

Board of Directors Meeting

July 27, 2021 2:15pm



BOARD OF DIRECTORS

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

DATE: July 27, 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 June 22, 2021

4. RECOGNITION a. Resolution of Appreciation for Mr. Darryl Cooper

- 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. Staff Drought Monitoring Report
- f. Approval of Engineering Services Ragged Mountain Reservoir to Observatory Water Treatment Plant Raw Water Pump Station – Kimley-Horn
- g. Approval of Engineering Services Ragged Mountain Reservoir to Observatory Water Treatment Plant Raw Water Pipe – Kimley-Horn

- h. Construction Contract Award and Capital Improvement Plan Amendment– Glenmore WRRF Influent Pump and VFD Addition – MEB General Contractors
- *i.* Construction Contract Award and Capital Improvement Plan Amendment– Moores Creek AWRRF In-Plant Clarifiers and Lime Silo Demolition – Pleasant View Developers
- j. Capital Improvement Plan Amendment Emmet Street Water Pipe Project
- *k. Reimbursement Resolution CIP Funding*

9. OTHER BUSINESS

a. Presentation: Water & Wastewater Funding from the "American Rescue Plan Act"; Executive Director, Bill Mawyer

(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.

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 July 27, 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. Boyles: 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 Carrie Stanton, counsel to the Authority.



	RWSA BOARD OF DIRECTORS Minutes of Regular Meeting May 25, 2021
A he	regular meeting of the Rivanna Water and Sewer Authority (RWSA) Board of Directors was eld on Tuesday, June 22, 2021 at 2:15 p.m. via Zoom.
B G	Board Members Present: Mike Gaffney, Dr. Liz Palmer, Jeff Richardson, Lauren Hildebrand, Bary O'Connell, Chip Boyles
B	Soard Members Absent: Lloyd Snook.
R T	Rivanna Staff Present: Bill Mawyer, Katie McIlwee, Lonnie Wood, Jennifer Whitaker, David Jungate, John Hull, Andrea Bowles, Dr. Bill Morris, Steven Miller.
A	Attorney(s) Present: Carrie Stanton.
1. N to	<i>CALL TO ORDER</i> Ir. Gaffney called the June 22, 2021 regular meeting of the Rivanna Water and Sewer Authority order at 2:16 p.m.
2. N	<i>STATEMENT FROM THE CHAIR</i> Ir. Gaffney read the following statement aloud:
6 6r	This is Mike Gaffney, Chair of the Rivanna Water and Sewer Authority.
"]	I would like to call the June 22, 2021 meeting of the Board of Directors to order.
"] C O 20 P ¹	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 15 th , 2020, and revised effective October 1, 2020 and Chapter 1283 of the 2020 Acts of the Virginia Assembly effective April 24, 020, we are holding this meeting by real time electronic means with no board member physically resent at a single, central location.
"'''' se re st ne pi al su	All board members are participating electronically. This meeting is being held pursuant to the econd resolution of the City's Continuity of Government Ordinance and Section 6 of the County's evised Continuity of Government Ordinance. All board members would identify themselves and tate their physical location by electronic means during the roll call which we would hold next. I ote for the record that the public has real time audio-visual access to this meeting over Zoom as rovided in the lawfully posted meeting notice and real time audio access over telephone, which is lso contained in the notice. The public is always invited to send questions, comments, and uggestions to the Board through Bill Mawyer, the Authority's Executive Director, at any time."
N	Ir. Gaffney called the roll.

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48	Mr. Chip Boyles, City Manager, stated he was located at 605 E. Main St in Charlottesville, VA.
49 50 51	Ms. Lauren Hildebrand stated she was located at 305 4 th Street Northwest in Charlottesville, VA.
52 53	Mr. Gary O'Connell stated he was located at 168 Spotnap Road (ACSA Headquarters).
54 55 56	Dr. Liz Palmer stated she was located at her home address of 2958 Mechum Banks Drive in Charlottesville, VA.
57 58	Mr. Jeff Richardson stated he was located at the County Administration Building at 401 McIntire Road in Charlottesville, VA.
60 61	Mr. Mike Gaffney stated he was located at 3180 Dundee Road in Earlysville, VA.
62 63 64	Mr. Gaffney stated the following Authority staff members were joining the meeting electronically: Bill Mawyer, Lonnie Wood, Jennifer Whitaker, David Tungate, Steven Miller, Dr. Bill Morris, John Hull, and Katie McIlwee.
65 66	Mr. Gaffney stated they were also joined electronically by Carrie Stanton, Counsel to the Authority.
67 68 69 70	3. MINUTES OF PREVIOU.S. BOARD MEETINGS a. Minutes of Regular Board Meeting on May 25, 2021
71 72 73	Dr. Palmer moved that the board approve the minutes of the previous board meeting as amended. The motion was seconded by Mr. O'Connell and passed unanimously (6-0). Mr. Snook was absent.
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75 76	4. RECOGNITIONS There were no recognitions.
78 79 80 81	5. EXECUTIVE DIRECTOR'S REPORT Mr. Mawyer stated that RWSA is starting a classification and compensation study with consultant Evergreen Solutions. This was last done by Evergreen Solutions about four years ago. The study is currently underway, and the results should be available later in the fall.
82 83 84 85 86	Mr. Mawyer stated RWSA is having its first in-person, team-building event this week (June 21-25) in the Rivanna parking lot, for all staff who are able to attend. This would be the first in- person, team-building event since December 2019.
87 88 89	Mr. Mawyer stated that an intern, Zachary Mountjoy, is joining RWSA this year. He is a student at James Madison University studying engineering and would be helping the water quality specialist and assisting with reservoir water sampling and other duties.
90 91 92	Mr. Mawyer stated the theme in the infrastructure and master planning is pipelines. He stated RWSA is working on the central water line that would largely go through the center of the City

of Charlottesville. He stated RWSA has been working with Lauren, City staff, and ACSA staff
on the route. Mr. Mawyer stated there continues to be work on the Ragged Mountain to
Observatory Water Treatment Plant water line to replace the older line and build a new pump

- 95 Observatory Water Treatment Plant water line to replace the older line and build a new pump station as well as work being done on the assembles for that project. He stated that assembles
- station, as well as work being done on the easements for that project. He stated that easements
 are being worked on from the South Rivanna Reservoir to Ragged Mountain Reservoir. Mr.
- Mawyer stated that RWSA continues to work with the UVA Foundation and some private
- owners to complete the acquisition of those easements. And he stated that RWSA is working to
- restart the discussion on the Schenks Branch Sewer Line. Mr. Mawyer stated there is a
- 101 consultant updating all of the plans, schedule, and cost estimates, and RWSA would coordinate
- 102 with Lauren and the County to try to move that project forward in the near future.
- 103

104 Operationally, Mr. Mawyer stated RWSA would be providing a new report for the Board this 105 month in the Consent Agenda called the Drought Monitoring Report. He wanted to point out that

106 Central Virginia is still in the green, which means that it's normal for precipitation, ground water

107 levels, reservoir levels, and stream flow. He stated the state maps provided in the presentation

- 108 were dated from June 13 and June 21, 2021. Mr. Mawyer pointed out that there was a slight
- decline in the status for a few areas across Northern Virginia that turned from green (normal
- 110 conditions) to yellow (watch conditions). He stated there is one block that is red in Southwest
- 111 Virginia for ground water flow.
- 112
- 113 Mr. Mawyer stated that our water supply is in good shape and the rain that day would help. As 114 commentary, Mr. Mawyer stated if anyone is following, the Southwest portion of the United
- 115 States is in much worse shape than Virginia in regard to a drought. Presented were images 116 showing Lake Mead at 37% of its capacity, which supplies water to seven states in the
- showing Lake Mead at 37% of its capacity, which supplies water to seven states in the
 Southwest. Additionally, Mr. Mawyer presented images of the Hoover Dam, showing how low
- the water levels are, and stated that there is a lot of discussion in that area of the country about
- drought management and allocation of that water. He stated that Virginia is quite lucky to not be
- in that situation and hopes not to be. He stated that RWSA would continue to monitor drought
- 121 conditions and report back each month to the Board.
- 122

Mr. Mawyer stated that five of RWSA's water treatment plants improved their performance in the Virginia Optimization Program, which is sponsored by the Virginia Department of Health.

