RIVANNA
WATER & SEWER AUTHORITY

# Board of Directors Meeting

January 26, 2021

2:15pm

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

# BOARD OF DIRECTORS

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

**DATE:** **January 26, 2021**

**LOCATION:** **Virtually via ZOOM**

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

## AGENDA

1. ***CALL TO ORDER***

2. ***STATEMENT FROM THE CHAIR***

3. ***MINUTES OF PREVIOUS BOARD MEETINGS***
   a. *Minutes of Regular Board Meeting on December 15, 2020*

4. ***RECOGNITION***
   a. *Resolution of Appreciation for Karl Renter*
   b. *Resolution of Appreciation for Kurt Krueger*

5. ***EXECUTIVE DIRECTOR'S REPORT***

6. ***ITEMS FROM THE PUBLIC***

7. ***RESPONSES TO PUBLIC COMMENTS***

8. ***CONSENT AGENDA***
   a. *Staff Report on Finance*

   b. *Staff Report on Operations*

   c. *Staff Report on Ongoing Projects*

   d. *Staff Report on Wholesale Metering*

   e. *Award of Construction Contract – Moores Creek Exterior Lighting Improvements; Pyramid Electrical*

   f. *Award of Legal Services Term Contract; Williams Mullen*

   g. *Approval of CIP Budget Amendment - Moores Creek Wastewater Facilities Master Plan*

## *9. OTHER BUSINESS*

*(JOINT SESSION WITH THE RSWA)*

a. *Presentation: Strategic Plan Update; Katie McIlwee, Communications Manager/Executive Coordinator*

## *10. OTHER ITEMS FROM BOARD/STAFF NOT ON AGENDA*

## *11. CLOSED MEETING – Personnel Review*

## *12. ADJOURNMENT*

GUIDELINES FOR PUBLIC COMMENT AT VIRTUAL RIVANNA BOARD OF DIRECTORS MEETINGS

If you wish to address the Rivanna Board of Directors during the time allocated for public comment, please use the "chat" feature in the Zoom Meeting interface.

Members of the public who submit comments will be recognized during the specific time designated on the meeting agenda for "Items From The Public." The comment(s) will be read aloud to the Board of Directors only during this agenda item, so comments must be received prior to the end of this agenda item. The comments will be read by the Rivanna Authority's Executive Coordinator/Clerk of the Board.

Members of the public requesting to speak will be recognized during the specific time designated on the meeting agenda for "Items From The Public." 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.

If you would like to submit a comment, please keep in mind that Board of Directors meetings are formal proceedings and all comments are recorded on tape. In order to give all who wish to submit a comment proper respect and courtesy, the Board requests that commenter follow the following guidelines:

- Submit your comment prior to the start of or during the "Items from the Public" section of the Agenda.
- In your comment, state your full name and address and your organizational affiliation if commenting 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;
- Be respectful and civil in all interactions at Board meetings;
- 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 commenters 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 Administration office upon request or can be viewed on the Rivanna website.

Rev. May 20, 2020

CALL TO ORDER

STATEMENT OF CHAIR TO OPEN MEETING

This is Mike Gaffney, Chair of the Rivanna Water and Sewer Authority.

I would like to call the January 26, 2021 meeting of the Board of Directors to order.

Notwithstanding any provision in our Bylaws to the contrary, as permitted under the City of Charlottesville's Continuity of Government Ordinance adopted on March 25, 2020, Albemarle County's Continuity of Government Ordinance adopted on April 15th, 2020, and revised effective October 1, 2020 and Chapter 1283 of the 2020 Acts of the Virginia Assembly effective April 24, 2020, we are holding this meeting by real time electronic means with no board member physically present at a single, central location.

All board members are participating electronically. This meeting is being held pursuant to the second resolution of the City's Continuity of Government Ordinance and Section 6 of the County's revised Continuity of Government Ordinance. All board members will identify themselves and state their physical location by electronic means during the roll call which we will hold next. I note for the record that the public has real time audio-visual access to this meeting over Zoom as provided in the lawfully posted meeting notice and real time audio access over telephone, which is also contained in the notice. The public is always invited to send questions, comments, and suggestions to the Board through Bill Mawyer, the Authority's Executive Director, at any time.

ROLL CALL:

Mr. Blair: Please state your full name and location.
Ms. Hildebrand: Please state your full name and location.
Mr. O'Connell: Please state your full name and location.
Dr. Palmer: Please state your full name and location.
Mr. Richardson: Please state your full name and location.
Mr. Snook: Please state your full name and location.

And I am Mike Gaffney and I am located at _____.

Joining us today electronically are the follow Authority staff members:

Bill Mawyer, Lonnie Wood, Jennifer Whitaker, David Tungate, John Hull, and Katie McIlwee

We are also joined electronically by Kurt Krueger, counsel to the Authority.

695 Moores Creek Lane | Charlottesville, Virginia 22902-9016
434.977.2970
434.293.8858
www.rivanna.org

# RWSA BOARD OF DIRECTORS
## Minutes of Regular Meeting
## December 15, 2020

A regular meeting of the Rivanna Water and Sewer Authority (RWSA) Board of Directors was held on Tuesday, December 15, 2020 at 2:00 p.m. via Zoom.

**Board Members Present:** Mike Gaffney, Jeff Richardson, Gary O'Connell, Lauren Hildebrand, Lloyd Snook, and John Blair.

**Board Members Absent:** Dr. Liz Palmer.

**Rivanna Staff Present:** Bill Mawyer, Katie McIlwee, Lonnie Wood, Jennifer Whitaker, David Tungate, John Hull, Victoria Fort, and Andrea Bowles.

**Attorney(s) Present:** Kurt Krueger.

### *1. CALL TO ORDER*

Mr. Gaffney called the December 15, 2020 regular meeting of the Rivanna Water and Sewer Authority to order at 2:16 p.m.

### *2. STATEMENT FROM THE CHAIR*

Mr. Gaffney read the following statement aloud:

"Notwithstanding any provision in our Bylaws to the contrary, as permitted under the City of Charlottesville's Continuity of Government Ordinance adopted on March 25, 2020, Albemarle County's Continuity of Government Ordinance adopted on April 15th, 2020, and revised effective October 1, 2020 and Chapter 1283 of the 2020 Acts of the Virginia Assembly effective April 24, 2020, we are holding this meeting by real time electronic means with no board member physically present at a single, central location.

"All board members are participating electronically. This meeting is being held pursuant to the second resolution of the City's Continuity of Government Ordinance and Section 6 of the County's revised Continuity of Government Ordinance. All board members will identify themselves and state their physical location by electronic means during the roll call which we will hold next. I note for the record that the public has real time audio-visual access to this meeting over Zoom as provided in the lawfully posted meeting notice and real time audio access over telephone, which is also contained in the notice. The public is always invited to send questions, comments, and suggestions to the Board through Bill Mawyer, the Authority's Executive Director, at any time."

Mr. Gaffney called the roll.

Mr. John Blair stated he was located at Charlottesville City Hall, at 605 East Main Street in Charlottesville, VA.

Ms. Lauren Hildebrand stated she was located at 305 4th Street Northwest in Charlottesville, VA.

Mr. Gary O'Connell stated he was located at the ACSA offices at 168 Spotnap Road in Charlottesville.

Mr. Gaffney noted that Dr. Elizabeth Palmer was absent from the meeting.

Mr. Jeff Richardson stated he was located at the County Office Building, 401 McIntire Road, in Charlottesville, VA.

Mr. Lloyd Snook stated he was located at 408 East Market Street in Charlottesville, VA.

Mr. Mike Gaffney stated he was located at 3180 Dundee Road in Earlysville, VA.

Mr. Gaffney stated the following Authority staff members were joining the meeting electronically: Bill Mawyer, Lonnie Wood, Jennifer Whitaker, Dave Tungate, John Hull, Victoria Fort, Andrea Bowles, and Katie McIlwee.

Mr. Gaffney stated they were also joined electronically by Mr. Kurt Krueger, Counsel to the Authority.

***3. MINUTES OF PREVIOUS BOARD MEETINGS***

*a. Minutes of Regular Board Meeting on November 17, 2020*

**Mr. O'Connell moved that the board approve the minutes of the previous board meeting. The motion was seconded by Mr. Richardson and passed unanimously (6-0). (Dr. Palmer was absent.)**

***4. RECOGNITIONS***

There were no recognitions.

***5. EXECUTIVE DIRECTOR'S REPORT***

Mr. Mawyer stated he wanted to recognize Ms. Jennifer Whitaker, Director of Engineering and Maintenance, who recently completed her Master of Engineering degree in Civil Engineering from UVA. He asked for a round of applause for Ms. Whitaker for her accomplishment, adding that there would be a cake for her as soon as they could all get together.

Several board members offered their congratulations to Ms. Whitaker.

Mr. Mawyer stated a consultant has been selected (Land Planning and Design Associates) for the Buck Mountain property management plan. He stated this is the same firm that completed the master plan, and they are getting started on a property management plan. He stated he hopes to bring some information to the board around the February timeframe.

Mr. Mawyer stated work continues on the Beaver Creek Dam pump station and piping modifications project. He stated as mentioned, they are partnering with the federal Natural

Resources Conservation Services (NRCS) and, in accordance with NRCS procedures, there was a virtual public meeting held on December 10 to inform the public about the project. He stated over 30 or 40 members of the public were online for that meeting and offered many good comments, with most of them being about how the access for the project will likely need to close Browns Gap Turnpike and making sure a detour road is constructed during that period.

Mr. Mawyer stated there was also a virtual meeting the afternoon of December 10 with all the federal and state agencies that will be a party to this project, and good comments were made by them. He stated Delegate Runion, who represents the Crozet area, was also online with the state agencies. He stated the project is moving forward, and Mr. O'Connell attended the meeting as a stakeholder.

Mr. Mawyer stated there is about 1.5-2 years in front of them to complete the planning process with the NRCS and then, they will go to final design around 2023, and to construction in 2024 through 2026. He stated hopefully, they will receive up to 65% of the project funding from the NRCS, with the current total budget being $27 million.

Mr. Mawyer stated the project is moving forward, but they are having to somewhat rewind and go back through all the design alternatives that they have been through in the last two years to achieve a higher rate of releasing water from the Beaver Creek Dam. He stated new regulations require them to release more water during a storm, and so they have to enlarge the spillway. He stated this is what they are working on with the NRCS.

Mr. Mawyer stated they also met with the board's subcommittee for the Capital Improvement Plan for FY 22-26, and the subcommittee includes Mr. O'Connell and Ms. Hildebrand. He stated they met with them and went through the five-year CIP, which totals $169.6 million over the five years. He stated they will be refining that plan based on the subcommittee's comments, and plan to present the CIP to the board in February.

Mr. Mawyer stated RWSA is a co-sponsor of the annual "Imagine a Day Without Water" contest. He stated all of the applications have been received, and the winners will be announced later that week. He stated this is always a highlight of wintertime.

Mr. Mawyer stated that he and the division directors gave a presentation to the Albemarle County Service Authority Board of Directors in November about the FY 21-25 CIP and the charges that may come from that CIP. He stated this is the CIP that the RWSA Board heard about in May and June. He stated RWSA updated the ACSA Board about the many projects, financing plan, and charges that may come from that plan.

Mr. Mawyer stated an email was sent to the RWSA Board about the total maximum daily load study that the Virginia DEQ is doing on the South Rivanna River. He stated it does not include the South Rivanna Reservoir and is below the dam. He stated Ms. Andrea Bowles, Water Resources Manager, is a member of the Technical Advisory Committee for that study, and so she is staying well-attuned to the topics being discussed with those committees as well as the comments from the public.

Mr. Mawyer stated in terms of COVID-19 vaccines, RWSA is coordinating with the Virginia Department of Health. He stated in fact, they sent a letter to the Department of Health that day asking that RWSA receive as much priority as VDH will give them for vaccines for their essential employees. He stated they are in Group 1B, and that Group 1A are healthcare providers and long-term care residents. He stated there are about 450,000 people intended to be vaccinated in Group 1A. He stated essential employees are in the second group.

Mr. Mawyer thanked Mr. O'Connell, explaining that Mr. O'Connell received a letter from the Water Association that they used to send to the Health Department asking that they give essential employees as much priority as they will. He stated they will be waiting to hear about when they can get vaccinated. He stated there are about 95 employees who are essential which are the water operators, wastewater operators, laboratory analysts and chemists, maintenance crew, and everyone in Solid Waste refuse disposal and recycling. He stated these are all in the essential employee category, and there are about 95 of the 112 employees who are on the list as being essential.

Mr. Mawyer stated despite the year of 2020 and the COVID challenges, RWSA feels that it has been a good year, and they have stayed healthy. He stated they have continued to provide outstanding services to the community, despite the challenges. He stated they appreciate everything the board and staff have done in that regard, and they look forward to a much better and brighter 2021.

Mr. Gaffney asked if there were any comments or questions about the report.

Mr. O'Connell stated he wanted to reiterate what Mr. Mawyer stated about the Crozet meeting. He stated he thought it went very well and thanked Ms. Fort and Ms. Whitaker for educating the public. He stated he was shocked to see that 40 people were on the call. He stated it was good information to get out. He stated he was a little surprised that they have to start all over with the whole process, but if 65% of grant funding is what it takes, then that is okay.

Mr. Gaffney stated any funding assistance would be appreciated.

### *6. ITEMS FROM THE PUBLIC*

Mr. Gaffney opened the meeting to the public. He asked Mr. Hull if there were any members of the public present who wished to speak.

Mr. Hull replied that there were not.

Mr. Gaffney closed Items from the Public.

### *7. RESPONSES TO PUBLIC COMMENT*

As there were no items from the public, there were no responses.

### *8. CONSENT AGENDA*

*a. Staff Report on Finance*

*b. Staff Report on Operations*

*c. Staff Report on Ongoing Projects*

*d. Staff Report on Wholesale Metering*

**Mr. Richardson moved that the board approve the Consent Agenda. The motion was seconded by Mr. O'Connell and passed unanimously (6-0). (Dr. Palmer was absent.)**

## *9. OTHER BUSINESS*

a. *Rivanna's Dam Safety Program*

Ms. Victoria Fort, Senior Civil Engineer with the Engineering Team, stated she serves as the Dam Safety Program Coordinator for RWSA. She stated she would give the board a brief overview of the Dam Safety Program, explain why it is important to have a robust dam safety program and culture, and share all the work staff does to maintain safe dams.

Ms. Fort stated in terms of what qualifies as a dam, it is a manmade structure that is used to retain or store water and other materials. She stated dams enable storage for drinking water, hydropower generation, flood control, recreation, and other uses. She stated dams can also have environmental benefits.

Ms. Fort stated that in Virginia, all dams are regulated by the Department of Conservation and Recreation (DCR) unless they fall below a certain height measurement or impoundment volume. She stated some larger dams can be exempted for agricultural or mining uses, or if they are federally regulated. She stated the South Fork Rivanna Dam, which she would describe in more detail, is a federally regulated dam.

Ms. Fort stated the Virginia State Dam Safety Regulations are intended to provide for proper and safe design, construction, operation, and maintenance of dams to protect public safety.

Ms. Fort stated to highlight the importance of a robust dam safety program, she wanted to review a few examples of recent dam safety incidents in the news and the scope of their impact. She stated one of the most significant recent dam failures occurred earlier in 2020 in central Michigan, with the failure of the Edenville and Sanford Dams. She stated extreme heavy rainfall resulted in failure of the Edenville Dam, which then created flash flood conditions and ended up overtopping the Sanford Dam, which was about 10 miles downstream.

Ms. Fort stated that following all the flooding that resulted, over 2,500 structures were damaged or destroyed. She stated damages are estimated at over $250 million, and there were massive widespread environmental impacts. She stated more than 11,000 downstream residents had to be evacuated but that thankfully, a well-coordinated emergency response prevented any major injuries or fatalities from that event.

Ms. Fort stated the cause of that failure is currently under investigation but prior to its failure, there were some known concerns about the spillway's capacity and whether it complied with Michigan's state dam safety regulations.

Ms. Fort stated another high-profile dam incident occurred at the Oroville Dam in California in 2017. She stated this one is significant because at 770 feet tall, this is the tallest dam in the United States. She stated heavy rains, snowmelt, and the resulting water level rise in the reservoir damaged the concrete primary spillway, and it threatened to breach the earthen emergency spillway. She stated eventually, waters receded without a breach, but repairs to the dam that were completed between 2018 and 2019 cost over $1.1 billion.

Ms. Fort stated lastly, she wanted to provide an example that was closer to home. She stated in August of 2018, the College Lake Dam in Lynchburg saw a rapid rise in water level after heavy rains. She stated this dam's emergency spillway, which she indicated to on the photo on the screen as being under the bridge, did activate, but the capacity of the spillway was insufficient to prevent the earthen embankment from overtopping. She stated the picture on the screen showed damage to the embankment on the right side.

Ms. Fort stated a breach would have sent a deadly flood wave into the City of Lynchburg, and this prompted officials to evacuate 124 residents overnight as a precaution. She stated thankfully, failure was once again avoided by rapidly dewatering the lake, and this dam is now slated for removal beginning sometime in 2021.

Ms. Fort stated with that context, she would review some of the components of Rivanna's Dam Safety Program. She stated a large part of that is maintaining permits and regulatory compliance. She stated the program also requires annual updates to dam emergency action plans, which she would discuss later. She stated these plans are to prepare staff and the community for the very unlikely (but very high consequence) possibility of a dam failure.

Ms. Fort stated another big part of the program is training and exercises of emergency action plans; maintenance and vegetation control; repairs and upgrades to the facilities as they become necessary; installation, maintenance, and public safety features; and completion of studies and reports. She stated RWSA has an active term contract with an engineering firm that specializes in dams for the completion of reports and inspections, and to provide assistance in the event of a dam emergency.

Ms. Fort stated maintenance and engineering staff perform regular inspections of all dam facilities. She stated daily monitoring is performed at some of these facilities either through onsite visits or remotely using SCADA and cameras.

Ms. Fort stated that dam safety emergencies are very low-probability events, but they have the potential for very high and very costly impacts. She stated dams are therefore designed with a very high level of conservatism to minimize the chance that they would fail. She stated dams can fail due to excessive rainfall, material failure, vandalism, terrorism, and other factors. She stated accidents or public safety issues can also be considered dam-related emergencies, in some cases.

Ms. Fort stated before she would discuss Rivanna's dams in detail, she wanted to briefly touch on hazard classification. She stated both Virginia and federal requirements designate three different hazard classifications for dams according to the degree of consequence from their failure or disoperation. She stated an important distinction to make is that the hazard classification is not a reflection on the dam's current condition or the likelihood that it is going to fail. She stated it is merely to designate what the results would be if it were to fail.

Ms. Fort stated a high-hazard dam would cause probable loss of life or serious economic damage if it were to fail, and so they are required to be able to handle a larger-design storm to ensure safety. She stated significant-hazard dams could result in loss of life and appreciable economic damage. She stated low-hazard dams are not expected to result in any loss of life, nor any significant economic damage, due to failure.

Ms. Fort stated high-hazard dams in Virginia are required by the state to be designed to handle at least 90% of the Probable Maximum Precipitation (PMP). She stated this is essentially defined as the theoretically largest amount of rainfall during a single event in a dam's watershed.

Ms. Fort stated the flood resulting from the PMP rainfall event is referred to as the Probable Maximum Flood (PMF). She stated to get a sense of scale of what a PMF event looks like, in the chart presented on the screen, she compared the two-year, 100-year, and PMP rainfall events for a 24-hour duration storm in the Sugar Hollow Watershed. She stated a two-year storm at Sugar Hollow would be about 4 inches of rain in the course of 24 hours, adding that this is a good amount of rain. She stated a 100-year storm would be just under 10 inches in that same 24-hour period.

Ms. Fort stated that PMP, by contrast, would exceed 30 inches of rain in that same 24-hour period. She stated that at RWSA high-hazard dams, the PMP rainfall amounts range from 23.7 inches at South Fork to 33.3 inches at Beaver Creek in a 24-hour period.

Ms. Fort stated while this may sound like a very unlikely event, PMP rainfall amounts have actually been measured twice in U.S. history: once at Cherry Creek, Colorado in 1935, and at Smethport, Pennsylvania in 1942.

Ms. Fort stated in 2017, Hurricane Harvey produced rainfall upwards of 90% of the 72-hour PMP. She pointed out that Central Virginia has seen its share of very significant rainfall events. She stated during Hurricane Camille, Nelson County saw 25 to 30 inches of rain overnight, or approximately 81% of the PMP. She stated in 1995, Madison County experienced significant flooding when it reportedly received as much as 30 inches of rain in 16 hours, which sounds unfathomable. She stated this is about 86% of the PMP.

Ms. Fort presented a list of all the dam facilities that Rivanna manages, as well as some other local dams in the region, for reference. She stated in Rivanna's system, there are four high-hazard dams, which are at Sugar Hollow, the South Fork Rivanna River, Beaver Creek, and Ragged Mountain. She stated there are two low-hazard dams, at Totier Creek and Lickinghole Creek. She stated there are a handful of smaller, unregulated dams, including two low head dams on the Mechums and North Fork Rivanna Rivers. She stated there is a small farm dam located on the Buck Mountain property, and there is also a pond dam at the Ivy Material Utilization Center.

Ms. Fort stated for reference, Lake Albemarle is managed by the state, which is nearby in western Albemarle County. She stated there are also many private dams throughout the County including Key West and Clover Lake in the West Leigh subdivision (which needs a fair amount of repair). She stated these are the responsibility of local HOAs for maintenance.

Ms. Fort stated the County owns dams, including Walnut Creek and Chris Greene. She stated Lake Anna is owned by Dominion Energy.

Ms. Fort stated the South Fork Rivanna Dam, as she mentioned earlier, is Rivanna's only federally regulated dam, which is due to the existence of a hydropower facility that is located just downstream of the dam. She stated this facility is planned for decommissioning and once it is decommissioned, it will lose its state dam safety exemption and will then fall under the jurisdiction of DCR, like the rest of Rivanna's dams. She stated it was originally built in 1965. She stated it is a concrete gravity dam that stands 47 feet tall and 700 feet long.

