RIVANNA
WATER & SEWER AUTHORITY

Board of Directors Meeting

September 26, 2023

2:15pm

RIVANNA WATER & SEWER AUTHORITY
695 Moores Creek Lane | Charlottesville, Virginia 22902-9016
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www.rivanna.org

BOARD OF DIRECTORS

Regular Meeting of the Board of Directors of the Rivanna Water & Sewer Authority

DATE: **SEPTEMBER 26, 2023**

LOCATION: **Virtual Meeting via Zoom**

TIME: **2:15 p.m.**

AGENDA

1. ***CALL TO ORDER***
2. ***AGENDA APPROVAL***
3. ***MINUTES OF PREVIOUS BOARD MEETING ON AUGUST 22, 2023***
4. ***RECOGNITION***
5. ***EXECUTIVE DIRECTOR'S REPORT***
6. ***ITEMS FROM THE PUBLIC***
   Matters Not Listed for Public Hearing on the Agenda
7. ***RESPONSES TO PUBLIC COMMENTS***
8. ***CONSENT AGENDA***

   a. *Staff Report on Finance*

   b. *Staff Report on Operations*

   c. *Staff Report on CIP Projects*

   d. *Staff Report on Administration and Communications*

   e. *Staff Report on Wholesale Metering*

   f. *Staff Report on Drought Monitoring*

   g. *Waiver Extension for University of Virginia Rowing Programs and Rivanna Rowing Club*

9. OTHER BUSINESS

a. Presentation and Vote to Consider Approval: Request for Disposition of FY 2023 Rate Center Results; Lonnie Wood, Director of Finance and Information Technology

10. OTHER ITEMS FROM BOARD/STAFF NOT ON THE AGENDA

11. CLOSED MEETING

12. ADJOURNMENT

GUIDELINES FOR PUBLIC COMMENT AT RIVANNA BOARD OF DIRECTORS MEETINGS

If you wish to address the Rivanna Board of Directors during the time allocated for public comment, please raise your hand or stand when the Chairman asks for public comments.

Members of the public requesting to speak will be recognized during the specific time designated on the meeting agenda for "Items From The Public, Matters Not Listed for Public Hearing on the Agenda." Each person will be allowed to speak for up to three minutes. When two or more individuals are present from the same group, it is recommended that the group designate a spokesperson to present its comments to the Board and the designated speaker can ask other members of the group to be recognized by raising their hand or standing. Each spokesperson for a group will be allowed to speak for up to five minutes.

During public hearings, the Board will attempt to hear all members of the public who wish to speak on a subject, but it must be recognized that on rare occasion comments may have to be limited because of time constraints. If a previous speaker has articulated your position, it is recommended that you not fully repeat the comments and instead advise the Board of your agreement. The time allocated for speakers at public hearings are the same as for regular Board meetings, although the Board can allow exceptions at its discretion.

Speakers should keep in mind that Board of Directors meetings are formal proceedings and all comments are recorded on tape. For that reason, speakers are requested to speak from the podium and wait to be recognized by the Chairman. In order to give all speakers proper respect and courtesy, the Board requests that speakers follow the following guidelines:

- Wait at your seat until recognized by the Chairman.
- Come forward and state your full name and address and your organizational affiliation if speaking for a group;
- Address your comments to the Board as a whole;
- State your position clearly and succinctly and give facts and data to support your position;
- Summarize your key points and provide the Board with a written statement, or supporting rationale, when possible;
- If you represent a group, you may ask others at the meeting to be recognized by raising their hand or standing;
- Be respectful and civil in all interactions at Board meetings;
- The Board may ask speakers questions or seek clarification, but recognize that Board meetings are not a forum for public debate; Board Members will not recognize comments made from the audience and ask that members of the audience not interrupt the comments of speakers and remain silent while others are speaking so that other members in the audience can hear the speaker;
- The Board will have the opportunity to address public comments after the public comment session has been closed;
- At the request of the Chairman, the Executive Director may address public comments after the session has been closed as well; and
- As appropriate, staff will research questions by the public and respond through a report back to the Board at the next regular meeting of the full Board. It is suggested that citizens who have questions for the Board or staff submit those questions in advance of the meeting to permit the opportunity for some research before the meeting.

The agendas of Board meetings, and supporting materials, are available from the RWSA/RSWA Administration office upon request or can be viewed on the Rivanna website.

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RWSA BOARD OF DIRECTORS
Minutes of Regular Meeting
August 22, 2023

A regular meeting of the Rivanna Water and Sewer Authority (RWSA) Board of Directors was held on Tuesday, August 22, 2023 at 2:15 p.m. at the 2nd Floor Conference Room, Administration Building, 695 Moores Creek Lane, Charlottesville, VA.

Board Members Present: Jeff Richardson, Lauren Hildebrand, Gary O'Connell, Ann Mallek, Brian Pinkston, Sam Sanders

Board Members Absent: Mike Gaffney

Rivanna Staff Present: Bill Mawyer, Lonnie Wood, Deborah Anama, Betsy Nemeth, David Tungate, Jacob Woodson, Jennifer Whitaker.

Attorney(s) Present: Valerie Long.

1. *CALL TO ORDER*

Mr. Jeff Richardson, Secretary-Treasurer, called the meeting to order at 2:15 p.m.

2. *AGENDA APPROVAL*

Ms. Mallek moved that the Board adopt the agenda as presented. The motion was seconded by Mr. O'Connell, and passed unanimously (6-0). Mr. Gaffney was absent from the vote.

3. *MINUTES OF PREVIOUS BOARD MEETING ON JULY 25, 2023*

Ms. Mallek moved that the Board approve the minutes of the July 25, 2023 meeting. The motion was seconded by Ms. Hildebrand, and passed unanimously (6-0). Mr. Gaffney was absent from the vote.

4. *ELECTION OF VICE CHAIR*

Mr. Richardson stated that the position of Vice Chair had been vacant since the departure of Mr. Rogers on July 31, 2023. He stated that a motion, a second, and a vote would be in order to elect a new Vice Chair effective immediately for the term ending April 30, 2024. He opened the floor to nominations.

Mr. Pinkston nominated Mr. Sanders to serve as Vice Chair. The nomination was seconded by Ms. Mallek.

Mr. Richardson asked if there were any other nominations for Vice Chair. Seeing none, he closed the nominations for Vice Chair and called for the vote.

The motion passed unanimously (6-0). Mr. Gaffney was absent from the vote.

Mr. Richardson thanked Mr. Sanders for serving in this role and congratulated him on his recent appointment as City Manager.

Mr. Sanders thanked Mr. Richardson for the opportunity. Mr. Sanders, newly elected Vice Chair, proceeded to facilitate the Board meeting.

5. *RECOGNITION*

There was no recognition.

6. *EXECUTIVE DIRECTOR'S REPORT*

Mr. Mawyer stated that they were very pleased that the local delegate candidate Amy Laufer requested a visit. They gave her a presentation yesterday in the conference room and then drove to the Ivy MUC and the Crozet Water Treatment Plant. He stated that she was very appreciative, had good questions, and seemed to understand their business, so they appreciated her visit. He stated that they invited a number of the elected officials who represented this area to visit them, and they were thrilled that Senator Creigh Deeds had accepted the invitation and would be present next week. He stated that he and Mr. Gaffney would host Senator Deeds and give a similar tour.

Mr. Mawyer stated that under the Strategic Plan priority for Planning and Infrastructure, they continued to work on the large, major piping projects. He stated they were trying to finalize the details on the Rivanna to Ragged Mountain Reservoir Water Pipeline, particularly where they crossed University Foundation property. He stated that they were working with the University on the Ragged Mountain Reservoir to Observatory WTP pipeline project and the final alignment around the Fontaine area. They had a surveyor this week staking out a new alignment because there was a cemetery they had to accommodate. He stated that then staff, along with UVA officials from the Office of the Architect, would walk that route next week and hoped to come to a conclusion on where that pipe could be located.

Mr. Mawyer stated that they had a very good meeting with the Service Authority and City staff about the Central Water Line project last week to review the 60% design documents. During the meeting, they looked at the route in detail and got comments for items to consider. He stated that they were moving forward with that project, and they expected to request construction bids toward the beginning of 2024, and between mid-2024 and the end of 2024, they would start construction depending on how long it takes to get the pipe. He stated that there was an estimated 6- to 9-month delivery process to get water pipes, and if that were to hold true, it would be close to the end of 2024 when they would be breaking asphalt on the City streets along Jefferson Park Avenue Extended and Cherry Avenue on its way to the Free Bridge area.

Mr. Mawyer stated that drought conditions had not been a concern, but that issue was becoming one. He stated that the state still reported that all of the metrics which indicated precipitation levels, groundwater levels, reservoir levels, and stream flow levels were still normal, but he noted that the Sugar Hollow and the Ragged Mountain Reservoirs had stopped overflowing, so

they felt that South Rivanna could be next to stop overflowing. He stated that when it did stop overflowing, staff would begin a modified operational program to utilize more water from the Ragged Mountain reservoir and less water from the South Rivanna reservoir. He stated they established this operational and utilization strategy several years ago, which was differentiated by the time of year.

Mr. Mawyer stated that they were currently in the May to November timeframe, and the key to their operations was the South Rivanna Reservoir and whether it was overflowing. He stated that water which came from the Sugar Hollow reservoir and thru the Moormans River to the South Rivanna Reservoir, if it went over dam into the South Rivanna River, it was out of their system and they could not use it. While the South Rivanna reservoir was overflowing, they maximized use of that water supply. He stated that they took 8 to 10 million gallons per day (MGD) and processed it at the South Rivanna Treatment Plant, while they held the Ragged Mountain Reservoir and production at the Observatory Water Treatment Plant at a minimum. He stated that during this period, they stored water in the Ragged Mountain reservoir and maximized use of the water in the South Rivanna Reservoir before it passed over the dam.

Mr. Mawyer stated that if the South Rivanna reservoir stopped overflowing, they would change operational procedures by using more water from the Ragged Mountain Reservoir, treating it at the Observatory WTP, and taking less water from the South Rivanna Reservoir. He stated that the Ragged Mountain Reservoir was their largest reservoir with about 1.4 billion gallons, and it would take many months to deplete that water supply. They would start using more water from Ragged Mountain reservoir and less from South Rivanna reservoir when they had no flow over the South Rivanna dam.

Mr. O'Connell asked if they had any issues with the Observatory WTP, and where it was construction-wise in being able to make that switch.

Mr. Mawyer stated that they could produce 4 to 5 MGD at Observatory. The plant was not ready to produce 10 MGD maximum capacity yet, but it would be in the next six months or so as intended. He stated that they also had to complete the Central Water Line Project through the City before they could pump more than 5 MGD out of Observatory into the distribution system, so that was another step to be completed before they could fully utilize that treatment capacity.

Mr. Pinkston asked if Observatory WTP was producing again.

Mr. Mawyer stated yes, it had been producing for several months at a rate of 1 to 2 MGD, but was intended to reach full capacity of 10 MGD. He stated that they had to be able to get the water supply from Ragged Mtn reservoir to the Observatory WTP, and the new pipeline between those locations would provide the raw water supply needed. He stated that they had upgraded the Observatory WTP, but would also need to complete the Central Water Line project to utilize the full capacity of the Observatory WTP and get the water into the distribution system. There were two significant piping projects to be completed before they could actually get 10 MGD into the water distribution system from the Observatory WTP.

Mr. Mawyer stated that they had a term called safe yield, which addressed how much water they

could get out of a reservoir each day during drought conditions. He stated that it was not as meaningful as operational safe yield, which was how much water they could get to the faucets of the customers each day during drought conditions. He stated that the system required water supply, treatment, and distribution facilities, and they had to have all three at the appropriate capacity to maximize the system. He stated that the Rivanna to Ragged Reservoir Pipeline, which would be completed by 2030, would be the capstone project to maximize their water supply, treatment, and distribution system.

Ms. Mallek stated that Mr. Mawyer mentioned that Sugar Hollow reservoir was not spilling, but the continuous flow pipe was running.

Mr. Mawyer stated yes, the minimum in-stream release was being provided, as the permit required.

Mr. O'Connell asked if, given that students were back and use was starting to jump up, along with bad weather, there were any issues anticipated in the next three months absent rain. He stated that the supply levels seemed pretty good.

Mr. Mawyer stated they were at 96% of capacity in the urban system storage, and there was a trickle spilling over the South Rivanna Dam now, but if they did not get rain in a few days, they anticipated that spilling would stop. He stated that they would still have 1.4 B gallons in Ragged Mtn reservoir, although they had to supplement from South Rivanna reservoir and WTP because the Observatory WTP could produce only about 4 to 5 MGD, and the community usage was about 10 MGD. He stated that they would provide 10 MGD from the combined production of the South Rivanna and Observatory WTPs, plus they may be able to produce about 1 MGD at the North Rivanna WTP if there was flow in the North Rivanna river.

Mr. Mawyer stated that as inflow to the South Rivanna Reservoir declined, the North Rivanna River that fed the North Rivanna Water Treatment Plant typically receded and would give them very little water to treat. He stated that they were more dependent on the Ragged Mountain reservoir and the Observatory WTP when they had a less-than-full water storage system. He stated that the South Rivanna reservoir overflowed almost all the time. It had been six years since it stopped overflowing.

Mr. Mawyer stated that they talked last month about the North Rivanna Water Treatment Plant and the PFAS test that detected compounds which exceeded the proposed EPA standards of 4 parts per trillion. He stated that they had gotten one test result back from the lab in Michigan which stated there was no PFAS in the second round of treated water testing, so they restarted the North Rivanna Treatment Plant in July.

Mr. Mawyer stated that they got the test results back from the lab in Indiana that also confirmed there was no detection of PFAS in the treated water. He stated that there were detections in the raw water, but they were less than the 4 parts per trillion standard proposed by EPA.

Mr. Pinkston stated that there was a good article in the Daily Progress last week in which Ms. Mallek and Mr. Mawyer made comments. He asked what the chart on the slide indicated.

Mr. Mawyer explained that they would continue to complete PFAS testing, and as an example, they did an additional round of testing for the Unregulated Contaminant Monitoring Rule (UCMR) 5, where they took samples on August 9 and 10, 2023 and shipped them off for testing. He stated that on their own they would be testing in September. They did quarterly UCMR 5 testing in November and February, and they did their own testing bi-annually. He stated that the point was that they were testing for PFAS almost every month, and it was not just a one-time event that they checked PFAS and found that detection.

Mr. Pinkston asked if they felt the EPA and the state requirements were converging. He stated that the last time they spoke, it seemed that those agencies were trying to figure out what it was they wanted to measure and what the rules would be. He asked if that was still the case.

Mr. Mawyer replied that it was still the case. EPA indicated they would have a maximum contaminant level standard for six of the PFAS compounds by the end of this calendar year.

Mr. Pinkston asked if the state would be doing more testing so staff did not have to ship samples to laboratories located outside of Virginia, or if it would be something they could do in house.

Mr. Mawyer stated that they were looking to see what testing they could do with our in-house laboratory, but the preliminary thought was that it took a lot of resources and dollars to provide that level of testing, which was why only a few labs in the country could do it. He stated that they expected the lab testing technology to improve as the PFAS testing demand increased. He stated that with the UCMR 5, the EPA issued a preliminary report yesterday and stated that there were over 10,000 utilities in the country that were being asked to collect PFAS samples. The initial results stated that 20% had responded, and RWSA was one of them. He stated that the UCMR5 testing program would continue for another year, but from the 20% of utilities that responded, about 8% had PFAS levels that exceeded the proposed EPA standards.

Mr. Pinkston stated that what Ms. Mallek stated in the article was exactly right in that their systems were not prepared to deal with this. He stated that maybe this was not the right time or venue, but he was concerned about if they discovered this in the South Rivanna WTP. He stated they still had the option of using Ragged Mountain Reservoir and the Observatory Treatment Plant if they had to, but he had skepticism about whether the rules were clear enough yet for them to be operationalized for a utility of this size. He stated that clearly this was a safety hazard, and they were talking about something that was one millionth of a one millionth. He stated that it was exquisitely tiny, which was why it was hard to test for. He stated that it was interesting to him that in California the previous combined standard was 70 parts per trillion.

Mr. Mawyer stated that he believed that reference was correct. Several states and utilities in the country used the unofficial standard of 70 parts per trillion for drinking water.

Mr. Pinkston stated that he was worried about false positives or the concept of reliability in engineering or testing consistency, it was not like they were taking hundreds of samples like they did with E. coli. He stated that these were single samples that they were taking and shipping off to some place. He stated that he was not trying to cast doubt, but he was asking what was

credential. He stated that he knew they were going to meet with river basin people in a few weeks. He stated that he had some concerns and felt like they had to be thoughtful as a Board about what happened if they discovered something at South Rivanna WTP and if they just shut off the water.

Mr. Mawyer stated that he shared that concern and that staff had been meeting to talk about these same issues. He stated that one thing that he found out today in an article from the American Bar Association about the proposed new PFAS regulation was that compliance would be based on annual concentrations calculated from four quarterly monitoring samples. He stated that gave them some breathing room, because if they had one sample that exceeded 4 ppt they would not immediately have to shut down a plant and go into an operational emergency, but it would be based on four quarterly samples.

Mr. Mawyer stated that process was consistent with the way that they did disinfection byproduct analysis. He stated they completed what was called a locational running annual average that determined if they were in compliance with the standard. He stated that they had four quarters to take samples and one bad result did not put them in noncompliance, it was an average through four quarters. He stated that it would be good news if that was the way the EPA regulation was finalized. He stated that their plan right now was to continue to research the issue and to monitor what the EPA and Virginia Department of Health were planning.

Mr. Pinkston asked if there was any work being done to canvas the watershed to see if there were sources. He stated that in Roanoke, they were able to find the source of the PFAS.

Mr. Mawyer stated that they had been looking for potential sources. Their Water Resources Manager investigated all of the permitted properties in Albemarle County that were licensed for a land application of biosolids as a potential source of PFAS. He stated that there had been no land applications in Albemarle County in the last five years, so they did not think that was the source. He stated that looking in the North Rivanna River watershed, which extends into Greene County, there was a land application in November 2022. He stated that their Water Resources Manager was in contact with DEQ because DEQ issued permits for farms to apply biosolids on their property.

Mr. Mawyer stated that DEQ did report on this particular property because there was an odor complaint, but the report stated that the application was compliant with the setback requirements and there was no apparent runoff of biosolids into streams. He stated that they were currently working up the watershed to see if there were any additional biosolid applications. He stated that the article in the newspaper talked with the Charlottesville Airport about whether they were using firefighting foam, which was a product that contained PFAS.

Mr. Mawyer stated that the fire personnel indicated they had not used a PFAS product since 2005. Also, the airport was not in the drainage watershed of the North Rivanna River, so it would not be a source of PFAS in the North Rivanna River. He stated that Albemarle and Greene Counties were in the watershed of the North Rivanna River. Mr. Mawyer noted that the RWSA reservoirs prohibited swimming, and suntan lotion was known to include PFAS, so they did not suspect that as a source. However, the North Rivanna River was not one of their

reservoirs and swimming was not prohibited in the North Rivanna River. He stated that Chris Green Lake also flowed into the North Rivanna River and was an area that had swimming, so it could be a potential source. He stated there were a myriad of potential sources. It could be furniture treated with PFAS that had been dumped into a gulley and rain was washing it into a stream.

Mr. Pinkston stated that it seemed that they were addressing his concern, which was that they had a plan if they discovered this. He stated that it seemed the science was in flux, the rules were in flux, and even though this was clearly an issue, he would agree with the Daily Progress article that they needed a practical perspective.

Mr. O'Connell stated that it was important to note that in many of the national articles many systems around the country had not done anything to address PFAS, but RWSA had Granular Activated Carbon (GAC) in their system for a long time. He stated that it had been in our system for a different purpose, but its whole purpose was to remove any kind of contaminant that could get into the water supply and to keep it out of their public drinking water. He stated that was the treatment of choice for PFAS at any level, particularly at higher levels. He stated that a lot of utilities around the country had not been willing to spend the money because it was really expensive to put GAC in place, but he believed they would see a lot of utilities adding a GAC system over the next couple of years.