- 125 He stated that from the provided report, those five plants all moved from either a bronze to gold
- status, or from a bronze to silver status in awards from the VDH. These goals are not regulations
- but are recommendations from the VDH to improve the quality of the drinking water in Virginia.
- 128 Mr. Mawyer stated most of RWSA's water treatment plants improved from 2019 to 2020.
- 129
- 130 Mr. Gaffney asked if there were any questions.
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- 132 Mr. O'Connell congratulated and thanked Mr. Mawyer on the water plant recognitions.
- 133
- 134 6. ITEMS FROM THE PUBLIC
- 135 Mr. Gaffney opened the meeting to the public.
- 136137 There are no public comments.
- 138

139	Mr. G	affney closed Items from the Public.
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141	7. K	ESPONSES TO PUBLIC COMMENT
142	Mr. G	armey opened items from the Public. He asked Mr. Hull if there was anyone from the
143	public	e who wished to speak
144	Mr. H	full replied that there was not.
145		
146	Mr. G	affney closed Responses to Public Comment.
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148	8. C	ONSENT AGENDA
149	а	. Staff Report on Finance
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151 152	b	. Staff Report on Operations
152	C	Staff Report on Ongoing Projects
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155	đ	Staff Report on Wholesale Metering
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157	е	. Staff Drought Monitoring Report
150	f	Personnel Manual Undate - Elimination of Compensatory Time
159	J·	Tersonner Manual Opaale - Elimination of Compensatory Time
160	g	. Capital Improvement Plan Amendment – Scottsville WTP Lagoon Liner Replacement
161	0	
162	h	. Contract Authorization – Security Enhancements; Security 101
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164	i.	Capital Improvement Plan Amendment and Contract Authorization; Central Water Line
165		Project; MBI Engineering
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167	Dr. P	almer moved that the board approve the Consent Agenda. The motion was seconded
168	by M	r. O'Connell and passed unanimously (5-0). Mr. Snook and Mr. Boyles were absent.
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170	9.	OTHER BU.S.INESS
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172	a. Pi	resentation: Cybersecurity Update; Information Systems Administrator, Steven Miller
173	Mr. S	teven Miller, IS Administrator for RWSA/RSWA, opened his presentation on cybersecurity
174	called	"Rivanna's Layers of Protection." He stated that cyberattack is the number one threat to
175	the wa	ater infrastructure. Mr. Miller explained that cybersecurity is the practice of defending
176	comp	uters, servers, mobile devices, electronic systems, networks, and data from malicious
177	attack	S.
178		
179	Mr. M	Inter pointed to some of the more high-profile cyberattacks lately, such as the Colonial

- 180 Pipeline ransomware attack, which affected a huge population. He continued with the Oldsmar
- 181 Florida Water Treatment Plan cyberintrusion, as well as the JBS SA meat processing
- 182 ransomware attack, and also pointed out another incident in California of cyberintrusion. He
- explained that the two ransomware attacks happened when someone entered the system and
- 184 encrypted the local networks, which means those organizations had no access to their own
- networks. Mr. Miller confirmed that the pipeline itself was not affected, but the administrative
 systems were.
- 187

He stated the two water system treatment plant attacks (Oldsmar, FL and California) were almost identical because someone in the organizations left a remote access program open, an operator's password was acquired, and the hackers were able to break in. Mr. Miller stated that in the case of the Oldsmar attack, the operators quickly noticed what was happening and shut down any bad effects. In California, however, Mr. Miller stated it was several hours before anyone noticed what was going on, and the hackers spent several hours deleting things.

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- 195 Mr. Miller stated common attacks of cybersecurity include viruses, malware, phishing emails
- 196 (clicking on an email from unknown sources is often how this is delivered), social engineering
- 197 (obtaining passwords from users), theft (stealing of username and passwords, which is what
- 198 happened in the two water treatment plan attacks), and intercepting communications (a fairly rare
- 199 form, usually done through emails when a username/password are sent in an email).
- 200

Mr. Miller stated Certified Information Systems Auditors (CISA) and the FBI urge several ways of mitigating the consequences from and vulnerability to these attacks. He stated this list can be found in the presentation and confirmed that RWSA/RSWA are doing everything on the list and more.

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Mr. Miller stated they named their system the "Rivanna's Layers" because RWSA/RSWA uses a layered defense-in-depth strategy. He stated they don't rely on just one system or one type of defense but use many different types of software and other things to defend against attacks. He stated that they have them at different parts, or layers, of where you need them. He stated this is the most recommended approach and also allows RWSA/RSWA to be nimble and add pieces without having to disrupt operations.

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Mr. Miller stated the first layer of protection is physical. This is done by ways such as locking the water plants, and the policy that people are not allowed to just walk up to computers and use them. He stated contractors are kept away from the systems, and facilities are monitored to make sure no unauthorized people can physically walk up to any computer and use it.

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Mr. Miller continued by saying the next layer of protection comes by using next-generation firewalls and camouflage products. He explained that a next-generation firewall is a firewall that does more than just be a wall. He stated it allows a user to tune it for various intrusions. He stated that the first firewalls in the routers, and those are called outer firewalls, which are smart firewalls that adapt. He stated that RWSA/RSWA is in the process of installing new software and systems that would camouflage our systems and hide them from the outside world—becoming extremely hard to find—and then once found, they make it difficult for the hacker to see what

was actually hacked into. He stated that firewalls allow for geofencing, which allows all traffic

from a specific area to be blocked. He gave the example that there is no reason to have any 226 traffic going to, or from, China to a water plant. Mr. Miller explained that this system allows for 227 blocking anything going to or from China. He stated that specific access can be made if needed 228 but allow for limiting huge amounts of traffic that do not have any need for access. Mr. Miller 229 stated they are also adding specific firewalls to the PLCs (the industrial computers that run 230 everything) over the coming year, so that each machine would have its own individual firewall. 231 232 Mr. Miller stated RWSA/RSWA run antivirus/malware software in both the routers looking at 233 everything coming and going, and there is an antivirus software installed on devices (cell phones, 234 workstations, laptops). He stated both are from different companies, using different logic, so that 235 if one doesn't find an issue, the other will. 236 237 Mr. Miller stated that all communication between sites is done by encrypted tunnels created by 238 each router, so users would need a key at each end for each router. He stated even if that were 239 intercepted, there would not be any information that would be able to be used. 240 241 Mr. Miller stated that another layer includes access restrictions, which includes all users being 242 required to use a username and password to get onto the system. If a user is entering the system 243 remotely, which is not allowed at random, all remote authentication requires two factors 244 including a username and password, as well as a token. He stated that adds an additional layer of 245 protection, so that if a username and password has been stolen, the hacker still cannot enter the 246 system without a token, which Mr. Miller stated is specifically recommended by the FBI. 247 248 Mr. Miller stated the most vulnerable part of any system is the actual users. He stated they offer 249 training and simulations, and all users are adept at not falling for the phishing emails and 250 clicking on things that should not be clicked on. 251 252 Mr. Miller stated one of the last layers is the disaster recovery. He stated backups are done in 253 numerous ways and are stored offsite and off network, so even if an attack were to happen that 254 was to encrypt the entire network, there are backups for all critical systems, stored where the 255 attack would not be able to reach them. 256 257 258 Mr. Miller stated RWSA/RSWA completes various types of threat monitoring, and they have an appliance in-house that gathers information directly from the routers, which tells them where 259 traffic is coming from and going to, and also is looking for patterns and would give warning if 260 anything is identified as bad or suspect. He stated they are also given alerts from a large number 261 of organizations and federal agencies, with the most recent being from a cyber-detect and 262 respond portal, which takes all warnings received and filters what is appropriate based on criteria 263 set by RWSA/RSWA. 264 265 Mr. Miller concluded by saying that RWSA/RSWA specifically mitigate strategies for the types 266 of attacks seen in the news, but also do much more beyond that. 267 268 Mr. Mawyer asked Mr. Miller to explain how someone outside of the organization could take 269 270 over a treatment plant, like what happened in Oldsmar. 271