Ms. Fort stated the Ragged Mountain Dam was completed in 2014, which replaced two historic dams built in 1885 and 1908. She stated the dam is a 125-foot-tall earthfill dam that measures 785 feet across.

Ms. Fort stated the Sugar Hollow Dam is a concrete dam that was originally built in 1948. She stated that following the storms she mentioned in Madison County in 1995, the dam was updated in 1998 to include the rubber bladder along the crest. She stated it is 77 feet tall and is currently undergoing the replacement of the rubber crest gate that spans the crest of the dam.

Ms. Fort stated the last high-hazard dam is Beaver Creek, which is another earthfill dam that was built in 1963. She stated it is 60 feet tall and was constructed as a water supply and flood control dam in coordination at that time with the Soil Conservation Service, now the NRCS. She stated it also provides recreational benefit to the adjacent County park. She stated Browns Gap Turnpike runs along the crest of the dam. She stated this dam is currently operating under conditional operating certificate with the state, since the spillway requires upgrades in order to be able to pass the PMP storm.

Ms. Fort stated Rivanna is currently working on a planning study with funding from the NRCS, and as Mr. Mawyer mentioned earlier, over the next year and a half, they will be developing alternatives for upgrading that spillway. She stated the study being done now would qualify Rivanna for federal funding for construction if it is available at the time.

Ms. Fort stated Totier Creek and Lickinghole Creek are both considered low-hazard dams. She stated Totier Creek Dam is located in Scottsville. She stated it is an earthfill dam that was built in 1971 and stands at 25 feet tall.

Ms. Fort stated Lickinghole Creek Dam is the only dam that is not for water supply. She stated it is a sediment basin, concrete gravity dam and was constructed in 1995. She stated the dam stands 32 feet tall.

Ms. Fort stated in order to plan for emergency events, Rivanna manages an Owners Dam Safety Program, which specifies their internal dam safety policies and training procedures, ensures safety in design and quality construction, and outlines guidelines for dam maintenance and monitoring. She stated they also maintain emergency action plans to coordinate with emergency response personnel in the event of a dam-related emergency. She stated these plans are updated annually, trained, and exercised every year as well.

Ms. Fort stated Rivanna also promotes public safety at their different dam facilities by installing and maintenance signs, cameras, alarms, and other features.

Ms. Fort stated regarding emergency action plans (EAPs), these plans outline the steps to be taken to minimize the loss of life and any property damage during any unusual or emergency event at one of the high-hazard dams. She stated they provide guidelines for coordinating with outside organizations which include VDEM, local and state police, Fire Rescue, and others.

Ms. Fort stated that during a dam emergency, the EAP outlines responsibilities for the various parties involved. She stated RWSA is responsible for taking any corrective actions necessary at the facility to protect it. She stated they monitor the status of the dam and notify the participating emergency management agencies.

Ms. Fort stated the Emergency Communications Center (ECC) and the emergency management agencies receive the status reports from Rivanna and notify the public of any cautionary action or evacuations.

Ms. Fort stated local government also plays a role and is responsible for assisting with public notification, coordination of evacuations, and provisions of aid and resources as needed to manage the dam safety incident.

Ms. Fort provided a quick glance of a notification chart from one of the EAPs. She stated all four of the high-hazard dam emergency action plans have three notification charts, and they outline the urgency of different scenarios based on the likelihood of the failure of the dam. She stated it provides a call-down list for each scenario to make the necessary notifications both internally and to the Board of Directors, emergency management agencies, VDOT, etc.

Ms. Fort stated the EAPs also include inundation mapping for each facility, which shows any of the areas that would flood in the event of a dam breach. She stated it also contains information such as any affected structures if the dam were to break and any roadways that would be overtopped. She stated the green boxes shown in the map on the screen contain information about the travel time and height of any floodways that would follow a dam breach to give a sense of how quickly one would need to respond to protect certain areas.

Ms. Fort stated she wanted to touch on a few dam-related projects that are ongoing or planned. She stated currently, the Sugar Hollow Dam is under construction for replacement of the rubber bladder, which has reached the end of its useful life. She stated this work is expected to be completed by the fall of 2021.

Ms. Fort stated the South Rivanna Dam is also about to undergo repairs to two mud gates located on each abutment of the dam. She stated this is currently scheduled for early January. She stated there are also grouting repairs of the South Rivanna Dam, which are likely expected to take place in the spring.

Ms. Fort stated projects currently in the planning or design phase include Beaver Creek Dam Spillway Upgrades; and alterations to the Ivy MUC irrigation pond dam, which are expected to take place from the spring to summer of 2021. She stated another project in this category is the South Rivanna Dam Hydropower Decommissioning project, which she believed was scheduled for late 2021.

Ms. Fort stated ongoing maintenance work includes tree clearing and brush clearing; any drainage improvements or necessary concrete or structural repairs; installation of monitoring

devices such as cameras and instrumentation; public safety measures such as signs, buoys, and booms; and anything else that comes up related to the dams that needs to be taken care of.

Ms. Fort stated she hoped this gave the board a sense of the scale and importance of this program, as well as an understanding of the degree of work that is required from Engineering, Water Department, and Maintenance Department staff in order to safely operate these facilities. She offered to answer any questions.

Mr. O'Connell stated it was sobering to think about what could happen. He stated this was a good presentation.

Mr. Mawyer stated it was a sobering call in May of 2018, when Ms. Whitaker called him at 2:00 a.m. to say there was 7.5 feet of water going across the South Rivanna Dam, and they were at the verge of activating the emergency action plan for failure of that dam. He stated fortunately, they did not have to, but if it had become much worse, he would have been calling Mr. Richardson and Mr. Blair to tell them to get their crews ramped up to possibly evacuate everyone downstream of that facility. He stated it is not a scenario they want to get into, but it exists and as Ms. Fort showed the board, it has happened around the country and even in Lynchburg. He stated they cannot be naïve to the possibilities of what could happen with these dams.

Mr. Blair noted that regarding the PMP, they have obviously seen in the realm of flood control and climate change a change in assumptions. He asked if climate change has, in any way, affected any assumptions behind PMP.

Ms. Fort replied that the best she could say about this is that the state released a study in 2015 of the PMP in Virginia. She stated at that time, they did a lot of storm modeling and analyzed a lot of meteorological data, which she would not pretend to understand. She stated they released guidelines and a tool one can use to determine the PMP for a specific watershed, which provided a way to get a more accurate depiction of what that PMP storm is, watershed by watershed, where previous guidelines had not been quite as detailed. She stated she would have to refer to the report to know how much climate change played into the development of that study, but she was sure it was a factor.

Ms. Whitaker added that Ms. Fort was dead on in that the study did present new information, and she knows that they did incorporate some information. She stated part of the reason for the study was that some of the hurricanes that had happened along the coast, as well as some of the larger storms up against the mountains, resulted in a real interest in trying to capture some of the meteorological anomalies. She stated she suspects that the report will likely be revisited another five or ten years down the road, as climate change and other factors play into it.

Mr. Snook stated he had a question completely unrelated to safety, but it was triggered by something in the report. He stated he had no idea that the Rivanna Dam was ever at a hydroelectric capacity. He asked how long that had been out of operation.

Ms. Fort stated Ms. Whitaker could probably answer better than she on exactly when that last operated.

Ms. Whitaker stated it was built in 1983 under a federal grant program during post-oil embargo days. She stated the facility operated quite well in its first ten years of operation at water demands, water resources, downstream needs, and lake and reservoir health became more emphasized. She stated then, the amount of water and electricity that could be generated became less and less. She stated in the early 2000s, the hydrofacility was used less and less, was less effective, and with some age on it, it started having some mechanical problems. She stated in the mid-2015 timeframe, there was a major flood where unfortunately, the facility was open at the time to do some mechanical work and was destroyed by the flood.

Ms. Whitaker stated an alternatives analysis was done to see if it was economical to rehabilitate the facility or abandon it. She stated frankly, there was just not enough water in the reservoir to generate the type of power offsets that they would need in order to make it economical. She stated the decision was made to mothball the facility and use the current low-level gate as a dam safety feature as opposed to a hydrofeature.

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

There were none.

***11. CLOSED MEETING***

There was no closed meeting.

***12. ADJOURNMENT***

**At 2:52 p.m., Mr. O'Connell moved to adjourn the meeting of the Rivanna Water and Sewer Authority. The motion was seconded by Mr. Snook and passed unanimously (6-0). (Dr. Palmer was absent.)**

**RIVANNA WATER AND SEWER AUTHORITY**
**BOARD OF DIRECTORS**

**Resolution of Appreciation for Karl Renter**

**WHEREAS**, Mr. Renter has served in water treatment positions since May of 1988, most recently as a Water Operator Class 1; and

**WHEREAS**, over the same period in excess of 32 years, Mr. Renter has demonstrated leadership in his field and has been a valuable resource to the Authority; and

**WHEREAS**, Mr. Renter's understanding of the Authority's water treatment operations, as well as his dedication and loyalty have positively impacted our water treatment programs to the benefit of the Authority and its customers; and

**WHEREAS,** the Rivanna Water and Sewer Authority Board of Directors is most grateful for the professional and personal contributions Mr. Renter has provided to the Authority; and

**NOW, THEREFORE, BE IT RESOLVED** that the Rivanna Water and Sewer Authority Board of Directors recognizes, thanks and commends Mr. Renter for his distinguished service, efforts and achievements as a member of the Rivanna Water and Sewer Authority, and presents this Resolution as a token of esteem, with its best wishes in his retirement.

**BE IT FURTHER RESOLVED** that this Resolution be entered upon the permanent Minutes of the Rivanna Water and Sewer Authority.

Michael Gaffney, Chairman
John Blair
Lauren Hildebrand
Gary O'Connell
Liz Palmer
Jeff Richardson
Lloyd Snook

**RIVANNA WATER & SEWER AUTHORITY**
**RIVANNA SOLID WASTE AUTHORITY**
**BOARD OF DIRECTORS**

# Joint Resolution of Appreciation for Mr. Kurt Krueger

**WHEREAS,** Mr. Krueger has served as legal counsel for the Rivanna Water & Sewer Authority and Solid Waste Authority Boards of Directors since 1997; and

**WHEREAS,** over that twenty-three year period, Mr. Krueger has provided expert legal advice and guidance for the Authorities, including the processes required to conduct "virtual" business during the ongoing COVID pandemic; and

**WHEREAS,** Mr. Krueger's understanding of the water, sewer, solid waste and recycling enabling legislation as well as the operations of the Authorities has supported a strategic decision-making process that provided benefits to the Authorities, their customers and the Charlottesville /Albemarle community. During Mr. Krueger's tenure and through his efforts, major agreements were completed including:

- a Settlement Agreement and Release for continued operation of the Ivy Landfill
- the Local Government Support Agreement for ongoing solid waste environmental expenses
- a Community Water Supply Plan, to ensure an adequate water supply for 50 years
- the Ragged Mountain Reservoir Dam Project Agreement and Water Cost Allocation Agreement
- the Wastewater Projects Cost Allocation Agreement
- a Subterranean Easement for the Rivanna Interceptor and Sewer Pumping Station
- the Observatory Water Treatment Plant, Raw Water Pumping and Piping Upgrade Cost and Capacity Allocation Agreement
- a Deed of Ground Lease with UVA for the Observatory Water Treatment Plant; and

**WHEREAS,** the Water & Sewer Authority and Solid Waste Authority Boards of Directors are most grateful for the professional and personal contributions Mr. Krueger has provided to both Authorities and to the community; and

**NOW, THEREFORE, BE IT RESOLVED** that the Rivanna Water & Sewer Authority and the Rivanna Solid Waste Authority Boards of Directors recognize, thank, and commend Mr. Krueger for his distinguished service, and efforts as legal counsel, and present this Resolution as a token of esteem, with their best wishes in his retirement.

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

**Michael Gaffney, Chairman**

| | |
|---|---|
| Jeff Richardson | John Blair |
| Liz Palmer | Lloyd Snook |
| Gary O'Connell | Lauren Hildebrand |
| Lance Stewart | David Brown |

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:** **BILL MAWYER, EXECUTIVE DIRECTOR**

**SUBJECT:** **EXECUTIVE DIRECTOR'S REPORT**

**DATE:** **JANUARY 26, 2021**

*STRATEGIC PLAN GOAL: WORKFORCE DEVELOPMENT*

**COVID Vaccinations**

We are coordinating with the Blue Ridge Health Department and the Center for Disease Control to schedule appointments for our employees.

*STRATEGIC PLAN GOAL: INFRASTRUCTURE AND MASTER PLANNING*

**Buck Mountain Property**

Information about the first phase of the property management plan will be presented to the Board during the next meeting on February 23, 2021.

**S. Rivanna to Ragged Mtn Reservoir Water Line**

Progress continues in our efforts to acquire 9.5 miles of easements and agreements (with VDOT) for this 36" water line. Discussions continue with 3 private owners, UVAF and County School Board staff.

**FY 22 – 26 Capital Improvement Plan**

The proposed five-year CIP will be presented to the Board during the next meeting on February 23, 2021.

*STRATEGIC PLAN GOAL: COMMUNICATION AND COLLABORATION*

**Quarterly Reports to City Council and Albemarle Board of Supervisors**

In addition to a written quarterly report this month, I provided a brief presentation to City Council and the Board of Supervisors about CIP projects and programs planned for the near future by both Authorities.

**Community Outreach**

The City of Charlottesville, Albemarle County Service Authority, and Rivanna Water & Sewer Authority held the 6th annual "Imagine a Day Without Water" art contest. This year's theme was, "What Water Means to Me". The submission period concluded on November 23rd and 121 submissions were received in all grade categories (K-2, 3-4, 5-6, 7-8, 9-12, and Fan Favorite). The winners were announced on December 18th. Six students and four teachers were recognized with a visa gift card and a water conservation "goodie-bag". Some of the winning submissions are shown below.

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:** **NOVEMBER MONTHLY FINANCIAL SUMMARY – FY 2021**

**DATE:** **JANUARY 26, 2021**

Urban Water flow and rate revenues are 8% over budget estimates through November, and Urban Wastewater flow and rate revenues are 12% over budget. Revenues and expenses are summarized in the table below:

| | Urban Water | Urban Wastewater | Total Other Rate Centers | Total Authority |
|---|---|---|---|---|
| **Operations** | | | | |
| Revenues | $ 3,495,484 | $ 4,134,895 | $ 953,326 | $ 8,583,705 |
| Expenses | (3,755,631) | (3,657,545) | (968,125) | (8,381,301) |
| Surplus (deficit) | $ (260,147) | $ 477,350 | $ (14,799) | $ 202,404 |
| **Debt Service** | | | | |
| Revenues | $ 2,873,959 | $ 3,600,929 | $ 691,061 | $ 7,165,949 |
| Expenses | (2,890,757) | (3,561,410) | (695,304) | (7,147,471) |
| Surplus (deficit) | $ (16,798) | $ 39,519 | $ (4,243) | $ 18,478 |
| **Total** | | | | |
| Revenues | $ 6,369,443 | $ 7,735,824 | $ 1,644,387 | $ 15,749,654 |
| Expenses | (6,646,388) | (7,218,955) | (1,663,429) | (15,528,772) |
| Surplus (deficit) | $ (276,945) | $ 516,869 | $ (19,042) | $ 220,882 |

When reviewing the Authority as a whole, operating revenues are $789,000 over budget and operating expenses are $546,000 over budget.

A. Annual Transactions

Some revenues and expenses are over the prorated year-to-date budget due to one-time annual payments made or revenues received for the year. These transactions appear to be significant impacts on the budget vs. actual monthly comparisons but will even out as the year progresses. Septage receiving support revenue of $109,441 is received annually from

the County. Annual payments are made for certain leases and maintenance agreements, and some insurance premiums are paid quarterly.

B. Personnel Costs (various departments) – Unbudgeted bonuses were paid in October, and Maintenance department salaries were underbudgeted this year in error.
C. Professional Services (Urban Water – page 2) – Urban Water has incurred $62,000 of unbudgeted professional fees, but $59,000 of that amount will be billed to UVA pursuant to our Supplemental Water Treatment Systems Study, Design and Construction Agreement.
D. Other Services and Charges (Urban Water – page 2) – Urban Water incurred $46,000 of unbudgeted watershed management costs due to unexpected charges related to mitigation plan compliance.
E. Operations and Maintenance (Urban Water – page 2) – Urban Water is $329,000 over its total annual budget for Pipeline and Appurtenances repairs due to several major line breaks.
F. Communications (Urban Water, Crozet Water – pages 2 and 3) – Urban Water and Crozet Water are experiencing higher than expected telephone and data service costs this year.

Attachments

**Rivanna Water & Sewer Authority**
**Monthly Financial Statements - November 2020**
**Fiscal Year 2021**

## *Consolidated*
## *Revenues and Expenses Summary*

## *Operating Budget vs. Actual*

| | Notes | *Budget FY 2021* | *Budget Year-to-Date* | *Actual Year-to-Date* | *Budget vs. Actual* | *Variance Percentage* |
|---|---|---|---|---|---|---|
| **Revenues** | | | | | | |
| Operations Rate Revenue | | $ 17,381,293 | $ 7,242,205 | $ 7,888,406 | $ 646,201 | 8.92% |
| Lease Revenue | | 105,000 | 43,750 | 52,910 | 9,160 | 20.94% |
| Admin., Maint. & Engineering Revenue | | 545,000 | 227,083 | 282,590 | 55,507 | 24.44% |
| Other Revenues | | 542,788 | 226,162 | 452,375 | 226,213 | 100.02% |
| Use of Reserves-GAC | | 535,220 | 223,008 | 85,600 | (137,408) | -61.62% |
| Rate Stabilization Reserves | | 240,027 | 100,011 | 100,011 | - | 0.00% |
| Interest Allocation | | 35,100 | 14,625 | 4,402 | (10,223) | -69.90% |
| ***Total Operating Revenues*** | | **$ 19,384,428** | **$ 8,076,845** | **$ 8,866,294** | **$ 789,449** | **9.77%** |
| **Expenses** | | | | | | |
| Personnel Cost | **A, B** | $ 8,913,257 | $ 3,754,631 | $ 3,818,670 | $ (64,038) | -1.71% |
| Professional Services | **A, C** | 602,700 | 251,125 | 329,712 | (78,587) | -31.29% |
| Other Services & Charges | **A, D** | 3,136,780 | 1,306,992 | 1,416,415 | (109,423) | -8.37% |
| Communications | **A** | 161,020 | 67,092 | 98,747 | (31,656) | -47.18% |
| Information Technology | **A** | 392,950 | 163,729 | 138,839 | 24,890 | 15.20% |
| Supplies | | 47,045 | 19,602 | 17,871 | 1,731 | 8.83% |
| Operations & Maintenance | **A, E** | 4,918,416 | 2,049,340 | 2,367,260 | (317,920) | -15.51% |
| Equipment Purchases | | 352,250 | 146,771 | 118,044 | 28,726 | 19.57% |
| Depreciation | | 860,000 | 358,333 | 358,333 | (0) | 0.00% |
| Reserve Transfers | | - | - | - | - | |
| ***Total Operating Expenses*** | | **$ 19,384,418** | **$ 8,117,615** | **$ 8,663,891** | **$ (546,276)** | **-6.73%** |
| ***Operating Surplus/(Deficit)*** | | **$ 10** | **$ (40,770)** | **$ 202,404** | | |

## *Debt Service Budget vs. Actual*

| | | | | | | |
|---|---|---|---|---|---|---|
| **Revenues** | | | | | | |
| Debt Service Rate Revenue | | $ 15,861,016 | $ 6,608,757 | $ 6,608,760 | $ 3 | 0.00% |
| Use of Reserves | | 954,652 | 397,772 | 397,772 | - | |
| Septage Receiving Support - County | | 109,440 | 45,600 | 109,441 | 63,841 | 140.00% |
| Buck Mountain Lease Revenue | | 1,600 | 667 | - | (667) | -100.00% |
| Trust Fund Interest | | 135,900 | 56,625 | 11,928 | (44,697) | -78.94% |
| Reserve Fund Interest | | 666,000 | 277,500 | 38,049 | (239,451) | -86.29% |
| ***Total Debt Service Revenues*** | | **$ 17,728,608** | **$ 7,386,920** | **$ 7,165,950** | **$ (220,970)** | **-2.99%** |
| **Debt Service Costs** | | | | | | |
| Total Principal & Interest | | $ 14,380,219 | $ 5,991,758 | $ 5,991,758 | $ - | 0.00% |
| Reserve Additions-Interest | | 666,000 | 277,500 | 38,049 | 239,451 | 86.29% |
| Debt Service Ratio Charge | | 725,000 | 302,083 | 302,083 | - | 0.00% |
| Reserve Additions-CIP Growth | | 1,957,394 | 815,581 | 815,581 | - | 0.00% |
| ***Total Debt Service Costs*** | | **$ 17,728,613** | **$ 7,386,922** | **$ 7,147,471** | **$ 239,451** | **3.24%** |
| ***Debt Service Surplus/(Deficit)*** | | **$ 5** | **$ (2)** | **$ 18,479** | | |

### Summary

| | | | | | |
|---|---|---|---|---|---|
| **Total Revenues** | $ 37,113,036 | $ 15,463,765 | $ 16,032,244 | $ 568,479 | 3.68% |
| **Total Expenses** | 37,113,031 | 15,504,537 | 15,811,362 | (306,825) | -1.98% |
| **Surplus/(Deficit)** | **$ 5** | **$ (40,772)** | **$ 220,882** | | |

