids, McGill Environmental also composts with the water treatment plant residuals from South Rivanna.

Mr. Castillo pointed out that the location of the screens and grit removal system, stating that all the flow from Moores Creek and Rivanna pump stations came to a point and joined—going through a screening process and also the flow equalization basins if they were online. He noted that there had been four million gallons of raw waste there, referencing an older picture where they were not covered, and into a biological treatment process—a modified Bardenpho process designed for removal of nitrogen and phosphorus. He stated that it then went into secondary clarifiers where the bugs dissolve the nutrients.

Mr. Castillo stated that they then slow the velocity down and the microorganisms settle out to the bottom, leaving clear water that then can be discharged. He stated that they return the biological population back to the aerobic process, where they then meet up with raw nutrients and continue to be processed. He noted that the normal treatment level is 20 million gallons per day. He stated that on July 31, there was a storm squall that deposited more than 4.75 inches of rainfall in a very short period of time, and that then infiltrated into the sewer collection system and came into the treatment facility. He referenced statistics on the rainfall events around the region, which ranged from 4-5 inches.

Mr. Castillo stated that there was a lot of flow coming into pump stations, so they made sure the screens were on manual at high speed to make sure they were screening and not blocking anything up, and along the roadway there was pipe that went to holding ponds—so anything above a 40 MGD flow rate was designed to go to the holding ponds. He noted that they operated with a 20/30/40 rule for operators: at 20 MGD, it is the normal biological process; anything from 20-30 MGD could be treated with three clarifiers, which was known as step feed and bypassed part of the biological process—and the wastewater was diluted and less concentrated in nutrients. He noted that this was part of the plant’s design in 2010, rather than having multiple basins all doing the Bardenpho process, which still met permit requirements but was less expensive. He stated that it didn’t require as much time and also saved the biological population of nitrofiers and phosphorus-consuming microorganisms.

Mr. Castillo stated that at 40 MGD, they had to put their fourth clarifier into service, and anything over 40 MGD goes into the holding basins.
Mr. Gaffney asked if it was completely untreated water going into the holding ponds.

Mr. Castillo responded that the untreated wastewater was held for treatment at a later time, and he confirmed that it was less concentrated. He stated that it may be clean rainwater infiltrating into the sanitary sewer system, but once it’s combined with wastewater it cannot be separated.

Mr. Mawyer added that the rainwater was not supposed to be in the sewer pipe at all.

Dr. Palmer asked Mr. Castillo to point out where the 30-40 MGD were expected to go.

Mr. Castillo pointed it out and stated that the additional secondary clarifier at a 40 MGD flow rate took the biologically treated wastewater and mixed it with clean water. He stated that 20 MGD went to primary treatment, over that it went into the step-feed bypass portion.

Mr. O’Connell asked how much the holding ponds held.

Mr. Castillo responded that it was 17 MG of total storage.

Mr. O’Connell asked if there was a larger number that was a maximum.

Mr. Castillo replied that storms generally came in as short-term storms, so the levels drop back down – but this particular event raised the level from 14.5 MGD to 80 MGD within just about two hours. He stated that the operators needed to quickly respond to make sure the various valves and tanks were open, and they also were monitoring the pump stations. He stated that there were control issues with one pump because the flow was coming in so fast, and they ended up having to put Rivanna Pump Station into manual with all pumps running. He noted that it was registering 120 MGD over a four-hour period of time.

Mr. Castillo pointed out that the operators opened up the step feed and the discharge line from the Rivanna Pump Station, and sent wastewater to the holding pond. He stated that as the Moores Creek Station was close to coming up, they sent some of that flow as well and ended up putting the flow equalization basins into service – which each store 4 MG. Mr. Castillo stated that because they were filling up the equalization basins, they were saving room in the holding ponds, and there was a tremendous amount of operational flexibility in the facility.

Mr. Castillo explained that when things started to stabilize, levels dropped from 60 MGD to 40 MGD, and at around 6 p.m., they started returning wastewater from the holding ponds back into the treatment facility to treat it throughout the day because they knew there would be more rain coming within 24 hours. He noted that the hydrograph worked exactly like this but stopped at 85 MGD. He stated the Rivanna Pump Station was being inundated so they decided to put the sixth pump in and put everything back within the channels – preventing further backups upstream within the collection system.

Dr. Palmer asked if they reached the capacity of this system with this storm event, without backups into the rest of the system.
Mr. Castillo confirmed that they did, noting that they only had approximately 18 inches of freeboard in the holding ponds at 6 p.m.

Ms. Galvin asked if they anticipated having to build a new holding pond.