- 272 Mr. Miller responded by saying that type of access is not allowed by RWSA/RSWA. He
- continued by saying the type of access used in Oldsmar is specifically not allowed at any of the control facilities, and any remote access requires the two-factor authentication.
- Mr. Mawyer stated that the RWSA/RSWA controls system is disconnected such that from the
 outside, one cannot take control of it.
- Mr. Miller confirmed this and stated that no outside control is allowed, and that type of software is completely blocked.
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- 282 Mr. O'Connell thanked Mr. Miller for his presentation.
- 284 Dr. Palmer thanked Mr. Miller for his presentation.
- Mr. Miller stated the organization has always been a little paranoid and based on what is happening in the world right now, this is good posture, and they would continue to add protections as they can.
- 288 protec 289
- b. Presentation: Virginia Water Protection Permits Update; Director of Engineering and
 Maintenance, Jennifer Whitaker
- Ms. Jennifer Whitaker, Director of Engineering and Maintenance for the Authority, would be providing a quick update on the water withdrawal permits currently being worked on. She stated that she would present a quick regulatory overview, then would speak specifically about the urban system as well as the Crozet system.
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Ms. Whitaker stated that as a program overview, the withdrawal of service water in Virginia is regulated under the Surface Water Control Law and State Water Control Board, which is all set up under the authority of the Federal Clean Water Act. She stated that historically, water withdrawal in Charlottesville and in Virginia was governed by the Virginia Department of Health through the Waterworks Operations Permits. She stated that North Rivanna, Crozet, and Scottsville WTPs are still governed by this kind of permit, and there are several requirements to qualify for an exclusion from withdrawal permitting. Ms. Whitaker stated that those requirements are that the facility had to exist before 1989, can't have been abandoned at any

- requirements are that the facility had to exist before 1989, can't have been abandoned at any point since then and does not require expansion. She stated this would come into the discussion
- about Crozet WTP in the presentation.
- 307
- Ms. Whitaker stated surface water withdrawal permits are governed by a section of the Virginia Administrative Code and are generally administered by the Department of Environmental
- Quality (DEQ). She stated that an application is needed for each individual system to get a
- permit and is done through the joint permit application process. She stated that those who were
- around in the early 2000s may remember going through that process with RWSA.
- 313
- Ms. Whitaker stated that the joint permit process is handled through the Virginia Marine
- Resources Commission at the state level. She stated they act as a clearing house and distribute to
- state agencies as well as to the U.S. Army Corp of Engineers. She stated that the Corp acts as a

clearing house for federal agencies as well as federally recognized Tribes. Ms. Whitaker

- continued saying there are two key permits: the Virginia Water Protection (VWP) permit, which
- is DEQ, typically issued for 15 years; and the U.S. Army Corp of Engineers permit, typically
- issued for a 10-year term. She noted that the permits, at the end of their term, require either an extension or a reissuance.
- 322

Ms. Whitaker referenced her presentation slide and numerous logos for other agencies, noting 323 that was the minimum number of state boards and agencies involved. She stated that after 324 developing her presentation, she realized she had failed to include organizations like the EPA 325 and City and County government, and the number of stakeholders typically far exceeds the 326 number of logos at the bottom of the page. She commented that this just gives an idea of the 327 breadth and depth of these permits. She pointed out a recent addition of the logo for the Monacan 328 Indian Nation, which has expressed an interest in the RWSA permits in both the urban system 329 and Crozet going forward, and she thought there were at least seven other Tribes that have the 330 right to review some of the permitting documents that may become involved.

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Ms. Whitaker stated that as a quick reminder on the permit history, in 2001 and 2002, there was 333 a drought of record; and from 2002-2012, the RWSA went through an extensive community 334 water supply planning process. She stated that from that process came two sets of permits-the 335 VWP permit with DEQ and the U.S. Army Corp of Engineers permit. She stated that all of the 336 major and minor modifications are listed on the slide presentation. Ms. Whitaker stated that the 337 major modifications to the permit were from when the switch was made from a concrete dam to 338 an earthen dam at Ragged Mountain, so that was the major permit modification. She stated that 339 the minor modifications were for a variety of administrative issues. 340

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Ms. Whitaker stated both permits were issued in 2008. She stated the DEQ permit expires at 15 years in 2023, whereas the Corp permit expired in 2018, and RWSA was granted a five-year extension that would expire in 2023. She stated again that both permits expire in 2023.

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Ms. Whitaker stated that the urban water system permit expires in 2023 and is part of the joint 346 permit process. She stated the Authority is required to submit a new application at least 180 days 347 prior to the expiration. She stated that currently, she's hearing from both the state level and some 348 349 member organizations that the state is taking anywhere from 12-24 months to process water supply permits. Ms. Whitaker stated that luckily, the RWSA submitted their permits for the 350 urban system in May of 2021 and is working through the process. She stated that current plan 351 elements that have been completed include the replacement of the Ragged Mountain Dam, 352 regulated minimum instream flows at all pertinent urban reservoirs, currently upgrading the 353 Observatory Water Treatment Plant, upgrading the South Rivanna Water Treatment Plant, and 354 designing the raw water pipelines. 355

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Ms. Whitaker stated that what still remains to be completed with the plan elements of the urban water system includes finishing the South Rivanna to Ragged Mountain pipeline, constructing the Ragged Mountain to Observatory pipeline, constructing pump stations at either end of those

- water lines, raising the Ragged Mountain Reservoir, and then ultimately decommissioning the
- 361 North Rivanna Water Treatment Plant.
- 362

Ms. Whitaker stated that the Crozet water system is a separate system from the urban water system, and it serves the community of Crozet entirely. She stated the existing system largely was built in the 1960s and included a water treatment plant, a dam, reservoir, pump station, and eventually also included the Buck's Elbow storage tank and some distribution piping. She stated that Crozet is designated as a growth area for Albemarle County and as such, the population and water demand are rising—and fairly quickly at this point.

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Ms. Whitaker stated that in 2018 and 2019, RWSA completed the Crozet Drinking Water

Infrastructure Plan. She stated this was in response to what they were seeing in both population and demand going up year over year, month over month. She stated the projections of the plan were updated in 2019 and again in 2020 and are showing higher demand based on just those

- changes in 2019 and 2020.
- 375

376 Ms. Whitaker stated that as part of the Crozet water system master plan, RWSA has completed an expansion of the water treatment plant, and a future expansion is also planned to replace the 377 finished water pump station coming out of the plant, which was completed several years ago. 378 She stated the plan also includes looking at some future distribution system improvements, and 379 RWSA has evaluated the available water supply. Ms. Whitaker stated what was found in that 380 evaluation was that there was enough water in the 2018/2019 timeframe to supply Crozet for a 381 50-year population projection, but the infrastructure needed to transport and treat that water was 382 not completely in place. She stated that they are looking at upgrading Beaver Creek Dam as well 383 for safety regulations, and that is being done concurrently with some of the other water treatment 384 and distribution system work. 385

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Ms. Whitaker stated that today, the Crozet Water Treatment Plant is exempt from VWP 387 permitting. She stated there are no requirements to obtain a VWP permit, and there are no 388 requirements for minimum instream flows (MIF). She stated that there are protocols used to set 389 all of those things, but they are not required. Ms. Whitaker reminded the group that if you 390 expand a water system, you lose the exemption or exclusion, and then it would roll into the 391 VDEO withdrawal system. She stated that is the case now, and RWSA is applying to expand the 392 withdrawal rate and do the dam upgrade, and as such it is necessary to apply for the VWP permit 393 as well as the Corp permit. She stated with that would come a new MIF requirement. 394 395

Ms. Whitaker stated the next step is to finalize selection of the raw water pump station site, and they are hoping to have that done this coming fall. She stated the current joint permit application is about 75% complete, with plans to submit that application in late 2021. She stated with the 12-24-month timeframe, the goal is to have the permit finalized in 2023 and begin construction of the dam pump station and the MIF Infrastructure from 2023-2027.