Mr. O'Connell stated that they were a step ahead of where most utilities were, which added a barrier to any kind of PFAS that would be occurring. He stated that the most recent test showed there were no detectable levels in finished water. He stated that they were looking to ramp up GAC to a higher level in Crozet, and likely in the future they would be looking at that in other places. He stated that they had a barrier in place already, which had not gotten into the news and media very well. He stated that whatever the tests showed, the treatment solution was GAC, which they already had.

Mr. Pinkston stated that it sounded like they might need more GAC for our system.

Ms. Mallek stated that the GAC material was consumed faster with greater usage.

Mr. Mawyer stated that they had a consultant completing lab testing to determine how long the water needed to be in contact with the GAC in order to remove PFAS, which was called empty bed contact time. He stated there was one standard to remove disinfection byproducts, which came from chlorine disinfection, and that removal period was about 14 minutes. He stated that the initial test results indicated that to remove PFAS they needed 21 minutes of contact time, which would require more GAC vessels in order to treat PFAS at the same volume of water per day. He stated they had this test going on, and would be planning their next CIP and whether they needed to add more GAC vessels, maybe coming to the Board next spring with projects to add more GAC to their treatment system.

Mr. Mawyer stated that they applied for an emerging contaminant grant in 2022, which was federal BIL dollars, and they received $3.17 M through the Virginia Department of Health, which was being applied at the Crozet WTP for additional GAC facilities. He stated that they

reapplied in the second year for a grant of $16 M and would continue to seek federal dollars to help them add more GAC vessels and treatment to their system. He stated that they would look for additional testing laboratories to see if they could find some closer than Michigan or Indiana. He stated they had staff looking at what they would have to do to be capable of providing in-house PFAS testing.

Mr. Mawyer stated that they also were going to look for temporary GAC equipment in case they needed to have it brought in to supplement their own treatment facilities, such as at Crozet where there was no backup water system. He stated that the Crozet, Scottsville, and Red Hill systems were independent, so if they had a high PFAS detection at those locations there would be a challenge. They were working to find temporary, emergency GAC equipment similar to emergency generators or air conditioners. He stated that regarding water distribution, they could not shut down the South Rivanna Water Treatment Plant and provide enough water to the urban system.

Mr. Mawyer stated that they could minimize production at South Rivanna WTP and maximize at Observatory and North Rivanna WTPs, but they would have to continue to use South Rivanna WTP to provide fire protection and sanitary purposes. He stated that they were exploring if they could bring in a water distribution system or bottled water as an example. He stated that they had already researched where they could distribute bottled water within their water service areas and what vendors they might contract with in order to be ready.

Mr. Mawyer stated that they would carefully monitor the raw and treated drinking water should there be approval of the proposed EPA standards. He stated that staff were working on the strategies they could think of to prepare them for any potential water testing that indicated PFAS, and they were going to be testing almost every month. He stated they were working to be prepared.

Ms. Mallek stated that having been digging around in this for a long time, she knew it was really hard to keep composure, because there was danger, and when they had danger, they wanted to do something about it. She stated that from all of the meetings she had been to with the EPA about this, multiple federal agencies were working on this and with each other, and the USDA was digging very deeply into this right now, and there was supposed to be some guidance coming out in the next month about the use of sewage sludge, because it was found to be very severely and directly affected in two different states on opposite sides of the country.

Ms. Mallek stated that all of the different utility representatives in these meetings were saying to stop production of PFAS, and to not get after utilities if they were going to allow more and more of this stuff to be dumped into water sources. She stated that everyone understood that, so there was not an overreaction to say, and it was absolutely right, that they were going to deliberately go into this and do the best that they could to be prepared. She stated that she was so joyful of that joint meeting where they put in the Granular Activated Carbon, which was expensive but less expensive than had they done all the other things and then had to do this, so she always considered that to be a plus.

Ms. Mallek stated that there would be a whole federal approach about the producer paying

because utilities could not pass it along to ratepayers. She stated that people who had been making profits off of this product for years would have to figure out a way to do this. She stated that there were many people at many different levels who were all there to help Mr. Mawyer and staff here, which was why they had to be connected with them.

7. *ITEMS FROM THE PUBLIC*

Mr. Sanders asked if there were any members of the public who wished to speak.

Mr. Woodson stated that there was one online commentor, Dede Smith.

Ms. Smith stated that she did not anticipate speaking but saw that they had water demand on their agenda. She stated that listening to this conversation was absolutely fascinating because there had been history with the raw water quality in their urban system. She stated that back in the 1920s when the system was deemed too small, the Virginia Department of Health at that point, more than 100 years ago, did an analysis of where the cleanest raw water was, and they stated basically of all the sources that they still identified, the only clean raw water in the system was the Moormans River.

Ms. Smith stated that this analysis was then done again in 2013 under the latest community water plan, and again, the Virginia Department of Health came back and stated that they only had one clean raw water source, which was the Moormans River. She stated that they should keep using their cleanest raw water supply. She stated that back then, PFAS was not even an issue, but now that it was an issue, it was a big deal. She stated that on top of that, during the community water supply conversation, a few really fascinating things came up. She stated that one was that the Nature Conservancy's plan, which they implemented, minus the 9-mile uphill pipeline, was to make Ragged Mountain big enough to supply the whole system with water in a drought with time to refill.

Ms. Smith stated that there was no putting dirty water into Ragged Mountain, and the whole point of Ragged Mountain was that it was the only clean, raw water they had and it had no PFAS because it was from the very top of the watershed. She stated that the other fascinating thing that came up during the conversations about the community water supply was that they had very large sources, or aquifers, in western Albemarle in the mountains. She stated that no one wanted to talk about this because the entire Albemarle presence on Rivanna water was to protect that area, but there were very large, clean water sources in those mountains, and that was a study that she was happy to forward to anybody.

Ms. Smith stated that it was why Nestlé, one of the most corrupt organizations in the world, invested $1M in the Nature Conservancy's Piedmont plan, because they were very interested in those aquifers in the mountains. She stated that she did not think they got anyone to agree to work with them, but that stated, she wanted them to please keep those things in mind. She stated that PFAS would only become a bigger problem, and the only way to really combat it reasonably was to use the cleanest water they had as their raw water source. She stated that she did not expect them to actually do that but she appreciated their time.

8. *RESPONSES TO PUBLIC COMMENTS*

Mr. Sanders asked if Mr. Mawyer had a response to public comment.

Mr. Mawyer stated he did not.

9. *CONSENT AGENDA*

a.Staff Report on Finance
b.Staff Report on Operations
c.Staff Report on CIP Projects
d.Staff Report on Administration and Communications
e.Staff Report on Wholesale Metering
f. Staff Report on Drought Monitoring
g.Approval of Engineering Services – Crozet GAC Expansion Phase 1 – Short Elliott Hendrickson, Inc.
h.Approval of Engineering Services – Observatory Water Treatment Plant – Expansion and Rehabilitation Project – Additional Construction Phase Services – Short Elliott Hendrickson Inc.
i. Approval of Engineering Services – Beaver Creek Raw Water Pump Station and Intake – Hazen and Sawyer

Mr. O'Connell moved that the Board adopt the Consent Agenda. The motion was seconded by Ms. Hildebrand.

Mr. O'Connell asked if it was correct that the financial report in the consent agenda was the year-end report.

Mr. Mawyer stated that was correct.

Mr. O'Connell stated that there was a $1.5M deficit.

Mr. Mawyer stated that was correct.

Mr. O'Connell asked if Mr. Mawyer could talk about the plan that would deal with that.

Mr. Mawyer stated that next month they would have a year-end results presentation that would go through the details, but they had to look at each cost center where the deficit occurred and they went to the reserves for each of those cost centers, and that was where they funded the deficit. He stated that more to Mr. O'Connell's' question was how they tried to prevent these exceedances from happening in the future, and they were reviewing their FY24 and proposed FY 25 budgets and to find ways to mitigate the exceedances. He stated that a lot of the exceedances were in chemicals that they bid annually to be competitive and get the lowest price, and the bids were about 60% higher last year, so they had to absorb that cost increase in FY 23.

Mr. Mawyer stated that they also had completed a lot of unbudgeted work for their information technology program including IT security, and they spent $500,000 on implementing those enhancements over the last year. He stated that those were two of the larger issues that drove the

deficit. He stated that they bid out the chemicals in June 2023 and the prices were slightly lower, so they were pleased with that, but were trying to work between having affordable rates to the two customers and funding the necessary programs. He stated that he had discussed this issue with staff, and that it would not be as simple as adding $2.5M to the FY 25 budget. He stated that Mr. Wood would return next month with a presentation.

Mr. O'Connell asked if that would be regarding strategies for dealing with it as well as the sources to cover the debt.

Mr. Mawyer stated yes.

Mr. Sanders asked if there were any other questions about the consent agenda. He called for the vote.

The motion passed unanimously (6-0). Mr. Gaffney was absent from the vote.

10. *OTHER BUSINESS*

a.Presentation: Urban Water Supply and Demand Review

Jennifer Whitaker, Director of Engineering and Maintenance

Ms. Whitaker stated that she would be presenting a review of the urban drinking water supply and demand study. She stated that much of the analysis she would be discussing had been done between 2018 - 2020. She stated that the urban water system supply consisted of three main reservoirs. She stated the Sugar Hollow Reservoir, located at the foothills of the Blue Ridge Mountains near Shenandoah National Park, had approximately 339 MG of storage.

Ms. Whitaker stated that the South Fork Rivanna Reservoir was located in the central part of the County and held 883 MG, and the Ragged Mountain Reservoir held 1.44 BG. She stated that the current storage capacity in the three reservoirs was 2.6 BG, and all served the urban system, including the City of Charlottesville, UVA, and the urban ring of Albemarle County. She stated that in addition, they had a small North Fork Rivanna River intake that had a small water treatment plant. She stated that they would talk more about the future disposition of that plant, but it was supplied by a small river that was in the process of drying up as they spoke, and if they did not get some rain, would likely be dry.

Ms. Whitaker stated that the urban area included the City of Charlottesville, UVA, and the urban ring north up Route 29 and east and west along Route 250. She stated that they had three key water treatment plants in the urban system, one being the South Fork Rivanna Water Treatment Plant, which was rated to produce about 12 MGD, the Observatory Water Treatment Plant, which was in the middle of being upgraded to an anticipated 10 MGD at the end of this year, and the North Rivanna Water Treatment Plant had a rated capacity of 2 MGD and usually produced a little under 1 MGD. She stated that the North Rivanna Water Treatment Plant was anticipated to be decommissioned in 2026 and the demand would be shifted to the South Fork Rivanna Water Treatment Plant. She stated that overall, they had 24 MGD of treatment capacity.

Ms. Whitaker stated that the water supply was regulated in the Commonwealth through the

Virginia Administrative Code, Chapter 780, which required local water supply planning designed to ensure adequate and safe drinking water was available and to promote conservation. She stated that in 2001 and 2002, there was an 18-month drought of record in central Virginia, and prior to that the drought of record was in the 1930s. She stated that this sparked a ten-year long water supply planning process, which looked at over 32 alternatives, and ultimately the community selected to drink local and stay within their protected watershed.

Ms. Whitaker stated that the community water supply plan came to fruition, was adopted in 2012, and included several projects. She stated that one of the projects was the larger replacement dam for the Ragged Mountain Reservoir, where there had been two dams built there previously, one in 1885 and one in 1908. She stated that the new dam was completed in 2014 and met the needs of both dam safety and water supply. She stated that the next project is a larger raw water line from South Fork Rivanna to Ragged Mountain Reservoir.

Ms. Whitaker stated that they talked about this extensively in the last few meetings, and it was originally scheduled to be constructed between 2027 and 2035, and now they were planning between 2023 and 2030. She next stated that renovation of the South Rivanna and Observatory Water Treatment Plants was under construction and nearing completion. She stated that the last project was replacing the original 1920s pipeline that ran from Ragged Mountain to Observatory. She stated that this is an infrastructure renewal project as well as a capacity project, and that was planned for 2024 through 2028.

Ms. Whitaker stated that there were three key documents to talk about when discussing water supply, and one of them was the Ragged Mountain Dam Project Agreement, which was the master plan that allowed all of the utilities and government agencies to agree on how to proceed with the community's Water Supply Plan. She explained that it was a cost agreement, and they could see the cost split for each portion of the project between the City and ACSA on the slide, with slightly different cost splits depending on each project. She stated that it was important to note that there were key qualifiers in that agreement, stipulating that the raising of Ragged Mountain dam an additional 12 feet was in the design and construction of the project, but raising the water level would not happen until the supply hit 85% of demand.

Ms. Whitaker stated that there was a proposal to come forward soon to potentially change that limitation. She stated that the second item was that the agreement required them to complete bathymetric studies every 10 years, which were topographic surveys under the water of the reservoirs. These allowed staff to view sediment depths, topographic features, and how the riverbed morphology was changing in the reservoirs.

Ms. Whitaker stated that they also had two environmental permits that allowed them to execute this whole program, one through the U.S. Army Corps of Engineers, and a second through VDEQ. She stated that they were under administrative continuance for both permits. She stated that they had been getting fairly good feedback on the submitted permit renewals so far and did not expect any huge regulatory problems.

Ms. Whitaker stated that the next few slides came directly out of their 2020 study. She stated that on the left of the slide shown, there was a chart from the completed bathymetric surveys of how

much usable water they had in the reservoirs. She stated that in the third column, it added up to 2.6 BG. She stated that historically, they did not do bathymetric surveys very often, but now that the technology had progressed, they could get a survey crew out on the reservoir and generate topography relatively quickly. She stated that by doing this once every 10 years, they could create trends and understand what volume changes were going on in the reservoir.

Ms. Whitaker stated that on the right-hand side of the slide, there was a graph showing the historical bathymetric surveys for the South Fork Rivanna Reservoir. She stated that it could be seen that from the 1960s through 2010, they had a steady decline of usable volume in the South Fork Rivanna Reservoir. She stated that it was originally designed for an even steeper decline and was expected to silt in at some point.

Ms. Whitaker stated that what they were seeing in the last couple of surveys was that the siltation seemed to have leveled off. She stated that it could have happened for a couple of reasons, including that a natural body of water could find an equilibrium, and/or that the large 2018 storm had created significant scour out of the reservoir, which may have contributed to less sediment. She stated that they would be interested to see what the next bathymetric survey showed them for volume.

Mr. O'Connell asked if it would be completed again in 2030.

Ms. Whitaker stated that the bathymetric survey would be done in 2028 and included in the 2030 supply and demand study. She stated that they were staggering implementation so the surveyors did not have to do every reservoir all in one summer, because sometimes the weather did not cooperate. She stated that the next item, as Mr. Mawyer alluded to earlier, was the safe yield versus the operational safe yield. She stated that historically, when they talked about how much water they had, they had always talked about safe yield. She stated that it was a historic measurement that had been used in the Commonwealth for the better part of 70 years, primarily because most water systems in the Commonwealth only had one reservoir.

Ms. Whitaker stated that when they started looking at complex systems that interacted like theirs did, with three reservoirs, three plants, river intake, and moving water from one place to another, it got pretty complicated to try to figure out what that yield was, and they came up with a system to measure it that accounted for the limitations of piping, treatment plants, conveyance of nature, rainfall, and hydrology. She stated that they had developed an operational yield for the system, which measures what could be produced and delivered to customers.

Ms. Whitaker stated that the graph on the slide indicated that in 2020, the operational yield was 12.8 MGD, and when they improved the plants, because the plants were a key limiting factor, they would see the operational yield go up. She stated that the Central Water Line and the other piping projects contributed to that available water supply go up. She stated that it showed that there was a steady decline based on sedimentation in the South Fork Reservoir, so they could see the water supply going up and slowly going back down over time.

Ms. Whitaker stated that now that they knew what they had for supply, the other curve they needed to look at was the population forecast in order to see what demand may be in the future.

She stated that every 10 years they did a full water supply study with a safe yield analysis, population projection, and demand analysis. She stated that they were able to meet over the course of about two months with the regional agencies, including Weldon Cooper Center, the Thomas Jefferson Planning District Commission, the Albemarle County Office of Community Development, the City Neighborhood Development Services Department, and UVA Facilities and Architect Offices, along with the utility agencies as well to gather projection information.

Ms. Whitaker stated that they looked at the long-term forecast, what future development plans looked like, what UVA was planning, and they tried to incorporate all of that into a population and demand forecast for the community. She stated that the chart displayed on the slide came out of their 2020 report and was what they anticipated their designated service area to be over time. She stated that it was not a measurement of population but was the designated service area that included UVA, the City, and portions of the County based on comprehensive planning and other work.

Ms. Whitaker stated that the two graphs on the slide were meant to be illustrative. She stated that they only went to 2018 because that was where they stopped when they did the study, but what they showed was that the per capita unit demand for their community had dropped dramatically in the last 25 years. She stated that typically, when estimating water historically, they would see per capita use of 110 or 120 gallons per day. She stated that their community typically operated at 60 gallons or 65 gallons per person per day, which was among some of the lowest water usage rates in the entire country at this point. She stated that as they talked about conservation, there were absolutely additional opportunities, but they were at a very low usage rate compared to much of the rest of the country.

Ms. Whitaker stated that the next graph indicated that UVA was the largest single customer in the system, with a historically higher water demand. She stated that UVA had done a lot of work on the system to bring their per capita, per student, per person rate down. She stated that the number of people served at UVa was still going up, but the demand was going down. They believed that in 2035, they would start to see a climb in the curve with more people and more uses, so the demand would rise as well.

Ms. Whitaker stated that they had an operational yield, which was indicated on the graph with gray bars, when plotted against demand, it showed that they had adequate water supply through 2060. She stated that their supply and demand were expected to be equal in 2060. She stated that they typically planned improvements at the 85% level, because it takes a long time to build improvements and obtain permits needed. The 85% point is 2045.

Ms. Whitaker stated that the plan to increase water supply included first construction of the Ragged Mountain to Observatory Pipeline and Pump Station, which was shown in brown on the bottom of the map on the slide. She stated that this project replaced 100-year-old pipes and infrastructure and increased raw water capacity to the Observatory Water Treatment Plant.

Ms. Whitaker stated that the next project was the Central Water Line, which was the dark blue line on the map. She stated that it connected all of the water plants, tanks, and the finished water system. She stated that the purple line going north to south on the map was the South Rivanna to

Ragged Mountain Pipeline. The final project is the ultimate raise of the pool by 12 feet at the Ragged Mountain Reservoir.

Ms. Whitaker stated that the next graph was displaying the same data of supply and demand crossing at 2060 at 13.7 MGD. She stated that what happened to their yield and supply when they built the South Rivanna to Ragged Mountain Pipeline gave them a large jump in 2030 to provide more yield, availability, and capabilities to supply water and respond to droughts and emergencies. She stated that similar to the conversations about PFAS earlier, there was a question about how they kept the system functional and running if they had to shut a plant down. She stated that they had to plan for experiencing a drought that was worse than the drought of record, which was likely due to climate change. She stated that they had to ask how to do that and what it looked like, and the graph indicated that it carried them through the planning period past 2070.

Mr. Richardson asked where the projection of the Observatory's capacity of 10 MGD per day was represented in the graph.

Ms. Whitaker stated that part of that was built into the initial jump when renovation of the plants was finished in 2023. Because they could get more into the plants than out of the plants, the Central Water Line would be built on the same schedule as the Ragged to Observatory pipeline. She stated that part of the increase was built into the increase to 15.1 MGD, and part of it was built into the increase to 18 MGD.

Mr. Richardson asked if those two things combined got them to 18 MGD.

Ms. Whitaker stated yes. She stated that the last graph showed that the yield raised to 21.5 MGD, and that value included not only the pipeline and the other projects they had talked about, but also raising the normal pool level 12 feet at Ragged Mountain. She stated that once they had the larger pipeline in place, they could operate that entire system as one unit. At that point, the entire community water supply plan as it was envisioned would be completed and give them full flexibility and redundancy throughout the system. She stated that this was what the ultimate plan would provide.

Ms. Whitaker summarized that they had adequate supply, and the current plan took them well past 2060, however one of the things they must be thinking about was that severe droughts were on the horizon for most of the United States and most likely their community as well. She stated that they had designed our water system to be prepared for the drought of record, and it was likely that they would see conditions more severe in their lifetimes. She stated that part of advancing these projects was being prepared and having the redundancy and resiliency in the system to address more severe conditions and water supply requirements.