Mr. Castillo responded that he didn’t think so, as the facility was able to handle the event even though it was a big storm. He recounted some historical storm events, noting that in August 2008, a 5-10 inch rainfall caused overflows at Meadowcreek, Shenk’s Branch, and Moores Creek — and the facility took in 24 MGD. Mr. Castillo stated that there was a 4.2-inch rainfall on July 7, 2008 and the sewer took in approximately 15 MG, with major overflow at Shenk’s Branch. He stated that on May 8, 2008, there was a 2.4-inch rainfall event and the facility took in 25 MGD, with a major overflow at the Meadowcreek Interceptor.

Mr. Castillo reported that on May 18-19, 2018, there was a 6.1-inch rainfall event — with approximately 40 MG of wastewater taken in to be treated, with no overflows. He stated that the July 31 event, there was a 4.8-inch rainfall and the system treated 32 MG total, with no overflows. He stated that as they start investing in the infrastructure, they are removing bottlenecks so they are able to take in more wastewater — and he noted that one operator stated he had never seen levels that high in his 26 years of service. Mr. Castillo stated that the former peak at Rivanna Pump Station was a 25 MGD pump station, and they were now capping at 63 MGD. He stated that his goal was not to have any sanitary sewer overflows.

Dr. Palmer stated that there didn’t seem to be as much rain with the May 30-31 event as there was in the western part of the County.

Mr. Castillo responded that they saw more flowing into the Moores Creek Pumping Station then they did on the Rivanna side.

Mr. Gaffney commented that it would be good to get an update on what has been accomplished on inflow and infiltration (I&I) in the City and what they have moving forward.

Mr. Mawyer responded that staff was working on that data, but anecdotally there had not been any overflows since making the infrastructure improvements.

Dr. Palmer stated that years ago they did the sewer master plan and figured out how much I&I to get out of the system, and she wondered how often that process needed to be repeated.

Ms. Hildebrand stated they were continually monitoring that.

Mr. Castillo added that the operators were always evaluating that, and it was less expensive to invest in the collection infrastructure than the treatment facilities.

Ms. Whitaker stated that the improvements started because they were having overflows and infrastructure issues, so the 2004-2006 study generated the first major regional agreement — which also encouraged a process that included master plan updating every 10 years, with the off-
cycle 5 years including an evaluation of the flow meters. She stated that they received monthly
flow meter data and were evaluating the systems through the annual CIP process.

Mr. Murphy stated that if he was interpreting the data correctly, they could normally process
about 6-6.5 times what they typically did in a whole day, and he wondered how long they could
do that for and whether it would break if they exceeded a certain amount of rainfall.

Mr. Castillo responded that there was 18 inches of freeboard left at 6 a.m. during the major storm
event, which covered about 12 hours of flow at that extremely high rate – and the equalization
basins had about a foot of freeboard as well. He stated that they would then have to go to the
front gate of the Rivanna Pump Station and start manual back up to protect the system.

Mr. Krueger stated there was about a two-hour window in which they exceeded the 120 MGD
level, so that averaged to about 10 MG coming in the plant during that two-hour period. He
asked what the outflow was when they were treating water, in terms of discharge of treated water
to Moores Creek.

Mr. Castillo replied that the maximum rate was 120 MGD.

Mr. Krueger noted that you would divide that by 24 to get an hourly rate.

Ms. Whitaker commented that when they did the plant upgrades for wet weather capacity, the
idea was for an 85 MGD peak flow rate as what the plant could ideally handle and survive.

Mr. Mawyer stated that when they have normal flow and no rain, they run it through the whole
plant and treat it – and when they have high rain that gets in the sewer system and doubles or
triples flow, they have to divert it to the holding ponds. He stated that when the rain subsides,
they then bring it back to the head of the plant and run it through.

Mr. Castillo stated that the subsiding happens much faster now that the I&I work on the various
basins has been done.

Mr. Mawyer stated that some of the same theory applied in Crozet would mean a flow
equalization tank would take it out of the pipes stored in the tank, then when the flow subsides it
is released out of the tank back into the pipe.

Mr. Castillo stated that in 2016, there was 37-inches of rainfall over a 12-month period at
Moores Creek; in 2017, there were 44 inches; and so far in 2018, there have been 69,74 inches of
rainfall. He also stated that the Board had commended the operators for dealing with the flow
event, and he wanted to note that the operators were out in the storm manually opening and
closing valves to ensure everything was operating as it should.

Mr. Krueger commented that the highest rainfall in the parts of the system with the worst I&I
would be the worst-case scenario.

9. OTHER ITEMS FROM BOARD/STAFF NOT ON AGENDA
There were none presented.

10. CLOSED MEETING
There was no closed meeting held.

11. ADJOURNMENT

Dr. Palmer moved to adjourn the meeting. Ms. Galvin seconded the motion, which passed 7-0. The RWSA Board adjourned the meeting at 3:18 p.m.

Respectfully submitted,

[Signature]

Mr. Jeff Richardson
Secretary-Treasurer