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Dr. Palmer asked Ms. Whitaker to explain the process to establish the minimum instream flows
below Beaver Creek Reservoir.

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Ms. Whitaker stated that a lot of the work to establish a proposal to DEQ has been completed.

She stated that RWSA spent close to a year looking at demand projections for the region, and

- 407 over time looked at the bathymetry for Beaver Creek Reservoir, inflow profiles, hydraulics, and
- 408 hydrology in the region, the Mechums River stream gauge, and how that combines with Beaver

Creek and the tributaries that come out of Lake Albemarle and join Mechums River. She stated 409 they then looked at what kind of withdrawals would be needed and what flows would be 410 remaining, and they did some extensive modeling when comparing to an "unregulated/no dam 411 present" option; similar to the urban system, RWSA looked at percentages and of "natural stream 412 flow." 413 414 Ms. Whitaker stated that they reviewed multiple options for balance between the natural system 415 and human population needs, and then looked at during the drought of record—how often and 416 how deeply RWSA would need to cut back to make it through the drought of record. Ms. 417 Whitaker stated all of that information has been compiled and provided to DEQ as part of the 418 permit support document. She stated there have been some early conversations about how VDEQ 419 wants to see that presented, what they would like to see, and for what timeframe they're willing 420 to give RWSA a permit. She stated that there would likely be many negotiations beyond that. 421 422 Dr. Palmer asked if the support document is on the website and accessible to the public. 423 424 Ms. Whitaker stated it is not complete yet, but when it is submitted to DEQ, it would be made 425 available. 426 427 Dr. Palmer thanked Ms. Whitaker and stated that there is a section on the website to follow this 428 429 project. 430 Ms. Whitaker confirmed that there is a section on the website for Beaver Creek Dam and Pump 431 Station Project. She stated there are documents on that website, and the permitting documents 432 would be added as well. 433 434 Presentation: Emerging Regulations in Water & Wastewater, Lab Manager, Dr. Bill 435 с. Morris 436 Dr. Morris stated he wanted to speak to the Board about potential contaminant issues that need to 437 be watched and treated. Referring to his slide presentation, he stated that the Cuyahoga River 438 near Cleveland, Ohio, reportedly caught fire 13 times from 1868 - 1969, caused from excessive 439 440 amounts of pollution. 441 Dr. Morris stated that in the early 1970s, as part of growing public concern over the environment 442 and public health, the Environmental Protection Agency (EPA) was established by President 443 Richard Nixon. He stated that the Clean Water Act and the Safe Drinking Water Act followed 444 shortly thereafter. 445 446 Dr. Morris stated the Clean Water Act established the basic structure for regulating pollutant 447 discharges into waters of the U.S., and it gave the EPA the authority to implement pollution 448 control programs, such as setting wastewater standards for industry and treatment plants. He 449 stated it also funded the construction of sewage treatment plants under a construction grants 450 program. 451 452 Dr. Morris stated the Safe Drinking Water Act of 1974 authorized EPA to set national standards 453

- for drinking water to protect against health effects from exposure to both naturally occurring and manmade contaminants. He stated the standards apply to all public water systems that have at
- least 15 water service connections or serve at least 25 people at least 60 days a year. He stated
- there are over 150,000 water systems in the U.S. that serve over 300 million people.
- 458

Dr. Morris offered the question of how the EPA sets the standards and how they pick which contaminants to regulate. He stated the EPA runs a program called the Unregulated Contaminant Monitoring Rule (UCMR). He stated that the EPA collects data from contaminants that are suspected to be present in drinking water but do not yet have health-based standards, according to the Safe Drinking Water Act. Dr. Morris stated this is done in conjunction with drinking water systems, so all large systems serving greater than 10,000 people are required to complete these tests at their own expense. He stated they also choose a random sampling of smaller water systems to sample, with results then stored in a national database.

466 467

468 Dr. Morris stated the most recent iteration of this was UCMR 4, which took place between 2018 469 and 2020 and RWSA had participated. He stated they tested for three brominated halo acetic acid

(HAA) groups, or byproducts of disinfection in the distribution system; 10 cyanotoxins; two

471 metals (germanium and manganese); eight pesticides and one pesticide manufacturing

byproduct; three alcohols; and three semi-volatile organic compounds. He clarified that RWSA

did not do all of this testing themselves. He stated that the EPA would certify certain laboratories

to test for these types of contaminants, as they are not common contaminants for RWSA to be

- 475 certified for since they are not regulated.
- 476

477 He stated that every time the EPA goes through this cycle, labs would obtain certification.

RWSA sent their tests to Babcock Labs in California, which had the certifications to complete

the testing. Dr. Morris stated of all the tests, RWSA received non-detects except for the HAAs,

480 which was expected as it is a disinfection byproduct. He stated that the levels were relatively 481 low—less than 40 parts per billion—and some manganese was detected in the raw water in the

481 I low—less than 40 parts per binnon—and some manganese was detected in the raw w 482 Observatory and South Rivanna reservoirs, but these were also very low levels.

483

Dr. Morris stated usually after the UCMR 4, EPA would come up with the Contaminant

Candidate List (CCL), a list of all the contaminants under consideration for regulation, based on

the data collected. He stated the list currently being utilized is CCL 4. Dr. Morris stated that as of

February 22, 2021, EPA reissued final regulatory determinations for CCL 4 contaminants, and

488 currently final determinations are being made to regulate two contaminants on that list.

489

Dr. Morris shared the entire list from 2016, which has been whittled down to just two

compounds on which the EPA is currently making determinations. He stated there is no limit set

for them yet, but they are expected to be coming and are two per- and polyfluoroalkyl substances

- 493 (PFAS) chemicals.
- 494

Dr. Morris stated that once the EPA chooses which contaminants they are going to regulate, they

496 set the maximum contaminant level, which is a legally enforceable standard that applies to public 497 drinking water systems. He stated there are 87 chemical contaminants thus far that have limits

497 drinking water systems. He stated there are 87 chemical contaminants thus

the EPA says can adversely affect public health when exceeded.

499

- 500 Dr. Morris stated chief among the potential contaminants of concern are the PFAS, since those
- are the two that have been selected from the CCL. He stated still of concern could be
- 502 cyanotoxins that are produced by harmful algal blooms, and microplastics could also be seen
- 503 further in the future and are certainly a topic of public concern.
- 504

Dr. Morris pointed out an illustration of the PFAS chemical compound on his slide. He explained 505 that it is a basic hydrocarbon structure except that all of the hydrogens have been replaced with 506 fluorine, and the fluorine-carbon bond is extremely strong-sometimes referred to the strongest 507 bond in organic chemistry. He noted that this makes the compounds extremely resilient and gives 508 them properties that are considered desirable for manufacturing and consumer goods, such as 509 water repellency, stain resistance, grease-proofing (used inside popcorn bags and hotdog liners), 510 and friction reduction/non-stick use on pans and other cookware. He stated this is also a primary 511 component found in firefighting foam. Dr. Morris stated that in high concentrations, they can 512 cause adverse health effects in humans and also have long half-lives in humans of three to five 513 514 years.

515

516 Dr. Morris stated that RWSA has been monitoring for PFAS since 2014 as part of UCMR 3, but

in 2018 decided to continue monitoring on a regular basis. He stated that instead of just

518 monitoring the finished water, they also monitor the raw water to see if there is anything

519 incoming. He stated the only detections were at North Rivanna and Scottsville WTPs in August 520 2020, and there have been no detections since. He stated this is not something that has not been detected in our new water, as it is fortunate that DWSA is not something that have showing the stated in some sources of the stated that the second state the second state that the second state the second state the second state that the second state the second state the second state that the second state state the second state sta

detected in our raw water, so it is fortunate that RWSA is not exposed to these chemicals much in its water supply but would continue to test as the technology improves and could potentially

523 catch compounds that currently might be missed.