**Rivanna Water & Sewer Authority**
**Monthly Financial Statements - November 2020**

***Urban Water Rate Center***
**Revenues and Expenses Summary**

| | Notes | *Budget FY 2021* | *Budget Year-to-Date* | *Actual Year-to-Date* | *Budget vs. Actual* | *Variance Percentage* |
|---|---|---|---|---|---|---|
| ***Operating Budget vs. Actual*** | | | | | | |
| **Revenues** | | | | | | |
| Operations Rate Revenue | | $ 7,118,541 | $ 2,966,059 | $ 3,195,028 | $ 228,969 | 7.72% |
| Lease Revenue | | 75,000 | 31,250 | 39,165 | 7,915 | 25.33% |
| Miscellaneous | | - | - | 134,587 | 134,587 | |
| Use of Reserves-GAC | | 500,000 | 208,333 | 85,600 | (122,733) | -58.91% |
| Rate Stabilization Reserves | | 94,254 | 39,273 | 39,273 | - | 0.00% |
| Interest Allocation | | 14,600 | 6,083 | 1,831 | (4,252) | -69.90% |
| ***Total Operating Revenues*** | | **$ 7,802,395** | **$ 3,250,998** | **$ 3,495,484** | **$ 244,486** | **7.52%** |
| **Expenses** | | | | | | |
| Personnel Cost | **B** | $ 1,918,361 | $ 807,389 | $ 827,263 | $ (19,874) | -2.46% |
| Professional Services | **C** | 134,000 | 55,833 | 195,698 | (139,865) | -250.50% |
| Other Services & Charges | **A, D** | 738,130 | 307,554 | 379,764 | (72,210) | -23.48% |
| Communications | **A, F** | 76,000 | 31,667 | 44,701 | (13,035) | -41.16% |
| Information Technology | | 85,500 | 35,625 | 23,752 | 11,873 | 33.33% |
| Supplies | | 5,745 | 2,394 | 3,775 | (1,381) | -57.70% |
| Operations & Maintenance | **E** | 2,159,300 | 899,708 | 1,207,241 | (307,533) | -34.18% |
| Equipment Purchases | | 28,000 | 11,667 | 9,223 | 2,444 | 20.95% |
| Depreciation | | 300,000 | 125,000 | 125,000 | - | 0.00% |
| Reserve Transfers | | - | - | - | - | |
| ***Subtotal Before Allocations*** | | $ 5,445,036 | $ 2,276,837 | $ 2,816,417 | $ (539,580) | -23.70% |
| Allocation of Support Departments | | 2,357,359 | 992,210 | 939,214 | 52,996 | 5.34% |
| ***Total Operating Expenses*** | | **$ 7,802,395** | **$ 3,269,046** | **$ 3,755,631** | **$ (486,585)** | **-14.88%** |
| ***Operating Surplus/(Deficit)*** | | **$ 0** | **$ (18,048)** | **$ (260,147)** | | |
| ***Debt Service Budget vs. Actual*** | | | | | | |
| **Revenues** | | | | | | |
| Debt Service Rate Revenue | | $ 6,178,645 | $ 2,574,435 | $ 2,574,415 | $ (20) | 0.00% |
| Trust Fund Interest | | 49,000 | 20,417 | 4,306 | (16,111) | -78.91% |
| Reserve Fund Interest | | 339,600 | 141,500 | 19,405 | (122,095) | -86.29% |
| Use of Reserves | | 662,000 | 275,833 | 275,833 | - | 0.00% |
| Lease Revenue | | 1,600 | 667 | - | (667) | -100.00% |
| ***Total Debt Service Revenues*** | | **$ 7,230,845** | **$ 3,012,852** | **$ 2,873,959** | **$ (138,893)** | **-4.61%** |
| **Debt Service Costs** | | | | | | |
| Total Principal & Interest | | $ 5,215,445 | $ 2,173,102 | $ 2,173,102 | $ - | 0.00% |
| Reserve Additions-Interest | | 339,600 | 141,500 | 19,405 | 122,095 | 86.29% |
| Debt Service Ratio Charge | | 400,000 | 166,667 | 166,667 | - | 0.00% |
| Reserve Additions-CIP Growth | | 1,275,800 | 531,583 | 531,583 | - | 0.00% |
| ***Total Debt Service Costs*** | | **$ 7,230,845** | **$ 3,012,852** | **$ 2,890,757** | **$ 122,095** | **4.05%** |
| ***Debt Service Surplus/(Deficit)*** | | **$ -** | **$ -** | **$ (16,798)** | | |
| **Rate Center Summary** | | | | | | |
| **Total Revenues** | | $ 15,033,240 | $ 6,263,850 | $ 6,369,443 | $ 105,593 | 1.69% |
| **Total Expenses** | | 15,033,240 | 6,281,898 | 6,646,388 | (364,490) | -5.80% |
| **Surplus/(Deficit)** | | **$ 0** | **$ (18,048)** | **$ (276,945)** | | |
| **Costs per 1000 Gallons** | | $ 2.30 | | $ 2.46 | | |
| **Operating and DS** | | $ 4.42 | | $ 4.36 | | |
| **Thousand Gallons Treated** | | 3,397,700 | 1,415,708 | 1,525,072 | 109,364 | 7.73% |
| **or** | | | | | | |
| **Flow (MGD)** | | 9.309 | | 9.968 | | |

**Rivanna Water & Sewer Authority**
**Monthly Financial Statements - November 2020**

***Crozet Water Rate Center***
**Revenues and Expenses Summary**

## *Operating Budget vs. Actual*

| | Notes | Budget FY 2021 | Budget Year-to-Date | Actual Year-to-Date | Budget vs. Actual | Variance Percentage |
|---|---|---|---|---|---|---|
| **Revenues** | | | | | | |
| Operations Rate Revenue | | $ 1,028,808 | $ 428,670 | $ 428,670 | $ - | 0.00% |
| Lease Revenues | | 30,000 | 12,500 | 13,745 | 1,245 | 9.96% |
| Use of Reserves-GAC | | 26,000 | 10,833 | - | (10,833) | -100.00% |
| Interest Allocation | | 2,100 | 875 | 260 | (615) | -70.32% |
| ***Total Operating Revenues*** | | **$ 1,086,908** | **$ 452,878** | **$ 442,675** | **$ (10,204)** | **-2.25%** |
| **Expenses** | | | | | | |
| Personnel Cost | | $ 302,598 | $ 127,361 | $ 131,914 | $ (4,553) | -3.58% |
| Professional Services | | 15,000 | 6,250 | 10,876 | (4,626) | -74.02% |
| Other Services & Charges | | 142,360 | 59,317 | 36,045 | 23,272 | 39.23% |
| Communications | F | 5,600 | 2,333 | 8,121 | (5,788) | -248.05% |
| Information Technology | | 2,250 | 938 | 200 | 737 | 78.66% |
| Supplies | | 1,350 | 563 | 938 | (375) | -66.74% |
| Operations & Maintenance | A | 353,292 | 147,205 | 198,329 | (51,124) | -34.73% |
| Equipment Purchases | | 3,000 | 1,250 | 1,250 | - | 0.00% |
| Depreciation | | 40,000 | 16,667 | 16,667 | 0 | 0.00% |
| Reserve Transfers | | - | - | - | - | |
| ***Subtotal Before Allocations*** | | $ 865,450 | $ 361,883 | $ 404,341 | $ (42,458) | -11.73% |
| Allocation of Support Departments | | 221,456 | 93,204 | 88,917 | 4,287 | 4.60% |
| ***Total Operating Expenses*** | | **$ 1,086,906** | **$ 455,087** | **$ 493,257** | **$ (38,171)** | **-8.39%** |
| ***Operating Surplus/(Deficit)*** | | **$ 2** | **$ (2,208)** | **$ (50,583)** | | |

## *Debt Service Budget vs. Actual*

| | | | | | | |
|---|---|---|---|---|---|---|
| **Revenues** | | | | | | |
| Debt Service Rate Revenue | | $ 1,311,312 | $ 546,380 | $ 546,380 | $ - | 0.00% |
| Trust Fund Interest | | 11,600 | 4,833 | 1,014 | (3,819) | -79.02% |
| Use of Reserves | | 198,252 | 82,605 | 82,605 | - | 0.00% |
| Reserve Fund Interest | | 15,700 | 6,542 | 913 | (5,628) | -86.04% |
| ***Total Debt Service Revenues*** | | **$ 1,536,864** | **$ 640,360** | **$ 630,912** | **$ (9,448)** | **-1.48%** |
| **Debt Service Costs** | | | | | | |
| Total Principal & Interest | | $ 1,217,569 | $ 507,320 | $ 507,320 | $ - | 0.00% |
| Reserve Additions-Interest | | 15,700 | 6,542 | 913 | 5,628 | 86.04% |
| Reserve Additions-CIP Growth | | 303,600 | 126,500 | 126,500 | - | 0.00% |
| ***Total Debt Service Costs*** | | **$ 1,536,869** | **$ 640,362** | **$ 634,734** | **$ 5,628** | **0.88%** |
| ***Debt Service Surplus/(Deficit)*** | | **$ (5)** | **$ (2)** | **$ (3,822)** | | |

## Rate Center Summary

| | | | | | |
|---|---|---|---|---|---|
| **Total Revenues** | $ 2,623,772 | $ 1,093,238 | $ 1,073,587 | $ (19,651) | -1.80% |
| **Total Expenses** | 2,623,775 | 1,095,449 | 1,127,991 | (32,542) | -2.97% |
| **Surplus/(Deficit)** | **$ (3)** | **$ (2,210)** | **$ (54,404)** | | |
| **Costs per 1000 Gallons** | $ 5.47 | | $ 4.90 | | |
| **Operating and DS** | $ 13.20 | | $ 11.20 | | |
| **Thousand Gallons Treated** | 198,830 | 82,846 | 100,711 | 17,865 | 21.56% |
| **Flow (MGD)** | 0.545 | | 0.658 | | |

**Rivanna Water & Sewer Authority**
**Monthly Financial Statements - November 2020**

***Scottsville Water Rate Center***
**Revenues and Expenses Summary**

## *Operating Budget vs. Actual*

| | Notes | *Budget FY 2021* | *Budget Year-to-Date* | *Actual Year-to-Date* | *Budget vs. Actual* | *Variance Percentage* |
|---|---|---|---|---|---|---|
| **Revenues** | | | | | | |
| Operations Rate Revenue | | $ 520,812 | $ 217,005 | $ 217,005 | $ - | 0.00% |
| Use of Reserves-GAC | | 9,220 | 3,842 | - | $ (3,842) | -100.00% |
| Interest Allocation | | 1,000 | 417 | 128 | (289) | -69.36% |
| ***Total Operating Revenues*** | | **$ 531,032** | **$ 221,263** | **$ 217,133** | **$ (4,131)** | **-1.87%** |
| **Expenses** | | | | | | |
| Personnel Cost | | $ 184,031 | $ 77,465 | $ 80,471 | $ (3,006) | -3.88% |
| Professional Services | | 71,000 | 29,583 | 1,858 | 27,726 | 93.72% |
| Other Services & Charges | | 22,780 | 9,492 | 10,692 | (1,200) | -12.64% |
| Communications | | 4,600 | 1,917 | 2,636 | (719) | -37.51% |
| Information Technology | | 650 | 271 | 480 | (209) | -77.28% |
| Supplies | | 200 | 83 | 0 | 83 | 99.45% |
| Operations & Maintenance | | 87,662 | 36,526 | 23,336 | 13,189 | 36.11% |
| Equipment Purchases | | 2,500 | 1,042 | 1,042 | (0) | 0.00% |
| Depreciation | | 20,000 | 8,333 | 8,333 | (0) | 0.00% |
| Reserve Transfers | | - | - | - | - | |
| ***Subtotal Before Allocations*** | | $ 393,423 | $ 164,712 | $ 128,848 | $ 35,864 | 21.77% |
| Allocation of Support Departments | | 137,604 | 57,897 | 56,618 | 1,279 | 2.21% |
| ***Total Operating Expenses*** | | **$ 531,027** | **$ 222,609** | **$ 185,466** | **$ 37,143** | **16.69%** |
| ***Operating Surplus/(Deficit)*** | | **$ 5** | **$ (1,346)** | **$ 31,667** | | |

## *Debt Service Budget vs. Actual*

| | | | | | | |
|---|---|---|---|---|---|---|
| **Revenues** | | | | | | |
| Debt Service Rate Revenue | | $ 128,749 | $ 53,645 | $ 53,645 | $ (0) | 0.00% |
| Trust Fund Interest | | 1,200 | 500 | 107 | (393) | -78.53% |
| Reserve Fund Interest | | 8,300 | 3,458 | 457 | (3,002) | -86.80% |
| ***Total Debt Service Revenues*** | | **$ 138,249** | **$ 57,604** | **$ 54,209** | **$ (3,395)** | **-5.89%** |
| **Debt Service Costs** | | | | | | |
| Total Principal & Interest | | $ 126,032 | $ 52,513 | $ 52,513 | $ - | 0.00% |
| Reserve Additions-Interest | | 8,300 | 3,458 | 457 | 3,002 | |
| Reserve Additions-CIP Growth | | 3,917 | 1,632 | 1,632 | - | |
| ***Total Debt Service Costs*** | | **$ 138,249** | **$ 57,604** | **$ 54,602** | **$ 3,002** | **5.21%** |
| ***Debt Service Surplus/(Deficit)*** | | **$ -** | **$ -** | **$ (393)** | | |

## Rate Center Summary

| | | | | | |
|---|---|---|---|---|---|
| **Total Revenues** | $ 669,281 | $ 278,867 | $ 271,342 | $ (7,526) | -2.70% |
| **Total Expenses** | 669,276 | 280,213 | 240,068 | 40,145 | 14.33% |
| **Surplus/(Deficit)** | **$ 5** | **$ (1,346)** | **$ 31,274** | | |
| **Costs per 1000 Gallons** | $ 30.79 | | $ 19.98 | | |
| **Operating and DS** | $ 38.81 | | $ 25.86 | | |
| **Thousand Gallons Treated** | 17,245 | 7,185 | 9,284 | 2,099 | 29.21% |
| **or** | | | | | |
| **Flow (MGD)** | 0.047 | | 0.061 | | |

**Rivanna Water & Sewer Authority**
**Monthly Financial Statements - November 2020**

***Urban Wastewater Rate Center***
**Revenues and Expenses Summary**

## *Operating Budget vs. Actual*

| | Notes | Budget FY 2021 | Budget Year-to-Date | Actual Year-to-Date | Budget vs. Actual | Variance Percentage |
|---|---|---|---|---|---|---|
| **Revenues** | | | | | | |
| Operations Rate Revenue | | $ 8,033,620 | $ 3,347,342 | $ 3,764,573 | $ 417,232 | 12.46% |
| Stone Robinson WWTP | | 22,788 | 9,495 | 6,120 | (3,375) | -35.55% |
| Septage Acceptance | | 475,000 | 197,917 | 222,445 | 24,529 | 12.39% |
| Nutrient Credits | | 45,000 | 18,750 | 86,999 | 68,249 | 363.99% |
| Rate Stabilization Reserve | | 121,233 | 50,514 | 50,514 | - | 0.00% |
| Miscellaneous Revenue | | - | - | 2,224 | 2,224 | |
| Interest Allocation | | 16,100 | 6,708 | 2,020 | (4,688) | -69.88% |
| ***Total Operating Revenues*** | | **$ 8,713,741** | **$ 3,630,725** | **$ 4,134,895** | **$ 504,170** | **13.89%** |
| **Expenses** | | | | | | |
| Personnel Cost | | $ 1,299,876 | $ 547,440 | $ 528,384 | $ 19,056 | 3.48% |
| Professional Services | A | 143,400 | 59,750 | 80,759 | (21,009) | -35.16% |
| Other Services & Charges | A | 2,020,300 | 841,792 | 908,695 | (66,903) | -7.95% |
| Communications | | 10,700 | 4,458 | 7,274 | (2,815) | -63.14% |
| Information Technology | | 69,500 | 28,958 | 10,520 | 18,438 | 63.67% |
| Supplies | | 1,900 | 792 | 1,055 | (263) | -33.28% |
| Operations & Maintenance | A | 1,767,000 | 736,250 | 749,393 | (13,143) | -1.79% |
| Equipment Purchases | | 125,250 | 52,188 | 36,738 | 15,449 | 29.60% |
| Depreciation | | 470,000 | 195,833 | 195,833 | (0) | 0.00% |
| Reserve Transfers | | - | - | - | - | |
| ***Subtotal Before Allocations*** | | $ 5,907,926 | $ 2,467,461 | $ 2,518,650 | $ (51,190) | -2.07% |
| Allocation of Support Departments | | 2,805,815 | 1,180,756 | 1,138,895 | 41,861 | 3.55% |
| ***Total Operating Expenses*** | | **$ 8,713,741** | **$ 3,648,217** | **$ 3,657,545** | **$ (9,329)** | **-0.26%** |
| ***Operating Surplus/(Deficit)*** | | **$ (0)** | **$ (17,491)** | **$ 477,350** | | |

## *Debt Service Budget vs. Actual*

| | Budget FY 2021 | Budget Year-to-Date | Actual Year-to-Date | Budget vs. Actual | Variance Percentage |
|---|---|---|---|---|---|
| **Revenues** | | | | | |
| Debt Service Rate Revenue | $ 8,229,090 | $ 3,428,788 | $ 3,428,810 | $ 23 | 0.00% |
| Septage Receiving Support - County | 109,440 | 45,600 | 109,441 | 63,841 | 140.00% |
| Trust Fund Interest | 74,000 | 30,833 | 6,489 | (24,345) | -78.96% |
| Use of Reserves | 94,400 | 39,333 | 39,333 | - | 0.00% |
| Reserve Fund Interest | 295,200 | 123,000 | 16,856 | (106,144) | -86.30% |
| ***Total Debt Service Revenues*** | **$ 8,802,130** | **$ 3,667,554** | **$ 3,600,929** | **$ (66,625)** | **-1.82%** |
| **Debt Service Costs** | | | | | |
| Total Principal & Interest | $ 7,812,130 | $ 3,255,054 | $ 3,255,054 | $ - | 0.00% |
| Reserve Additions-Interest | 295,200 | 123,000 | 16,856 | 106,144 | 86.30% |
| Debt Service Ratio Charge | 325,000 | 135,417 | 135,417 | - | 0.00% |
| Reserve Additions-CIP Growth | 369,800 | 154,083 | 154,083 | - | 0.00% |
| ***Total Debt Service Costs*** | **$ 8,802,130** | **$ 3,667,554** | **$ 3,561,410** | **$ 106,144** | **2.89%** |
| ***Debt Service Surplus/(Deficit)*** | **$ -** | **$ -** | **$ 39,519** | | |

## Rate Center Summary

| | Budget FY 2021 | Budget Year-to-Date | Actual Year-to-Date | Budget vs. Actual | Variance Percentage |
|---|---|---|---|---|---|
| **Total Revenues** | $ 17,515,871 | $ 7,298,280 | $ 7,735,824 | $ 437,545 | 6.00% |
| **Total Expenses** | 17,515,871 | 7,315,771 | 7,218,955 | 96,816 | 1.32% |
| **Surplus/(Deficit)** | **$ (0)** | **$ (17,491)** | **$ 516,869** | | |
| **Costs per 1000 Gallons** | $ 2.57 | | $ 2.30 | | |
| **Operating and DS** | $ 5.17 | | $ 4.54 | | |
| **Thousand Gallons Treated** | 3,390,400 | 1,412,667 | 1,589,097 | 176,430 | 12.49% |
| **or** | | | | | |
| **Flow (MGD)** | 9.289 | | 10.386 | | |

**Rivanna Water & Sewer Authority**
**Monthly Financial Statements - November 2020**

***Glenmore Wastewater Rate Center***
**Revenues and Expenses Summary**

| | Notes | *Budget FY 2021* | *Budget Year-to-Date* | *Actual Year-to-Date* | *Budget vs. Actual* | *Variance Percentage* |
|---|---|---|---|---|---|---|
| **Operating Budget vs. Actual** | | | | | | |
| **Revenues** | | | | | | |
| Operations Rate Revenue | | $ 370,524 | $ 154,385 | $ 154,385 | $ - | 0.00% |
| Rate Stabilization Reserve | | 24,540 | 10,225 | 10,225 | - | 0.00% |
| Interest Allocation | | 700 | 292 | 88 | (204) | -69.81% |
| ***Total Operating Revenues*** | | **$ 395,764** | **$ 164,902** | **$ 164,698** | **$ (204)** | **-0.12%** |
| **Expenses** | | | | | | |
| Personnel Cost | | $ 97,804 | $ 41,180 | $ 37,963 | $ 3,218 | 7.81% |
| Professional Services | | 24,200 | 10,083 | 87 | 9,996 | |
| Other Services & Charges | | 36,800 | 15,333 | 13,174 | 2,160 | 14.08% |
| Communications | | 3,200 | 1,333 | 1,712 | (379) | -28.42% |
| Information Technology | | 4,050 | 1,688 | 915 | 773 | 45.79% |
| Supplies | | - | - | 0 | (0) | |
| Operations & Maintenance | **A** | 109,100 | 45,458 | 64,485 | (19,026) | -41.85% |
| Equipment Purchases | | 3,700 | 1,542 | 1,542 | 0 | 0.00% |
| Depreciation | | 10,000 | 4,167 | 4,167 | 0 | 0.00% |
| ***Subtotal Before Allocations*** | | $ 288,854 | $ 120,784 | $ 124,044 | $ (3,260) | -2.70% |
| Allocation of Support Departments | | 106,907 | 44,969 | 44,802 | 167 | 0.37% |
| ***Total Operating Expenses*** | | **$ 395,761** | **$ 165,753** | **$ 168,846** | **$ (3,093)** | **-1.87%** |
| ***Operating Surplus/(Deficit)*** | | **$ 3** | **$ (851)** | **$ (4,148)** | | |
| **Debt Service Budget vs. Actual** | | | | | | |
| **Revenues** | | | | | | |
| Debt Service Rate Revenue | | $ 3,778 | $ 1,574 | $ 1,575 | $ 1 | 0.05% |
| Trust Fund Interest | | - | - | - | - | |
| Reserve Fund Interest | | 3,000 | 1,250 | 190 | (1,060) | -84.78% |
| ***Total Debt Service Revenues*** | | **$ 6,778** | **$ 2,824** | **$ 1,765** | **$ 1** | **0.03%** |
| **Debt Service Costs** | | | | | | |
| Total Principal & Interest | | $ 1,579 | $ 658 | $ 658 | $ - | 0.00% |
| Reserve Additions-CIP Growth | | 2,199 | 916 | 916 | - | 0.00% |
| Reserve Additions-Interest | | 3,000 | 1,250 | 190 | 1,060 | 84.78% |
| ***Total Debt Service Costs*** | | **$ 6,778** | **$ 2,824** | **$ 1,764** | **$ 1,060** | **37.52%** |
| ***Debt Service Surplus/(Deficit)*** | | **$ -** | **$ -** | **$ 1** | | |
| **Rate Center Summary** | | | | | | |
| **Total Revenues** | | $ 402,542 | $ 167,726 | $ 166,463 | $ (1,263) | -0.75% |
| **Total Expenses** | | 402,539 | 168,577 | 170,610 | (2,033) | -1.21% |
| **Surplus/(Deficit)** | | **$ 3** | **$ (851)** | **$ (4,147)** | | |
| **Costs per 1000 Gallons** | | $ 9.51 | | $ 9.26 | | |
| **Operating and DS** | | $ 9.67 | | $ 9.36 | | |
| **Thousand Gallons Treated** | | 41,629 | 17,345 | 18,232 | 887 | **5.11%** |
| **or** | | | | | | |
| **Flow (MGD)** | | 0.114 | | 0.119 | | |