Ms. Whitaker stated that the pipeline work that they had underway now looked to be completed by 2030, both raw and finished water, and the staff were working on those projects right now. She stated that the existing Ragged Mountain Dam would allow them to add another 700 MG of storage when they raised the normal pool an additional 12 feet, and would give them a 50% increase in storage at that reservoir. She stated that there was a Ragged Mountain Dam Project

Agreement modification that may be presented to the City Council, the Service Authority, and RWSA in the future that would allow them to implement this increase in the water storage volume at the Ragged Mtn reservoir earlier than what was in the original agreement.

Mr. Sanders asked what the projected timing was to be on the amendment.

Mr. Mawyer replied that Ms. Long was working with the City Attorney and the ACSA Attorney to go over the terms, and as soon as that was completed, they would request Mr. Sanders to consider taking the request to Council. He stated that they hoped within several months they would be ready to consider the amendment to the agreement.

Ms. Mallek asked if 339 MGD was the safe yield for Sugar Hollow.

Ms. Whitaker stated that it was the usable volume. She stated that all reservoirs had a section at the bottom that they did not consider usable due to a variety of reasons, so the usage storage in Sugar Hollow was 339 MGD.

Ms. Mallek stated that was the 20 MGD difference between 50 years ago and now. She asked if that was used as their primary source, how long would it would last considering what they were using now.

Ms. Whitaker stated that the pipe connection between the Rivanna and Ragged Mtn reservoirs was the key. She stated that they were limited in how much they could transfer from Sugar Hollow into Ragged Mountain to about 3 MGD. She stated that Sugar Hollow reservoir had a steep watershed, so it did refill quickly, but it did need rain to refill, so in a drought it would drain and they would have to use all three reservoirs to supply drinking water to the community.

Ms. Mallek stated that Sugar Hollow could not provide enough water by itself.

Ms. Whitaker stated no, it could not do it by itself.

Ms. Mallek stated that even the South Fork Rivanna Reservoir could not provide enough water by itself. She stated that it filled very fast and fell very quickly when it stopped raining.

Mr. O'Connell asked if the one action that would need to occur was the amendment to the Ragged Mountain agreement, and the rest of the items they talked about were in the CIP with plans on when they were going to happen.

Mr. Mawyer stated yes. He stated that all of the infrastructure plans were in place, they just needed agreement on the amendment to the Ragged Mountain Dam Project agreement to allow them to fill Ragged Mountain reservoir sooner. He stated that the dam was already built to take on the additional 12 feet and 700 MG, but they needed agreement from the Council and Boards to fill the reservoir as soon as possible rather than waiting until the demand equaled 85% of supply. He stated that they wanted to fill it now and have maximum water storage capacity for the community.

b.Presentation: Wastewater Facilities Review

David Tungate, Director of Operations and Environmental Services

Mr. Tungate stated that the presentation was showing an aerial view of the Moores Creek Advanced Water Resource Recovery Facility. He stated that there are four wastewater treatment facilities that RWSA operates in Albemarle County. He stated that the upper left one was the Moores Creek facility, which was the largest facility and rated at 15 MGD in treatment capacity, on the right was the Stone Robinson Elementary School Wastewater Treatment Plant, and the bottom right was the Glenmore Water Resource Recovery Facility, which serves the Glenmore subdivision and the Rivanna Village area east of Charlottesville. He stated that we also manage the Scottsville Wastewater Resource Recovery Facility that serves the Town of Scottsville.

Mr. Tungate stated that wastewater staff considers the Moores Creek facility to have two sides, the "wet side" and the "dry side". He stated that displayed on the slide was the wet side, closest to I-64, and toward the back was the Administration Building where we are currently located. He stated that the band screens are the first equipment to process the water on the "wet" side. The next step is a grit removal system. The water then flows through two pipes to the primary clarifiers. The primary clarifiers were covered in a recent odor control project, is the first wastewater treatment process. The odor control scrubbing tower is adjacent to the primary clarifiers and treats the foul air form the primary clarifiers. The aeration basins are the next stop, and it is the location where the majority of the biological treatment occurs. He stated that the image showed two of the four secondary clarifiers.

Mr. Tungate stated that the solids or "dry" side of Moores Creek has three primary digesters that break down the sludge from the "wet" side. He stated that the gas generated from breaking down the solids in the sludge are stored in the secondary digester with a floating dome roof. The methane was piped over to be stored in the methane gas sphere or used in the boiler for heating the water to supply the temperature for the digesters. The digested solids are stored in the sludge storage digester, after being in the digesters for approximately 15 days. The sludge is then pumped to the solids handling building where a centrifuge de-waters the sludge. He stated that at the top of the photograph were the UV channels, which were used to disinfect the water, then they had their outfall on Moores Creek.

Mr. Tungate stated that Moores Creek has two influent pump stations. One of which, Moores Creek pump station, was located near the entrance to the Moores Creek facility. The newer of the two influent pump stations, Rivanna pump station was built adjacent to the new facility at Woolen Mills. He stated that of the two pump stations, Moores Creek and Rivanna, the Rivanna Pump Station was the largest and served everything north of the northern half of the City of Charlottesville, including all of the urban area around the City. It was indicated in yellow on the map shown on the slide. He stated that the Moores Creek Pump Station served the southern half of the City as well as Crozet. He stated that there was not another wastewater treatment plant in Crozet, but there were a series of four pump stations that pumped the sewage from Crozet to the Farmington area, where it then traveled by gravity to the Moores Creek Water Treatment Plant.

Mr. Tungate stated that the sewage gets pumped from the two influent pump stations, Moores Creek and Rivanna, to the band screens. Each of the influent pump stations have large grinders

that make any solids small enough to be pumped. stations to He showed a small plastic bag with material from the band screens. This material gets hauled off from a dumpster to be disposed of in a landfill. A typical year will see approximately 600 yards of this material each year.

Mr. Tungate stated that they also had grit removal system, which removed the heavier insoluble material out of the sewage that came into the plant. It is an important step as this type of insoluble material takes up valuable space in the wastewater treatment plant. . He stated that RWSA wastewater department hauled away approximately 300 yards of insoluble grit every year. After the band screens and grit removal system, the water then flows to the primary clarifiers, which was the first stage of sludge and grease and oil removal. He stated that they had been covered as part of the odor control project.

Mr. Tungate stated that the pipes seen on top of the basin were what was taking the air to the odor scrubbing system, which he then displayed a photograph of on the slide. The next slide showed Crozet Pump Station 4 at Route 240 and Route 250. The pump station is on the left and the new Flow Equalization Tank is on the right. The Flow Equalization Tank temporarily stores higher flows of sewage, and when the sewage flows drop off, the Flow Equalization Tank empties back to Crozet Pump Station 4.

Mr. Tungate noted that RWSA has an odor control system at three of their four Crozet pump stations. Crozet pump station odor control costs about $400,000 per year.

Ms. Mallek asked if that was an introduction of some chemical in that spot or a filter.

Mr. Tungate stated that it was a chemical; they feed a combination of Bioxide and Hydrogen Peroxide to keep the odors down. He stated that the next photograph displayed the aeration zones at Moores Creek aeration basins, which is where nitrogen was converted to nitrogen gas through the biological treatment. He stated that after the aeration basins, the water went to the secondary clarifiers for the final stage of sludge removal. Secondary clarifiers allow the sludge to settle to the bottom and the clear water on top is decanted and taken over to the gravity sand filters and ultimately put back in to Moores Creek. He stated that gravity sand filters removed small particles to increase the effectiveness of the UV lamps. The sludge that accumulates in the secondary clarifiers is pumped to the digesters.

Mr. Tungate stated that Moores Creek has a series of UV channels that disinfect the wastewater just before it is released back to Moores Creek. He stated that after the sludge has been in the digesters for 15-20 days, it is moved to the solids handling building. This building contains two centrifuges that dewater the sludge by spinning it very fast. The water is returned back to the front of the plant, and the solids were then captured as biosolids. He stated that in 2022, Moores Creek generated approximately 14,000 tons of biosolids, and they paid to have those hauled to Waverly, Virginia to McGill Environmental, where it was made into a commercially available compost product. He stated that they paid for both the hauling and disposal at McGill Environmental in Waverly Virginia.

Mr. Tungate stated that regarding nutrients, RWSA has a permit to operate the Moores Creek Advanced Water Resource Facility and were allocated 282,994 pounds of Nitrogen and 18,525

pounds of Phosphorous for the year. He stated that this report is in the consent agenda for the Board of Directors every month. He stated that the monthly allocation for Nitrogen was 25,583 pounds and for Phosphorous was 1,544. The monthly discharge for July 2023 was 10,114 pounds of Nitrogen and 713 pounds of Phosphorous.

Mr. Tungate stated that for July of 2023 , the wastewater department was at 43% of their monthly allocation for Nitrogen and 46% of their allocation for Phosphorous, and for the year they were at 23% and 17% respectively. He stated that this is a part of their nutrient credit trading program, so when they overperformed and had allocated nutrients left, they could sell them on the exchange for money. He stated that for 2022, it was about $50,000 and in years past it had been between $80,000 to $100,000. He stated that it depended on the value of the credits and who needed those credits.

Mr. Tungate stated that the wastewater plant performance testing was done monthly with compliance reports sent to the Virginia Department of Environmental Quality. He stated that dissolved oxygen and pH were tested daily, total suspended solids and ammonia were tested five times per week, Escherichia coli bacteria was tested for seven times per week, total Phosphorous and total Nitrogen are tested twice per week, and chemical biological oxygen demand was tested four times per week.

Mr. Tungate stated that the Moores Creek septic receiving station processed approximately 9 million gallons of septage per year and about 7,000 deliveries each year.

Mr. Pinkston asked what the source of that septage was.

Mr. Tungate stated that it came from local, decentralized wastewater systems.

Mr. Pinkston asked if they were from port-o-johns.

Mr. Tungate stated yes, but they were mostly from residential septic tanks.

Mr. Mawyer clarified that they were from rural septic tanks where people were not connected to a public sewer system.

Ms. Mallek asked if septic customers were paying sufficiently to cover costs.

Mr. Tungate stated that they did a cost-of-service study in December 2022, and found that it was paying for itself.

He stated that regarding the wastewater treatment plants, RWSA has four wastewater treatment plants with 16 wastewater operators who worked in the wastewater department. He stated that nine operators were assigned at the Moores Creek facility, which was their largest facility and was staffed 24/7, 365 days per year. He stated that the operators worked 12-hour shifts and changed at 6:00 a.m. and 6:00 p.m. He stated that the Glenmore Wastewater Treatment Plant was staffed four hours a day, 365 days per year, with one operator each day, so they had two shifts of operators each week to cover all seven days.

Mr. Tungate stated that at the Scottsville Wastewater Treatment Plant, was staffed 4 hours per day, 365 days per year. He stated that the Stone Robinson Wastewater Plant treated about 7,000 gallons per day when school was in session and was staffed one hour per day, 365 days per year. He stated that typically one operator per day did each of these three County facilities. He stated that they had relief operators in both the water and wastewater departments who were licensed Class 1 Operators who were flexible and able to run any of the wastewater treatment plants and were available to work if a co-worker called in sick or was on vacation. He stated that they had three management staff; a manager, assistant manager, and a supervisor, and each of these are Class 1 Operators.

Mr. Tungate stated that RWSA is proud of the accomplishments of their wastewater operation staff in gaining licenses. He stated that of their 16 wastewater operators, seven of them were Class 1, five of them were Class 2, two were Class 3, and there were two unlicensed trainees right now. He stated that passing the certification exams and obtaining a license gave the operator a 7% raise for each license. Each operator has to qualify for certification exams with a combination of education and hands-on experience to be allowed to take certification exams. These exams and certifications are organized by the Virginia Department of Professional and Occupational Regulation. He stated that many new hires had college degrees, which allowed them to move forward faster through the licensing and certification process.

Mr. Tungate stated that the industrial waste pretreatment program's purpose is to protect the sewer collection system and the processes in the wastewater treatment plants by having sewer discharge limits. He stated that it was a requirement by the EPA and Virginia DEQ. He stated that the Virginia DEQ regulated the wastewater side of their business and the Virginia Department of Health regulated the drinking water side of the business.

Mr. Tungate stated that the pretreatment program looks at fats, oils, and greases, and ACSA sent out a mailer about the Fats Oils and Greases (FOG) Program in the last 12 months. He stated that a pretreatment program will also look at heavy metals, nutrients, pH limits, and chemical biochemical oxygen demand as well. He stated that significant industrial users was a topic that RWSA were exploring it with both City and County staff. He stated that categorical industrial use would include metal finishing and semiconductor manufacturing, which they did not have a lot of in this area, and non-categorical industrial users were those who discharged more than 25,000 gallons per day or had the potential to adversely affect their treatment process.

Mr. Tungate stated that sewer users with processes that discharged products of concern were restaurants, breweries, wineries, soft drink bottling facilities, and food preparation facilities. He stated that they had three significant industrial users (SIUs) that they were monitoring in the pretreatment program. He stated that these were Virginia Diodes, Inc, Mikro, and Northrop Grumman, and each were required to submit a semi-annual report for the periods ending in June and December of each year. He stated that they currently had a project to identify sewer users with processes that discharge products of concern.

Mr. Tungate stated that Biochemical Oxygen Demand (BOD) measured the amount of oxygen consumed by aerobic bacteria in a water sample at a specific temperature over a specific period

of time. Carbonaceous Biochemical Oxygen Demand (CBOD) represented BOD from carbon-based compounds only. He stated that BOD was food for bacteria, the bacteria utilized oxygen when they consumed the BOD, and as oxygen is depleted from the water, it can cause an issue for any aquatic organisms. He stated that the higher the BOD or CBOD in waste, the lower the dissolved oxygen was in the stream, which could cause issues for aquatic organisms.

Mr. Tungate stated that CBOD testing was done in the lab right below them, and they did this as part of their SIU investigation with the City and the County. He stated that the testing process involves taking an initial dissolved oxygen reading, then removed nitrogen bacteria from the sample so there was only CBOD present, then the sample remained at 20 degrees Celsius for five days in an incubator. He stated that after five days, they took another dissolved oxygen reading and took the difference between those two dissolved oxygen readings to calculate the CBOD levels.

Mr. Tungate stated that the slide shown was a portion of the operating permit for Moores Creek. He stated that they could see on the CBOD limit on the permit and the monthly average could not exceed 9 mg/L and the weekly average could not exceed 14 mg/L. He stated they were required to do one 24-hour composite CBOD test per week. RWSA wastewater department has automatic samplers to collect the water samples every day. He stated that the Moores Creek aeration basins had a CBOD treatment capacity of 34,900 pounds per day, and in 2022, their average CBOD concentration was 24,000 pounds per day. He stated that the master plan stated that if the daily average of CBOD increased to 31,700 pounds over three consecutive months, possible expansion would be needed in the aeration basins to treat the CBOD.

Mr. Tungate stated that the wastewater department budget for FY 2024 was $21.5M. He stated that it included $10M for debt service, $4.3M for central support including Finance, IT, HR, Engineering, Maintenance, and Lab services, $1.7M for employee salaries, and $1M for wastewater treatment chemicals. He stated that also included $1.1M for operations and maintenance, $1.2M for odor control and biosolids disposal and trucking, $1.2M for communication lines, IT, miscellaneous supplies, and professional services, and $0.98M for utility costs including electricity and natural gas. He stated that in FY 2023, they treated 3.4 billion gallons of wastewater at the cost of $3.11 per 1,000 gallons of wastewater.

Ms. Mallek asked if the CBOD exceeding 31,700 pounds would be due to population growth or something else.

Mr. Tungate stated that they were investigating that now. He stated that they suspected there was contribution to the CBOD from certain industries in their area and they were investigating to determine where that strong waste was coming from.

Mr. Mawyer asked Mr. Tungate to explain why they would be concerned about heavy metals in the wastewater system.

Mr. Tungate stated that it would have an effect on the quality of their biosolids they sold to McGill Environmental, and it would affect the viability of their microbes utilized in the treatment process. Metals could kill off the microbes in the aeration basins.

Ms. Mallek stated that the more strong waste that was there, the more those were going to get through and impact someone's drinking water downstream.

Mr. Tungate stated they were attuned to this and had online instruments that gave them a clue and cued them in if there was a problem.

11. ***OTHER ITEMS FROM BOARD/STAFF NOT ON THE AGENDA***

There were none.

Mr. Mawyer thanked Mr. Sanders for serving as Vice Chair and running the meeting, as well as his appointment as City Manager. He stated that he looked forward to his future years of assistance.

12. ***CLOSED MEETING***

There was no reason for a closed meeting.

13. ***ADJOURNMENT***

At 3:46 p.m., Mr. Sanders adjourned the meeting of the Rivanna Water and Sewer Authority.

RIVANNA WATER & SEWER AUTHORITY
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MEMORANDUM

TO: **RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS**

FROM: **BILL MAWYER, EXECUTIVE DIRECTOR**

SUBJECT: **EXECUTIVE DIRECTOR'S REPORT**

DATE: **SEPTEMBER 26, 2023**

STRATEGIC PLAN PRIORITY: EMPLOYEE DEVELOPMENT

The professional qualifications of our staff continue to improve and enhance our services. We congratulate the following employees for successfully completing the test requirements for a license from the State:

- Dyon Vega, Civil Engineer - Professional Engineer
- Bonnie Eveleth, Water Operator - Class 2

Emergency Training – National Preparedness Month

September is National Preparedness Month and serves as a reminder to individuals and businesses to be prepared for disasters or emergencies.

We held Emergency Operations Plan (EOP) training for our staff on August 28th. This internal EOP training prepares staff to implement procedures to protect lives, property, and infrastructure, and to maintain and restore essential services for our community in response to a wide range of emergencies and operational disruptions. Our Directors, Managers, Assistant Managers, and Supervisors participated in this important training.

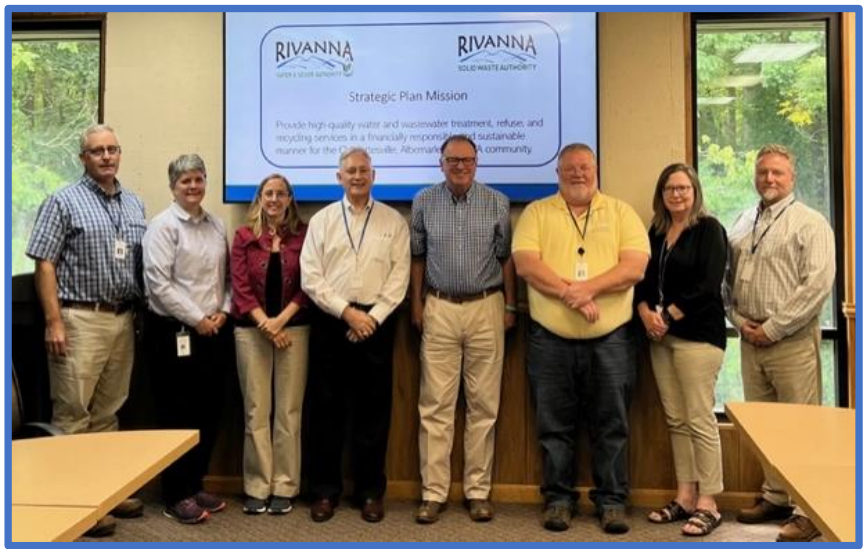
Team Building Event

The Rivanna Authorities "Breakfast at the Beach" Team Building event was held on August 31st . Staff appreciated the opportunity to connect with other employees from outside their departments and enjoy a hearty breakfast.

STRATEGIC PLAN PRIORITY: COMMUNICATION AND COLLABORATION

Communication with Public Officials

Virginia Senator Creigh Deeds and his Legislative Director, Tracy Eppard, visited with staff and toured our water, wastewater, and solid waste facilities on August 30th. Staff provided a review of the services, programs, and major projects underway and plans for the Authorities.