524

Dr. Morris stated that while the PFAS compounds are ubiquitous, they're present in any number 525 of consumer goods and industrial processes, and it's a fair assumption that every wastewater 526 treatment plant in the U.S.—and even the world—is going to have PFAS in both its influent and 527 effluent. He stated there are no regulations on this yet, and the limit shown on the graph in the 528 presentation is the EPA health advisory level for drinking water. Dr. Morris felt that if 529 regulations come for wastewater, it would be a good deal higher than the 70 parts per billion 530 recommended for drinking water. Dr. Morris confirmed that there is PFAS in the wastewater 531 532 stream and pointed out that the effluent leaving the plant is higher than what is coming into the plant, which could be for several reasons. He explained that RWSA does have addition of waste 533 from haulers and leachate from Ivy that makes its way to Moores Creek, but this is also true at 534 Glenmore, Scottsville, and Stone Robinson wastewater treatment plants which do not receive 535 septage or leachate. 536

537

538 Dr. Morris stated he has done some research and it seems that there are large PFAS compounds that are complex that aren't tested for yet. He stated that during the treatment process, those 539 would get broken down into smaller compounds that are currently being tested for and that 540 would cause the discrepancy seen. Dr. Morris stated this testing method is still relatively new 541 and new compounds are being added all the time, and currently most labs are capable of testing 542 for 36 different compounds; in the next month or so, most contracted labs would be capable of 543 544 testing for 76 different compounds. He stated that RWSA does keep up with that and always completes the most comprehensive testing they possibly can. 545

546

- 547 Dr. Morris stated cyanotoxins are produced by cyanobacteria, or more commonly called blue-548 green algae, and are often found in freshwater. He stated that like green algae, they can bloom 549 and cause dense mats that cause odor problems and oxygen depletion, which is harmful to 550 humans and aquatic life. He stated that unlike green algae, however, cyanobacteria can produce 551 harmful toxins that can be released into the raw water.
- 552

553 Dr. Morris stated that effects from exposure to cyanotoxins can range from a mild skin rash to 554 serious illnesses, and consuming drinking water containing certain levels of cyanotoxins could 555 cause liver and kidney damage. He noted that short-term acute exposure during recreational 556 activities can lead to hay fever-like symptoms, skin rashes, respiratory ailments, and

- 557 gastrointestinal distress.
- 558

559 Dr. Morris stated that RWSA does test for cyanotoxins and regularly monitors for algae and

- blue-green algae in all the source waters, and if the threshold of over 50,000 cells per milliliter
- 561 (cells/mL) of blue-green algae, they would not only treat, but would also collect samples to test
- for cyanobacteria. He stated the last time this happened, testing in the South Rivanna Reservoir
- in August of 2019 showed no cyanotoxins present. He stated that additionally, as part of UCMR
 4 in 2020, all reservoirs were tested for cyanotoxins and none were detected.
- 564 565

566 Dr. Morris stated that microplastics are used in many industries and can enter water sources 567 through runoff from land, and can also be introduced through mechanical oxidative or biological 568 degradation of larger plastic materials. He stated this seems to be a bigger problem for bottled 569 water than it is for drinking water. Dr. Morris stated a 2018 study at Penn State revealed an 570 average of 325 particles/liter in most brands of bottled water. He stated some brands contained as 571 much as 10,000 particles/liter.

572

Dr. Morris stated that testing methods for microplastics are still being developed, which is why regulation is still likely a ways off. He stated there's been no standard method developed yet, and there's also no conclusive toxicity data related to ingesting microplastics. He stated workers that have been exposed to airborne microplastics have been found to have lung damage and other such complications. Dr. Morris stated it's a very labor-intensive process to test for microplastics, as samples need to be filtered, stained with fluorescent dye, then all particles manually counted

- with microscopy. He stated once the amount of particles is quantified, they need to be identified using something like infrared spectroscopy and then compared to a library of known plastics. He
- using something like infrared spectroscopy and then compared to a library of known p stated this is a very labor-intensive process, and there is no standard method yet.
- 582

583 Dr. Morris stated that availability of studies on removal from drinking water sources is limited 584 but is unlikely that microplastics between 300 and 500 micrometers would pass through a water 585 treatment plant utilizing conventional filtration. He stated that beyond that, GAC filtration can 586 remove particles that are 1-5 micrometers in size. As a reference, Dr. Morris stated that a human 587 hair is usually about 50 micrometers in diameter.

- 588
- 589 Dr. Morris stated the Cuyahoga River in 2021 is much healthier and supporting recreational
- activities, proving that regulations do work, and they produce desired outcomes for both the environment and public health.

592 Dr. Palmer asked Dr. Morris to go back to the UCMR 4 slide and asked if RWSA chose this list, 593 or was it given to them, or did everyone do the same thing for testing. She asked where this list 594 came from. 595 596 Dr. Morris replied that the identified list is what they are required to test for. He stated the EPA 597 dictates what the samples must be tested for. He stated RWSA worked with a contract lab, which 598 has the schedule for testing, and then send out the testing kits based on that schedule; then 599 collection is made and submitted for testing. 600 601 Dr. Palmer then asked if different geographic areas are required to test for different things or are 602 these tests across the board for the whole country. 603 604 605 Dr. Morris replied that the only difference that might occur would be if a location utilized groundwater or surface water. He stated RWSA's water is surface water (except for Red Hill). 606 He stated that he thinks large groundwater facilities may have to do different testing, but he is 607 not 100% sure. 608 609 Dr. Palmer then asked about the acids and asked for clarification about why those were expected 610 to be there. 611 612 Dr. Morris stated that there were three different kinds of HAAs normally tested for, but RWSA 613 tests for HAAs quarterly because they are disinfection byproducts, and there are already limits 614 set on HAAs. He stated these were three additional HAAs that they are considering adding to the 615 regulated list, but based on the determinations he's seeing now, it doesn't seem like these are 616 coming soon. 617 618 Dr. Palmer asked where Dr. Morris thinks the disinfection products are coming from. 619 620 Dr. Morris stated they come from chlorine residual in the distribution system reacting with 621 organic matter. He stated the best way for RWSA to manage that is with the GAC. He stated if 622 looking back at the disinfection by-product data, it is easy to tell when the GAC was installed 623 because the disinfection by-product levels went way, way down because the GAC was removing 624 that available organic carbon. 625 626 627 Dr. Palmer then asked for clarification about the size of the particles of microplastic being so small that they are not to be worried about. 628 629 630 Dr. Morris stated that conventional treatment, in addition to GAC, can remove quite a bit of microplastics. He stated that the smaller they are, the harder they are to remove, so the bigger 631 ones are easier to deal with. Dr. Morris stated conventional filtration can remove microplastics 632 between 300 and 500 micrometers, but with the addition of GAC filtration, there is the capability 633 to remove things as small as one micrometer. He confirmed that our current water treatment 634 process already does a good job of getting rid of small plastics. 635 636 Dr. Palmer asked about the size range of the particles that come from a bottled-water bottle. 637

- 638
- 639 Dr. Palmer stated that in the presentation, Dr. Morris stated that there was more microplastic in 640 bottled water than in the treated water because of the bottle.
- 641
- Dr. Morris stated he looked into the quantity and not really the size, but he felt that the numberwould vary a lot. He added that he wasn't entirely sure though.
- 645 Mr. O'Connell stated it just concludes that the GAC is state of the art and ahead of most utilities 646 in the country.
- 647

650

644

- Mr. Mawyer stated that there are loads of benefits from the GAC filtration system, even morethan what Rivanna had planned.
- Mr. Gaffney stated that if these and other contaminants get added, RWSA is already filtering enough to not have to make changes to the current process.
- 653

656

- ⁶⁵⁴ Dr. Morris agreed and stated the biggest change he's anticipating is having to run more water ⁶⁵⁵ through the GAC system.
- 657 10. OTHER ITEMS FROM BOARD/STAFF NOT ON AGENDA
- ⁶⁵⁸ Dr. Palmer asked if Mr. Mawyer could have these three presentations put on the website if they
- are not already. She stated she would like to be able to send links to those presentations to a few
- 660 people individually.
- 661 Mr. Mawyer agreed to make sure this was done.
- 662
- 663 11. CLOSED MEETING
- 664 There was no closed meeting.
- 665666 *12. ADJOURNMENT*
- 667 At 3:19 p.m., Mr. O'Connell moved to adjourn the meeting of the Rivanna Water and
- 668 Sewer Authority. The motion was seconded by Dr. Palmer and passed unanimously (5-0).
- 669 Mr. Snook and Mr. Boyles were absent.