**Rivanna Water & Sewer Authority**
**Monthly Financial Statements - November 2020**

***Scottsville Wastewater Rate Center***
**Revenues and Expenses Summary**

| | Budget FY 2021 | Budget Year-to-Date | Actual Year-to-Date | Budget vs. Actual | Variance Percentage |
|---|---|---|---|---|---|
| **Operating Budget vs. Actual** | | | | | |
| **Notes** | | | | | |
| **Revenues** | | | | | |
| Operations Rate Revenue | $ 308,988 | $ 128,745 | $ 128,745 | $ - | 0.00% |
| Interest Allocation | 600 | 250 | 75 | (175) | -70.08% |
| ***Total Operating Revenues*** | **$ 309,588** | **$ 128,995** | **$ 128,820** | **$ (175)** | **-0.14%** |
| **Expenses** | | | | | |
| Personnel Cost | $ 97,317 | $ 40,977 | $ 37,963 | $ 3,015 | 7.36% |
| Professional Services | 2,100 | 875 | 87 | 788 | 90.02% |
| Other Services & Charges | 23,710 | 9,879 | 11,964 | (2,085) | -21.10% |
| Communications | 3,720 | 1,550 | 1,750 | (200) | -12.88% |
| Information Technology | 1,500 | 625 | 478 | 147 | 23.55% |
| Supplies | 500 | 208 | 0 | 208 | 99.83% |
| Operations & Maintenance | 57,812 | 24,088 | 17,111 | 6,978 | 28.97% |
| Equipment Purchases | 3,700 | 1,542 | 1,542 | 0 | 0.00% |
| Depreciation | 20,000 | 8,333 | 8,333 | (0) | 0.00% |
| ***Subtotal Before Allocations*** | $ 210,359 | $ 88,078 | $ 79,227 | $ 8,851 | 10.05% |
| Allocation of Support Departments | 99,228 | 41,741 | 41,328 | 414 | 0.99% |
| ***Total Operating Expenses*** | **$ 309,587** | **$ 129,819** | **$ 120,555** | **$ 9,265** | **7.14%** |
| ***Operating Surplus/(Deficit)*** | **$ 1** | **$ (824)** | **$ 8,265** | | |
| **Debt Service Budget vs. Actual** | | | | | |
| **Revenues** | | | | | |
| Debt Service Rate Revenue | $ 9,442 | $ 3,934 | $ 3,935 | $ 1 | 0.02% |
| Trust Fund Interest | 100 | 42 | 12 | (30) | -71.46% |
| Reserve Fund Interest | 4,200 | 1,750 | 228 | (1,522) | -86.95% |
| ***Total Debt Service Revenues*** | **$ 13,742** | **$ 5,726** | **$ 4,175** | **$ (1,551)** | **-27.08%** |
| **Debt Service Costs** | | | | | |
| Total Principal & Interest | $ 7,464 | $ 3,110 | $ 3,110 | $ - | 0.00% |
| Reserve Additions-Interest | 4,200 | 1,750 | 228 | 1,522 | 86.95% |
| Estimated New Principal & Interest | 2,078 | 866 | 866 | - | 0.00% |
| ***Total Debt Service Costs*** | **$ 13,742** | **$ 5,726** | **$ 4,204** | **$ 1,522** | **26.58%** |
| ***Debt Service Surplus/(Deficit)*** | **$ -** | **$ -** | **$ (29)** | | |

**Rate Center Summary**

| | | | | | |
|---|---|---|---|---|---|
| **Total Revenues** | $ 323,330 | $ 134,721 | $ 132,995 | $ (1,726) | -1.28% |
| **Total Expenses** | 323,329 | 135,545 | 124,759 | 10,786 | 7.96% |
| **Surplus/(Deficit)** | **$ 1** | **$ (824)** | **$ 8,236** | | |
| **Costs per 1000 Gallons** | $ 13.39 | | $ 10.24 | | |
| **Operating and DS** | $ 13.98 | | $ 10.60 | | |
| **Thousand Gallons Treated** | 23,126 | 9,636 | 11,771 | 2,135 | **22.16%** |
| **or** | | | | | |
| **Flow (MGD)** | 0.063 | | 0.077 | | |

**Rivanna Water & Sewer Authority**
**Monthly Financial Statements - November 2020**

## Administration

## *Operating Budget vs. Actual*

| | Notes | *Budget FY 2021* | *Budget Year-to-Date* | *Actual Year-to-Date* | *Budget vs. Actual* | *Variance Percentage* |
|---|---|---|---|---|---|---|
| **Revenues** | | | | | | |
| Payment for Services SWA | | $ 543,000 | $ 226,250 | $ 226,250 | $ - | 0.00% |
| Miscellaneous Revenue | | 2,000 | 833 | 43,819 | 42,986 | 5158.29% |
| ***Total Operating Revenues*** | | **$ 545,000** | **$ 227,083** | **$ 270,069** | **$ 42,986** | **18.93%** |
| **Expenses** | | | | | | |
| Personnel Cost | **B** | $ 1,906,136 | $ 803,534 | $ 814,110 | $ (10,576) | -1.32% |
| Professional Services | | 183,000 | 76,250 | 34,903 | 41,347 | 54.23% |
| Other Services & Charges | | 80,600 | 33,583 | 36,766 | (3,183) | -9.48% |
| Communications | | 21,500 | 8,958 | 9,537 | (579) | -6.46% |
| Information Technology | | 177,000 | 73,750 | 75,003 | (1,253) | -1.70% |
| Supplies | | 24,250 | 10,104 | 8,976 | 1,128 | 11.16% |
| Operations & Maintenance | | 75,200 | 31,333 | 33,286 | (1,953) | -6.23% |
| Equipment Purchases | | 24,000 | 10,000 | 5,833 | 4,167 | 41.67% |
| Depreciation | | - | - | - | - | |
| ***Total Operating Expenses*** | | **$ 2,491,686** | **$ 1,047,513** | **$ 1,018,415** | **$ 29,098** | **2.78%** |

### Department Summary

| | | | | | | |
|---|---|---|---|---|---|---|
| **Net Costs Allocable to Rate Centers** | | **$ (1,946,686)** | **$ (820,429)** | **$ (748,346)** | **$ (72,084)** | **8.79%** |
| **Allocations to the Rate Centers** | | | | | | |
| **Urban Water** | 44.00% | **$ 856,542** | **$ 360,989** | **$ 329,272** | **$ 31,717** | |
| **Crozet Water** | 4.00% | **$ 77,867** | **32,817** | **29,934** | **2,883** | |
| **Scottsville Water** | 2.00% | **$ 38,934** | **16,409** | **14,967** | **1,442** | |
| **Urban Wastewater** | 48.00% | **$ 934,409** | **393,806** | **359,206** | **34,600** | |
| **Glenmore Wastewater** | 1.00% | **$ 19,467** | **8,204** | **7,483** | **721** | |
| **Scottsville Wastewater** | 1.00% | **$ 19,467** | **8,204** | **7,483** | **721** | |
| | 100.00% | **$ 1,946,686** | **$ 820,429** | **$ 748,346** | **$ 72,084** | |

**Rivanna Water & Sewer Authority**
**Monthly Financial Statements - November 2020**

## Maintenance

## *Operating Budget vs. Actual*

| | Notes | *Budget FY 2021* | *Budget Year-to-Date* | *Actual Year-to-Date* | *Budget vs. Actual* | *Variance Percentage* |
|---|---|---|---|---|---|---|
| **Revenues** | | | | | | |
| Payment for Services SWA | | $ - | $ - | $ - | $ - | |
| Miscellaneous Revenue | | - | - | 3,012 | 3,012 | |
| ***Total Operating Revenues*** | | **$ -** | **$ -** | **$ 3,012** | **$ 3,012** | |
| **Expenses** | | | | | | |
| Personnel Cost | **B** | $ 1,233,605 | $ 519,563 | $ 576,539 | $ (56,975) | -10.97% |
| Professional Services | | - | - | - | - | |
| Other Services & Charges | | 50,700 | 21,125 | 12,380 | 8,745 | 41.40% |
| Communications | **A** | 17,400 | 7,250 | 13,117 | (5,867) | -80.92% |
| Information Technology | | 8,500 | 3,542 | 5,868 | (2,326) | -65.68% |
| Supplies | | 2,000 | 833 | 170 | 664 | 79.63% |
| Operations & Maintenance | | 84,550 | 35,229 | 38,530 | (3,301) | -9.37% |
| Equipment Purchases | | 139,000 | 57,917 | 51,250 | 6,667 | 11.51% |
| Depreciation | | - | - | - | - | |
| ***Total Operating Expenses*** | | **$ 1,535,755** | **$ 645,459** | **$ 697,853** | **$ (52,394)** | **-8.12%** |

### Department Summary

| | | | | | | |
|---|---|---|---|---|---|---|
| **Net Costs Allocable to Rate Centers** | | **$ (1,535,755)** | **$ (645,459)** | **$ (694,841)** | **$ 55,405** | **-8.58%** |
| **Allocations to the Rate Centers** | | | | | | |
| **Urban Water** | 30.00% | **$ 460,727** | **$ 193,638** | **$ 208,452** | **$ (14,815)** | |
| **Crozet Water** | 3.50% | **53,751** | **22,591** | **24,319** | **(1,728)** | |
| **Scottsville Water** | 3.50% | **53,751** | **22,591** | **24,319** | **(1,728)** | |
| **Urban Wastewater** | 56.50% | **867,702** | **364,685** | **392,585** | **(27,901)** | |
| **Glenmore Wastewater** | 3.50% | **53,751** | **22,591** | **24,319** | **(1,728)** | |
| **Scottsville Wastewater** | 3.00% | **46,073** | **19,364** | **20,845** | **(1,481)** | |
| | 100.00% | **$ 1,535,755** | **$ 645,459** | **$ 694,841** | **$ (49,382)** | |

**Rivanna Water & Sewer Authority**
**Monthly Financial Statements - November 2020**

## Laboratory

## *Operating Budget vs. Actual*

| | Notes | *Budget FY 2021* | *Budget Year-to-Date* | *Actual Year-to-Date* | *Budget vs. Actual* | *Variance Percentage* |
|---|---|---|---|---|---|---|
| **Revenues** | | | | | | |
| **N/A** | | | | | | |
| **Expenses** | | | | | | |
| Personnel Cost | | $ 404,171 | $ 170,344 | $ 168,193 | $ 2,151 | 1.26% |
| Professional Services | | - | - | - | - | |
| Other Services & Charges | | 7,600 | 3,167 | 772 | 2,394 | 75.61% |
| Communications | | 2,100 | 875 | 657 | 218 | |
| Information Technology | | 2,500 | 1,042 | 102 | 940 | 90.26% |
| Supplies | | 1,300 | 542 | 557 | (16) | -2.90% |
| Operations & Maintenance | | 97,250 | 40,521 | 22,583 | 17,938 | 44.27% |
| Equipment Purchases | | 1,600 | 667 | 667 | 0 | 0.00% |
| Depreciation | | - | - | - | - | |
| ***Total Operating Expenses*** | | **$ 516,521** | **$ 217,156** | **$ 193,531** | **$ 23,626** | **10.88%** |

### Department Summary

| | | | | | | |
|---|---|---|---|---|---|---|
| **Net Costs Allocable to Rate Centers** | | **$ (516,521)** | **$ (217,156)** | **$ (193,531)** | **$ (23,626)** | **10.88%** |
| **Allocations to the Rate Centers** | | | | | | |
| **Urban Water** | 44.00% | **$ 227,269** | **$ 95,549** | **$ 85,153** | **$ 10,395** | |
| **Crozet Water** | 4.00% | **20,661** | **8,686** | **7,741** | **945** | |
| **Scottsville Water** | 2.00% | **10,330** | **4,343** | **3,871** | **473** | |
| **Urban Wastewater** | 47.00% | **242,765** | **102,063** | **90,959** | **11,104** | |
| **Glenmore Wastewater** | 1.50% | **7,748** | **3,257** | **2,903** | **354** | |
| **Scottsville Wastewater** | 1.50% | **7,748** | **3,257** | **2,903** | **354** | |
| | 100.00% | **$ 516,521** | **$ 217,156** | **$ 193,531** | **$ 23,626** | |

**Rivanna Water & Sewer Authority**
**Monthly Financial Statements - November 2020**

## Engineering

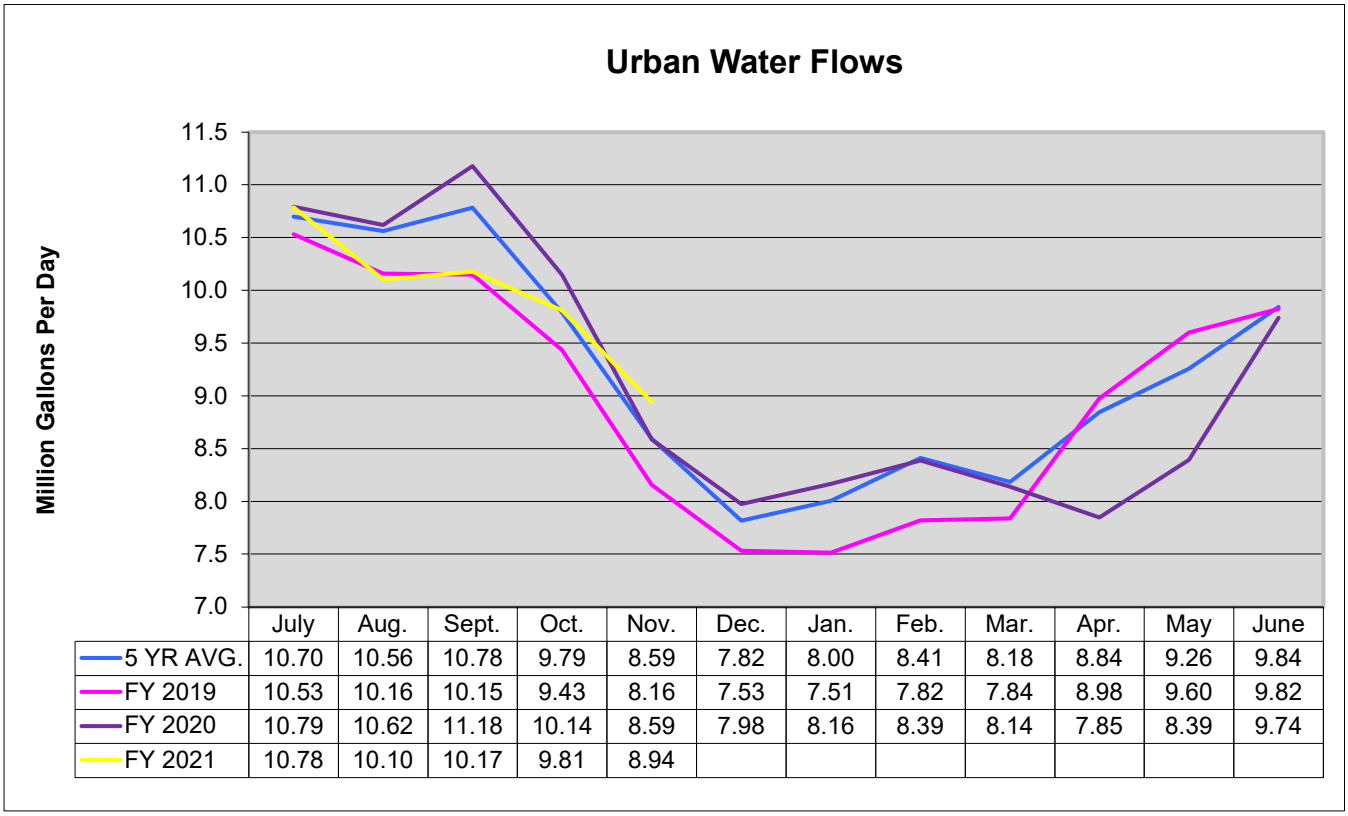
### *Operating Budget vs. Actual*

| | *Budget FY 2021* | *Budget Year-to-Date* | *Actual Year-to-Date* | *Budget vs. Actual* | *Variance Percentage* |
|---|---|---|---|---|---|
| **Revenues** | | | | | |
| Payment for Services SWA | $ - | $ - | $ 9,510 | $ 9,510 | |
| ***Total Operating Revenues*** | **$ -** | **$ -** | **$ 9,510** | **$ 9,510** | |
| **Expenses** | | | | | |
| Personnel Cost | $ 1,469,358 | $ 619,378 | $ 615,870 | $ 3,508 | 0.57% |
| Professional Services | 30,000 | 12,500 | 5,443 | 7,057 | 56.46% |
| Other Services & Charges | 13,800 | 5,750 | 6,164 | (414) | -7.20% |
| Communications | 16,200 | 6,750 | 9,243 | (2,493) | -36.93% |
| Information Technology | 41,500 | 17,292 | 21,523 | (4,231) | -24.47% |
| Supplies | 9,800 | 4,083 | 2,398 | 1,685 | 41.27% |
| Operations & Maintenance | 127,250 | 53,021 | 12,966 | 40,055 | 75.55% |
| Equipment Purchases | 21,500 | 8,958 | 8,958 | (0) | 0.00% |
| Depreciation & Capital Reserve Transfers | - | - | - | - | |
| ***Total Operating Expenses*** | **$ 1,729,408** | **$ 727,732** | **$ 682,565** | **$ 45,167** | **6.21%** |

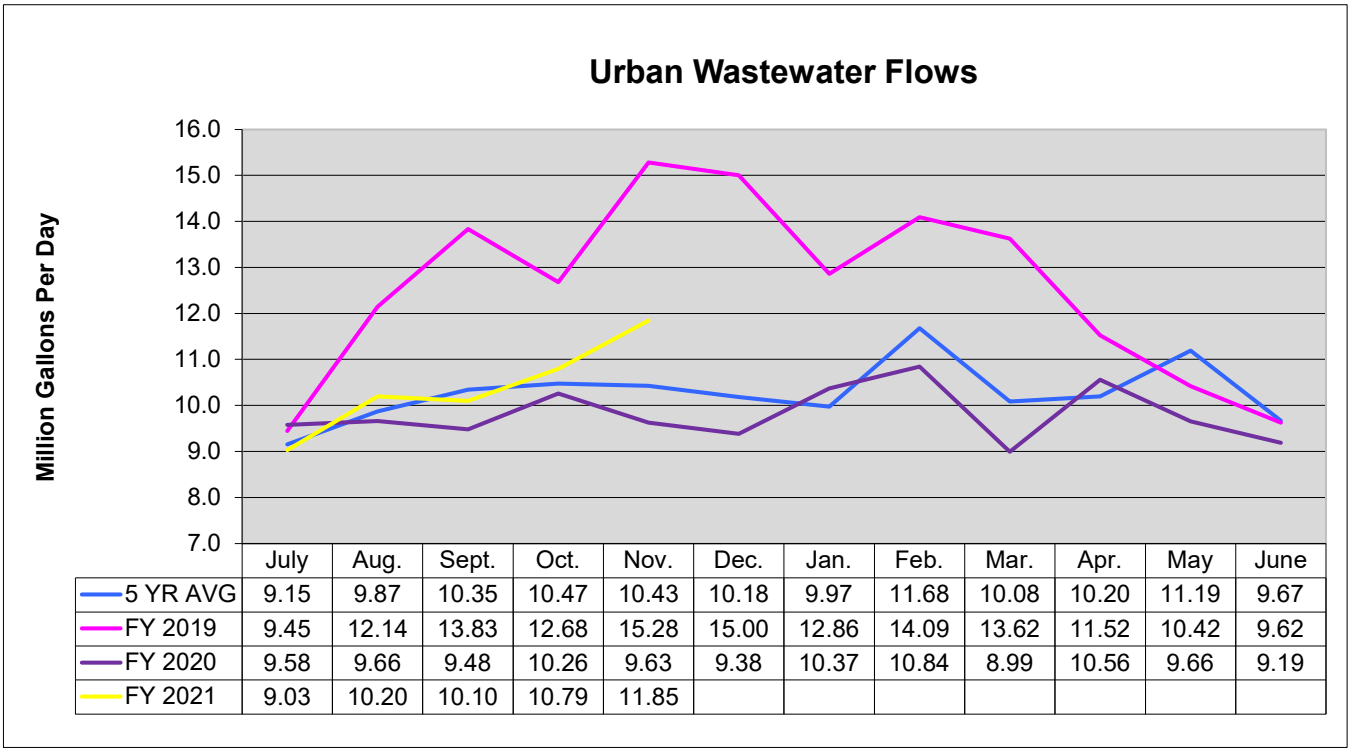
### Department Summary

| | | | | | | |
|---|---|---|---|---|---|---|
| **Net Costs Allocable to Rate Centers** | | **$ (1,729,408)** | **$ (727,732)** | **$ (673,055)** | **$ (35,658)** | **4.90%** |
| **Allocations to the Rate Centers** | | | | | | |
| **Urban Water** | 47.00% | **$ 812,822** | **$ 342,034** | **$ 316,336** | **$ 25,698** | |
| **Crozet Water** | 4.00% | **69,176** | **29,109** | **26,922** | **2,187** | |
| **Scottsville Water** | 2.00% | **34,588** | **14,555** | **13,461** | **1,094** | |
| **Urban Wastewater** | 44.00% | **760,939** | **320,202** | **296,144** | **24,058** | |
| **Glenmore Wastewater** | 1.50% | **25,941** | **10,916** | **10,096** | **820** | |
| **Scottsville Wastewater** | 1.50% | **25,941** | **10,916** | **10,096** | **820** | |
| | 100.00% | **$ 1,729,408** | **$ 727,732** | **$ 673,055** | **$ 54,677** | |