Left to Right:
Dave Tungate, Jennifer Whitaker, Tracy Eppard, Bill Mawyer, Creigh Deeds, Phil McKalips, Betsy Nemeth, Lonnie Wood

Safety Award

The Virginia American Water Works Association (VAWWA) Safety Committee awarded the *2022 Larry Gordon Facility Safety Award* to the Rivanna Water and Sewer Authority Crozet Water Treatment Facility (Crozet WTP). The Crozet WTP was selected as the sole recipient of this award from all entries across the state. The VA AWWA award selection committee toured the Crozet WTP as part of their evaluation to recognize a facility that promotes an active and effective safety program.

Mr. Thomas Barger, RWSA Water Treatment Operator Class 1, accepted the *2022 Larry Gordon Facility Safety Award* on September 13th at the 2023 Water Joint Annual Meeting of the Virginia Water Environment Association and the Virginia Section of the American Waterworks Association (WaterJAM).

Annual WaterJAM Conference

Staff from Engineering, Water, and Wastewater departments attended the 2023 WaterJAM Conference, held from September 11-14, 2023, in Virginia Beach and participated in workshops, classes, viewed exhibits and demonstrations on the latest in water and wastewater technology, equipment, and services.

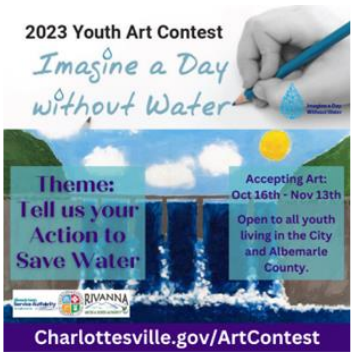
Construction Program Presentation

I provided an overview of our FY 24 – 28 CIP at the VAWWA Design and Construction Projects Forum held as part of the WaterJAM Conference in Virginia Beach.

STRATEGIC PLAN PRIORITY: ENVIRONMENTAL STEWARDSHIP

Imagine A Day Without Water Art Contest

Along with the City and ACSA, we are sponsoring the *2023 Imagine A Day Without Water Art Contest* and this year's theme is "*Tell us Your Action to Save Water*". The contest is open to all students in grades K – 12 living in the City of Charlottesville and Albemarle County and contest flyers have been supplied to each school. Art submissions will be accepted starting on October 16th, in anticipation for the National "Imagine a Day Without Water Day" on October 19th, a national campaign to bring together the community around the value of water and how water is essential in our lives.



Drought Monitoring

Charlottesville and portions of Albemarle County are experiencing Moderate drought conditions, according to U. S. Drought Monitoring report. The Charlottesville precipitation is 11 inches below normal for the year to date. For the first time since 2017, the South Rivanna Reservoir stopped spilling water on September 5, 2023. To optimize usage of our reservoirs, Observatory Water Treatment Plant began operating 24/7 to produce additional drinking water on September 18th. Production at the South Rivanna WTP was decreased to preserve water stored in the South Rivanna Reservoir. Overall, our Urban Reservoirs are 89% full.

STRATEGIC PLAN PRIORITY: PLANNING AND INFRASTRUCTURE

Major Projects

1. S. F. Rivanna to Ragged Mtn Reservoir Water Pipe: 8 miles of 36" pipe

   Status: We completed acquisition of UVA Foundation property for a raw water pumping station (1.17 acres) as well as all required easement agreements for our raw water piping along this alignment. Agreements with UVAF have been signed and recorded.

2. Ragged Mtn Reservoir to Observatory WTP Water Pipe and Pump Station: 5 miles of 36" pipe

   Status: Easement agreements with UVAF have been signed and recorded. We continue to coordinate with UVA on an alternate pipeline alignment between Fontaine Ave. and the Observatory WTP.

3. Central Water Line: 5 miles of 24" and 36" water pipe primarily along Cherry Ave

   Status: Engineering plans and specifications are moving forward towards 90% completion. Construction is expected to begin by December 2024, as delivery of pipe is reportedly taking 6 – 9 months. An extensive communication effort will be completed with the communities adjacent to the project before construction begins. Efforts to obtain easements are underway.

RIVANNA WATER & SEWER AUTHORITY
695 Moores Creek Lane | Charlottesville, Virginia 22902-9016
434.977.2970
434.293.8858
www.rivanna.org

MEMORANDUM

TO: **RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS**

FROM: **LONNIE WOOD, DIRECTOR OF FINANCE AND ADMINISTRATION**

REVIEWED: **BILL MAWYER, EXECUTIVE DIRECTOR**

SUBJECT: **JULY MONTHLY FINANCIAL SUMMARY – FY 2024**

DATE: **SEPTEMBER 26, 2023**

Financial Snapshot

The Authority has an overall net surplus of $259,000 for July due to operating rate revenue being above average and receipt of the annual septage support from the County. Total revenues were $416,300 over budget estimates and total expenses were $40,600 over budget. Revenues and expenses are summarized in the table below:

	Urban Water	Urban Wastewater	Total Other Rate Centers	Total Authority
Operations				
Revenues	$ 945,577	$ 1,024,430	$ 237,606	$ 2,207,613
Expenses	(731,862)	(990,977)	(225,780)	(1,948,619)
Surplus (deficit)	$ 213,715	$ 33,453	$ 11,826	$ 258,994
Debt Service				
Revenues	$ 928,130	$ 964,548	$ 225,159	$ 2,117,837
Expenses	(920,329)	(856,906)	(223,848)	(2,001,083)
Surplus (deficit)	$ 7,801	$ 107,642	$ 1,311	$ 116,754
Total				
Revenues	$ 1,873,707	$ 1,988,978	$ 462,765	$ 4,325,450
Expenses	(1,652,191)	(1,847,883)	(449,628)	(3,949,702)
Surplus (deficit)	$ 221,516	$ 141,095	$ 13,137	$ 375,748

A more detailed financial analysis is in the following monthly report and reviews more closely actual financial performance compared to budgeted estimates. There are comments listed that will reference to the applicable line items in the financial statement for each rate center and each support department in the following pages. Please refer to the Budget vs Actual financial statements when reviewing these comments.

Detailed Financials

The Authority's actual operating revenues for July were $239,300 over the prorated annual budget estimates, and operating expenses were under budget by $19,700. The following comments help explain most of the other budget vs. actual variances.

A. Annual and Quarterly Transactions - Some revenues and expenses are over the prorated year-to-date budget due to one-time receipts of revenues for the year and quarterly or annual payments of expenses. These transactions appear to be significant impacts on the budget vs. actual monthly comparisons, but usually even out as the year progresses. Septage receiving support revenue of $109,440 is billed to the County annually in July. Annual payments are made in July for certain maintenance agreements and for employer contributions to employees' health savings accounts. The annual payment to UVA for the Observatory lease ($175,000) is made in August. Insurance premiums are paid at the beginning of each quarter.
B. Professional Services (Administration – page 8) – The Administration Department is over the prorated budget for engineering and technical services for an Information Technology strategic assessment and improvement plan update.
C. Other Services & Charges (Urban Wastewater – page 5) – Urban Wastewater's utility costs are running higher than originally estimated.
D. Information Technology (Crozet Water– page 3) – Crozet Water is over the prorated budget for SCADA Standard Graphics Rollout costs.

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2023
Fiscal Year 2024

Consolidated Revenues and Expenses Summary

Operating Budget vs. Actual

	Notes	Budget FY 2024	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Revenues						
Operations Rate Revenue		$ 22,727,003	$ 1,893,917	$ 2,082,731	$ 188,814	9.97%
Lease Revenue		124,000	10,333	11,548	1,215	11.76%
Admin., Maint. & Engineering Revenue		781,000	65,083	65,579	496	0.76%
Other Revenues		647,267	53,939	98,611	44,672	82.82%
Use of Reserves (Water Resources Fund)		80,000	6,667	-	(6,667)	-100.00%
Interest Allocation		47,250	3,938	14,723	10,786	273.92%
Total Operating Revenues		**$ 24,406,520**	**$ 2,033,877**	**$ 2,273,192**	**$ 239,316**	**11.77%**
Expenses						
Personnel Cost	**A**	$ 11,625,091	$ 968,758	$ 1,018,608	$ (49,851)	-5.15%
Professional Services	**B**	467,850	38,988	37,076	1,911	4.90%
Other Services & Charges	**A, C**	3,479,955	289,996	356,935	(66,939)	-23.08%
Communications		221,440	18,453	21,303	(2,849)	-15.44%
Information Technology	**D**	1,269,575	105,798	99,376	6,422	6.07%
Supplies		46,300	3,858	2,834	1,024	26.54%
Operations & Maintenance	**A, E**	6,035,808	502,984	378,855	124,129	24.68%
Equipment Purchases		345,500	28,792	22,961	5,831	20.25%
Depreciation		915,000	76,250	76,250	-	0.00%
Total Operating Expenses		**$ 24,406,519**	**$ 2,033,877**	**$ 2,014,199**	**$ 19,678**	**0.97%**
Operating Surplus/(Deficit)		**$ 1**	**$ 0**	**$ 258,994**		

Debt Service Budget vs. Actual

Revenues						
Debt Service Rate Revenue		$ 22,119,060	$ 1,843,255	$ 1,843,256	$ 1	0.00%
Septage Receiving Support - County		109,440	9,120	109,440	100,320	1100.00%
Buck Mountain Lease Revenue		1,600	133	1,403	1,269	951.92%
Trust Fund Interest		179,830	14,986	30,151	15,165	101.19%
Reserve Fund Interest		879,900	73,325	133,589	60,264	82.19%
Total Debt Service Revenues		**$ 23,289,830**	**$ 1,940,819**	**$ 2,117,838**	**$ 177,019**	**9.12%**
Debt Service Costs						
Total Principal & Interest		$ 16,168,944	$ 1,347,412	$ 1,347,412	$ -	0.00%
Reserve Additions-Interest		879,900	73,325	133,589	(60,264)	-82.19%
Debt Service Ratio Charge		725,000	60,417	60,417	-	0.00%
Reserve Additions-CIP Growth		5,516,000	459,667	459,667	-	0.00%
Total Debt Service Costs		**$ 23,289,844**	**$ 1,940,820**	**$ 2,001,084**	**$ (60,264)**	**-3.11%**
Debt Service Surplus/(Deficit)		**$ (14)**	**$ (1)**	**$ 116,754**		

Summary

Total Revenues	$ 47,696,350	$ 3,974,696	$ 4,391,030	$ 416,334	10.47%
Total Expenses	47,696,363	3,974,697	4,015,282	(40,585)	-1.02%
Surplus/(Deficit)	**$ (13)**	**$ (1)**	**$ 375,748**		

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2023

Urban Water Rate Center
Revenues and Expenses Summary

	Notes	*Budget FY 2024*	*Budget Year-to-Date*	*Actual Year-to-Date*	*Budget vs. Actual*	*Variance Percentage*
Operating Budget vs. Actual						
Revenues						
Operations Rate Revenue		$ 10,021,362	$ 835,114	$ 930,442	$ 95,328	11.42%
Lease Revenue		94,000	7,833	8,848	1,015	12.95%
Miscellaneous		-	-	-	-	
Use of Reserves (Water Resources Fund)		80,000	6,667		(6,667)	-100.00%
Interest Allocation		34,200	2,850	6,287	3,437	120.59%
Total Operating Revenues		**$ 10,229,562**	**$ 852,464**	**$ 945,577**	**$ 93,113**	**10.92%**
Expenses						
Personnel Cost	**A**	$ 2,384,332	$ 198,694	$ 217,516	$ (18,822)	-9.47%
Professional Services		178,500	14,875	4,812	10,064	67.65%
Other Services & Charges	**A**	769,233	64,103	101,491	(37,388)	-58.33%
Communications		103,200	8,600	7,998	602	7.01%
Information Technology		127,650	10,638	14,826	(4,188)	-39.37%
Supplies		7,000	583	1,367	(784)	-134.41%
Operations & Maintenance		2,905,068	242,089	77,335	164,754	68.06%
Equipment Purchases		20,100	1,675	1,675	-	0.00%
Depreciation		300,000	25,000	25,000	-	0.00%
Subtotal Before Allocations		$ 6,795,083	$ 566,257	$ 452,019	$ 114,238	20.17%
Allocation of Support Departments		3,434,478	286,207	279,843	6,364	2.22%
Total Operating Expenses		**$ 10,229,561**	**$ 852,463**	**$ 731,862**	**$ 120,601**	**14.15%**
Operating Surplus/(Deficit)		**$ 1**	**$ 0**	**$ 213,715**		
Debt Service Budget vs. Actual						
Revenues						
Debt Service Rate Revenue		$ 10,193,779	$ 849,482	$ 849,482	$ 0	0.00%
Trust Fund Interest		77,500	6,458	12,989	6,531	101.12%
Reserve Fund Interest		423,100	35,258	64,256	28,998	82.24%
Lease Revenue		1,600	133	1,403	1,269	951.92%
Total Debt Service Revenues		**$ 10,695,979**	**$ 891,332**	**$ 928,130**	**$ 36,798**	**4.13%**
Debt Service Costs						
Total Principal & Interest		$ 6,964,779	$ 580,398	$ 580,398	$ -	0.00%
Reserve Additions-Interest		423,100	35,258	64,256	(28,998)	-82.24%
Debt Service Ratio Charge		400,000	33,333	33,333	-	0.00%
Est. New Debt Service - CIP Growth		2,908,100	242,342	242,342	-	0.00%
Total Debt Service Costs		**$ 10,695,979**	**$ 891,332**	**$ 920,329**	**$ (28,998)**	**-3.25%**
Debt Service Surplus/(Deficit)		**$ -**	**$ -**	**$ 7,800**		

Rate Center Summary					
Total Revenues	$ 20,925,541	$ 1,743,795	$ 1,873,706	$ 129,911	7.45%
Total Expenses	20,925,540	1,743,795	1,652,191	91,604	5.25%
Surplus/(Deficit)	**$ 1**	**$ 0**	**$ 221,515**		
Costs per 1000 Gallons	$ 3.01		$ 2.32		
Operating and DS	$ 6.16		$ 5.24		
Thousand Gallons Treated	3,397,700	283,142	315,511	32,369	11.43%
or					
Flow (MGD)	9.309		10.178		

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2023

Crozet Water Rate Center
Revenues and Expenses Summary

Operating Budget vs. Actual

	Notes	Budget FY 2024	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Revenues						
Operations Rate Revenue		$ 1,234,752	$ 102,896	$ 102,896	$ -	0.00%
Lease Revenues		30,000	2,500	2,700	200	8.01%
Interest Allocation		4,600	383	839	456	118.93%
Total Operating Revenues		**$ 1,269,352**	**$ 105,779**	**$ 106,435**	**$ 656**	**0.62%**
Expenses						
Personnel Cost		$ 341,691	$ 28,474	$ 30,183	$ (1,708)	-6.00%
Professional Services		22,900	1,908	-	1,908	100.00%
Other Services & Charges		133,426	11,119	14,298	(3,179)	-28.59%
Communications		17,600	1,467	1,514	(47)	-3.24%
Information Technology	D	32,400	2,700	17,956	(15,256)	-565.02%
Supplies		1,500	125	175	(50)	-39.98%
Operations & Maintenance		335,700	27,975	8,909	19,066	68.15%
Equipment Purchases		3,200	267	267	(0)	0.00%
Depreciation		60,000	5,000	5,000	-	0.00%
Subtotal Before Allocations		$ 948,417	$ 79,035	$ 78,301	$ 734	0.93%
Allocation of Support Departments		320,940	26,745	26,042	703	2.63%
Total Operating Expenses		**$ 1,269,357**	**$ 105,780**	**$ 104,343**	**$ 1,437**	**1.36%**
Operating Surplus/(Deficit)		**$ (5)**	**$ (0)**	**$ 2,092**		

Debt Service Budget vs. Actual

	Budget FY 2024	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Revenues					
Debt Service Rate Revenue	$ 2,385,720	$ 198,810	$ 198,810	$ -	0.00%
Trust Fund Interest	13,500	1,125	2,270	1,145	101.81%
Reserve Fund Interest	34,500	2,875	5,210	2,335	81.22%
Total Debt Service Revenues	**$ 2,433,720**	**$ 202,810**	**$ 206,290**	**$ 3,480**	**1.72%**
Debt Service Costs					
Total Principal & Interest	$ 1,216,725	$ 101,394	$ 101,394	$ -	0.00%
Reserve Additions-Interest	34,500	2,875	5,210	(2,335)	-81.22%
Estimated New Principal & Interest	1,182,500	98,542	98,542	-	0.00%
Total Debt Service Costs	**$ 2,433,725**	**$ 202,810**	**$ 205,145**	**$ (2,335)**	**-1.15%**
Debt Service Surplus/(Deficit)	**$ (5)**	**$ (0)**	**$ 1,145**		

Rate Center Summary

	Budget FY 2024	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Total Revenues	$ 3,703,072	$ 308,589	$ 312,726	$ 4,136	1.34%
Total Expenses	3,703,082	308,590	309,488	(898)	-0.29%
Surplus/(Deficit)	**$ (10)**	**$ (1)**	**$ 3,237**		
Costs per 1000 Gallons	$ 6.26		$ 5.28		
Operating and DS	$ 18.27		$ 15.67		
Thousand Gallons Treated	202,697	16,891	19,752	2,861	16.94%
Flow (MGD)	0.555		0.637		

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2023

Scottsville Water Rate Center
Revenues and Expenses Summary

	Budget FY 2024	*Budget Year-to-Date*	*Actual Year-to-Date*	*Budget vs. Actual*	*Variance Percentage*
Operating Budget vs. Actual					
Notes					
Revenues					
Operations Rate Revenue	$ 656,460	$ 54,705	$ 54,705	$ -	0.00%
Interest Allocation	2,150	179	398	218	121.88%
Total Operating Revenues	**$ 658,610**	**$ 54,884**	**$ 55,103**	**$ 218**	**0.40%**
Expenses					
Personnel Cost	$ 223,641	$ 18,637	$ 20,001	$ (1,364)	-7.32%
Professional Services	5,000	417	-	417	100.00%
Other Services & Charges	31,800	2,650	3,482	(832)	-31.41%
Communications	6,750	563	983	(421)	-74.82%
Information Technology	19,700	1,642	1,367	274	16.71%
Supplies	100	8	63	(54)	-653.24%
Operations & Maintenance	134,800	11,233	6,906	4,327	38.52%
Equipment Purchases	2,000	167	252	(86)	-51.48%
Depreciation	40,000	3,333	3,333	0	0.00%
Subtotal Before Allocations	$ 463,791	$ 38,649	$ 36,389	$ 2,261	5.85%
Allocation of Support Departments	194,815	16,235	15,634	601	3.70%
Total Operating Expenses	**$ 658,606**	**$ 54,884**	**$ 52,022**	**$ 2,862**	**5.21%**
Operating Surplus/(Deficit)	**$ 4**	**$ 0**	**$ 3,080**		
Debt Service Budget vs. Actual					
Revenues					
Debt Service Rate Revenue	$ 158,736	$ 13,228	$ 13,228	$ -	0.00%
Trust Fund Interest	1,650	138	277	140	101.74%
Reserve Fund Interest	10,300	858	1,603	745	86.76%
Total Debt Service Revenues	**$ 170,686**	**$ 14,224**	**$ 15,108**	**$ 885**	**6.22%**
Debt Service Costs					
Total Principal & Interest	$ 148,991	$ 12,416	$ 12,416	$ -	0.00%
Reserve Additions-Interest	10,300	858	1,603	(745)	-86.76%
Estimated New Principal & Interest	11,400	950	950	-	0.00%
Total Debt Service Costs	**$ 170,691**	**$ 14,224**	**$ 14,969**	**$ (745)**	**-5.24%**
Debt Service Surplus/(Deficit)	**$ (5)**	**$ (0)**	**$ 139**		
Rate Center Summary					
Total Revenues	$ 829,296	$ 69,108	$ 70,211	$ 1,103	1.60%
Total Expenses	829,297	69,108	66,991	2,117	3.06%
Surplus/(Deficit)	**$ (1)**	**$ (0)**	**$ 3,220**		
Costs per 1000 Gallons	$ 38.22		$ 30.44		
Operating and DS	$ 48.13		$ 39.20		
Thousand Gallons Treated	17,230	1,436	1,709	273	19.02%
or					
Flow (MGD)	0.047		0.055		