RIVANNA WATER AND SEWER AUTHORITY BOARD OF DIRECTORS

Resolution of Appreciation for Darryl Cooper

WHEREAS, Mr. Cooper has served the Rivanna Water and Sewer Authority as a Water Operator in our treatment plants for over 36 years; and

WHEREAS, Mr. Cooper has been a loyal and valuable resource to the Authority during this period; and

WHEREAS, the Rivanna Water and Sewer Authority Board of Directors is most grateful for the professional and personal contributions Mr. Cooper has provided to the Authority, its customers and fellow employees; and

NOW, THEREFORE, BE IT RESOLVED that the Rivanna Water and Sewer Authority Board of Directors recognizes, thanks and commends Mr. Cooper 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 Chip Boyles Lauren Hildebrand Gary O'Connell Liz Palmer Jeff Richardson Lloyd Snook



MEMORANDUM

TO: RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS

FROM: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: EXECUTIVE DIRECTOR'S REPORT

DATE: JULY 27, 2021

STRATEGIC PLAN GOAL: WORKFORCE DEVELOPMENT

Recognitions

The professional qualifications of our staff continue to improve and enhance our services. The following employee has successfully completed the requirements for a license from the State:

• David Bortner – Class 2 Water Operator License

Water and Wastewater Professionals Appreciation Day

The Virginia General Assembly made June 30th the annual "Drinking Water and Wastewater Professionals Appreciation Day". We would like to say "thank you" to our dedicated staff, who provide high quality water and wastewater treatment every day.

STRATEGIC PLAN GOAL: INFRASTRUCTURE AND MASTER PLANNING

VDEQ Draft State Water Resources Plan

VDEQ has released its draft "2020 State Water Resources Plan". RWSA was mentioned in a complimentary manner in the plan as a utility which through an interconnected network of reservoirs demonstrated that increasing demands can be met through adequate storage while limiting impacts to streamflow. We were pleased to see that our strategic efforts were recognized at the state level. It also reinforces the importance of the SRR – RMR water piping project to provide interconnections between our major water supply and treatment facilities.

Central Water Pipe

We have substantially defined a route through the City for this 24 - 30" finished water distribution pipe needed to strengthen the urban drinking water system. Detailed considerations continue to be reviewed with City and ACSA staff. A funding allocation agreement is also under discussion.

Ragged Mtn Reservoir to Observatory WTP Water Pipe and Pump Station

Easement negotiations with two private owners, UVA, the UVA Foundation, and the Virginia Department of Forestry for about 3 miles of 36" raw water pipeline and a pumping station continue.

S. Rivanna to Ragged Mtn Reservoir Water Pipe

We have obtained agreements with VDOT and easements for 6 miles of the 8 mile long 36" raw water pipeline from SRR to the new raw water pump station located near RMR. Our focus in now with the UVA Foundation and 3 private owners for the remaining 2 miles.

STRATEGIC PLAN GOAL: OPERATIONAL OPTIMIZATION

Drought Monitoring

Conditions in central Virginia are <u>Normal</u>, as reported by the VDEQ and our Water Resources Manager. Additional reservoir, rainfall and drought-related information has been provided in the Consent Agenda.

STRATEGIC PLAN GOAL: COMMUNICATION AND COLLABORATION

VDEQ PFAS Workgroup

I am serving on an informal VDEQ workgroup to discuss issues surrounding PFAS in wastewater discharges and biosolids. VDEQ is taking a measured approach for investigating PFAS sources and impacts.



MEMORANDUM

TO: RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS

FROM: LONNIE WOOD, DIRECTOR OF FINANCE AND ADMINISTRATION

REVIEWED: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: MAY MONTHLY FINANCIAL SUMMARY – FY 2021

DATE: JULY 27, 2021

Urban Water flow and rate revenues are 0.5% under budget through May, and Urban Wastewater flow and rate revenues are 15% over budget. Revenues and expenses are summarized in the table below:

	Urban Water	Urban Wastewater	Total Other Rate Centers	Total Authority
Operations				•
Revenues	\$ 7,511,484	\$ 9,226,547	\$ 2,118,818	\$ 18,856,849
Expenses	(7,897,129)	(8,174,017)	(2,335,323)	(18,406,469)
Surplus (deficit)	\$ (385,645)	\$ 1,052,530	\$ (216,505)	\$ 450,380
Debt Service				
Revenues	\$ 6,309,064	\$ 7,776,142	\$ 1,518,350	\$ 15,603,556
Expenses	(6,350,277)	(7,826,946)	(1,528,804)	(15,706,027)
Surplus (deficit)	\$ (41,213)	\$ (50,804)	\$ (10,454)	\$ (102,471)
Total				
Revenues	\$13,820,548	\$ 17,002,689	\$ 3,637,168	\$ 34,460,405
Expenses	(14,247,406)	(16,000,963)	(3,864,127)	(34,112,496)
Surplus (deficit)	\$ (426,858)	\$ 1,001,726	\$ (226,959)	\$ 347,909

When reviewing the Authority as a whole, operating revenues are \$1,651,000 over budget (9.3%), and operating expenses are \$1,159,900 over budget (6.5%).

A. Annual Transactions

Some revenues and expenses are over the <u>prorated</u> 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 made for certain leases and maintenance agreements and some quarterly insurance premiums are good examples.

- B. Personnel Costs (all departments) Unbudgeted Special Award bonuses were paid to staff in October, and unbudgeted merit pool salary increases went into effect in January. Maintenance department salaries were underbudgeted this year.
- C. Professional Services (Urban Water, Crozet Water, Urban Wastewater, Engineering pages 2,3,5 and 11) Urban Water incurred \$349,000 of unbudgeted professional fees, and \$153,000 of that amount has been billed to UVA pursuant to our Supplemental Water Treatment Systems Study, Design and Construction Agreement, and recorded as miscellaneous revenue. The remaining unbudgeted costs include fees for engineering and technical services related to Virginia Water Permit renewal and Buck Mountain land use planning. Urban Wastewater has spent \$78,000 on unbudgeted engineering and technical services related to updating the flow model. Crozet Water is \$34,000 over the annual budget for engineering and technical services primarily related to an interim water system needs evaluation. The Engineering Department is \$24,000 over the annual budget for professional services related to project management software selection.
- D. Other Services and Charges (Urban Water, Scottsville Water, Urban Wastewater and Scottsville Wastewater – pages 2,4,5 and 7) – Scottsville Water and Wastewater are only slightly over budget in this category. Urban Water incurred \$58,000 of unbudgeted watershed management costs due to unexpected charges related to mitigation plan compliance at the Moores Creek wetland site. Urban Water and Urban Wastewater utilities are running higher than anticipated.
- E. Operations and Maintenance (Urban Water, Crozet Water, all Wastewater and Administration pages 2,3 and 5-8) Urban Water is \$367,000 over its total annual budget for Pipeline and Appurtenances repairs due to several major line breaks, and Urban Wastewater has exceeded its budget for line break repair costs by \$175,000. Glenmore had some unexpected equipment repair costs, and the Administration building underwent \$30,000 of unbudgeted remodeling costs to create more offices for staff. Crozet Water incurred \$21,000 of unbudgeted chemical costs and instrumentation and metering costs. Scottsville Wastewater will be significantly over budget due to the lagoon cleaning which will cost a total of \$220,000. This was unbudgeted, however, the contract for cleaning the Moores Creek lagoon had available unused contract quantities and was utilized to take advantage of that unused contract amount for efficiency and effectiveness purposes. The ACSA has agreed to fund the resulting deficit budget in Scottsville WW for this work.
- F. Communications (Urban Water, Crozet Water pages 2-3) Urban Water and Crozet Water data lines were upgraded to fiber, and the annual costs will be much higher going forward.
- G. Miscellaneous Revenue (Urban Water page 2) Urban Water's Miscellaneous Revenue is mostly legal settlement revenue (\$128,000) and UVA's reimbursement of professional fees (\$153,000 as explained in Note C).