**Rivanna Water and Sewer Authority**
**Flow Graphs**




| | July | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 YR AVG. | 10.70 | 10.56 | 10.78 | 9.79 | 8.59 | 7.82 | 8.00 | 8.41 | 8.18 | 8.84 | 9.26 | 9.84 |
| FY 2019 | 10.53 | 10.16 | 10.15 | 9.43 | 8.16 | 7.53 | 7.51 | 7.82 | 7.84 | 8.98 | 9.60 | 9.82 |
| FY 2020 | 10.79 | 10.62 | 11.18 | 10.14 | 8.59 | 7.98 | 8.16 | 8.39 | 8.14 | 7.85 | 8.39 | 9.74 |
| FY 2021 | 10.78 | 10.10 | 10.17 | 9.81 | 8.94 | | | | | | | |




| | July | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 YR AVG | 9.15 | 9.87 | 10.35 | 10.47 | 10.43 | 10.18 | 9.97 | 11.68 | 10.08 | 10.20 | 11.19 | 9.67 |
| FY 2019 | 9.45 | 12.14 | 13.83 | 12.68 | 15.28 | 15.00 | 12.86 | 14.09 | 13.62 | 11.52 | 10.42 | 9.62 |
| FY 2020 | 9.58 | 9.66 | 9.48 | 10.26 | 9.63 | 9.38 | 10.37 | 10.84 | 8.99 | 10.56 | 9.66 | 9.19 |
| FY 2021 | 9.03 | 10.20 | 10.10 | 10.79 | 11.85 | | | | | | | |

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:** **DAVE TUNGATE, DIRECTOR OF OPERATIONS**

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

**SUBJECT:** **OPERATIONS REPORT FOR DECEMBER 2020**

**DATE:** **JANUARY 26, 2021**

**WATER OPERATIONS**:

The average daily/monthly total water distributed for December 2020 was as follows:

| ***Water Treatment Plant*** | ***Average Daily Production (MGD)*** | ***Total Monthly Production (MG)*** | ***Maximum Daily Production in the Month (MGD)*** |
|---|---|---|---|
| Observatory | 2.41 | 74.68 | 4.87 (12/22/20) |
| South Rivanna | 5.51 | 170.72 | 6.79 (12/31/20) |
| North Rivanna | 0.34 | 10.68 | 0.42 (12/15/20) |
| ***Urban Total*** | 8.26 | 256.07 | 10.08 (12/22/20) |
| Crozet | 0.57 | 17.56 | 0.76 (12/28/20) |
| Scottsville | 0.061 | 1.90 | 0.16 (12/27/20) |
| Red Hill | 0.0019 | 0.58 | 0.003 (11/22/20) |
| ***RWSA Total*** | 8.89 | 275.60 | --- |

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

Status of Reservoirs (as of January 20, 2021):

- Urban Reservoirs: 97.3 % of Total Useable Capacity
- Ragged Mountain Reservoir is full (100%)
- Sugar Hollow Reservoir is -5.06 feet (79.29%) *
- South Rivanna Reservoir is full (100%)
- Beaver Creek Reservoir is full (100%)
- Totier Creek Reservoir is full (100%)

*The Sugar Hollow bladder has been deflated for a replacement project and the reservoir level has been lowered 5.0 feet.

## WASTEWATER OPERATIONS:

All RWSA Water Resource Recovery Facilities (WRRFs) were in regulatory compliance with their effluent limitations during December 2020. Stone-Robinson School had zero discharge for December. Performance of the WRRFs in December 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** | 13.3 | 1.0 | 10 | <QL | 22 | <QL | 2.2 |
| **Glenmore** | 0.160 | 3.0 | 15 | 5.0 | 30 | NR | NL |
| **Scottsville** | 0.118 | 3.0 | 25 | 6.0 | 30 | NR | NL |
| **Stone Robinson** | 0.000 | 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 December 2020.

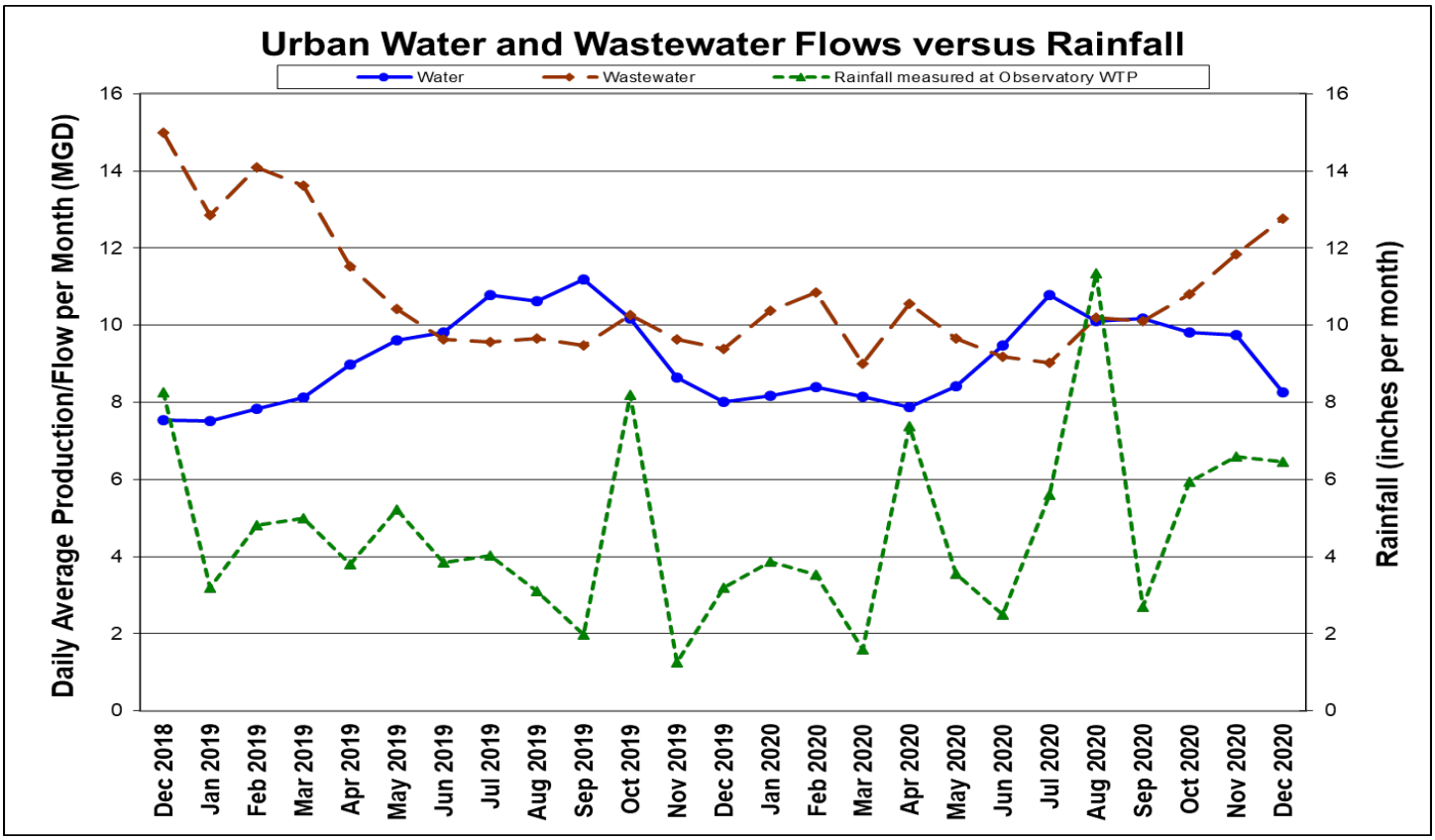
| *State Annual Allocation (lb./yr.) Permit* | | *Average Monthly Allocation (lb./mo.) ** | *Moores Creek Discharge December(lb./mo.)* | *Performance as % of monthly average Allocation** | *Year to Date Performance as % of annual allocation* |
|---|---|---|---|---|---|
| **Nitrogen** | 282,994 | 23,583 | 8279 | 35% | 26% |
| **Phosphorous** | 18,525 | 1,544 | 449 | 29% | 26% |

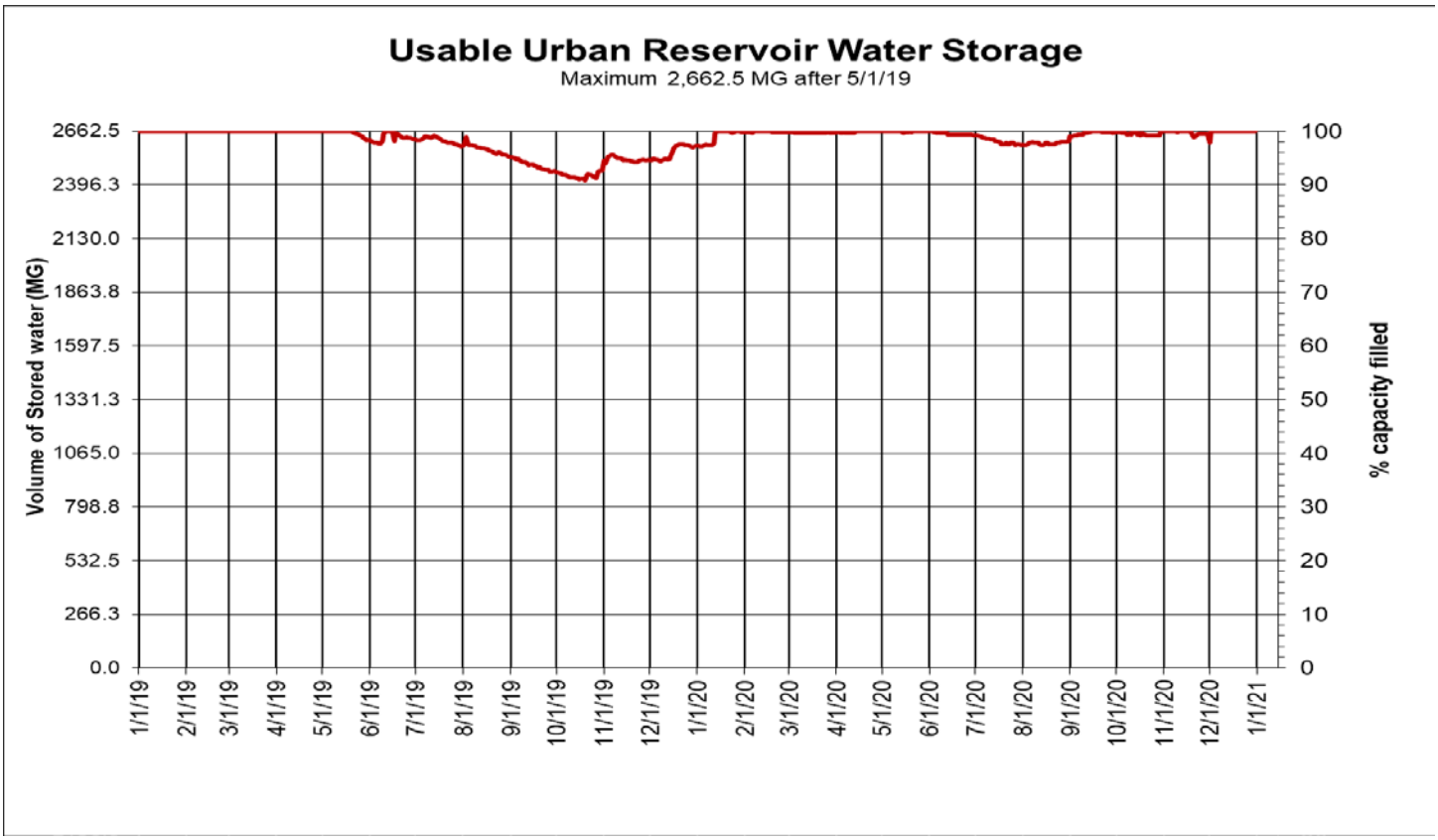
*State allocations are expressed as annual amounts. One-twelfth of that allocation is an internal monthly benchmark for comparative purposes only.

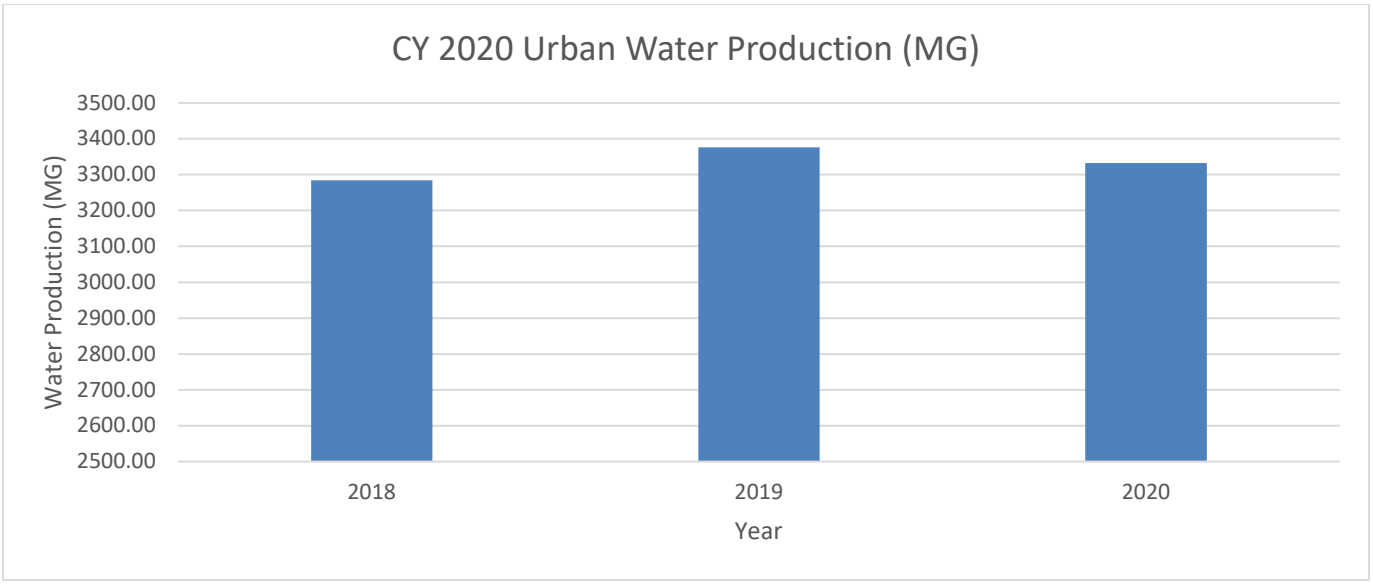
## WATER AND WASTEWATER DATA:

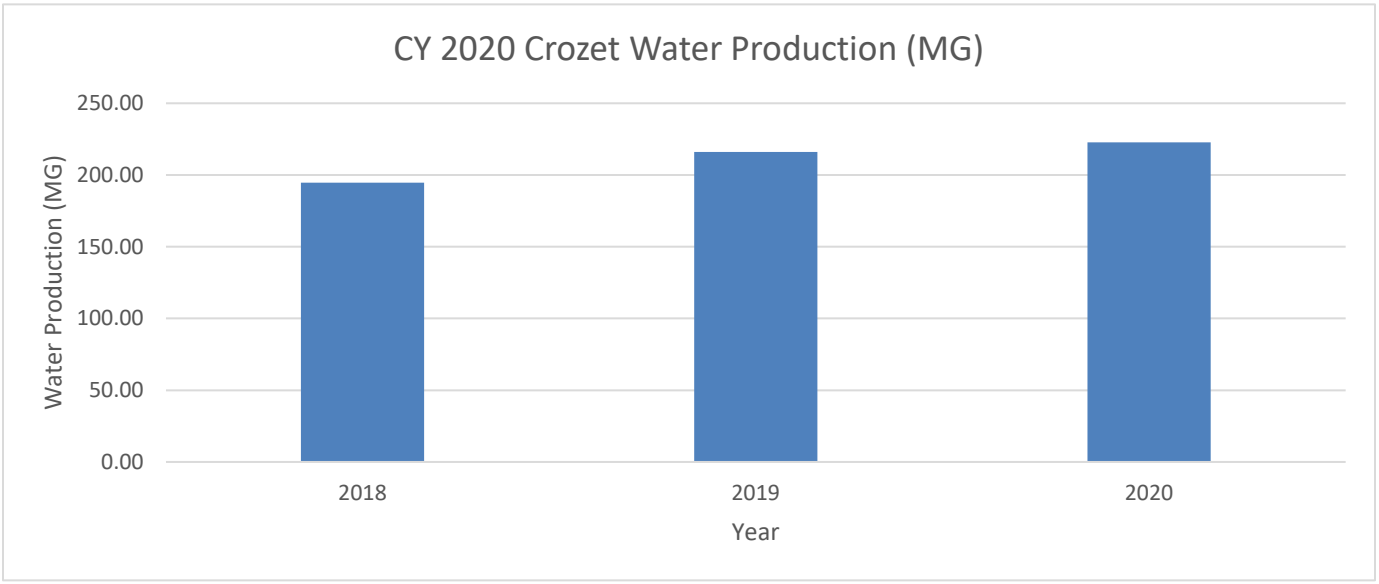
The following graphs are provided for review:

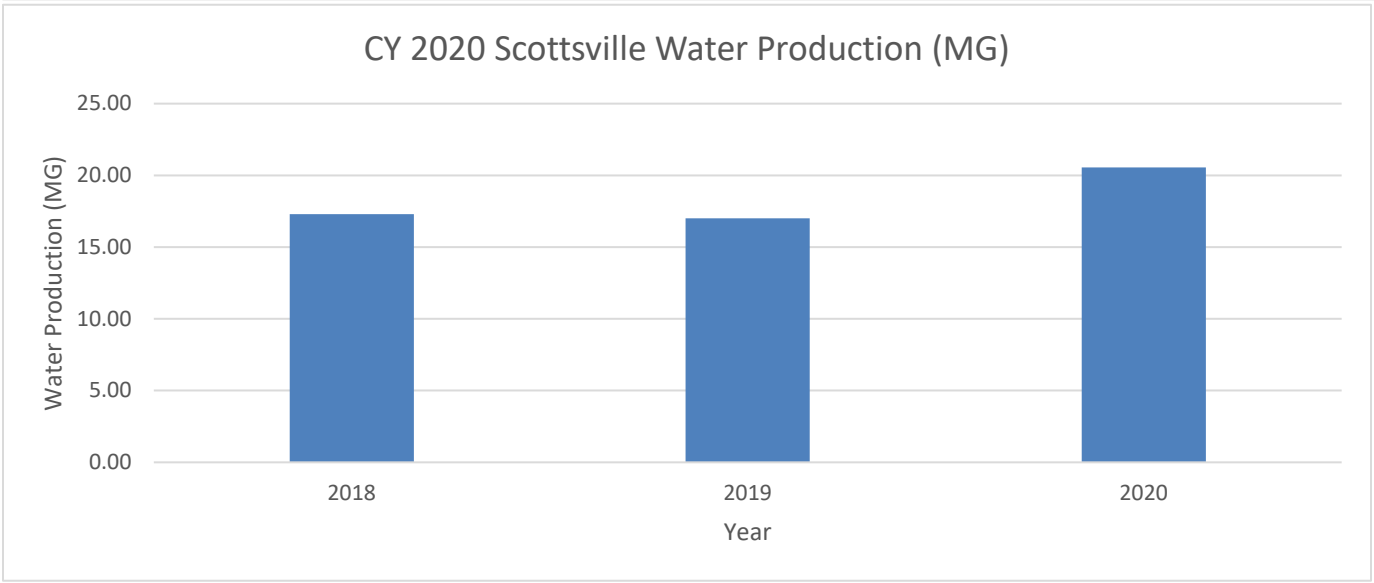
- Usable Urban Reservoir Water Storage
- Urban Water and Wastewater Flows versus Rainfall
- Yearly water production by system


Urban Water and Wastewater Flows versus Rainfall
Water
Wastewater
Rainfall measured at Observatory WTP
Daily Average Production/Flow per Month (MGD)
Rainfall (inches per month)
0
2
4
6
8
10
12
14
16
Dec 2018
Jan 2019
Feb 2019
Mar 2019
Apr 2019
May 2019
Jun 2019
Jul 2019
Aug 2019
Sep 2019
Oct 2019
Nov 2019
Dec 2019
Jan 2020
Feb 2020
Mar 2020
Apr 2020
May 2020
Jun 2020
Jul 2020
Aug 2020
Sep 2020
Oct 2020
Nov 2020
Dec 2020


Usable Urban Reservoir Water Storage
Maximum 2,662.5 MG after 5/1/19
Volume of Stored water (MG)
% capacity filled
0.0
266.3
532.5
798.8
1065.0
1331.3
1597.5
1863.8
2130.0
2396.3
2662.5
0
10
20
30
40
50
60
70
80
90
100
1/1/19
2/1/19
3/1/19
4/1/19
5/1/19
6/1/19
7/1/19
8/1/19
9/1/19
10/1/19
11/1/19
12/1/19
1/1/20
2/1/20
3/1/20
4/1/20
5/1/20
6/1/20
7/1/20
8/1/20
9/1/20
10/1/20
11/1/20
12/1/20
1/1/21


CY 2020 Urban Water Production (MG)
Water Production (MG)
3500.00
3400.00
3300.00
3200.00
3100.00
3000.00
2900.00
2800.00
2700.00
2600.00
2500.00
2018
2019
2020
Year


CY 2020 Crozet Water Production (MG)
Water Production (MG)
250.00
200.00
150.00
100.00
50.00
0.00
2018
2019
2020
Year


CY 2020 Scottsville Water Production (MG)
Water Production (MG)
25.00
20.00
15.00
10.00
5.00
0.00
2018
2019
2020
Year

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

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

**SUBJECT:** **STATUS REPORT: ONGOING PROJECTS**

**DATE:** **JANUARY 26, 2021**

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

For the current, approved CIP, please visit: https://www.rivanna.org/wp-content/uploads/2020/06/2021-2025-CIP-Final.pdf

Under Construction

1. Crozet Water Treatment Plant Expansion
2. South Rivanna and Observatory Water Treatment Plant Renovations
3. Crozet Flow Equalization Tank
4. MC Aluminum Slide Gate Replacements
5. South Rivanna Dam – Gate Repairs
6. Sugar Hollow Dam – Gate Replacement and Intake Tower Repairs
7. MC Exterior Lighting Improvements

Design and Bidding

8. Ragged Mtn Reservoir to Observatory WTP Raw Water Line and Pump Station
9. Beaver Creek Dam, Pump Station and Piping Improvements
10. Airport Road Water Pump Station and Piping
11. South Fork Rivanna River Crossing
12. MC Clarifier and Silo Demolition
13. MC Generator Fuel Expansion
14. MC Facility Renovations
15. MC 5kV Electrical System Upgrades
16. Glenmore WRRF Influent Pump & VFD Addition

Planning and Studies

17. South Rivanna Reservoir to Ragged Mtn Reservoir Water Line Right-of-Way
18. Urban Finished Water Infrastructure Master Plan
19. Upper Schenks Branch Interceptor, Phase II
20. Asset Management Plan
21. Albemarle-Berkeley PS Capacity Analysis
22. MC Facilities Master Plan
23. SRR to RMR Pipeline – Pretreatment Pilot Study

Other Significant Projects

24. Urgent and Emergency Repairs
25. Interceptor Sewer & Manhole Repair
26. Security Enhancements

# Under Construction

**1. Crozet Water Treatment Plant Expansion**

| | |
|---|---|
| Design Engineer: | Short Elliot Hendrickson (SEH) |
| Construction Contractor: | Orders Construction Co. (WVA) |
| Construction Start: | December 2018 |
| Percent Complete: | 95% |
| Base Construction Contract + Change Order to Date = Current Value: | $7,170,000 - $47,372.73 = $7,122,627.27 |
| Completion: | March 2021 |
| Budget: | $8,500,000 |

Current Status: Work continues with installation of platforms and chemical feed pumps and piping in the Chemical Building expansion, refurbishment of the lab and control room, and final piping connections to the backwash tank.