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2023

Urban Wastewater Rate Center
Revenues and Expenses Summary

	Notes	*Budget FY 2024*	*Budget Year-to-Date*	*Actual Year-to-Date*	*Budget vs. Actual*	*Variance Percentage*
Operating Budget vs. Actual						
Revenues						
Operations Rate Revenue		$ 9,908,321	$ 825,693	$ 919,179	$ 93,486	11.32%
Stone Robinson WWTP		17,267	1,439	1,860	421	29.24%
Septage Acceptance		550,000	45,833	46,836	1,002	2.19%
Nutrient Credits		80,000	6,667	49,915	43,248	648.73%
Miscellaneous Revenue		-	-	-	-	
Interest Allocation		3,300	275	6,640	6,365	2314.62%
Total Operating Revenues		**$ 10,558,888**	**$ 879,907**	**$ 1,024,430**	**$ 144,523**	**16.42%**
Expenses						
Personnel Cost	**A**	$ 1,458,300	$ 121,525	$ 138,935	$ (17,410)	-14.33%
Professional Services		40,000	3,333	5,997	(2,664)	-79.92%
Other Services & Charges	**A, C**	2,271,556	189,296	213,890	(24,593)	-12.99%
Communications		11,600	967	1,034	(67)	-6.93%
Information Technology		110,600	9,217	1,847	7,369	79.96%
Supplies		1,200	100	43	57	57.44%
Operations & Maintenance	**A, E**	2,086,800	173,900	258,352	(84,452)	-48.56%
Equipment Purchases		73,500	6,125	6,125	-	0.00%
Depreciation		470,000	39,167	39,167	(0)	0.00%
Subtotal Before Allocations		$ 6,523,556	$ 543,630	$ 665,389	$ (121,760)	-22.40%
Allocation of Support Departments		4,035,331	336,278	325,588	10,690	3.18%
Total Operating Expenses		**$ 10,558,887**	**$ 879,907**	**$ 990,977**	**$ (111,070)**	**-12.62%**
Operating Surplus/(Deficit)		**$ 1**	**$ 0**	**$ 33,453**		
Debt Service Budget vs. Actual						
Revenues						
Debt Service Rate Revenue		$ 9,339,509	$ 778,292	$ 778,293	$ 1	0.00%
Septage Receiving Support - County		109,440	9,120	109,440	100,320	1100.00%
Trust Fund Interest		86,900	7,242	14,563	7,321	101.10%
Reserve Fund Interest		410,200	34,183	62,252	28,069	82.11%
Total Debt Service Revenues		**$ 9,946,049**	**$ 828,837**	**$ 964,548**	**$ 135,711**	**16.37%**
Debt Service Costs						
Total Principal & Interest		$ 7,812,249	$ 651,021	$ 651,021	$ -	0.00%
Reserve Additions-Interest		410,200	34,183	62,252	(28,069)	-82.11%
Debt Service Ratio Charge		325,000	27,083	27,083	-	0.00%
Est. New Debt Service - CIP Growth		1,398,600	116,550	116,550	-	0.00%
Total Debt Service Costs		**$ 9,946,049**	**$ 828,837**	**$ 856,906**	**$ (28,069)**	**-3.39%**
Debt Service Surplus/(Deficit)		**$ -**	**$ -**	**$ 107,642**		
Rate Center Summary						
Total Revenues		$ 20,504,937	$ 1,708,745	$ 1,988,978	$ 280,234	16.40%
Total Expenses		20,504,936	1,708,745	1,847,883	(139,139)	-8.14%
Surplus/(Deficit)		**$ 1**	**$ 0**	**$ 141,095**		
Costs per 1000 Gallons		$ 3.11		$ 3.15		
Operating and DS		$ 6.05		$ 5.87		
Thousand Gallons Treated		3,390,400	282,533	314,572	32,039	11.34%
or						
Flow (MGD)		9.289		10.147		

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2023

Glenmore Wastewater Rate Center
Revenues and Expenses Summary

	Budget FY 2024	*Budget Year-to-Date*	*Actual Year-to-Date*	*Budget vs. Actual*	*Variance Percentage*
Operating Budget vs. Actual					
Notes					
Revenues					
Operations Rate Revenue	$ 521,916	$ 43,493	$ 43,493	$ -	0.00%
Interest Allocation	1,700	142	309	168	118.25%
Total Operating Revenues	**$ 523,616**	**$ 43,635**	**$ 43,802**	**$ 168**	**0.38%**
Expenses					
Personnel Cost	$ 127,879	$ 10,657	$ 12,097	$ (1,441)	-13.52%
Professional Services	25,000	2,083	-	2,083	100.00%
Other Services & Charges	35,400	2,950	5,852	(2,902)	-98.36%
Communications	3,450	288	197	91	31.60%
Information Technology	13,000	1,083	-	1,083	100.00%
Supplies	-	-	-	-	
Operations & Maintenance	143,550	11,963	6,797	5,166	43.18%
Equipment Purchases	3,800	317	317	(0)	0.00%
Depreciation	25,000	2,083	2,083	0	0.00%
Subtotal Before Allocations	$ 377,079	$ 31,423	$ 27,342	$ 4,081	12.99%
Allocation of Support Departments	146,534	12,211	11,679	532	4.36%
Total Operating Expenses	**$ 523,613**	**$ 43,634**	**$ 39,021**	**$ 4,613**	**10.57%**
Operating Surplus/(Deficit)	**$ 3**	**$ 0**	**$ 4,781**		
Debt Service Budget vs. Actual					
Revenues					
Debt Service Rate Revenue	$ 22,680	$ 1,890	$ 1,890	$ -	0.00%
Trust Fund Interest	200	17	36	20	117.08%
Reserve Fund Interest	-	-	-	-	
Total Debt Service Revenues	**$ 22,880**	**$ 1,907**	**$ 1,926**	**$ 20**	**1.02%**
Debt Service Costs					
Total Principal & Interest	$ 18,729	$ 1,561	$ 1,561	$ -	0.00%
Estimated New Principal & Interest	4,150	346	346	-	0.00%
Reserve Additions-Interest	-	-	-	-	
Total Debt Service Costs	**$ 22,879**	**$ 1,907**	**$ 1,907**	**$ -**	**0.00%**
Debt Service Surplus/(Deficit)	**$ 1**	**$ 0**	**$ 20**		

Rate Center Summary

Total Revenues	$ 546,496	$ 45,541	$ 45,728	$ 187	0.41%
Total Expenses	546,492	45,541	40,928	4,613	10.13%
Surplus/(Deficit)	**$ 4**	**$ 0**	**$ 4,801**		
Costs per 1000 Gallons	$ 12.65		$ 9.94		
Operating and DS	$ 13.20		$ 10.42		
Thousand Gallons Treated	41,401	3,450	3,926	476	**13.79%**
or					
Flow (MGD)	0.113		0.127		

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2023

Scottsville Wastewater Rate Center
Revenues and Expenses Summary

	Budget FY 2024	*Budget Year-to-Date*	*Actual Year-to-Date*	*Budget vs. Actual*	*Variance Percentage*
Operating Budget vs. Actual					
Notes					
Revenues					
Operations Rate Revenue	$ 384,192	$ 32,016	$ 32,016	$ -	0.00%
Interest Allocation	1,300	108	250	142	131.04%
Total Operating Revenues	**$ 385,492**	**$ 32,124**	**$ 32,266**	**$ 142**	**0.44%**
Expenses					
Personnel Cost	$ 127,949	$ 10,662	$ 12,097	$ (1,435)	-13.46%
Professional Services	5,000	417	-	417	100.00%
Other Services & Charges	24,800	2,067	2,146	(79)	-3.82%
Communications	3,800	317	566	(249)	-78.72%
Information Technology	14,025	1,169	-	1,169	100.00%
Supplies	-	-	220	(220)	
Operations & Maintenance	49,500	4,125	2,457	1,668	40.42%
Equipment Purchases	3,700	308	308	0	0.00%
Depreciation	20,000	1,667	1,667	(0)	0.00%
Subtotal Before Allocations	$ 248,774	$ 20,731	$ 19,462	$ 1,270	6.12%
Allocation of Support Departments	136,722	11,393	10,933	461	4.04%
Total Operating Expenses	**$ 385,495**	**$ 32,125**	**$ 30,394**	**$ 1,730**	**5.39%**
Operating Surplus/(Deficit)	**$ (3)**	**$ (0)**	**$ 1,872**		
Debt Service Budget vs. Actual					
Revenues					
Debt Service Rate Revenue	$ 18,636	$ 1,553	$ 1,553	$ -	0.00%
Trust Fund Interest	80	7	15	8	126.20%
Reserve Fund Interest	1,800	150	267	117	78.13%
Total Debt Service Revenues	**$ 20,516**	**$ 1,710**	**$ 1,835**	**$ 126**	**7.35%**
Debt Service Costs					
Total Principal & Interest	$ 7,471	$ 623	$ 623	$ -	0.00%
Reserve Additions-Interest	1,800	150	267	(117)	-78.13%
Estimated New Principal & Interest	11,250	938	938	-	0.00%
Total Debt Service Costs	**$ 20,521**	**$ 1,710**	**$ 1,827**	**$ (117)**	**-6.85%**
Debt Service Surplus/(Deficit)	**$ (5)**	**$ (0)**	**$ 8**		

Rate Center Summary

Total Revenues	$ 406,008	$ 33,834	$ 34,102	$ 268	0.79%
Total Expenses	406,016	33,835	32,222	1,613	4.77%
Surplus/(Deficit)	**$ (8)**	**$ (1)**	**$ 1,880**		
Costs per 1000 Gallons	$ 16.30		$ 13.62		
Operating and DS	$ 17.17		$ 14.44		
Thousand Gallons Treated	23,643	1,970	2,232	262	**13.29%**
or					
Flow (MGD)	0.065		0.072		

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2023

Administration

Operating Budget vs. Actual

	Notes	*Budget FY 2024*	*Budget Year-to-Date*	*Actual Year-to-Date*	*Budget vs. Actual*	*Variance Percentage*
Revenues						
Payment for Services SWA		$ 781,000	$ 65,083	$ 65,083	$ 0	0.00%
Bond Proceeeds Funding Bond Issuance Costs		-	-	-	-	
Miscellaneous Revenue		-	-	496	496	
Total Operating Revenues		**$ 781,000**	**$ 65,083**	**$ 65,579**	**$ 496**	**0.76%**
Expenses						
Personnel Cost		$ 2,930,008	$ 244,167	$ 235,421	$ 8,746	3.58%
Professional Services	**B**	136,450	11,371	25,518	(14,147)	-124.41%
Other Services & Charges		140,760	11,730	12,501	(771)	-6.57%
Communications		42,800	3,567	6,514	(2,948)	-82.64%
Information Technology		778,800	64,900	49,607	15,293	23.56%
Supplies		22,800	1,900	894	1,006	52.97%
Operations & Maintenance		64,200	5,350	4,317	1,033	19.30%
Equipment Purchases		15,000	1,250	1,250	-	0.00%
Depreciation		-	-	-	-	
Total Operating Expenses		**$ 4,130,818**	**$ 344,235**	**$ 336,022**	**$ 8,213**	**2.39%**

Department Summary

Net Costs Allocable to Rate Centers	**$ (3,349,818)**	**$ (279,152)**	**$ (270,443)**	**$ (8,708)**	**3.12%**
Allocations to the Rate Centers					
Urban Water	44.00% **$ 1,473,920**	**$ 122,827**	**$ 118,995**	**$ 3,832**	
Crozet Water	4.00% **$ 133,993**	**11,166**	**10,818**	**348**	
Scottsville Water	2.00% **$ 66,996**	**5,583**	**5,409**	**174**	
Urban Wastewater	48.00% **$ 1,607,913**	**133,993**	**129,813**	**4,180**	
Glenmore Wastewater	1.00% **$ 33,498**	**2,792**	**2,704**	**87**	
Scottsville Wastewater	1.00% **$ 33,498**	**2,792**	**2,704**	**87**	
	100.00% **$ 3,349,818**	**$ 279,152**	**$ 270,443**	**$ 8,708**	

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2023

Maintenance

Operating Budget vs. Actual

	Notes	*Budget FY 2024*	*Budget Year-to-Date*	*Actual Year-to-Date*	*Budget vs. Actual*	*Variance Percentage*
Revenues						
Payment for Services SWA		$ -	$ -	$ -	$ -	
Miscellaneous Revenue		-	-	-	-	
Total Operating Revenues		**$ -**	**$ -**	**$ -**	**$ -**	
Expenses						
Personnel Cost		$ 1,553,212	$ 129,434	$ 129,961	$ (527)	-0.41%
Professional Services		25,000	2,083	-	2,083	100.00%
Other Services & Charges		36,400	3,033	1,933	1,100	36.26%
Communications		11,300	942	1,376	(435)	-46.17%
Information Technology		17,500	1,458	62	1,396	95.73%
Supplies		4,000	333	-	333	100.00%
Operations & Maintenance		114,150	9,513	5,112	4,400	46.26%
Equipment Purchases		201,000	16,750	10,833	5,917	35.32%
Depreciation		-	-	-	-	
Total Operating Expenses		**$ 1,962,562**	**$ 163,547**	**$ 149,279**	**$ 14,267**	**8.72%**

Department Summary

Net Costs Allocable to Rate Centers	**$ (1,962,562)**	**$ (163,547)**	**$ (149,279)**	**$ (14,267)**	**8.72%**
Allocations to the Rate Centers					
Urban Water 30.00%	**$ 588,768**	**$ 49,064**	**$ 44,784**	**$ 4,280**	
Crozet Water 3.50%	**68,690**	**5,724**	**5,225**	**499**	
Scottsville Water 3.50%	**68,690**	**5,724**	**5,225**	**499**	
Urban Wastewater 56.50%	**1,108,847**	**92,404**	**84,343**	**8,061**	
Glenmore Wastewater 3.50%	**68,690**	**5,724**	**5,225**	**499**	
Scottsville Wastewater 3.00%	**58,877**	**4,906**	**4,478**	**428**	
100.00%	**$ 1,962,562**	**$ 163,547**	**$ 149,279**	**$ 14,267**	

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2023

Laboratory

Operating Budget vs. Actual

	Notes	*Budget FY 2024*	*Budget Year-to-Date*	*Actual Year-to-Date*	*Budget vs. Actual*	*Variance Percentage*
Revenues						
N/A						
Expenses						
Personnel Cost		$ 456,056	$ 38,005	$ 42,420	$ (4,415)	-11.62%
Professional Services		-	-	-	-	
Other Services & Charges		14,580	1,215	126	1,089	89.62%
Communications		1,400	117	58	58	49.93%
Information Technology		1,000	83	-	83	100.00%
Supplies		1,200	100	-	100	100.00%
Operations & Maintenance		115,300	9,608	5,056	4,552	47.38%
Equipment Purchases		1,700	142	142	(0)	0.00%
Depreciation		-	-	-	-	
Total Operating Expenses		**$ 591,236**	**$ 49,270**	**$ 47,802**	**$ 1,468**	**2.98%**

Department Summary

Net Costs Allocable to Rate Centers		**$ (591,236)**	**$ (49,270)**	**$ (47,802)**	**$ (1,468)**	**2.98%**
Allocations to the Rate Centers						
Urban Water	44.00%	**$ 260,144**	**$ 21,679**	**$ 21,033**	**$ 646**	
Crozet Water	4.00%	**23,649**	**1,971**	**1,912**	**59**	
Scottsville Water	2.00%	**11,825**	**985**	**956**	**29**	
Urban Wastewater	47.00%	**277,881**	**23,157**	**22,467**	**690**	
Glenmore Wastewater	1.50%	**8,869**	**739**	**717**	**22**	
Scottsville Wastewater	1.50%	**8,869**	**739**	**717**	**22**	
	100.00%	**$ 591,236**	**$ 49,270**	**$ 47,802**	**$ 1,468**	

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2023

Engineering

Operating Budget vs. Actual

	Notes	*Budget FY 2024*	*Budget Year-to-Date*	*Actual Year-to-Date*	*Budget vs. Actual*	*Variance Percentage*
Revenues						
Payment for Services SWA		$ -	$ -	$ -	$ -	
Total Operating Revenues		**$ -**	**$ -**	**$ -**	**$ -**	
Expenses						
Personnel Cost	**A**	$ 2,022,024	$ 168,502	$ 179,976	$ (11,474)	-6.81%
Professional Services		30,000	2,500	750	1,750	70.00%
Other Services & Charges		22,000	1,833	1,217	616	33.60%
Communications		19,540	1,628	1,062	566	34.78%
Information Technology		154,900	12,908	13,710	(802)	-6.21%
Supplies		8,500	708	73	635	89.70%
Operations & Maintenance		86,740	7,228	3,613	3,615	50.01%
Equipment Purchases		21,500	1,792	1,792	0	0.00%
Depreciation		-	-	-	-	
Total Operating Expenses		**$ 2,365,204**	**$ 197,100**	**$ 202,193**	**$ (5,093)**	**-2.58%**

Department Summary

Net Costs Allocable to Rate Centers		**$ (2,365,204)**	**$ (197,100)**	**$ (202,193)**	**$ 5,093**	**-2.58%**
Allocations to the Rate Centers						
Urban Water	47.00%	**$ 1,111,646**	**$ 92,637**	**$ 95,031**	**$ (2,394)**	
Crozet Water	4.00%	**94,608**	**7,884**	**8,088**	**(204)**	
Scottsville Water	2.00%	**47,304**	**3,942**	**4,044**	**(102)**	
Urban Wastewater	44.00%	**1,040,690**	**86,724**	**88,965**	**(2,241)**	
Glenmore Wastewater	1.50%	**35,478**	**2,957**	**3,033**	**(76)**	
Scottsville Wastewater	1.50%	**35,478**	**2,957**	**3,033**	**(76)**	
	100.00%	**$ 2,365,204**	**$ 197,100**	**$ 202,193**	**$ (5,093)**	

RIVANNA WATER & SEWER AUTHORITY
695 Moores Creek Lane | Charlottesville, Virginia 22902-9016
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www.rivanna.org

MEMORANDUM

TO: **RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS**

FROM: **DAVE TUNGATE, DIRECTOR OF OPERATIONS & ENVIRONMENTAL SERVICES**

REVIEWED BY: **BILL MAWYER, EXECUTIVE DIRECTOR**

SUBJECT: **OPERATIONS REPORT FOR AUGUST 2023**

DATE: **SEPTEMBER 26, 2023**

WATER OPERATIONS:

The average and maximum daily water volumes produced in August 2023 were as follows:

Water Treatment Plant	***Average Daily Production (MGD)***	***Maximum Daily Production in the Month (MGD)***
South Rivanna	8.73	9.97 (8/22/2023)
Observatory	1.40	1.99 (8/22/2023)
North Rivanna	0.54	0.66 (8/22/2023)
Urban Total	10.67	12.62 (8/22/2023)
Crozet	0.70	0.99 (8/23/2023)
Scottsville	0.06	0.091 (8/7/2023)
Red Hill	0.0019	0.004 (8/31/2023)
RWSA Total	11.43	-

- All RWSA water treatment facilities were in regulatory compliance during the month of August.

Status of Reservoirs (as of September 20, 2023):

- Urban Reservoirs are 89% of Total Useable Capacity
  - Ragged Mountain Reservoir is 88% full
  - Sugar Hollow Reservoir is 97% full
  - South Rivanna Reservoir is 86% full
- Beaver Creek Reservoir (Crozet) is 93% full
- Totier Creek Reservoir (Scottsville) is 100% full

WASTEWATER OPERATIONS:

All RWSA Water Resource Recovery Facilities (WRRFs) were in regulatory compliance with their effluent limitations during August 2023. Performance of the WRRFs in August was as follows compared to the respective VDEQ permit limits:

WRRF	*Average Daily Effluent Flow (MGD)*	*Average $CBOD_5$ (ppm)*		*Average Total Suspended Solids (ppm)*		*Average Ammonia (ppm)*	
		RESULT	*LIMIT*	*RESULT*	*LIMIT*	*RESULT*	*LIMIT*
Moores Creek	9.1	<QL	9	<QL	22	<QL	2.2
Glenmore	0.124	2.4	15	3.7	30	NR	NL
Scottsville	0.05	1.4	25	6.4	30	NR	NL
Stone Robinson	0.0001	NR	30	NR	30	NR	NL

NR = Not Required
NL = No Limit
<QL: Less than analytical method quantitative level (2.0 ppm for CBOD, 1.0 ppm for TSS, and 0.1 ppm for Ammonia).