Attachments

Rivanna Water & Sewer Authority Monthly Financial Statements - May 2021 Fiscal Year 2021

										
			Budget		Budget		Actual		Budget	Variance
Consolidated			FY 2021	Y	ear-to-Date	У	ear-to-Date		vs. Actual	Percentage
Revenues and Expenses Summar	Y			•						rereentage
Operating Pudget ve Actual										
Operating Budget vs. Actual										
	Notes									
Revenues										
Operations Rate Revenue		\$	17,381,293	\$	15,932,852	\$	17,079,679	\$	1,146,827	7.20%
Lease Revenue			105,000		96,250		96,347		97	0.10%
Admin., Maint. & Engineering Revenue	~ ~		545,000		499,583		563,267		63,684	12.75%
Uther Revenues	C, G		542,788		497,556		924,687		427,132	85.85%
Bate Stabilization Reserves			240 027		220 025		220,000		35,362	0.00%
Interest Allocation			35 100		32 175		10 111		(22.064)	-68.57%
Total Operating Revenues		\$	19,384,428	\$	17,769,059	\$	19,420,116	\$	1,651,057	9.29%
Expanses										
Expenses Bereannal Cost	в	¢	9 012 257	¢	9 011 060	¢	0 206 400	¢	(75.020)	0.020/
Personnel Cost Professional Services	Б	Ф	602 700	Ф	8,211,200	Ф	013 016	ф	(75,238)	-0.92%
Other Services & Charges	D		3 136 780		2 875 382		2 956 633		(81 251)	-03.42 %
Communications	F		161 020		147 602		192 558		(44,957)	-30 46%
Information Technology	•		392.950		360.204		278.979		81.225	22.55%
Supplies			47,045		43,125		35,549		7,576	17.57%
Operations & Maintenance	Α, Ε		4,918,416		4,508,548		5,276,451		(767,903)	-17.03%
Equipment Purchases			352,250		322,896		240,818		82,078	25.42%
Depreciation			860,000		788,333		788,333		(0)	0.00%
Reserve Transfers			-		-		-		-	
Total Operating Expenses		\$	19,384,418	\$	17,809,824	\$	18,969,736	\$	(1,159,912)	-6.51%
Operating Surplus/(Deficit)		\$	10	\$	(40,765)	\$	450,381	=		
Debt Service Budget vs. Actual										
v										
Revenues										
Debt Service Rate Revenue		\$	15,861,016	\$	14,539,265	\$	14,539,272	\$	7	0.00%
Use of Reserves			954,652		875,098		875,098		-	
Septage Receiving Support - County			109,440		100,320		109,441		9,121	9.09%
Buck Mountain Lease Revenue			1,600		1,467		-		(1,467)	-100.00%
Proserve Fund Interest			135,900		124,575		14,440		(110,129)	-88.40%
Total Debt Service Revenues		\$	17.728.608	\$	16.251.224	\$	15.603.556	\$	(647.668)	-3.99%
			,,	•		Ŧ	,,	Ŧ	(***,***)	
Debt Service Costs										
Total Principal & Interest		\$	14,380,219	\$	13,181,867	\$	13,181,867	\$	-	0.00%
Reserve Additions-Interest			666,000		610,500		65,299		545,201	89.30%
Debt Service Ratio Charge			725,000		664,583		664,583		-	0.00%
Reserve Additions-CIP Growth		-	1,957,394	*	1,794,278	*	1,794,278	•	-	0.00%
I otal Debt Service Costs Debt Service Surplus//Deficit)		7 \$	17,720,013	ې \$	10,231,229	ې \$	(102 472)	φ	545,201	3.35%
		—	(0)	¥	(0)	¥	(102,112)	=		
			Summar	у						
Total Revenues		\$	37,113,036	\$	34 020 283	\$	35 023 672	\$	1,003,389	2 95%
Total Expenses		Ψ	37,113.031	Ψ	34,061.052	Ψ	34,675.763	Ψ	(614,711)	-1.80%
Surplus/(Deficit)		\$	5	\$	(40,769)	\$	347.909	-	()	
		<u> </u>			, , 1		,	=		

<u>Urban Water Rate Center</u> Revenues and Expenses Summary			Budget FY 2021	Ŷ	Budget ′ear-to-Date		Actual Year-to-Date		Budget vs. Actual	Variance Percentage
Operating Budget vs. Actual	Notor									
	NOTES									
Revenues		¢	7 1 1 0 5 1 1	¢	6 505 220	¢	6 550 200	¢	22.060	0.50%
Lease Revenue		φ	75 000	φ	68 750	Ф	0,009,298	Ф	33,909 1 909	0.52% 2.78%
Miscellaneous	C, G						290.921		290,921	2.1070
Use of Reserves-GAC	., .		500,000		458,333		500,000		41,667	9.09%
Rate Stabilization Reserves			94,254		86,400		86,400		-	0.00%
Interest Allocation		_	14,600		13,383		4,206		(9,177)	-68.57%
Total Operating Revenues		\$	7,802,395	\$	7,152,195	\$	7,511,484	\$	359,289	5.02%
Expenses										
Personnel Cost	в	\$	1,918,361	\$	1,766,569	\$	1,804,492	\$	(37,922)	-2.15%
Professional Services	С		134,000		122,833		482,972		(360,139)	-293.19%
Other Services & Charges	D		738,130		676,619		752,732		(76,113)	-11.25%
Communications	F		76,000		69,667		94,270		(24,603)	-35.32%
Information Lechnology			85,500		78,375		42,723		35,652	45.49%
Supplies	A E		5,745		5,266		1,127		(1,861)	-35.33%
Operations & Maintenance	A, E		2,109,300		1,979,358		2,343,054		(303,090) 1 605	-10.3/%
Depreciation			20,000		25,007		20,972		4,090	10.29% 0.00%
Reserve Transfers			-						-	0.0070
Subtotal Before Allocations		\$	5,445,036	\$	4,999,355	\$	5,823,341	\$	(823,987)	-16.48%
Allocation of Support Departments			2,357,359		2,170,889		2,073,787		97,102	4.47%
Total Operating Expenses		\$	7,802,395	\$	7,170,244	\$	7,897,129	\$	(726,885)	-10.14%
Operating Surplus/(Deficit)		\$	0	\$	(18,048)	\$	(385,644)			
Debt Service Budget vs. Actual Revenues Debt Service Rate Revenue Trust Fund Interest Description distorted		\$	6,178,645 49,000	\$	5,663,758 44,917	\$	5,663,713 5,215	\$	(45) (39,702)	0.00% -88.39%
Reserve Fund Interest			339,600		311,300		33,302		(277,998)	-89.30%
Use of Reserves			1 600		1 467		000,833		- (1 467)	-100.00%
Total Debt Service Revenues		\$	7,230,845	\$	6,628,275	\$	6,309,064	\$	(319,211)	-4.82%
		<u> </u>	, ,							
Debt Service Costs Total Principal & Interest Reserve Additions-Interest Debt Service Ratio Charge Reserve Additions-CIP Growth		\$	5,215,445 339,600 400,000 1,275,800	\$	4,780,825 311,300 366,667 1,169,483	\$	4,780,825 33,302 366,667 1,169,483	\$	- 277,998 - -	0.00% 89.30% 0.00% 0.00%
Total Debt Service Costs		\$	7,230,845	\$	6,628,275	\$	6,350,277	\$	277,998	4.19%
Debt Service Surplus/(Deficit)		\$	-	\$	-	\$	(41,213)			
		_		_		_		_		
		Ra	ite Center S	Sur	nmary					
Total Revenues Total Expenses		\$	15,033,240 15,033,240	\$	13,780,470 13,798,518	\$	13,820,548 14,247,406	\$	40,078 (448,887)	0.29% -3.25%
Surplus//Deficit)		¢	0	¢	(18 048)	¢	(426 858)			
Surplus/Dencit/		φ	0	φ	(10,040)	φ	(+20,030)	=		
Costs per 1000 Gallons		\$	2.30			\$	2.52			
		φ	4.42		0.444.555	φ	4.00		10.070	0.500
Thousand Gallons Treated or			3,397,700		3,114,558		3,130,928		16,370	0.53%
Flow (MGD)			9.309				9.346			