**2. 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: | 20% |
| Base Construction Contract + Change Orders to Date = Current Value: | $36,748,500 + $222,723.32 = $36,971,223,32 |
| Completion: | March 2023 |
| Budget: | $43,000,000 |

Current Status: Work continues at the SRWTP with the final structural components on the liquid lime building, filter building expansion including pouring concrete floors and walls, replacement of

sedimentation basin mud valves and excavation work for the foundations of the Alum and Fluoride Chemical Storage Building and Administration Building.

**3. Crozet Flow Equalization Tank**

| | |
|---|---|
| Design Engineer: | Schnabel Engineering |
| Construction Contractor: | Anderson Construction (Lynchburg, VA) |
| Construction Start: | September 2020 |
| Percent Complete: | 10% |
| Based Construction Contract + Change Orders to Date = Current Value: | $4,406,300 |
| Completion: | November 2022 |
| Budget: | $5,400,000 |

Current Status: Site preparation and clearing have been completed. The berm around the pump station has been cut in preparation for the installation of new sewer lines.

**4. MC Aluminum Slide Gate Replacements**

| | |
|---|---|
| Design Engineer: | Hazen and Sawyer |
| Construction Contractor: | Waco Incorporated (Sandston, VA) |
| Construction Start: | September 2020 |
| Percent Complete: | 5% |
| Base Construction Contract + Change Orders to Date = Current Value: | $373,600 - $30,400 = $343,200 |
| Completion: | October 2021 |
| Budget: | $675,000 |

Current Status: Waco mobilized to Moores Creek on January 12, 2021 to begin replacing the slide gates at the UV Facility.

**5. South Rivanna Dam – Gate Repairs**

| | |
|---|---|
| Design Engineer: | N/A |
| Contractor: | Bander Smith, Inc. (Richmond, VA) |
| Construction Start: | December 2020 |
| Project Status: | 90% |
| Completion: | January 2021 |
| Budget: | $500,000 |

Current Status: Replacement of missing stem guides and actuators to improve the seal of the existing gates is underway, and will be completed by the end of January 2021. If replacement of one or more of the gates is determined to be necessary, that work will take place in the spring of 2021.

**6. Sugar Hollow Dam – Gate Replacement and Intake Tower Repairs**

| | |
|---|---|
| Design Engineer: | Schnabel Engineering |
| Construction Contractor: | Allegheny Construction (Roanoke, VA) |
| Construction Start: | October 2020 |
| Percent Complete: | 5% |

| | |
|---|---|
| Base Construction Contract + Change Order to Date = Current Value: | $1,410,875 |
| Completion: | December 2021 |
| Budget: | $1,900,000 |

Current Status: The existing rubber inflatable crest gate was fully deflated on November 30, 2020 and was removed in early January 2021. The new bladder is expected to be installed in March-April 2021. Periodic lowering of the reservoir by 2-5 feet will be required by the contractor for remaining construction activities. A project specific web page has been developed to inform the public of impacts to the area as a result of construction activities, and a media notification was issued. Channel 29 reported information about the project to the public.

**7. MC Exterior Lighting Improvements**

| | |
|---|---|
| Design Engineer: | Hazen and Sawyer |
| Construction Contractor: | Pyramid Electrical Contractors (Richmond, VA) |
| Construction Start: | February 2021 |
| Percent Complete: | 0% |
| Base Construction Contract + Change Order to Date = Current Value: | $349,000 |
| Completion: | February 2022 |
| Budget: | $900,000 |

Current Status: Bids for the project were received and a Board Report recommending award of this project to Pyramid Electrical Contractors is included in this month's Board packet. Our Maintenance team is also purchasing and installing some of the lighting.

## Design and Bidding

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

| | |
|---|---|
| Design Engineer: | Michael Baker International (Baker) |
| Project Start: | August 2018 |
| Project Status: | Prelim Design & Easement Acquisition |
| Construction Start: | 2023 |
| Completion: | 2026 |
| Budget: | $24,000,000 |

Current Status:

Easement negotiations with two private owners, UVA, the UVA Foundation and the Virginia Department of Forestry are in progress.

**9. 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: | 15% Design and Permitting Underway |
| Construction Start: | 2024 |
| Completion: | 2026 |
| Budget: | $27,000,000 |

Current Status: A site selection study for the new Raw Water Pump Station, Intake and Piping is being updated. Hazen continues with environmental investigations required for development of a Joint Permit Application to be submitted to the VDEQ in early 2021. A two-year planning study for the Beaver Creek Dam and Pump Station upgrades kicked off in late August 2020. The study is being completed with 100% funding from the Natural Resources Conservation Service (NRCS), part of the US Department of Agriculture (USDA). Following completion of the study and approval by NRCS in 2022, staff will pursue additional federal funding for up to 65% of the cost of design and construction. A virtual Public Meeting was held on December 10, 2020 to provide information about this project.

**10. Airport Road Water Pump Station and Piping**

| | |
|---|---|
| Design Engineer: | Short Elliot Hendrickson (SEH) |
| Project Start: | July 2019 |
| Project Status: | 55% Design |
| Construction Start: | September 2021 |
| Completion: | June 2023 |
| Budget: | $7,600,000 |

Current Status: SEH is finalizing the PER to submit to VDH as they move into the final design phase. The schedule has been extended to allow for additional project coordination associated with modeling and design of related projects (Finished Water Master Plan and South Fork Rivanna River Crossing).

**11. South Fork Rivanna River Crossing**

| | |
|---|---|
| Design Engineer: | Michael Baker International (Baker) |
| Project Start: | November 2020 |
| Project Status: | 5% Design |
| Construction Start: | Spring 2022 |
| Completion: | Fall 2023 |
| Budget: | $3,655,000 |

Current Status: Baker is developing preliminary alignments for a field review

**12. MC Clarifier and Lime Silo Demolition**

| | |
|---|---|
| Design Engineer: | Hazen and Sawyer |
| Project Start: | October 2020 |

| | |
|---|---|
| Project Status: | 5% Design |
| Construction Start: | Summer 2021 |
| Completion: | Summer 2022 |
| Budget: | $655,000 |

Current Status: Design is underway.

**13. MC Generator Fuel Storage Expansion**

| | |
|---|---|
| Design Engineer: | SEH, Inc. |
| Project Start: | August 2020 |
| Project Status: | 90% Design |
| Construction Start: | Winter 2021 |
| Completion: | Summer 2021 |
| Budget: | $100,000 |

Current Status: This project is required to increase the amount of diesel storage for the main plant generator from a 22 hour supply to a 72 hour supply. Construction quotes will be received by the end of January 2021.

**14. MC Facility Renovations**

| | |
|---|---|
| Design Engineer: | SEH, Inc. |
| Project Start: | August 2020 |
| Project Status: | 0% Design |
| Construction Start: | Winter 2020/2021 |
| Completion: | Summer 2021 |
| Budget: | $750,000 |

Current Status: Staff is evaluating the Duty Station for conversion into office space. This conversion will require extensive cleaning and the relocation of load bearing walls. An updated cost estimate has been developed by SEH to confirm the viability of this conversion.

**15. MC 5 kV Electrical System Upgrades**

| | |
|---|---|
| Design Engineer: | Hazen and Sawyer |
| Project Start: | August 2020 |
| Project Status: | 10% Design |
| Construction Start: | March 2022 |
| Completion: | June 2024 |
| Budget: | $4,600,000 |

Current Status: Geotechnical borings were completed at the new switchgear location in December. A technical memorandum, detailing the condition of critical conduits and pull boxes located under the MC bridge was completed in December.

**16. Glenmore WRRF Influent Pump and VFD Addition**

| | |
|---|---|
| Design Consultant: | Wiley\|Wilson |
| Project Start: | August 2020 |
| Project Status: | 0% Design |
| Construction Start: | 2021 |
| Completion: | Fall 2021 |
| Budget: | $65,000 |

Current Status: Design will begin this month.

## Planning and Studies

**17. South Rivanna Reservoir to Ragged Mtn. Reservoir Water Line Right-of-Way**

| | |
|---|---|
| Design Engineer: | Michael Baker International (Baker) |
| Project Start: | October 2017 |
| Project Status: | Easement Acquisition |
| Completion: | 2021 |
| Budget: | $2,295,000 |

Current Status: Progress continues in our efforts to acquire the 9.5 miles of easements and agreements (with VDOT) for this 36" water line. City Council approved easements on four properties located near Ragged Mtn reservoir in September 2020. Easements have been obtained from 9 private owners, and negotiations continue with the remaining 3 private owners. We have completed our process to notify VDOT about our planned locations in the streets right-of-way. Discussions continue on remaining easements with the UVA Foundation and the County School Board.

**18. Urban Finished Water Infrastructure Master Plan**

| | |
|---|---|
| Design Engineer: | Michael Baker International (Baker) |
| Project Start: | November 2018 |
| Project Status: | 90% complete |
| Completion: | April 2021 |
| Budget: | $253,000 |

Current Status: Baker will submit the draft Master Plan in late January. Another workshop with stakeholders will be scheduled after the draft is circulated to review the final plan.

**19. Upper Schenks Branch Interceptor, Phase II**

| | |
|---|---|
| Design Engineer: | Frazier Engineering, P.A. |
| Project Start: | TBD |
| Project Status: | Alignment Analysis |
| Construction Start: | TBD |
| Completion: | TBD |
| Budget: | $3,985,000 |

Current Status: Discussions about the pipe alignment continue with the County and the City. Following pipe alignment determinations, the design plans will be updated and the construction approach will be coordinated with a City project planned for the same general area.

**20. Asset Management Plan**

| | |
|---|---|
| Design Engineer: | GHD, Inc. |
| Project Start: | July 2018 |
| Project Status: | Phase 2 – 85% Complete |
| Completion: | 2021 |
| Budget: | $1,115,000 |

Current Status: Development of an asset register, condition assessment protocols and a pilot study of the asset management process is underway. A final workshop was held with GHD on 12/14 and development of the final pilot study components is being completed. A kick-off meeting was also held with GHD on 1/7/21 to begin CMMS implementation services.

**21. Albemarle-Berkley PS Capacity Analysis**

| | |
|---|---|
| Design Consultant: | GHD, Inc. |
| Project Start: | September 2019 |
| Project Status: | 90% Complete |
| Completion: | February 2021 |
| Budget: | $40,000 |

Current Status: A final draft of the Capacity Analysis study was sent to ACSA and ACPS in December. Comments were received by early January from both agencies. The Design Consultant is reviewing the comments provided by each agency and will complete a final report.

**22. MC Facilities Master Plan**

| | |
|---|---|
| Design Consultant: | Hazen and Sawyer |
| Project Start: | August 2019 |
| Project Status: | 80% Complete |
| Completion: | April 2021 |
| Budget: | $275,000 |

Current Status: Multiple workshops have been held with staff. A draft report is anticipated this month.

**23. SRR to RMR Pipeline – Pretreatment Pilot Study**

| | |
|---|---|
| Design Consultant: | SEH |
| Project Start: | August 2020 |
| Project Status: | 5% Complete |

Completion: July 2022
Budget: TBD

Current Status: The first phase of the Pretreatment Studywill evaluate existing water quality and seasonal weather data, as well as investigate any trends among the water quality and seasonal indicators. The first phase owill also inform the extent of any additional sampling required and allow the plan for the pilot study to be finalized.

# Other Significant Projects

### 24. 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 |
|---|---|---|
| 2018-06 | South Rivanna Dam Apron and River Bank Repairs | $200,000 |
| 2019-07 | Urban Water Line Valve and Blow-off Repair | $125,000 |
| 2020-14 | MCWWPS Gate Valve 205 Replacement | TBD |
| 2020-09 | RVI-MH-64 Erosion | $5,000 |
| 2020-18 | NRW Erosion Near Airport Road | $5,000 |
| 2020-19 | RMRW Erosion Near RMRW-015 | $5,000 |
| 2020-20 | Finished Water Sampling Stations | $150,000 |
| 2020-21 | PCI Erosion | $50,000 |
| 2020-23 | MCI Erosion @ Moores Creek Crossing (Near Avon Ct) | $50,000 |
| 2020-24 | CZI Erosion Between MH-55 and MH-56 | TBD |
| 2020-25 | Upper MRI Point Repair/New MH Installation | $150,000 |

- South Rivanna Dam Apron and River Bank Repairs: Repairs to the north and south concrete aprons are being designed by Schnabel Engineering and a manufacturer's representative was recently on site to review repair procedures. As this approach is finalized, repair services will be procured from the on-call dam maintenance contractor.
- Urban Water Line Valve and Blow-off Repair: Faulconer Construction has completed the installation of a new drain valve at UWL-017, as well as the associated modifications to the drain line outlet and creek bank. With the installation of the new drain valve in March 2020, leakage in this location has ceased. Staff continues to coordinate the logistics of the UWL-025 replacement near Gasoline Alley with the County and Property Owner, including the appropriate location of the discharge. CCTV inspections of adjacent stormwater infrastructure have been completed , and staff is planning to complete the project with Faulconer Construction after the Upper MRI Point Repair/New MH Installation. Staff has also been notified of a similar (slight leakage) issue at UWL-010 near Route 29. This assembly currently is blind flanged and is not actively leaking into any adjacent creeks or stormwater structures. Staff will continue planning with this repair with Faulconer Construction.

- Moores Creek WWPS Gate Valve 205 Replacement: In July 2020, RWSA Operations staff identified a valve had become stuck in nearly the fully closed position, causing a reduction in the discharge capacity of the pumping station (PS), especially during wet weather events where both of the 24" force mains leaving the PS are required. Waco, Inc. was selected to perform the work under an Emergency Declaration by the Executive Director, and staff worked with Waco to plan for the associated force main shutdown and valve replacement. Due to excessive lead times and impending weather, a spool piece of pipe was procured for temporary installation while the replacement valve is procured. The existing gate valve was ultimately replaced with the spool piece of pipe during a planned pumping station shutdown during the early morning hours of August 2, 2020, restoring full pumping capabilities to the PS. In the preliminary attempts to shut down one of the two discharge force mains and replace the No. 205 valve, it was discovered that additional valves inside the PS are not fully holding when placed in a closed position. Staff is currently evaluating the needs associated with bypass pumping around MCWWPS, which would allow for the permanent installation of the No. 205 Gate Valve Replacement, as well as replacement of the adjacent valves mentioned above and inspections of equipment inside of the PS that normally can't be inspected due to the incoming flows.
- RVI-MH-64 Erosion: During routine line maintenance activities, the RWSA Maintenance Department identified an area of minor erosion adjacent to RVI-MH-64. The manhole is located adjacent to a small creek in the Still Meadow/Westmoreland Subdivision. Staff will coordinate with the RWSA Maintenance Department or Faulconer Construction to install additional rip-rap adjacent to the manhole as schedule permits.
- NRW Erosion Near Airport Road: During routine line maintenance activities, the Maintenance Department identified an area of minor erosion along the North Rivanna Waterline (NRW) near Airport Road. Staff has begun coordinating the repairs, which will be scheduled with the Maintenance Department and/or Faulconer Construction as schedule permits.
- RMRW Erosion Near RMRW-015: While marking for a Miss Utility Locate, the Engineering Department identified an area of minor erosion along the Ragged Mountain Raw Waterline (RMRW) near RMRW-015, which is located along Stribling Avenue. RMRW crosses a small stream, which appears to have caused minor erosion along a pipe joint. Staff is coordinating/planning a repair with the Maintenance Department and/or Faulconer Construction, which will likely include placement of small rip-rap along the creek bank/pipe joint.
- Finished Water Sampling Stations: As a part of its ongoing Water Quality Monitoring Program, members of the Water & Laboratory Departments collect water samples from throughout the distribution system to track parameters such as Chlorine Residuals and Disinfection Byproducts. Historically, this has meant that staff must enter local businesses to collect the samples, which takes several minutes and further exposes staff to members of the public. In order to minimize staff exposure to the public and overall impact to local businesses/offices, seven (7) pre-fabricated sampling stations will be installed along ACSA finished water lines throughout the distribution system, which will allow staff to quickly and safely retrieve water samples. Faulconer Construction is performing this work for RWSA, with ACSA providing the associated wet taps.

These 7 sites were completed by the week of December 7th. In addition, RWSA staff is coordinating with ACSA, the City, and UVA on a new set of five (5) additional sites.

- PCI Erosion: Maintenance Department staff finished its annual inspection of the Powell Creek Interceptor in early October, and a number of erosion concerns were identified throughout the interceptor alignment. Engineering and Maintenance Department staff determined that two of the repairs were more urgent, and should be performed by Faulconer Construction as soon as possible. Both of the areas in question are large drainage ditches that have caused large wash-outs over the sewer line. RWSA coordinated access through Sutherland Middle School property with ACPS, and Faulconer began these repairs during the week of October 26. The scope of these two repairs was to backfill the ditches and install a large HDPE culvert pipe to safely and effectively move the storm water across the sewer line while minimizing erosion. The two ditch lines were completed by Faulconer Construction during the week of November 2, with the site fully restored by the week of November 9. Four creek crossings along the interceptor were also identified as needing light rip-rap armament, as well as minor bank modifications to allow for enhanced access for RWSA staff. This work will also be coordinated with Faulconer Construction. A site visit was conducted on November 24, 2020, with the work being scheduled as crews have availability.
- MCI Erosion @ Moores Creek Crossing (Near Avon Ct): While performing routine line maintenance activities, the RWSA Maintenance Department identified erosion along the Moores Creek Interceptor (MCI), at its creek crossing between MH-39 and MH-40. This is just downstream of the previous bank repair made in this area using imbricated stone in early 2019, which remains standing in good condition. No infrastructure is exposed at this time, and staff will continue to monitor the area and plan for the associated bank repairs, which will likely include the placement of large rip-rap to protect the sewer line from future high flow/erosion events.
- CZI Erosion Between MH-55 and MH-56: While performing routine line maintenance activities, RWSA Maintenance staff identified an area of erosion between Crozet Interceptor MH-55 and MH-56, located adjacent to the Buckingham Branch Railroad. A culvert under the railroad seems to be directing stormwater directly across the RWSA easement, causing the washout. No RWSA infrastructure is exposed at this time. Staff has reached out to the railroad to inform them of the issue, as well as begin discussions on the overall responsibility for the repair.
- Upper MRI Point Repair/New MH Installation: RWSA is in the final stages of rehabilitation efforts along the upper Morey Creek Interceptor. The final piece of rehabilitation is to complete a point repair, which includes the installation of approximately 65' of new Ductile Iron Pipe, as well as a new manhole, due to a sag in the existing, Vitrified Clay Pipe. Rather than perform this work under the Sanitary Sewer Rehabilitation Contract, since that contractor generally performs no-dig style rehabilitation, RWSA has elected to shift this project to the On-Call Maintenance Construction Services Contract. RWSA and Faulconer Construction have performed a site visit, and are coordinating the logistics of the repair, with the goal of mobilization in February.