Nutrient discharges at the Moores Creek AWRRF were as follows for August 2023.

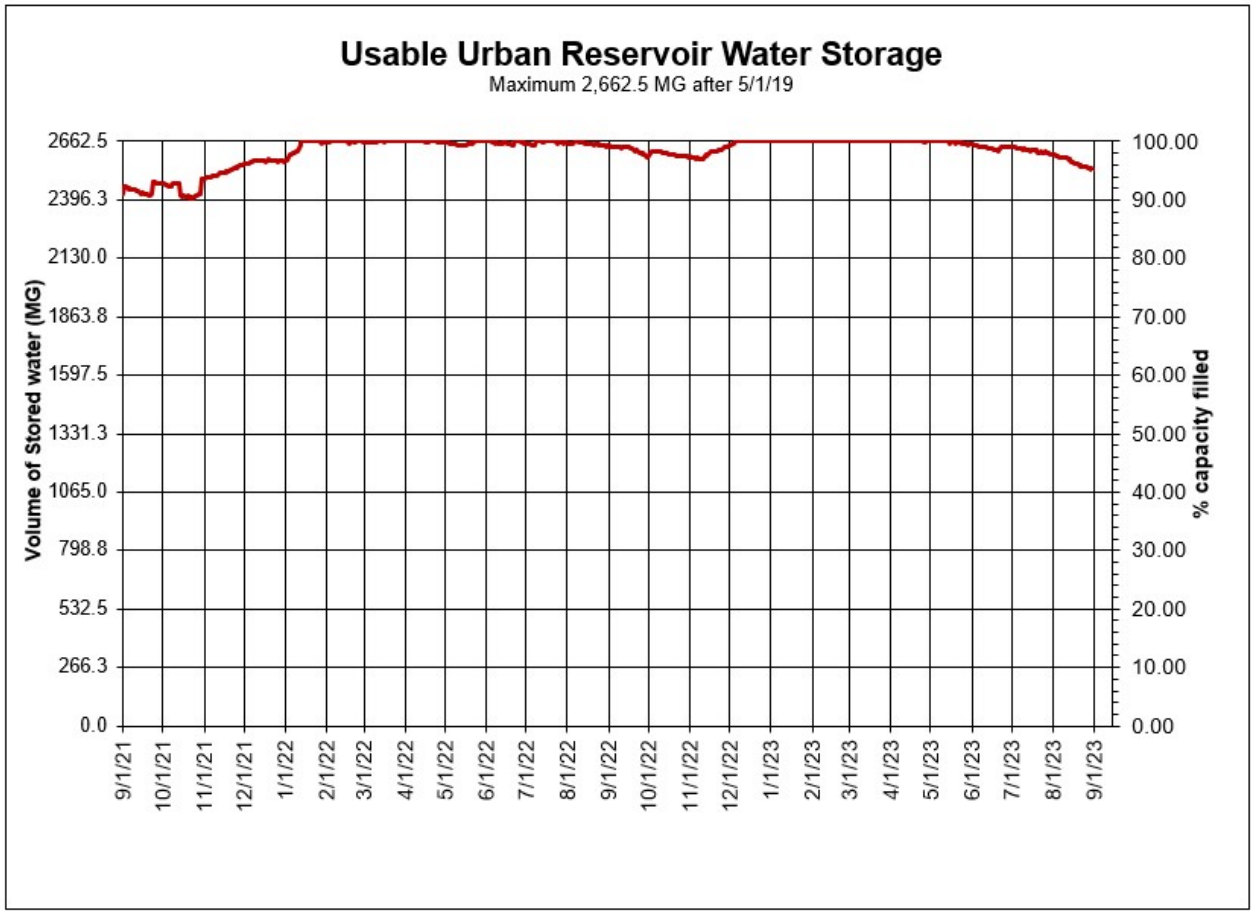
State Annual Allocation (lb./yr.) Permit		*Average Monthly Allocation (lb./mo.) **	*Moores Creek Discharge August (lb./mo.)*	*Performance as % of monthly average Allocation**	*Year to Date Performance as % of annual allocation*
Nitrogen	282,994	23,583	10,217	43%	27%
Phosphorous	18,525	1,636	447	29%	19%

*State allocations are expressed as annual amounts. One-twelfth of that allocation is an internal monthly benchmark for comparative purposes only.

WATER AND WASTEWATER DATA:

The following graphs are provided for review:

- Usable Urban Reservoir Water Storage
- Urban Water and Wastewater Flows versus Rainfall


Usable Urban Reservoir Water Storage
Maximum 2,662.5 MG after 5/1/19
Volume of Stored water (MG)
% capacity filled
2662.5
2396.3
2130.0
1863.8
1597.5
1331.3
1065.0
798.8
532.5
266.3
0.0
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
9/1/21
10/1/21
11/1/21
12/1/21
1/1/22
2/1/22
3/1/22
4/1/22
5/1/22
6/1/22
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10/1/22
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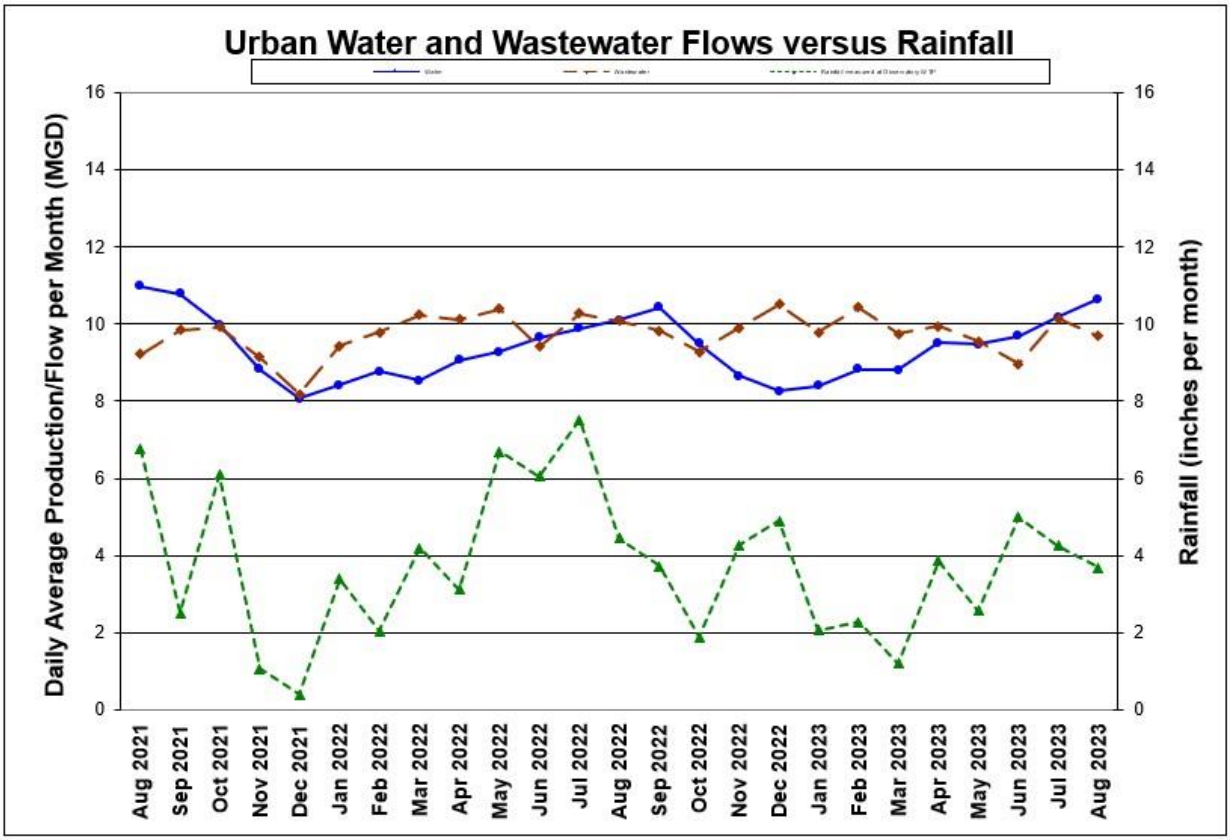
Urban Water and Wastewater Flows versus Rainfall
Daily Average Production/Flow per Month (MGD)
Rainfall (inches per month)
16
14
12
10
8
6
4
2
0
Aug 2021
Sep 2021
Oct 2021
Nov 2021
Dec 2021
Jan 2022
Feb 2022
Mar 2022
Apr 2022
May 2022
Jun 2022
Jul 2022
Aug 2022
Sep 2022
Oct 2022
Nov 2022
Dec 2022
Jan 2023
Feb 2023
Mar 2023
Apr 2023
May 2023
Jun 2023
Jul 2023
Aug 2023

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MEMORANDUM

TO: **RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS**

FROM: **JENNIFER WHITAKER, DIRECTOR OF ENGINEERING & MAINTENANCE**

REVIEWED BY: **BILL MAWYER, EXECUTIVE DIRECTOR**

SUBJECT: **CIP PROJECTS REPORT**

DATE: **SEPTEMBER 26, 2023**

This memorandum reports on the status of the following Capital Projects as well as other significant operating, maintenance, and planning projects.

For the current CIP and additional project information, please visit: https://www.rivanna.org/wp-content/uploads/2023/06/2024-2028-CIP-FINAL-DRAFT-1.pdf

Summary

	Project	Bid Advertise Date	Construction Completion Date
1	SRWTP and OBWTP Renovations	November 2019	March 2024
2	Airport Rd. Water Pump Station and Piping	September 2021	September 2024
3	MC 5kV Electrical System Upgrades	December 2021	December 2024
4	South Fork Rivanna River Crossing	December 2023	December 2025
5	Red Hill Water Treatment Plant Upgrades	October 2023	November 2024
6	Central Water Line	March 2024	December 2028
7	Scottsville WRRF Whole Plant Generator and ATS	December 2023	June 2025
8	MC Administration Building Renovation and Addition	March 2024	December 2026
9	RMR to OBWTP Raw Water Line and Pump Station	April 2024	December 2028
10	MC Building Upfits and Gravity Thickener Improvements	April 2024	December 2025
11	Emmet Street Water Line Betterment	January 2024	July 2026
12	MC Structural and Concrete Rehabilitation	September 2024	June 2026
13	Crozet Pump Stations Rehabilitation	November 2024	December 2026
14	Crozet WTP GAC Expansion – Phase I	December 2024	May 2026
15	Beaver Creek Dam, Pump Station and Piping	December 2025	January 2029
16	SFRR to RMR Pipeline, Intake, and Facilities	December 2025	December 2030
17	Upper Schenks Branch Interceptor, Phase II	TBD	TBD

Under Construction

1. South Rivanna and Observatory Water Treatment Plant Renovations
2. Airport Road Water Pump Station and Piping
3. MC 5kV Electrical System Upgrades

Design and Bidding

4. South Fork Rivanna River Crossing
5. Red Hill Water Treatment Plant Upgrades
6. Central Water Line
7. Scottsville WRRF Whole Plant Generator and ATS
8. MC Administration Building Renovation and Addition
9. RMR to OBWTP Raw Water Line and Pump Station
10. MC Building Upfits and Gravity Thickener Improvements
11. Emmet Street Water Line Betterment
12. MC Structural and Concrete Rehabilitation
13. Crozet Pump Stations Rehabilitation
14. Crozet WTP GAC Expansion – Phase I
15. Beaver Creek Dam, Pump Station, and Piping
16. SFRR to RMR Pipeline, Intake, and Facilities
17. Upper Schenks Branch Interceptor, Phase II

Planning and Studies

18. Asset Management Plan
19. MCAWRRF Biogas Upgrades
20. North Rivanna Water Treatment Plant Decommissioning

Other Significant Projects

21. Urgent and Emergency Repairs
22. Security Enhancements

Under Construction

1. South Rivanna and Observatory Water Treatment Plant Renovations

Design Engineer:	Short Elliot Hendrickson, Inc. (SEH)
Construction Contractor:	English Construction Company (Lynchburg, VA)
Construction Start:	May 2020
Percent Complete:	91%
Base Construction Contract + Change Orders to Date = Current Value:	$36,748,500 + $1,329,762 = $38,078,262
Completion:	March 2024
Budget:	$43,000,000

Current Status: Improvements continue at the OBWTP including completion of the new Chemical Building and general site improvements. At the SRWTP, sludge pump improvements, general site

improvements and final instrumentation programming work continues.

2. Airport Road Water Pump Station and Piping

Design Engineer:	Short Elliot Hendrickson (SEH)
Construction Contractor:	Anderson Construction, Inc. (ACI) (Lynchburg, VA)
Construction Start:	December 2021
Percent Complete:	60%
Base Construction Contract + Change Order to Date = Current Value:	$8,520,312
Completion:	September 2024
Budget:	$10,000,000

Current Status: The masons have completed the brick exterior walls. Installation of two parallel water lines is complete along Berkmar Drive between the pump station site and Timberwood Blvd. Once water line testing and disinfection is completed, tie-ins to the existing system will be made, and the pavement will be restored and opened to traffic. The water line crew will then move south on Berkmar Drive and install the water line between the Towncenter and Timberwood Blvd. traffic circles.

3. MCAWRRF 5kV Electrical System Upgrades

Design Engineer:	Hazen and Sawyer (Hazen)
Construction Contractor:	Pyramid Electrical Contractors (Richmond, VA)
Construction Start:	May 2022
Percent Complete:	20%
Base Construction Contract + Change Order to Date = Current Value:	$5,180,000 - $863,247 = $4,316,753
Completion:	December 2024
Budget:	$5,050,000

Current Status: All major site-related work, including underground electrical ductbank, equipment pads, and curb and gutter replacements, is now complete. The electrical equipment for this project is still in a substantial delivery delay, with the majority of the equipment scheduled to arrive in the Fall/Winter.

Design and Bidding

4. South Fork Rivanna River Crossing

Design Engineer:	Michael Baker International (Baker)
Project Start:	November 2020
Project Status:	90% Design
Construction Start:	May 2024
Completion:	December 2025
Budget:	$7,000,000

Current Status: Easement acquisition work is on-going. A required easement on the south side of the river is on a remnant property from the VDOT Berkmar Bridge project, and we cannot finalize that easement until the property transfer back to the original property owner is complete. Another outstanding easement is on a VEPCO parcel for which we are conducting a Phase 1 Environmental Survey because VEPCO prefers that we purchase the small parcel instead of acquiring an easement. Water Protection Ordinance (WPO) plans were submitted to the County for review in May and

comments were received on July 10th. The County cannot approve the WPO until all easements have been finalized.

5. Red Hill Water Treatment Plant Upgrades

Design Engineer:	Short Elliot Hendrickson (SEH)
Project Start:	July 2022
Project Status:	95% Design
Construction Start:	December 2023
Completion:	November 2024
Budget:	$800,000

Current Status: Project is scheduled to advertise for construction bids in October. This project received ARPA grant funding from Albemarle County.

6. Central Water Line

Design Engineer:	Michael Baker International (Baker)
Project Start:	July 2021
Project Status:	50% Design
Construction Start:	December 2024
Completion:	December 2028
Budget:	$41,000,000

Current Status: Design of 90% construction documents and easement acquisitions are underway. Soil borings are complete and utility test pits along the alignment will be completed in September and October.

7. Scottsville WRRF Whole Plant Generator and ATS

Design Engineer:	Wiley|Wilson
Project Start:	December 2021
Project Status	100% Design
Construction Start:	April 2024
Completion:	June 2025
Budget:	$520,000

Current Status: A small section of the electrical conduit installation is being reviewed for feasibility to incorporate a horizontal direction drill as a potential cost savings and to minimize disruption. Easement acquisition will commence pending the outcome of this section re-design. Grant funding decisions from FEMA may impact the project start date.

8. Moores Creek Administration Building Renovation and Addition

Design Engineer:	SEH
Project Start:	October 2022
Project Status:	30% Design
Construction Start:	July 2024
Completion:	December 2026

Budget: $17,000,000

Current Status: Design of 60% construction documents continues.

9. Ragged Mountain Reservoir to Observatory Water Treatment Plant Raw Water Line and Pump Station

Design Engineer:	Kimley-Horn
Project Start:	August 2018
Project Status:	80% Design
Construction Start:	September 2024
Completion:	December 2028
Budget:	$44,000,000

Current Status: The basis of design report for the pump station has reached the final draft stage, and staff is reviewing prior to the Design Engineer proceeding towards 75% Design. Waterline design has reached 90% completion between the Ragged Mountain Reservoir and Fontaine Avenue. Staff are working with UVA on the alignment between Fontaine Avenue and the Observatory WTP, as well as with VDOT on the alignment crossing Fontaine Avenue. A value engineering workshop will be held in September .

10. MCAWRRF Building Upfits and Gravity Thickener Improvements

Design Engineer:	Short Elliot Hendrickson (SEH)
Project Start:	March 2023
Project Status:	Preliminary Engineering
Construction Start:	August 2024
Completion:	December 2025
Budget:	$5,000,000

Current Status: The building program review was completed in July for both Operations and Maintenance. Conceptual design work continues.

11. Emmet Street Water Line Betterment

Design Engineer:	Whitman, Requardt & Associates (WRA)
Project Start:	September 2021
Project Status:	Ivy Corridor Public Realm – Complete Contemplative Commons – Complete Emmet Streetscape –Design Hydraulic/29 – Preliminary Design
Completion:	July 2026, Phase I
Budget:	$2,900,000

Current Status: RWSA is coordinating with the City for design of a 24-30" water main in Emmet Street from Ivy Road to Arlington Boulevard as part of the City's Emmet Streetscape Phase I project. A Betterment Agreement is under review with the City for the additional design work by its consultant, Clark-Nexsen, and the cost of the betterment construction for the Streetscape Project. WRA has begun work on the final design and permitting of the water main.

RWSA is reviewing possible water main alignments along the Emmet Street Corridor between Morton Drive and Hydraulic Road and has initiated discussion with VDOT on potential pipe routing in the upcoming design-build Hydraulic/29 project.

12. MCAWRRF Structural and Concrete Rehabilitation

Design Engineer:	Hazen and Sawyer (Hazen)
Project Start:	April 2023
Project Status:	Preliminary Engineering
Completion:	June 2026
Budget:	$13,550,000

Current Status: Preliminary engineering work is continuing. Subsurface utility engineering investigations and surveying work have been completed.

13. Crozet Pump Stations Rehabilitation

Design Engineer:	Wiley | Wilson
Project Start:	July 2023
Project Status:	10% Design
Construction Start:	January 2025
Completion:	December 2026
Budget:	$10,350,000

Current Status: Site surveying and design of engineering plans and specifications are underway.

14. Crozet GAC Expansion – Phase I

Design Engineer:	SEH
Project Start:	July 2023
Project Status:	Preliminary Engineering
Completion:	May 2026
Budget:	$6,550,000

Current Status: Scope and fee negotiations with SEH have been completed. Cornwell Engineering is currently completing a PFAS analysis of the Granular Activated Carbon influent water to determine required Empty Bed Contact Time and the most viable media for treatment use.

15. Beaver Creek Dam, Pump Station and Piping Improvements

Design Engineer:	Schnabel Engineering (Dam)
Design Engineer:	Hazen & Sawyer (Pump Station)
Project Start:	February 2018
Project Status:	5% Design
Construction Start:	April 2026
Completion:	January 2029
Budget:	$43,000,000

Current Status: Design work by Hazen and Sawyer for the new raw water pump station, intake, raw water main, and hypolimnetic oxygenation system and by Schnabel Engineering for final design of the dam spillway upgrades, temporary detour, and spillway bridge began this month.

16. SFRR to RMR Pipeline, Intake, and Facilities

Design Engineer:	Kimley Horn/SEH
Project Start:	July 2023
Project Status:	5% Design
Construction Start:	June 2026
Completion:	December 2030
Budget:	$79,700,000

Current Status: Staff is working with CSX railroad to finalize the permit documents. Topographic survey for the pipeline alignment has been completed, and survey of the remaining project locations is under way. Staff are working on the final phases of the SFRR-RMR Nutrient Analysis, with the necessary equipment needed to complete study efforts scheduled to arrive in the Fall, and a final report published in the Winter. The SFRR Intake and Pump Station Project will require closure of the public boat ramp at the site once construction begins.