**25. Interceptor Sewer and Manhole Repair**

| | |
|---|---|
| Design Engineer: | Frazier Engineering |
| Construction Contractor: | IPR Northeast |
| Construction Start: | November 2017 |
| Percent Complete: | 40% |
| Base Construction Contract + Change Orders to Date = Current Value: | $1,000,838.79 |
| Expected Completion: | June 2021 |
| Total Capital Project Budget: | $1,088,330 (Urban) + $880,000 (Crozet) = $1,968,330 |

Current Status: Repairs to the Upper Morey Creek Interceptor remain underway. Staff and the Design Consultant are finalizing the plans for the upper MRI point repair and new manhole installation. As described in the Urgent/Emergency Projects section above, this work has been shifted to the On-Call Maintenance Construction Services Contract. Staff continues to coordinate with all groups involved to get the repairs completed as soon as possible on this portion of MRI. Staff also continues coordination on the lower Powell Creek Interceptor, as this is the next high-priority interceptor area to be addressed based upon the latest CCTV footage. The scope of this rehabilitation work is likely to include several sections of Cured in Place Piping, as well as manhole rehabilitation. IPR Northeast anticipates cleaning and CCTV to take place in early February, which will help finalize the overall scope of the repair.

**26. Security Enhancements**

| | |
|---|---|
| Design Engineer: | N/A |
| Construction Contractor: | Security 101 |
| Construction Start: | March 2020 |
| Percent Complete: | 95% |
| Based Construction Contract + Change Orders to Date = Current Value: | $744,136.80 - $25,708.80 = $718,428.00 (WA#1) |
| Completion: | March 2021 (WA #1) |
| Approved Capital Budget: | $2,730,000 |

Current Status: Access control system installation is underway for all exterior doors at MCAWRRF, as well as all WTP motorized gates. Device installation at the MCAWRRF site has been completed. In addition, installations at North Rivanna, Scottsville, and Observatory WTP gates have also been completed. Installation at the Crozet WTP gates are ongoing, with South Rivanna WTP to follow. The Card Access System is in use at the Administration and Engineering Buildings at MCAWRRF, as well as at the WTP gates where the installations have been completed. Once the programming has been completed by Security 101, access control system use can begin across the rest of the MCAWRRF site.

# History

# Under Construction

1. **Crozet Water Treatment Plant Expansion**

   This project was created to increase the supply capacity of the existing Crozet WTP by modernizing plant systems. The goal was to not drastically increase the plant footprint in regard to the existing filter plant, flocculation tanks, and sedimentation basins. By modernizing the outdated equipment within these treatment systems, the plant treatment capacity will be improved by approximately 100% (from 1 to 2 MGD). A Notice to Proceed was issued on December 13, 2018 and the contractor mobilized on February 26, 2019.

2. **South Rivanna and Observatory Water Treatment Plant Renovations**

   An informational meeting with prospective contractors was held on September 26, 2019 to maximize interest in the project. A project kickoff meeting with staff was held on November 14, 2018 and 30% design documents were provided in February. A Value Engineering Workshop took place the week of April 8, 2019, and a memo summarizing the results has being completed. Agreed upon results were incorporated into the project. The project was advertised, and bids were received. English Construction was awarded the contract and a Notice to Proceed was issued on May 18, 2020.

   **Observatory:** This project will upgrade the plant from 7.7 to 10 MGD capacity. Costs to upgrade the plant to 12 MGD were determined to be too high at this time. Much of the Observatory Water Treatment Plant is original to the 1953 construction. A Condition Assessment Report was completed by SEH in October of 2013. The approved Capital Improvement Plan project was based on the findings from this report. The flocculator systems were replaced and upgraded as part of the Drinking Water Activated Carbon and WTP Improvements project (GAC). Four additional GAC contactors will be included in the design.

   **South Rivanna:** The work herein includes expansion of the coagulant storage facilities; installation of additional filters to meet firm capacity needs; the addition of a second variable frequency drive at the Raw Water Pump Station; the relocation for the electrical gear from a sub terrain location at the Sludge Pumping Station; a new building on site for additional office, lab, control room and storage space; improvements to storm sewers to accept allowable WTP discharges; of new metal building to cover the existing liquid lime feed piping and tanks. The scope of this project will not increase the 12 MGD plant treatment capacity.

3. **Crozet Flow Equalization Tank**

   A 2016 update to the 2006 model was completed which evaluated the I&I reduction goals previously established and future capital project needs. Based on the results of that study, it was determined that the Crozet Interceptor system and the existing Crozet Pump Stations (1 through 4) have adequate capacity to handle the 2015 peak wet weather flow from the Crozet Service Area during a two-year storm. However, as projected growth in the service area occurs, peak wet weather flows in the area under the storm conditions established in the updated model will begin to exceed the firm capacities of the pump stations by 2025. Additional I&I reductions in order to reduce flows enough to not exceed the pump station firm capacities are not feasible and as a result, the construction of a flow equalization tank was identified as the best method to alleviate wet weather capacity issues.

   While the study indicates that capacity should not be an issue until 2025, a flow equalization tank would also provide a significant benefit to the maintenance of the Crozet Pumping Station system which currently lacks system storage necessary to allow adequate time to perform repairs on the pumps

and the associated force mains while the system is down.

Greeley and Hansen completed a siting study to determine the location for the flow equalization tank based on the results of the comprehensive model update. The results of the siting study were reviewed with ACSA and a final tank location was determined.

A work authorization with Schnabel Engineering was finalized and a Project Kick-off Meeting was held on July 12, 2018. The construction bids were received on July 16, 2020. Anderson Construction of Lynchburg,VA was awarded the construction contract. Notice to Proceed on this project was given on October 9, 2020 and now construction is in progress.

**4. MC Aluminum Slide Gate Replacements**

Several large aluminum slide gates are located at the influent side of the Moores Creek Pump Station. These gates allow staff to stop or divert flow to perform maintenance activities. After repeated attempts to repair the deteriorated gates, it is now necessary to replace the gates and modify the gate arrangement. There are also several deteriorated gates at the Ultraviolent disinfection facility that leak water, causing a reduced capacity of the facility. Replacement of these gates will restore the process to full capacity. Work also includes replacement of the cast iron gates in the holding pond pump station and new actuators on the headworks gates. A Notice to Proceed for these efforts was provided on October 6, 2020. The work specific to the Moores Creek Pump Station will be bid under a separate project due to the extensive bypass pumping.

**5. South Rivanna Dam – Gate Repairs**

The South Rivanna Dam, originally constructed in 1965, is equipped with two 36" diameter slide gates and conduits, one each on the north and south abutments of the dam, which can be utilized to dewater the facility or to meet minimum instream flow (MIF) requirements when the dam is not spilling. These gates are original to the dam and while they are operable and are exercised regularly, they are deteriorated and can no longer provide a complete seal, therefore allowing some leakage through the dam. RWSA has protocols in place to temporarily stop leakage through the gates when necessary to conserve water; however, there is a desire to repair or replace the gates and components as needed to restore full functionality. The project includes other repairs to the facility, including improvements to the concrete wall adjacent to the Raw Water Pump Station as well as improvements to the north dam tower to provide safer access by staff while still discouraging access by the general public.

**6. Sugar Hollow Dam – Rubber Crest Gate Replacement and Intake Tower Repairs**

In 1998, the Sugar Hollow Dam underwent a significant upgrade to improve structural stability and spillway capacity. The original metal spillway gates were replaced with a manufactured five-foot-high inflatable rubber dam that is bolted to the existing concrete structure. This rubber dam allows for the normal storage of water in the reservoir with the ability to be lowered during extreme storm events. The rubber dam has an approximate service life of twenty years and is therefore now due for replacement. The aging intake tower structure has been inspected and evaluated. Recommended repairs include repair or replacement of intake trash racks and sealing/grouting of minor concrete wall cracks. This project was advertised for construction in July 2020 and Allegheny Construction was awarded the project. A Notice to Proceed was provided on October 1, 2020.

**7. MC Exterior Lighting Improvements**

The lighting at the 80-acre MCAWRRF consists of over 300 fixtures installed over the entire life of the facilities presence at Moores Creek. In 2019, Albemarle County investigated the lighting plan at the facility and issued a Zoning Notice of Violation.

RWSA and Albemarle County staff have been working together to best address the issue. A photo metric plan of existing lighting was submitted to the county for review. RWSA has submitted a minor site plan amendment and Architectural Review Board submission that will include a large scale replacement of non-compliant fixtures as well as address industrial lighting standards for the entire facility. The submission was approved by the County and design is underway.

The design has been completed by Hazen and Sawyer and a recommendation to award the project to Pyramid Electrical Contractors, LLC is included in this month's Board packet.

## Design and Bidding

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

A Work Authorization was executed in December 2018 with Michael Baker International for the raw water line routing study, preliminary design, plat creation and the easement acquisition process for this portion of the project. Raw water is transferred from the Ragged Mountain Reservoir (RMR) to the Observatory Water Treatment Plant (WTP) by way of two 18-inch cast iron pipelines, which have been in service for more than 110 and 70 years, respectively. The increased frequency of emergency repairs and expanded maintenance requirements are one impetus for replacing these pipelines. The proposed water line will be able to reliably transfer water to the expanded Observatory plant. The new pipeline will be constructed of 36-inch ductile iron and will be approximately 2.6 miles feet in length. The segment of the project immediately east of the RMR will constitute a portion of the proposed South Rivanna Reservoir to RMR raw water main project as part of the approved 50-year Community Water Supply Plan.

The RMR to Observatory WTP raw water pump station is planned to replace the existing Stadium Road and Royal pump stations, which have exceeded their design lives or will require significant upgrades with the Observatory WTP expansion. The pump station will pump up to 10 million gallons per day (MGD) of raw water to the Observatory WTP. The new pump station site selection and design are being conducted in coordination with the South Rivanna Reservoir to RMR pipeline in the interest of improved operational and cost efficiencies. An integrated pump station would also include the capacity to transfer up to 16 MGD of raw water from RMR back to the SR WTP.

**9. Beaver Creek Dam and Pump Station Improvements**

Dam: RWSA operates the Beaver Creek Dam and reservoir as the sole raw water supply for the Crozet Area. In 2011, an analysis of the Dam Breach inundation areas and changes to Virginia Department of Conservation and Recreation (DCR) *Impounding Structures Regulations* prompted a change in hazard classification of the dam from Significant to High Hazard. This change in hazard classification requires that the capacity of the spillway be increased. This CIP project includes investigation, preliminary design, public outreach, permitting, easement acquisition, final design, and construction

of the anticipated modifications. Work for this project will be coordinated with the new relocated raw water pump station and intake and a reservoir oxygenation system project.

Schnabel Engineering developed three alternatives for upgrading the capacity of the Beaver Creek Dam Spillway in 2012. Following the adoption of a new Probable Maximum Precipitation (PMP) Study on December 9, 2015 and the release of DCR guidelines for implementing the PMP study in March of 2016, RWSA determined it would proceed with an updated alternatives analysis and Preliminary Engineering Report for upgrading the dam spillway. Following the completion of an updated alternatives analysis by Schnabel Engineering, staff met with members of Albemarle County and ACSA staff to discuss the preferred alternative. It was determined that staff would proceed with design of a labyrinth spillway and chute through the existing dam with a bridge to allow Browns Gap Turnpike to cross over the new spillway.

In 2020, staff received grant funding for a planning and environmental study from the Natural Resources Conservation Service (NRCS). The project kicked off in August 2020 and is expected to be completed in July 2022. Following completion of the study and acceptance of the Plan-Environmental document by NRCS, staff will pursue additional grant funding through NRCS that, if available, could cover up to 65% of final design and construction costs.

Pump Station: The Drinking Water Infrastructure Plan for the Crozet water service area, developed by Hazen and Sawyer, recommends installation of a new Raw Water Pump Station and Intake at the Beaver Creek Dam in order to meet new minimum instream flow requirements and provide adequate raw water pumping capacity to serve the growing Crozet community for the next 50 years. The pump station will be moved out of its existing location at the toe of the dam to a new location, to be determined during design. The new intake structure will include enhanced controls to allow for access to the best quality water at any given time.

**10. Airport Road Water Pump Station and Piping**

The Rt. 29 Pump Station and Pipeline master plan was developed in 2007 and originally envisioned a multi-faceted project that reliably connected the North and South Rivanna pressure bands, reduced excessive operating pressures, and developed a new Airport pressure zone to serve the highest elevations near the Airport and Hollymead Town Center. The master plan update was completed in June of 2018 to reflect the changes in the system and demands since 2007. This project, along with the South Rivanna River Crossing and North Rivanna Transmission Main project, will provide a reliable and redundant finished water supply to the North Rivanna area. The proposed pump station will be able to serve system demands at both the current high pressure and future low pressure conditions. These facilities will also lead to future phase implementation which will include a storage tank and the creation of the Airport water pressure zone. The North Rivanna Transmission Main improvements included under a separate CIP project have been added to this project to allow connection of the pump station to the distribution system.

**11. South Fork Rivanna River Crossing**

RWSA has previously identified through master planning that a 24-inch water main will be needed from the South Rivanna Water Treatment Plant (SRWTP) to Hollymead Town Center to meet future water demands. Two segments of this water main were constructed as part of the VDOT Rt. 29

Solutions projects, including approximately 10,000 LF of 24-inch water main along Rt. 29 and 600 LF of 24-inch water main along the new Berkmar Drive Extension, behind the Kohl's department store. To complete the connection between the SRWTP and the new 24-inch water main in Rt. 29, there is a need to construct a new river crossing at the South Fork Rivanna River. Acquisition of right-of-way will be required at the river crossing.

**12. MC Clarifier and Lime Silo Demolition**

The two in-plant clarifiers were constructed in the late 1950's and were taken out of service as a result of the Odor Control Project at the plant. Due to the age of the tanks, various components have significantly deteriorated over time and no additional uses for these tanks have been identified. In addition, due to their out-of-service status, they remain empty and a safety concern for plant staff and visitors. There is also an abandoned lime silo currently located adjacent to the Solids Handling Building. Lime was previously used with the old plat and frame presses before centrifuges were installed for sludge dewatering purposes. This project will include the complete demolition of the in-plant clarifiers by removing all existing components, backfilling the area and returning the area to open space and removing the lime silo from the plant and properly disposing of it.

**13. MC Generator Fuel Expansion**

The Moores Creek AWRRF south side electrical facilities have a single large system back-up power generator that was installed between 2009 – 2012 during the ENR plant upgrade. The generator has a belly tank that allows for approximately 22 hours of operation. This project will install an ancillary fuel tank that will allow for approximately three days of operation.

**14. MC Facility Renovations**

The RWSA Administration Building Board Room finishes are generally original to the facility. The proposed project will update the wall and floor coverings, alter the shelving and update the room furnishings in order to create a more modern and useable meeting space.

The Duty Pump Station was construction in 1958 and no longer functions as an actual pump station. It currently houses electrical equipment that serves the plant, but otherwise has available space that could be beneficially used for other purposes. RWSA has a need for additional office space and has evaluated repurposing portions of the Duty Pump Station for office and work space in order to make use of all available space at the plant before proceeding with more significant administrative expansions. This project includes demolition of a select portion of the interior of the station, cleaning and sanitizing of the areas to be repurposed, and an interior upfit of the space to provide additional office and work space. Costs related to this effort have been updated and the budget is being evaluated through the CIP process.

**15. MC 5 kV Electrical System Upgrades**

After discussions through the Moores Creek Facilities Master Plan, it was identified that several areas of the MCAWRRF, including the Blower Building, Sludge Pumping Building, Grit Removal Building, Moores Creek Pumping Station, and the Administration Building are all still connected to the original 5kV switchgear in the Blower Building. This equipment, including the associated cabling, switchgear, transformers and motor control centers (MCCs), has a useful life expectancy of 20-30 years. Most of this equipment was installed around 1980. With the equipment having well exceeded its useful life

expectancy at this point, safety is a concern given the large electric loads that the cabling and other equipment are handling on a day-to-day basis. Failure of the existing 5kV infrastructure could also result in temporary outages of certain treatment processes, and repairs could take weeks to months given the lead times associated with equipment of this age. A technical memo was provided in July 2020 by Hazen & Sawyer, which recommended that a CIP Project be added immediately to encompass replacement of the original 1980s-vintage 5kV cables, switchgear, transformers, and MCCs. A CIP Amendment Recommendation and Engineering Services Work Authorization was approved during the August 2020 Board of Directors Meeting. The Design Work Authorization was executed on October 6, 2020.

A Design Kickoff Meeting was held virtually on October 20, 2020. A site visit was attended on November 5, 2020 by Hazen & Sawyer staff, as well as RWSA Maintenance and Engineering Department staff.

**16. Glenmore WRRF Influent Pump and VFD Addition**

The 0.381-mgd water resource recovery facility, located within the Glenmore subdivision, is operated by RWSA. The facility includes an influent pumping station located immediately adjacent to the treatment facility. The Glenmore WRRF is predicted to see additional dry and wet weather flows as construction within the service area continues. Future wet weather flows will require higher influent pumping capacity and an additional pump and electrical variable frequency drive will be required to maintain firm capacity. After discussions with the Operations and Maintenance departments, installation of a new exhaust fan in the influent pump station will also be included.

## Planning and Studies

**17. South Rivanna Reservoir to Ragged Mtn. Reservoir Water Line Right-of-Way**

The approved 50-year Community Water Supply Plan includes the construction of a raw water line from the South Rivanna Reservoir to the Ragged Mountain Reservoir. This water line will replace the existing Upper Sugar Hollow Pipeline and increase raw water transfer capacity in the Urban Water System. The preliminary route for the water line followed the proposed Route 29 Charlottesville Bypass; however, the Bypass project was suspended by VDOT in 2014, requiring a more detailed routing study for the future water line. This project includes a routing study, preliminary design and preparation of easement documents, as well as acquisition of water line easements along the approved route.

Baker has completed the routing study. Preliminary design, plat creation and the acquisition of easements are underway. Property owners were contacted to request permission to access properties for topographical surveying. A community information meeting was held in June 2018.

**18. Urban Finished Water Infrastructure Master Plan**

As identified in the 2017 Strategic Plan, the Authority has a goal to plan, deliver and maintain dependable infrastructure in a financially responsible manner. Staff has identified asset master planning as a priority strategy to improve overall system development. Many previously identified projects in the urban finished water treatment and distribution system are in preliminary engineering, design or construction. As such, staff have identified a need to develop a current and ongoing finished

water master plan.

**19. Upper Schenks Branch Interceptor, Phase II**

The Schenks Branch Sanitary Sewer interceptor is a pipeline operated by RWSA that serves the City of Charlottesville. The 21-inch sewer line was originally constructed by the City in the 1950s. Evaluations from the flow metering and modeling from the Comprehensive Sanitary Sewer Interceptor Study, and negotiations with the ACSA and City, resulted in an inflow and infiltration reduction plan from which it was concluded that increased capacity of the Schenks Branch Interceptor was needed for wet weather peak flow. Due to several road construction projects and the construction of the Meadow Creek Interceptor project along the sewer alignment, Schenks Branch was to be constructed in multiple phases. The completed sections, collectively known as the Lower Schenks Branch Interceptor, include the Tie-in to Meadow Creek, the section along McIntire Road Ext, and the section though the Route 250 Interchange.

The remaining sections, which are considered the Upper Schenks Branch Interceptor, were split into 2 phases. The first phase has been completed and is located within City-owned Schenks Greenway adjacent to McIntire Road, and the second phase is to be located on County property (baseball field and County Office Building) adjacent to McIntire Road or within McIntire Road.

**20. Asset Management Plan**

Asset management is the practice of managing our infrastructure to minimize the total cost of owning and operating these assets while providing desired service levels. In doing so, it is used to make sure planned maintenance activities take place and that capital assets are replaced, repaired or upgraded at the right time, while ensuring that the money necessary to perform those activities is available. RWSA has some components of an asset management program in place (i.e. GIS, work order system), but has identified the need to further develop the program as part of our Strategic Planning process. In order to continue to build the program, a consultant has been procured to assist with a three-phase process that will include facilitation and development of an asset management strategic plan, development and management of a pilot study where the results of the strategic plan will be applied to a specific class of assets, and assistance through a full implementation process. As part of this three-phase process, the consultant will also assist RWSA with the procurement of a software package to facilitate the overall program.

**21. Albemarle-Berkeley PS Capacity Analysis**

The Albemarle Berkley wastewater pump station serves the schools and other connections in the area near Albemarle High School. Due to unacceptably high run times on the pumps, a capacity analysis of the pump station, given the current and projected upstream conditions, will be completed to provide design data for replacement of the pump station.

The Capacity Analysis Study began in Spring 2020, and the first report draft was reviewed by staff in September 2020. A final draft was issued to RWSA/ACSA/ACPS by the Design Consultant in December 2020, and comments were received in January 2021.

**22. MC Facilities Master Plan**

The majority of the Moores Creek Water Resource Recovery Facility was constructed in the early 1980's. At the time, the plant layout was developed with space held open for future process

expansion. With the Enhanced Nutrient Removal (ENR) project in 2009, the operation and layout of the plant was fundamentally altered, as needed to meet the new regulation. The project did anticipate the need for future expansion and some of the processes have readily available space. However, a full expansion plan was not developed at the time. As identified in the Strategic Plan, the Authority has a goal to plan, deliver and maintain dependable infrastructure in a financially responsible manner. Staff has identified asset master planning as a priority strategy to improve overall system development. As such, this project will serve to evaluate and plan for future space and process needs to accommodate capacity expansion and/or anticipated regulatory changes.

**23. SRR to RMR Pipeline – Pretreatment Pilot Study**

As part of the SRR to RMR Pipeline project, the impact of sending raw water from the SRR to RMR has been previously study and a significant amount of pretreatment was initially identified as being needed to avoid reducing the quality of the raw water contained within the RMR. With the pipeline easement acquisition process well underway and additional information now available associated with the proposed timing of this overall project based on water demand projections, the intent of this project is to update the pretreatment needs anticipated.

## Other Significant Projects

**24. Urgent and Emergency Repairs**

- South Rivanna Dam Apron and River Bank Repairs

  Intense rainfall between May 30-31, 2018 resulted in extensive flooding throughout Charlottesville and parts of Albemarle County, with flows over the South Fork Rivanna Dam reaching more than 7 feet over the spillway crest at its peak. Staff has inspected the dam and abutments to determine the extent of damage resulting from the extreme flooding. Although there is no discernible damage to the dam itself, staff found erosion damage to the north downstream river bank and substantial displacement of large stone downstream of the dam to form a rock dam and pool below the north apron. Additionally, some damage to concrete structures on both aprons was noted, including possible creation of voids beneath the concrete and loss of concrete joint filler. Repairs to the river bank and removal of the rock dam were completed June 3-7, 2019 under RWSA's on-call construction contract.

- Urban Water Line Valve and Blow-off Repair

  During its routine inspections of the Water System, the Maintenance Department discovered a blowoff (drain) valve along the Urban Waterline (UWL-017) that had significant leakage. In addition, during one of the numerous heavy rain events received in 2018, the water in the creek adjacent to the drain line rose, eroding the area around the drain line and causing the headwall to become disconnected from the end of the pipe. Staff will be coordinating internally to confirm the overall scope of the project, including whether the drain line will need to be further reinforced or restrained.

**25. Interceptor Sewer and Manhole Repair**

Results from sewer flow monitoring and modeling under the Comprehensive Sanitary Sewer Study provided awareness to specific inflow and infiltration (I&I) concerns in the collection system and resulted in strengthened commitments from the City, ACSA and RWSA to continue professional engineering services to aid in the rehabilitation and repair of the sewer collection system. Engineering services will be used for sewer infrastructure condition assessments and the development of a sewer rehabilitation bid package for the procurement of a contractor to perform the recommended rehabilitation work.

Lining work on the Upper Morey Creek Interceptor began in Fall 2019 and was completed in Fall 2020. A critical section of upper Morey Creek Interceptor under Rt. 250 was lined on August 28, 2020.

**26. Security Enhancements**

As required by the Federal Bioterrorism Act of 2002 and the American Water Infrastructure Act of 2018, water utilities must conduct Vulnerability Assessments and have Emergency Response Plans. RWSA recently completed an updated Risk Assessment of its water system in collaboration with the Albemarle County Service Authority (ACSA), City of Charlottesville (City), and University of Virginia (UVA). A number of security improvements that could be applied to both the water and wastewater systems were identified. The purpose of this project will be to install security improvements at RWSA facilities including additional security gate and fencing components, vehicle bollards, facility signage, camera system enhancements, additional security lighting, intrusion detection systems, door and window hardening, installation of industrial strength locks, communication technology and cable hardening, and an enhanced access control program.

RWSA Engineering staff held a meeting with Operations staff to discuss overall project needs and priorities in October 2018. Meetings with ACSA and City staff were held in Fall/Winter 2018-2019 to discuss how access control and intrusion detection systems have been implemented into to the day-to-day operations of the two utilities. A Request for Proposal (RFP) for an Implementer to facilitate selection of an access control system, confirmation of design requirements based upon RWSA's facilities and project goals, and installation of the selected system was issued on June 6, 2019. RWSA conducted a Pre-Proposal Meeting on June 14, 2019, and proposals were opened on June 27, 2019. Interviews were conducted on July 15-16, 2019, and a Contract Award Recommendation was approved by the Board on July 23, 2019. Access Control System Installation at MCAWRRF began in March 2020. Access Control System Installation was completed in the Administration and Engineering Buildings by the week of November 30, 2020, completing installation of the physical access control system across the MCAWRRF site. Training for staff was completed on November 10, 2020.

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

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

**SUBJECT:** **WHOLESALE METERING REPORT FOR DECEMBER 2020**

**DATE:** **JANUARY 26, 2021**

The monthly and average daily Urban water system usages by the City and the ACSA for December 2020 were as follows:

| | ***Month*** | ***Daily Average*** | |
|---|---|---|---|
| City Usage (gal) | 116,298,822 | 3,751,575 | **45.4%** |
| ACSA Usage (gal) | 139,774,363 | 4,508,850 | **54.6%** |
| ***Total (gal)*** | **256,073,185** | **8,260,425** | |

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 January 2020), and that usage relative to the maximum allocation for each party (6.71 MGD for the City and 11.99 MGD for ACSA).

*Figure 1: City of Charlottesville Monthly Water Usage and Allocation*

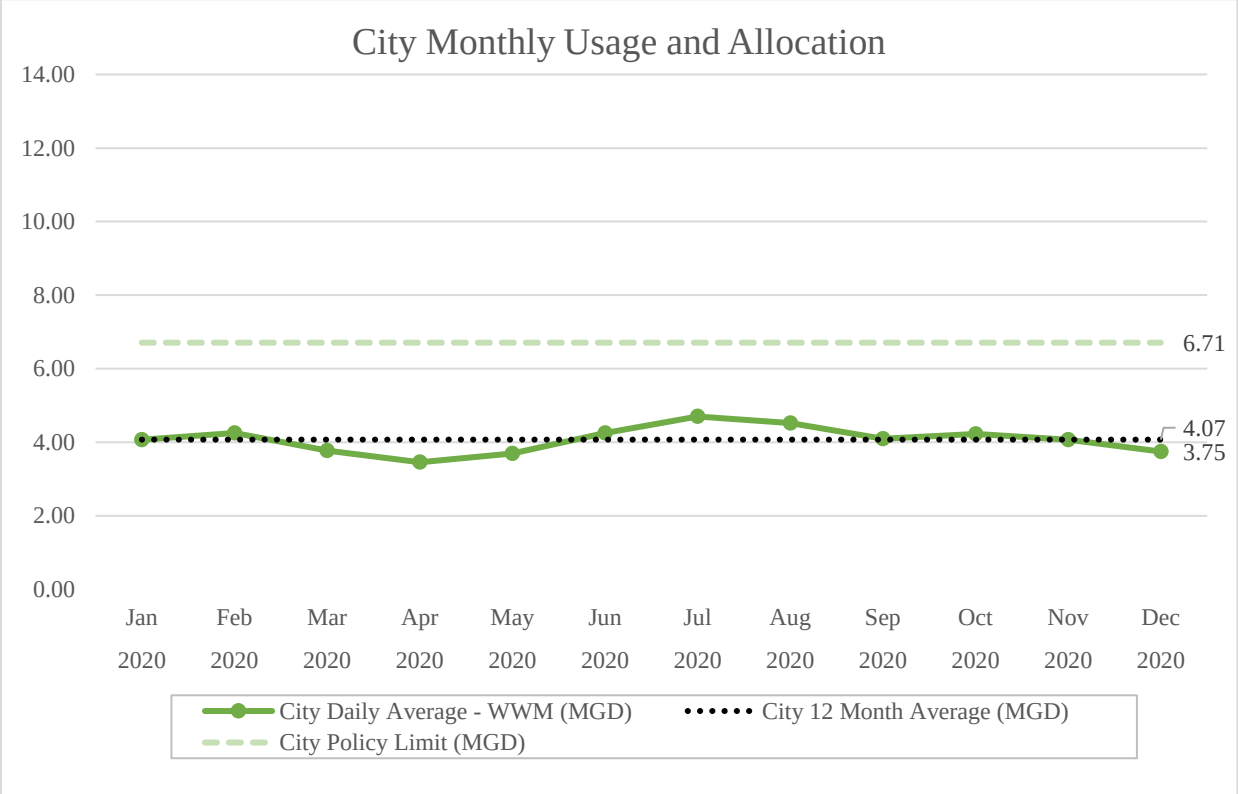
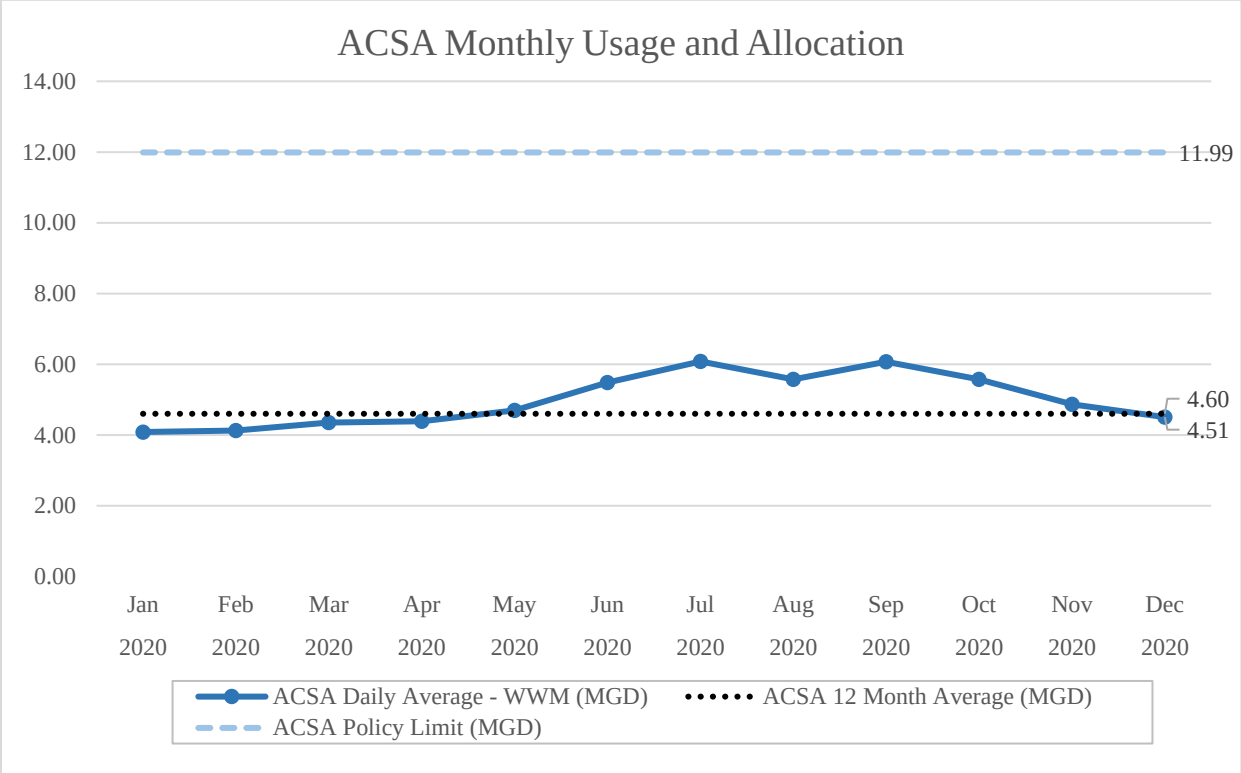



*Figure 2: Albemarle County Service Authority Monthly Water Usage and Allocation*



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:** **JENNIFER WHITAKER, DIRECTOR OF ENGINEERING AND MAINTENANCE**

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

**SUBJECT:** **AWARD OF CONSTRUCTION CONTRACT – MCAWRRF LIGHTING IMPROVEMENTS PROJECT – PYRAMID ELECTRICAL CONTRACTORS, LLC**

**DATE:** **JANUARY 26, 2021**

The Authority requested our engineering consultant, Hazen and Sawyer, to develop a preliminary engineering report (PER) and site plan amendment for the lighting modifications at Moores Creek that would consider site safety requirements and bring the facility into compliance with Albemarle County lighting requirements. Following submission of the site plan amendment, staff divided the over 300 fixtures into two groups; fixtures to be modified in-house by the Maintenance Department, and fixtures to be installed by an outside electrical contractor. Our engineering consultant prepared construction plans and specifications for the lighting improvements to be provided by an outside electrical contractor.

A Request for Bids was advertised on December 11, 2020. Six bids for the Lighting Improvements Project (RFB No. 379) were received on January 6, 2021, ranging from $349,000 to $667,389. Pyramid Electrical from Richmond, VA was the apparent low bidder. After reviewing the bid documents, our engineering consultant determined the apparent low bidder was responsive and responsible, and recommended award of the contract to Pyramid for a total contract amount of $349,000.

**Board Action Requested:**

Authorize the Executive Director to execute a construction contract to Pyramid Electrical Contractors, LLC for a total value of $349,000 for the MCAWRRF Lighting Improvement Project (RFB No. 379), and any change orders not to exceed 10% of the original contract amount.

RIVANNA SOLID WASTE AUTHORITY
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 AND SEWER AUTHORITY**
**RIVANNA SOLID WASTE AUTHORITY**
**BOARDS OF DIRECTORS**

**FROM:** **BILL MAWYER, EXECUTIVE DIRECTOR**

**SUBJECT:** **APPROVAL OF TERM CONTRACT FOR LEGAL SERVICES – WILLIAMS MULLEN**

**DATE:** **JANUARY 26, 2021**

The Authorities routinely require outside legal services to support our many operational, construction, human resource and financial programs. A Request for Proposals (RFP 20-11) was developed and advertised on November 30, 2020 to solicit proposals from interested and qualified firms. Five proposals were received on December 31, 2020.

The Legal Services selection committee reviewed the proposals and interviewed four firms on January 19, 2021. Based on the written proposals, interviews and hourly rates offered, the committee determined that Williams Mullen was the top-ranked firm to provide the services required. Typical services to be provided under this contract may include:

- Attend monthly Board of Director meetings
- Review and draft contracts, leases, and easements
- Advise on financial matters, including bonds
- Advise on labor and employment matters
- Review fiscal and other policies, as well as Board by-laws
- Advise on procurement matters, and prepare correspondence when conflicts on contracts, change orders, or claims arise
- Advise on responses to subpoenas, court orders, and FOIA requests
- Conduct litigation as necessary

This Term contract will be awarded for one year, with the option for up to four additional one-year renewals with a total contract length not to exceed five years. A Work Authorization will be negotiated for any requested services based on the firm's hourly rates and fees.

**Board Action Requested**:

Authorize the Executive Director to execute a term contract with Williams Mullen for legal services.

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:** **JENNIFER A. WHITAKER, DIRECTOR OF ENGINEERING AND MAINTENANCE**

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

**SUBJECT:** **CIP BUDGET AMENDMENT - MOORES CREEK WASTEWATER FACILITIES MASTER PLAN**

**DATE:** **JANUARY 26, 2021**

The majority of the Moores Creek Advanced Water Resource Recovery Facility was constructed in the early 1980's. At the time, the plant layout was developed with space held open for future process expansion. The Enhanced Nutrient Removal project in 2009 fundamentally altered the operation and layout of the plant to meet new regulations. Although the project anticipated the need for some future process needs, a full expansion plan was not developed.

Through the Strategic Plan completed in 2017, the Authority developed a goal to plan, deliver and maintain dependable infrastructure in a financially responsible manner. Staff identified that a Moores Creek Wastewater Facilities Plan would serve to evaluate and plan for future space and process needs to accommodate capacity expansion and/or anticipated regulatory changes. At the August 2019 Board of Directors meeting, the Board authorized the Executive Director to execute a Work Authorization with Hazen and Sawyer for the MC Wastewater Facilities Master Plan for a fee not to exceed $275,000 along with any necessary amendments not to exceed 10% of the initial authorization. Staff also requested the Board of Directors to amend the Capital Improvement Plant for Fiscal Years 2020 – 2024 to increase the total project budget from $250,000 to $275,000.

As Hazen is nearing the completion of the draft Master Plan, staff has identified the need for more detailed analyses to evaluate several future options that directly impact near term CIP projects for the Moores Creek Facility. Although the Board authorized Hazen's work authorization fee with 10% contingency, the total project budget was not increased to account for the increase at that time. In order to account for these additional detailed analyses, Staff is now requesting that the total project budget be increased by the contingency amount of $27,500.

**Board Action Requested**:

Staff requests the Board of Directors to amend the Capital Improvement Plan for Fiscal Years 2020 – 2024 to include an increase of $27,500 to the total project capital budget in Fiscal Year 2020. This amendment will increase the total project budget from $275,000 to $302,500.

# Strategic Plan Year Three Update

## for the Board of Directors

Presented By: Katie McIlwee, Communications Manager

January 26, 2021

RIVANNA AUTHORITIES

# Strategic Direction

## Values

The Rivanna Water & Sewer and Solid Waste Authority are committed to the following values:

Integrity
Teamwork
Respect
Quality

## Vision

To serve the community and be a recognized leader in environmental stewardship by providing exceptional water and solid waste services.

## Mission

Our professional team of knowledgeable and engaged personnel serve the Charlottesville, Albemarle, and UVA community by providing high quality water treatment, refuse, and recycling services in a financially responsible manner.

# Year 3 Implementation

Overall Completion: 25%


### Workforce Development
To attract, develop, and retain a professional, highly skilled, dedicated, and versatile team

### Operational Optimization
To efficiently, reliably, and safely provide high quality services, assuring the best value for our customers

### Communication & Collaboration
To foster a culture that encourages open communications and strengthens relationships

### Environmental Stewardship
To be a leader in our community's environmental protection and education

### Solid Waste Services
To provide reliable, convenient, and innovative solid waste and recycling services

### Infrastructure & Master Planning
To plan, deliver, and maintain dependable infrastructure in a financially responsible manner

# Workforce Development

Overall Completion: 25%

Goal Team Leader: Betsy Nemeth & Lonnie Wood

## Conduct Training Needs Assessment & Enhance the Training Program

- Completed PVCC leadership training for Class 1 & 2 Operators virtually in November 2020
- Expanding Leadership Coaching program with PVCC to include all new leaders in the organization
- Expanded DPOR Apprenticeship program to include more Maintenance Mechanics

Next Steps:

- All employees complete an Individual Development Plan based on their needs and year-end evaluation
- Work with PVCC on developing training relevant to different positions/department within the Authorities

# Operational Optimization

Overall Completion: 25%

Goal Team Leader: Dave Tungate

## Continually Evaluate, Prioritize, & Improve Key Business & Operational Process

- Implemented quarterly GAC vessel backwashing schedule
- Decrease polymer chemical usage 34% at MC centrifuges
- Lab certification for new sample testing equipment
- Dissolved Oxygen Control for Scottsville WWTP designed and out for bid
- Advertised and awarded contract for Legal Services

## Protect Workforce and the Public Through Continually Growing Rivanna's Culture of Safety

- Submitted Emergency Response Plan to EPA in September
- 6 web-based cameras added to Crozet (complete); 3 cameras added to Glenmore (1 to go); 3 cameras added to Scottsville WWTP
- Glenmore needs assessment continues in the study phase
- Installed card access system on entrance doors

Next Steps:

- Test new South Rivanna fiber communications cable
- Use new sensors in aeration process at Moores Creek, and investigate the use of additional sensors in the final effluent flume

- Add new web-based cameras to Glenmore and Scottsville WWTPs, and Crozet and Observatory WTPs
- Continually review and update Safety Manual

# Communication & Collaboration

Overall Completion: 25%

Goal Team Leader: Katie McIlwee

## Create & Maintain Internal Communication Platforms

- Continued implementation of document management system
- Began migration of legacy documents into new system
- Published bi-monthly newsletter

## Create & Implement a Comprehensive Public Outreach Plan

- Updated website content and added new photos
- Developed Social Media Policy
- Created a Rivanna Authorities Facebook page

## Enhance Internal & External Communication

- Completed 6th Annual Imagine a Day Without Water Student Art Contest
- Continued to live-stream monthly Board Meetings

Next Steps:

- Continue migration of legacy documents
- Creation of "how-to" guides and training videos for use of the Document Management System

- Plan and schedule project/facility videos
- Continue maintenance of website

- Stream Board Meetings once in-person meetings resume
- Begin planning Fix-a-Leak week activities with the City and ACSA

# Environmental Stewardship

Overall Completion: 25%

Goal Team Leader: Andrea Bowles

## Increase Internal Environmental Engagement

- Continue to look for ways to implement watershed education
- Covid has limited opportunities to get out in the community and participate in projects. When able, these will include: school visits and presentations, stream cleanups, tree plantings etc.

## Provide Regional Leadership in Environmental Stewardship Partnerships

- Imagine a Day Without Water (virtually)
- Planning team for Rivanna Flow Fest continued to meet regularly and plan for future events
- Continued Stormwater partnership and James River Riparian Consortium participation

## Evaluate Potential Opportunities for Additional Environmental Activities at RWSA Facilities

- Developed Buck Mountain Management Plan
- Evaluating potential for silviculture and solar at Buck Mountain properties
- Continued Invasive species management
- Created Sustainability Working Group

## Next Steps:

- Continue to look for opportunities, such as stream cleanups, tree plantings, etc. to engage employees

- Continue to look for opportunities for collaboration

- Evaluate potential for solar at RWSA facilities
- Implement a property management Buck Mtn.

# Solid Waste Services

Overall Completion: 25%

Goal Team Leader: Phil McKalips

## Determine Community Needs & Preferred Service Levels

- Completed first Timber Sale for Forested Buffer at Ivy MUC
- Expanded involvement in Oyster Shell program to include post processing
- Supported establishment of new Recycling Ambassador Program at McIntire
- Installed enhanced signage at Ivy and McIntire

## Enhance Partnerships with Local Governments and UVA

- Established glass collection agreement with UVA
- Outreach to neighboring Counties to coordinate glass collection resources
- Supported various UVA and student projects related to recycling

Next Steps:

- Expand Ambassador Program
- Roll out interactive recycling quiz via Facebook
- Complete processing of oyster shells for seeding and return to the bay

- Establish glass collection agreements and infrastructure with neighboring Counties
- Upgrade used cooking oil collection program across all sites for composting

# Infrastructure & Master Planning

Overall Completion: 25%

Goal Team Leader: Scott Schiller

## Implement an Authority-Wide Asset Management Program

- Completed all workshops and condition assessments related to Phase 2 of the AM program development process
- Procured a new CMMS with Cityworks and finalized an implementation scope of work with GHD
- Kicked of the CMMS implementation process

## Develop & Maintain Long-Term Master Plans for all Critical Assets

- Held multiple meetings and workshops associated with the MCAWRRF and Finished Water Master Plans with draft reports being developed for review
- Prepared presentation with NRWTP Decommissioning Analysis findings and met with ACSA to review results

Next Steps:

- Begin scheduling workshops associated with implementation of Cityworks
- Complete draft Tactical Asset Management Plan and review with staff

- Develop work authorization with consultant to perform the master plan/needs assessment for the Glenmore WRRF and Stone Robinson WRRF
- Finalize reports associated with the MCAWRRF and Finished Water Master Plans
- Schedule the annual master planning gap assessment

# Questions?