17. Upper Schenks Branch Interceptor, Phase II

Design Engineer:	Frazier Engineering, P.A.
Project Start:	July 2021
Project Status:	Design
Construction Start:	TBD
Completion:	TBD
Budget:	$4,725,000

Current Status: A regional coordination meeting to discuss the project was held on May 2, 2023. The design team has provided additional information to assist the County with easement acquisition considerations.

Planning and Studies

18. Asset Management Plan

Design Engineer:	GHD, Inc.
Project Start:	July 2018
Project Status:	CMMS Implementation – 99% Complete AMP Implementation – 70% Complete
Completion:	CMMS Implementation – April 2023 AMP Implementation – 2024
Budget:	$1,180,000

Current Status: Assistance with Cityworks implementation continues with the software now in place and work orders being generated. Work continues to fully implement the Asset Management program across all applicable Authority facilities with development of management strategy group assignments

and attributes for both vertical and horizontal assets, preparation for condition assessments and consequence of failure determination workshops.

19. MCAWRRF Biogas Upgrades

Design Engineer:	SEH
Project Start:	October 2021
Project Status:	Preliminary Engineering/Study (99%)
Completion:	December 2024
Budget:	$2,145,000

Current Status: This project now includes the Methane Sphere Rehabilitation, in addition to the Cogeneration Upgrades. RWSA and City staff continue to discuss all available options to reuse the biogas, with further investigation and analysis ongoing.

20. North Rivanna Water Treatment Plant Decommissioning

Design Engineer:	SEH
Project Start:	July 2019
Project Status:	Work Authorization Development
Completion:	March 2027
Budget:	$2,425,000

Current Status: SEH is preparing a scope of work for design of the plant decommissioning. Staff are also pursuing funding and administrative assistance for removal of the North Fork Rivanna low head dam from the U.S. Fish and Wildlife Service through their Partners for Fish and Wildlife Program.

Other Significant Projects

21. Urgent and Emergency Repairs

Staff are currently working on several urgent repairs within the water and wastewater systems as listed below:

Project No.	Project Description	Approx. Cost
2022-02/05/12	Miscellaneous MCI/PCI/RVI MH Repairs	$70,000
2023-01	Finished Water System ARV Repairs	$150,000
2023-02	WWM 32-02 Valve Replacement	$50,000
2023-10	Crozet Raw Waterline Leak @ Mechums Heights	$10,000

- Miscellaneous MCI/PCI/RVI MH Repairs: Over the past several months, staff have identified issues with various manholes on the Moores Creek, Powell Creek, and Rivanna Interceptors (MCI, PCI, and RVI, respectively). These include one manhole on MCI that needs to be raised, as it was historically buried but found in Summer 2021 by the RWSA Maintenance & Engineering Departments, one manhole on RVI that needs a failing HDPE liner to be removed and cementitious mortar to be installed, and one manhole each on PCI and MCI that need to be coated with cementitious mortar due to root intrusion and groundwater infiltration. This work will be

performed through the On-Call Maintenance contract with Digs, and staff visited the site with the Contractor on July 15th. The appropriate MH on MCI was raised on November 1st, 2022. The remaining coating efforts were completed during the week of January 30th. Two additional small MH repairs are being planned for the Fall, including one additional MH coating and height adjustment of one MH.

- RWSA Finished Water ARV Repairs: RWSA Engineering staff recently met with Maintenance staff to identify a list of Air Release Valves (ARVs) that need to be repaired, replaced, or abandoned. Several of these locations will require assistance from RWSA On-Call Maintenance Contractors, due to the complexity of the sites (proximity to roadways, depth, etc.). The initial round will include six (6) sites, all along the South Rivanna Waterline, and will be completed starting this Fall. The Contractor is currently working on acquiring applicable VDOT permits for the work.

- WWM 32-02 Replacement: An 8" gate valve at RWSA's Wholesale Water Meter site 32 was identified as defective during a recent meter calibration effort. Staff is coordinating the replacement efforts for this valve for the week of September 18th with its On-Call Maintenance Contractor, as well as ACSA and the RWSA Water & Maintenance Departments. Due to the amount and critical nature of customers that would be impacted in a potential shutdown, RWSA will be utilizing an insertion valve in this location.

- Crozet Raw Waterline Leak @ Mechums Heights: On September 8th, staff identified an apparent water leak on the Crozet Raw Waterline, which transmits water from the Beaver Creek Reservoir to the Crozet WTP for treatment, near the intersection of Mechums Heights and Old Three Notch'd Road. RWSA Maintenance staff mobilized to the scene, identified the source of the leak, and was able to repair the leak, with minimal impact to operations at the WTP.

22. Security Enhancements

Design Engineer:	Hazen & Sawyer
Construction Contractor:	Security 101 (Richmond, VA)
Construction Start:	March 2020
Percent Complete:	30% (WA6), 40% (WA7), 0% (WA9)
Based Construction Contract + Change Orders to Date = Current Value:	$718,428 (WA1) + $611,764 (WA2-7)
Completion:	December 2023 (WA6), October 2023 (WA7)
Budget:	$2,810,000

Current Status: WA6 includes card access installation at RWSA's remote sites, including all dams and pump stations. Work has begun running conduit at each of the sites, as well as cable and necessary appurtenances at others. WA7, which includes a pilot of a program that will test electronic padlocks at several RWSA facilities, has begun. These electronic padlocks have the potential to add an extra layer of security to unmanned facilities such as tanks, dams, and other facilities. If the pilot is successful, wide scale implementation of this technology is possible. WA9 will include installation of card access on all exterior doors at the South Rivanna WTP. This work was recently authorized, and materials are being procured. Design of MCAWRRF entrance modifications with Hazen & Sawyer also continues, with discussions with Dominion Energy also ongoing, as relocation of existing

electrical infrastructure will be required. This relocation process will need to be finalized prior to the project proceeding to the permitting phase. As these discussions are ongoing, staff is working on appropriate permitting submittals with Albemarle County.

RIVANNA WATER & SEWER AUTHORITY
695 Moores Creek Lane | Charlottesville, Virginia 22902-9016
434.977.2970
434.293.8858
www.rivanna.org

MEMORANDUM

TO: **RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS**

FROM: **BETSY NEMETH, DIRECTOR OF ADMINISTATION AND COMMUNICATIONS**

REVIEWED BY: **BILL MAWYER, EXECUTIVE DIRECTOR**

SUBJECT: **ADMINISTRATION AND COMMUNICATIONS REPORT FOR AUGUST 2023**

DATE: **SEPTEMBER 26, 2023**

Human Resources

We are continuing our Leadership Development training. Group 1, which includes all of our directors, had a session on "Leading Through Change" and our other groups are completing a session on "Effective Communication".

Safety

We are very pleased to announce that the Rivanna Water & Sewer Authority won the American Water Works Association – Virginia Section's 2022 Larry Gordon Facility Safety Award for the Crozet Water Treatment Plant. We were visited by three members of the Safety Committee who reviewed our safety program and toured the Crozet Water Treatment Plant. This award was accepted by Thomas Barger, a Class 1 Water Operator at the AWWA – Virginia Section WaterJAM 2023 conference in Virginia Beach on September 13, 2023.

RWSA received a grant of $4000 from the Virginia Risk Sharing Association, our insurance provider, which will be used to purchase gas monitoring meters, fall protection brackets and a confined space blower system.

Community Outreach

We were happy to have hosted Virginia State Senator Creigh Deeds and his Legislative Director, Tracy Eppard. They had a tour of some of our facilities and lunch with our directors' team, which allowed us to talk to them about the importance of what we do for our community.

The 2023 "Imagine a Day Without Water" Art Contest & Campaign, which is sponsored by the City of Charlottesville, the Albemarle County Service Authority, and the Rivanna Water & Sewer Authority, will begin accepting entries from October 16, 2023, until November 13, 2023. This year's theme is "Tell us your Action to Save Water". National "Imagine a Day Without Water Day" is October 19, 2023. Winners of our art contest will be announced on December 13, 2023. We are excited to see the creative ways in which young people show us how they save water.

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MEMORANDUM

TO: **RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS**

FROM: **JENNIFER WHITAKER, DIRECTOR OF ENGINEERING & MAINTENANCE**

REVIEWED BY: **BILL MAWYER, EXECUTIVE DIRECTOR**

SUBJECT: **WHOLESALE METERING REPORT FOR AUGUST 2023**

DATE: **SEPTEMBER 26, 2023**

The monthly and average daily Urban water system usages by the City and the ACSA for August 2023 were as follows:

	Month	***Daily Average***	
City Usage (gal)	158,648,792	5,117,703	**48.1%**
ACSA Usage (gal)	171,320,593	5,526,471	**51.9%**
Total (gal)	**329,969,385**	**10,644,174**	

The *RWSA Wholesale Metering Administrative and Implementation Policy* requires that water use be measured based upon the annual average daily water demand of the City and ACSA over the trailing twelve (12) consecutive month period. The *Water Cost Allocation Agreement (2012)* established a maximum water allocation for each party. If the annual average water usage of either party exceeds this value, a financial true-up would be required for the debt service charges related to the Ragged Mountain Dam and the SRR-RMR Pipeline projects. Below are graphs showing the calculated monthly water usage by each party, the trailing twelve-month average (extended back to September 2022), and that usage relative to the maximum allocation for each party (6.71 MGD for the City and 11.99 MGD for ACSA). Completed in 2019 for a cost of about $3.2 M, our Wholesale Metering Program consists of 25 remote meter locations around the City boundary and 3 finished water flow meters at treatment plants.

Note: Staff detected a read issue with Meter Site 20 – Trader Joe's in June and replaced the register. Staff brought the meter back online in July. Meter is online and data is being used this month.

Figure 1: City of Charlottesville Monthly Water Usage and Allocation

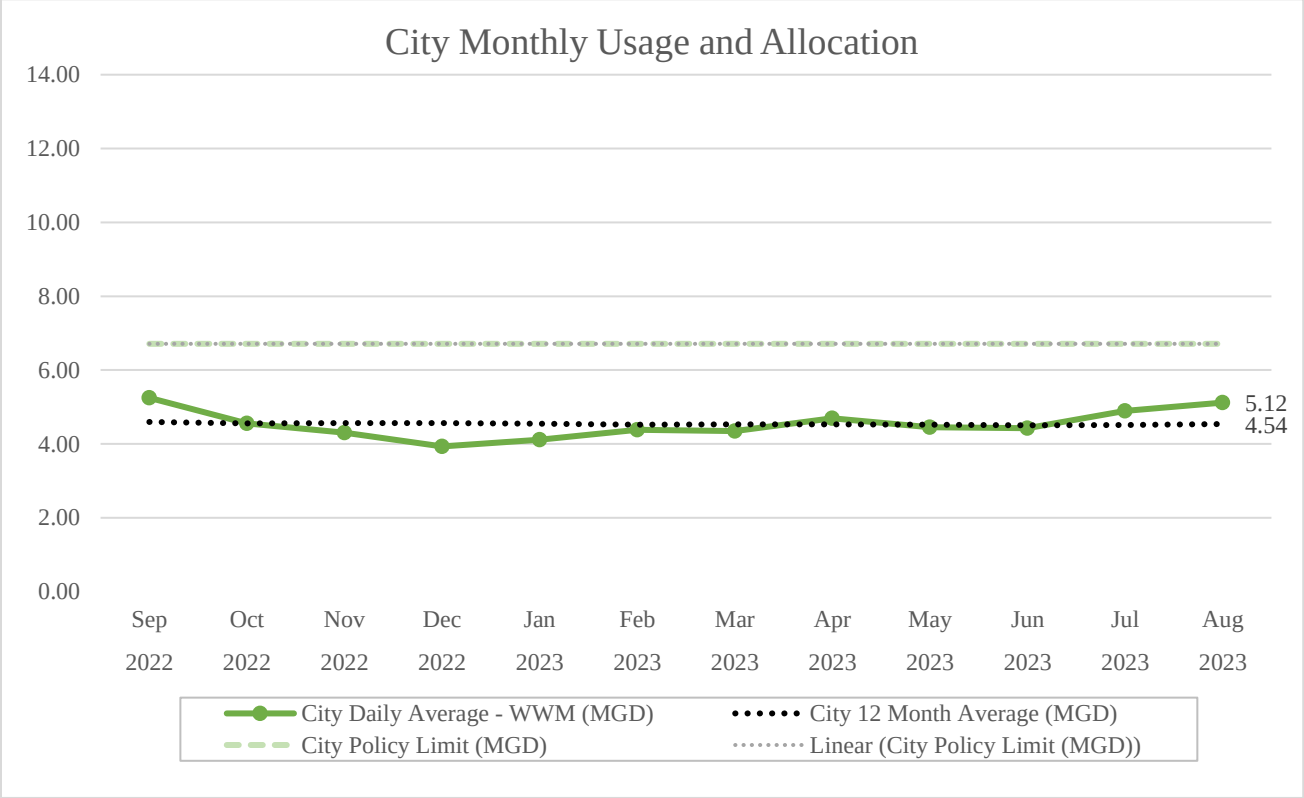
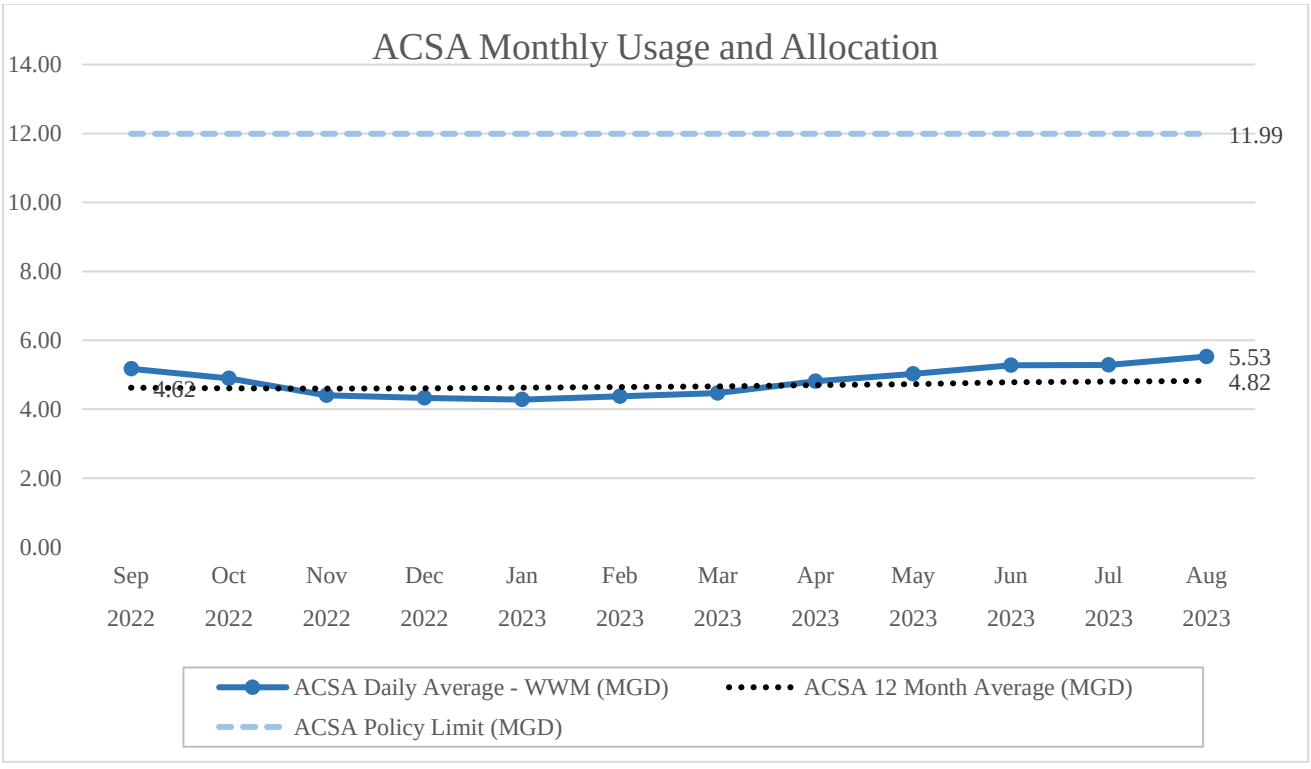


Figure 2: Albemarle County Service Authority Monthly Water Usage and Allocation



Meter Locations for the Wholesale Water Metering Project

RIVANNA WATER & SEWER AUTHORITY
695 Moores Creek Lane | Charlottesville, Virginia 22902
434.977.2970
434.293.8858
www.rivanna.org

TO: **RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS**

FROM: **ANDREA BOWLES, WATER RESOURCES MANAGER**
JENNIFER WHITAKER, DIRECTOR OF ENGINEERING & MAINTENANCE

REVIEWED: **BILL MAWYER, EXECUTIVE DIRECTOR**

SUBJECT: **DROUGHT MONITORING REPORT**

DATE: **SEPTEMBER 26, 2023**

State and Federal Drought Monitoring, as of September 12, 2023:

- U.S. Drought Monitoring Report: Indicates Charlottesville and a large portion of Albemarle County are experiencing Moderate drought conditions. A portion of the County south and east of Charlottesville are listed as Abnormally Dry.
- VDEQ Drought Status Report: Our region is listed as being in a "Normal" level for all drought indicators. Levels of severity increase from "Normal" to "Watch" to "Warning" to "Emergency."

Precipitation & Stream Flows

Charlottesville Precipitation				
Year	Month	Observed (in.)	Normal (in.)	Departure (in.)
2021	Jan - Dec	33.82	41.61	-7.79
2022	Jan - Dec	43.53	41.61	+1.92
2023	Jan – Aug	16.55	27.81	-11.26

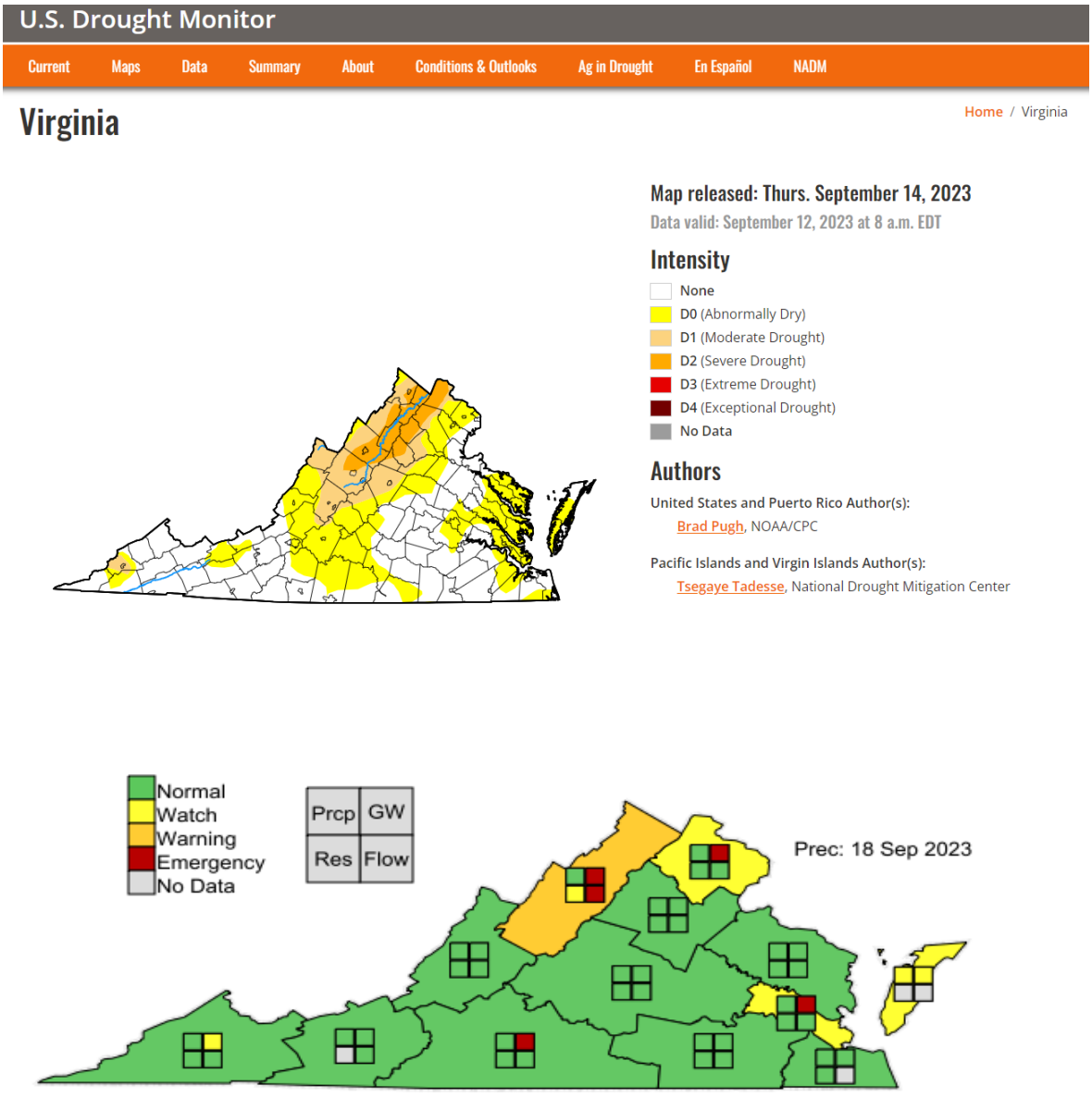
Source: National Weather Service, National Climatic Data Center

USGS Stream Gaging Station Near the Urban Area (Sept 6-12)				
Gage Name	Rolling 7-day Avg. Stream Flow		Median Daily Streamflow	
	cfs	mgd	cfs	mgd
Mechums River	6.1	3.9	23	14.9
Moormans River	0.8	0.5	9	5.9
NF Rivanna River	23.8	15.4	23	14.9
SF Rivanna River	15.6	10.1	71	45.9

Median daily flow: September 12th for the period of record (approx. 30 - 80 years)

Drought History in Central Virginia

- Severe: 1930, 1966, 1982, 2002
- Longest: May 2007 – April 2009 = 103 weeks
- Significant: every 10 -15 years
- Drought of Record: 2001-2002; 18 months



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MEMORANDUM

TO: **RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS**

FROM: **ANDREA BOWLES, WATER RESOURCES MANAGER**

REVIEWED BY: **BILL MAWYER, EXECUTIVE DIRECTOR**
JENNIFER WHITAKER, DIRECTOR OF ENGINERING AND MAINTENANCE

SUBJECT: **WAIVER EXTENSION FOR UNIVERSITY OF VIRGINIA ROWING PROGRAMS AND RIVANNA ROWING CLUB**

DATE: **SEPTEMBER 26, 2023**

The Board previously granted permission for the University of Virginia (UVA) rowing programs and the Rivanna Rowing Club to use gasoline-powered safety and coaching launches on the South Fork Rivanna Reservoir (SFRR) with the requirement that they continue to research and develop electric launches. On September 28, 2021, the Board granted the Executive Director the approval to extend the waiver to those organizations for two years, through September 2023 with the agreement that they would continue to research the use of electric technology.

Mr. Kevin Sauer, Head Coach of the University of Virginia Women's Rowing Crew, has submitted the attached request to extend the waiver until September 2025. His progress report indicates UVA Rowing had received $75,000 from the athletic department (over three years) and an $85,000 grant from the Perkins Foundation for retrofitting of existing launches. UVA Rowing now has electric launches on two of their coach boats, and continues to work with a provider to refine the technology.

Board Action Needed:

Authorize the Executive Director to extend UVA's waiver to September 2025 to allow the use of gasoline-powered safety and coaching launches by the UVA Women's and Men's rowing programs, and the Rivanna Rowing Club, subject to UVA agreeing to other conditions RWSA deems necessary to protect the drinking water supply and the water quality of the SFRR, to include continued research on electric motor technology.

Attachment

University of Virginia
Women's Rowing
P.O. Box 400852
Charlottesville, VA 22904-4852

September 13, 2023

Andrea Bowles
Water Resources Manager
Rivanna Water and Sewer Authority
695 Moore's Creek Lane
Charlottesville, Virginia 22902

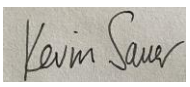
Dear Andrea,

The permit for gasoline powered safety and coaching launches on the Rivanna Reservoir expires this month and this letter is written to request an extension. The UVA women's and men's rowing teams plus the Rivanna Rowing Club appreciate the RWSA's willingness to allow us this permit.

As we have researched the electric technology for our coaching boats, Purewater from Seattle has gone into full production now. I have secured $75,000 from the athletic department (over three years) and have applied for and received a grant from the Perkin Foundation for another $85,000 to be able to retrofit our launches with these powerplants. We have been working with Purewater for over six years on this project; doing the beta testing for them in the fall of 2019. That testing resulted in the callback of the Beta and further research and design. We received two motors and batteries of the Alpha product (one in the late fall of 2022 and the other in the spring of 2023) and now have them on two of our coach boats and operating! We have also installed a charging station for both boats and, as we continue to upgrade to the electric motors, will add additional charging stations. Both the UVA Men and Rivanna Rowing Club are fundraising for their own upgrades as they witness the success of the UVA Women's boats! Please see attached video/pictures.

In advance, we thank you for considering a two-year permit extension for our programs. Allowing our programs this permit is an essential component to achieving success. Since the last permit extension in 2021, UVA Women's Rowing has added two additional ACC Championships for a total of 22!

Sincerely,



Kevin Sauer, Head Coach
University of Virginia

Office (434) 982-5125 • Fax (434) 982-4926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MEMORANDUM

TO: **RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS**

FROM: **LONNIE WOOD, DIRECTOR OF FINANCE AND ADMINISTRATION**

REVIEWED BY: **BILL MAWYER, EXECUTIVE DIRECTOR**

SUBJECT: **REQUEST FOR DISPOSITION OF FY 2023 RATE CENTER RESULTS**

DATE: **SEPTEMBER 26, 2023**

The Authority ended FY 2023 with a cumulative operating cash shortfall of $2,430,200. Some of that shortfall in the operating cash balance is due to the 60-day policy target for the new fiscal year, FY 2024, which is discussed below. The main reason for the cash shortfall is the FY 2023 adjusted cash basis operating results. See as follows:

Operating Cash Shortfall		
FY 2023 Operating Deficit	$	1,469,300
FY 2024 60 day Target		960,900
Shortfall	$	2,430,200

There are several notable causes for the year-end deficit. The expenses for Information Technology, Chemicals, and Utilities were significantly over budget. Important areas of need were identified from the last two years of IT network and security assessments that led to this department putting in place several new IT programs and infrastructure changes. Chemicals are competitively bid every fiscal year, and the bids in June 2022 for FY 2023 resulted in overall price increases of over 60%. Two of our largest electric utility accounts had costs per KWH go up nearly 40% due to fuel charge increases.

Background: After the completion of the audit, staff performs an analysis and reconciliation between rate centers of the year-ending financial results and the effect on the operating cash liquidity position. This is also done to ensure that rate center results are kept separate from each other. In some years, one rate center may have a deficit and others may have a surplus, therefore, we do not want one rate center's surplus funding another rate center's deficit.

There is only one operating cash account where all transactions originate during the year for all capital and operating activities, including inflow from revenues and bond proceeds, and outflow for expenses and debt payments. Capital transactions are reconciled and separated at the end of each month, (i.e., no capital funds are in the operations account at the end of each month or at year end). However, all of the rate centers' operating results are comingled until this process of determining the results for the year and making transfers to or from the respective rate center reserves to ensure proper segregation.

The operations account has a target working cash balance of 60 days of cash on hand to meet daily and monthly cash flow needs, which currently is $7,840,500 (based on the FY 2024 budget). This is an increase of $960,900 from the prior year, because the FY 2024 budget ($48 M) was increased by nearly 14% compared to the FY 2023 budget ($42 M). At year end, this target is compared to actual cash basis results for the fiscal year, and the variance, if any, is brought before the Board for action, which is consistent with the Authority's financial policy.

At year-end, operating cash and cash equivalents were as follows:

Cash on hand	$ 5,410,350
60 Day Cash Target	$ 7,840,550
Deficit Operational Cash	$(2,430,200)

The target amount of operating cash is underfunded by $2,430,200 due to the previously mentioned year-end results and the additional 60-day target balance. Therefore, the following transfers to/(from) the discretionary reserves are recommended for FY 2023 to bring the operations account back to the target balance and properly keep the six rate center reserves separated. FY 2022 to FY 2019 transfers are included for comparison:

Transfers to (from) reserves based on ending results for each rate center:

	FY2023	FY2022	FY2021	FY2020	FY2019
Urban Water	**$ (1,116,400)**	$ (302,200)	$ (473,900)	$ (432,300)	$ (1,466,200)
Urban Wastewater	**(981,300)**	(31,500)	869,900	153,000	1,716,400
Crozet Water	**(210,200)**	(115,900)	(107,700)	117,500	(80,300)
Scottsville Water	**(78,200)**	(64,600)	18,800	64,500	1,100
Glenmore Wastewater	**(22,000)**	(53,800)	(3,800)	(25,500)	25,400
Scottsville Wastewater	**(22,100)**	(14,400)	(2,900)	27,600	33,200
	$ (2,430,200)	$ (582,400)	$ 300,400	$ (95,200)	$ 229,600

To summarize the year-end process, one of the Authority's financial policies is to keep the operations account financially sound with 60 days of cash for normal operating cash flow needs. That goal will continue to be met, and the reserves will continue to provide for the yearly variances in budget versus actual results. As any given year progresses, the operations account temporarily funds rate center deficits and accumulates surpluses, and a reconciliation of the results to allocate the respective surpluses and deficits is performed annually after the year-end audit is complete. The Board has taken similar action for the previous 17 years. Attached is a summary of the ending reserves for Fiscal Year 2023.

Board Action Requested:

Authorize transfer of funds to/(from) the respective reserves for FY 2023 ending results to or (from) the operations account as follows:

Urban Water	$ (1,116,400)	Urban Wastewater	$ (981,300)
Crozet Water	$ (210,200)	Glenmore Wastewater	$ (22,000)
Scottsville Water	$ (78,200)	Scottsville Wastewater	$ (22,100)

Attachment

Rivanna Water and Sewer Authority
Statement of Reserve Balances
June 2023 Reserves

		June FY 2023 Ending Balance	FROM (TO) OPERATIONS ACCOUNT **FY 2023** ending results reserve adjustment proposed Board action needed **	Previous years Rate Stablizion Transfer	Adjusted FY 2023 Ending Balance
Urban Water					
Discretionary Reserve	$	11,547,032	$ (1,116,400)	$ (194,254)	$ 10,236,378
Rate Stabilization Fund		805,746		194,254	1,000,000
Watershed Management Fund		297,528			297,528
Subtotal	$	12,650,306			$ 11,533,906
Urban Wastewater					
Discretionary Reserve	$	11,538,014	(981,300)	(221,233)	$ 10,335,481
Rate Stabilization Fund		778,767		221,233	1,000,000
Subtotal	$	12,316,781			$ 11,335,481
Crozet Water					
Discretionary Reserve	$	1,663,700	(210,200)		$ 1,453,500
Scottsville Water					
Discretionary Reserve	$	186,193	(78,200)		$ 107,993
Glenmore Wastewater					
Discretionary Reserve	$	1,084	(22,000)		$ (20,916)
Scottsville Wastewater					
Discretionary Reserve	$	74,170	(22,100)		$ 52,070
Capital Fund					
Specific Capital Projects	$	979,836			$ 979,836
Vehicle Replacement Fund	$	1,262,602			$ 1,262,602
Subtotal Discretionary Reserves	$	29,134,672	$ (2,430,200)	$ -	$ 26,704,472
Indenture Restricted Minimum	$	500,000			$ 500,000
Total Reserves	* **$**	**29,634,672**			**$ 27,204,472**

*** - Agrees to investment balances - audited.**

**** - Proposed Board action**

Financial Update

FY 2023
Year-End Results

Presented to the Board of Directors

by Lonnie Wood, Director of Finance and Information Technology

September 26, 2023

FY 2023-Disposition of Year- End Results

- Operating revenues and net debt service results exceeded target by $1.05 M
  - Wastewater Flows were 6% higher than budget estimates
  - Septage Revenues were 25% higher than budget estimates

- Working capital and operating expenses exceeded budget estimates by $2.52 M

- Leaving a net cash basis deficit of $1.47 M

FY 2024 Operating Working Capital Target

- Policy driven - Operating Cash Balance

  - The Operating Fund (or operating account) is the Authority's daily cash account and is not accounted for by rate center. The operating account is recommended to have a minimum balance of 20% of the annual budget by the Bond Indenture, but is not required to be maintained at this level. Currently the operating account is targeted to have 60 days of total annual budget available for daily and monthly cash flow needs. *(Source: RWSA Financial Policy adopted and revised August 25, 2020)*

  - A.K.A. – Working Capital: business cycle is roughly 60 days.
    - Uses FY 2024 Budget to determine the target amount

Policy Target

At year end, operating cash and cash equivalents were as follows:

Cash on hand	$ 5,410,350
60 Day Cash Target	$ 7,840,550
Deficit Operational Cash	$(2,430,200)

Target Calculation

Some rounding variances will happen

		FY 2024		FY 2023
Adopted Budget	$	47,698,000	$	41,851,000
Divide by 365 (Daily working cash needs)		130,679		114,660
60 Days of Cash	$	7,840,767	$	6,879,616
Difference	$	961,151		

Statement of Reserve Balances

Rivanna Water and Sewer Authority
Statement of Reserve Balances
June 2023 Reserves

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Discretionary Reserve		$ 1,084	(22,000)		$ (20,916)
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Discretionary Reserve		$ 74,170	(22,100)		$ 52,070
Capital Fund					
Specific Capital Projects		$ 979,836			$ 979,836
Vehicle Replacement Fund		$ 1,262,602			$ 1,262,602
Subtotal Discretionary Reserves		$ 29,134,672	$ (2,430,200)	$ -	$ 26,704,472
Indenture Restricted Minimum		$ 500,000			$ 500,000
Total Reserves	*	**$ 29,634,672**			**$ 27,204,472**

*** - Agrees to investment balances - audited.**

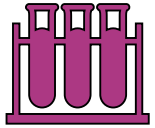
**** - Proposed Board action**

FY 2023 Results: Budget vs. Actual

	Budget	Actual	Positive / (Negative) Variance Budget vs. Actual
Operating Budget			
Operating Revenues	$ 22,151,630	$ 23,001,300	$ 849,670
Operating Expenses	22,151,630	24,677,900	*(2,526,270)*
Operating net results	-	(1,676,600)	**(1,676,600)**
Debt Service Budget			
Debt Service Revenues	$ 19,699,200	$ 20,882,900	$ 1,183,700
Debt Service Expenses	19,699,200	20,675,600	(976,400)
Debt Service net results	-	207,300	**207,300**
Total FY 2023 Net Results	-	**$ (1,469,300.00)**	**$ (1,469,300.00)**

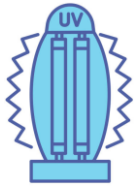
Significant Cost Increases

There was a 40% increase in several of our largest electric utility accounts – mostly due to Dominion Energy fuel charge increases.



Chemical bids increased costs by 60%. If GAC usage in the WTPs is increased for PFAS removal in FY 2024, that will increase actual chemical expenses.

Unbudgeted IT assessment recommendations were deemed important for immediate completion to support network infrastructure and security. There were several one-time costs in FY 2023 for a new phone system that will not occur in FY 2024.



1/3 of the 864 ultraviolet lamps used for wastewater disinfection at Moores Creek required replacement as an unbudgeted expense. This was the primary reason actual equipment repair expenses exceeded budgeted expenses by 30% = $163,000 in FY 2023.

Major Expenses

Select Expense Accounts	a	b	c	d	d minus a	d minus b
	FY 2023			FY 2024	FY 2024 vs 2023 Budget vs Budget Comparison	FY 2024 vs FY 2023 Budget vs Actual Comparison
	Budget	Actual	Variance	Budget		
Utilities	1,611,650	2,095,100	(483,450)	1,629,225	17,575	(465,875)
IT Costs	694,200	1,495,800	(801,600)	1,269,575	575,375	(226,225)
Chemicals	2,360,700	3,465,750	(1,105,050)	3,029,488	668,788	(436,262)
Operating Equipment & Supplies	1,085,550	1,365,600	(280,050)	1,301,750	216,200	(63,850)
			$ (2,670,150)		$ 1,477,938	(1,192,212)
					26%	-21%

FY 2024 Budget

Measures to Reduce Expenses

- Line-item budget control by managers

- Optimize chemical use thru technology advancements

- Use asset management system – Cityworks- to identify and prioritize maintenance projects for cost effectiveness

- Salary savings from strategic timing of recruitments, and reduced weekend testing by the Lab (*if approved by VDEQ*)

- Reduce vehicle inventory 1 -2 vehicles in the future

- Change our chemicals bidding schedule to gain cost data earlier in the budget preparation process

- Reduced covid testing

- Cost stabilization thru reduced inflation

- Grant awards, current and future applications
  - BCR Dam ($20 M), Central Water Line ($30 M), GAC Facilities ($16 M)

Budget History 2020 - 2024

	5 - Year Growth				
	FY 2020	FY 2024	Total Increase	% increase	Annual Average
Personnel	$ 8,760,120	$ 11,625,100	$ 2,864,980	33%	6.5%
Services	2,466,600	2,542,000	75,400	3%	0.6%
Utilities	1,323,600	1,629,200	305,600	23%	4.6%
IT	352,750	1,269,600	916,850	260%	52.0%
Chemicals	2,682,190	3,029,500	347,310	13%	2.6%
O&M	3,635,740	4,311,600	675,860	19%	3.7%
Operating Total	**19,221,000**	**24,407,000**	**5,186,000**	**27%**	**5.4%**
Debt Service Total	**16,946,000**	**23,291,000**	**6,345,000**	**37%**	**7.5%**
Grand Total	**$ 36,167,000**	**$ 47,698,000**	**$ 11,531,000**	**32%**	**6.4%**

Past 5-year Budget Charges

	FY 2020	FY 2024	Growth in Charges	
Operating Charges				
City	$ 7,647,300	$ 9,388,100		
ACSA	9,734,000	13,358,900		
	17,381,300	22,747,000	$ 5,365,700	31%
Debt Service Charges				
City	7,214,015	8,425,200		
ACSA	8,647,007	13,694,000		
	15,861,022	22,119,200	$ 6,258,178	39%
Total City	14,861,315	17,813,300	2,951,985	20%
Total ACSA	18,381,007	27,052,900	8,671,893	47%
	$ 33,242,322	$ 44,866,200	$ 11,623,878	35%

Future 5-year Budget Estimates

	FY 2024	FY 2028	Growth in Charges	
Operating Charges				
City	$ 9,388,100	$ 11,881,295		
ACSA	13,358,900	18,892,113		
	22,747,000	30,773,408	$ 8,026,408	35%
Debt Service Charges				
City	8,425,200	11,774,458		
ACSA	13,694,000	25,283,943		
	22,119,200	37,058,401	$ 14,939,201	68%
Total City	17,813,300	23,655,753	5,842,453	33%
Total ACSA	27,052,900	44,176,056	17,123,156	63%
	$ 44,866,200	$ 67,831,809	$ 22,965,609	51%

Summary

- Reserves of $29.6 M will be used to balance expenses of $2.4 M in FY 2023:
  - primarily created by working capital requirements along with significant chemical and utility cost increases as well as time-sensitive technology expenses
- CIP debt service funding is driving charge increases:
  - creates pressure on the operating budget to keep overall charges within target levels
- Operating charges may be conservative:
  - deficits may occur during times of average or lower than estimated water and wastewater flows
- Limited discretionary expenses are available:
  - processes and expenditures will be reviewed for reduction optimizations, which may not offset operating and CIP cost increases

Questions?

Action Requested:

Authorize transfer of funds to/(from) the respective reserves for FY 2023 ending results to/(from) the operations account as follows:

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