<u>Crozet Water Rate Center</u> Revenues and Expenses Summary			Budget FY 2021	Ye	Budget ear-to-Date	Ye	Actual ear-to-Date	v	Budget vs. Actual	Variance Percentage
Operating Budget vs. Actual	Notes									
Revenues										
Operations Rate Revenue		\$	1,028,808	\$	943,074	\$	943,074	\$	-	0.00%
Lease Revenues			30,000		27,500		25,688		(1,812)	-6.59%
Use of Reserves-GAC			26,000		23,833		26,000		2,167	9.09%
Interest Allocation		_	2,100	_	1,925	_	597	_	(1,328)	-69.01%
Total Operating Revenues		\$	1,086,908	\$	996,332	\$	995,358	\$	(974)	-0.10%
Expenses										
Personnel Cost	В	\$	302,598	\$	278,660	\$	287,455	\$	(8,795)	-3.16%
Professional Services	С		15,000		13,750		48,693		(34,943)	-254.13%
Other Services & Charges	_		142,360		130,497		93,561		36,935	28.30%
Communications	F		5,600		5,133		16,616		(11,483)	-223.69%
Supplies			2,250		2,003		3,332 1 553		(1,270)	-01.00%
Operations & Maintenance	F		353 292		323 851		374 403		(50,552)	-25.50%
Equipment Purchases	_		3.000		2.750		3.275		(525)	-19.09%
Depreciation			40,000		36,667		36,667		` o´	0.00%
Reserve Transfers			-		-		-		-	
Subtotal Before Allocations		\$	865,450	\$	794,608	\$	865,555	\$	(70,947)	-8.93%
Allocation of Support Departments		-	221,456	^	203,932	^	195,918	*	8,013	3.93%
Total Operating Expenses Operating Surplus//Deficit)		<u>\$</u>	1,086,906	\$	998,540	\$	1,061,474	\$	(62,934)	-6.30%
operating outputs (Denoty		<u> </u>		Ψ	(2,201)	Ψ	(00,110)			
Debt Service Budget vs. Actual										
Revenues		•	4 0 4 4 0 4 0	•	4 000 000	•	4 000 000	•		0.000/
Debt Service Rate Revenue		\$	1,311,312	\$	1,202,036	\$	1,202,036	\$	-	0.00%
Lise of Reserves			108 252		10,033		1,220		(9,405)	-00.45%
Reserve Fund Interest			15 700		14 392		1 567		- (12 824)	-89 11%
Total Debt Service Revenues		\$	1.536.864	\$	1.408.792	\$	1.386.562	\$	(22.230)	-1.58%
		<u> </u>	.,,	Ŧ	.,	Ŧ	.,	•	(,,,	
Debt Service Costs										
Total Principal & Interest		\$	1,217,569	\$	1,116,105	\$	1,116,105	\$	-	0.00%
Reserve Additions-Interest			15,700		14,392		1,567		12,824	89.11%
Reserve Additions-CIP Growth		-	303,600	*	278,300	*	278,300	*	-	0.00%
Total Debt Service Costs		<u>\$</u>	1,536,869	\$ ¢	1,408,797	\$ ¢	1,395,972	\$	12,824	0.91%
Dem Service Surplus/(Dench)		Ψ	(0)	Ψ	(0)	Ψ	(3,410)			
	F	Rate	Center Su	mm	nary					
Total Devenues		¢	0 600 770	¢	2 105 101	¢	2 204 004	¢	(00 004)	0.000/
Total Expenses		Ф	2,023,112	ф	2,405,124	Ф	2,381,921	Ф	(23,204)	-0.96%
Total Expenses			2,023,775		2,407,330		2,457,440	•	(50,110)	-2.00%
Surplus/(Deficit)		\$	(3)	\$	(2,212)	\$	(75,525)	:		
Costs per 1000 Gallons		\$	5 47			\$	5 01			
Operating and DS		\$	13.20			\$	11.60			
Thousand Gallons Treated			198 830		182 261		211 766		29 505	16 19%
			100,000		102,201		211,700		20,000	10.1370
Flow (MGD)			0.545				0.632			

Operating Budget vs. Actual

Total Operating Revenues

<u>Scottsville Water Rate Center</u> Revenues and Expenses Summary

Operations Rate Revenue Use of Reserves-GAC Interest Allocation

Revenues

Expenses

Personnel Cost

Professional Services

Budget FY 2021	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
520,812	\$ 477,411	\$ 477,411	\$-	0.00%
	Budget FY 2021	Budget Budget FY 2021 Year-to-Date	Budget Budget Actual FY 2021 Year-to-Date Year-to-Date S 520,812 \$ 477,411 \$ 477,411	Budget Budget Actual Budget FY 2021 Year-to-Date Year-to-Date vs. Actual S 520,812 \$ 477,411 \$ 477,411

477,704

175,343 \$

18,170

\$

(9,075)

(5,862)

(5, 310)

(3, 624)

(1,668)

23,681

54,271

2,933

57,204

141

(0) (0)

(1)

(970)

(6,825)

(7,796)

6,825

6,825

46,913

-1.86%

-3.46%

72.08%

-25.43%

-85.94%

76.85%

29.47% 0.00%

0.00%

15.02%

2.32%

11.72%

0.00%

-88.18%

-89.70%

-6.15%

0.00%

5.39%

-279.96%

486,779 \$

169,481 \$

65,083

	U		22,700		20,002		20,191	
Communications			4,600		4,217		7,841	
Information Technology			650		596		2,264	
Supplies			200		183		42	
Operations & Maintenance			87,662		80,357		56,676	
Equipment Purchases			2,500		2,292		2,292	
Depreciation			20,000		18,333		18,333	
Reserve Transfers			-		-		-	
Subtotal Before Allocations		\$	393,423	\$	361,423	\$	307,152	\$
Allocation of Support Departments			137,604		126,699		123,766	
Total Operating Expenses		\$	531,027	\$	488,123	\$	430,919	\$
Operating Surplus/(Deficit)		\$	5	\$	(1,343)	\$	46,786	_
Debt Service Budget vs. Actual								
Debt Service Budget vs. Actual Revenues Debt Service Rate Revenue Trust Fund Interest		\$	128,749 1,200	\$	118,020 1,100	\$	118,019 130	\$
Debt Service Budget vs. Actual Revenues Debt Service Rate Revenue Trust Fund Interest Reserve Fund Interest		\$	128,749 1,200 8,300	\$	118,020 1,100 7,608	\$	118,019 130 784	\$
Debt Service Budget vs. Actual Revenues Debt Service Rate Revenue Trust Fund Interest Reserve Fund Interest Total Debt Service Revenues		\$ \$	128,749 1,200 8,300 138,249	\$ \$	118,020 1,100 7,608 126,728	\$ \$	118,019 130 <u>784</u> 118,933	\$ \$
Debt Service Budget vs. Actual Revenues Debt Service Rate Revenue Trust Fund Interest Reserve Fund Interest Total Debt Service Revenues Debt Service Costs		\$	128,749 1,200 8,300 138,249	\$ \$	118,020 1,100 7,608 126,728	\$ \$	118,019 130 784 118,933	\$ \$
Debt Service Budget vs. Actual Revenues Debt Service Rate Revenue Trust Fund Interest Reserve Fund Interest Total Debt Service Revenues Debt Service Costs Total Principal & Interest		\$ \$	128,749 1,200 8,300 138,249 126,032	\$ \$	118,020 1,100 7,608 126,728 115,529	\$ \$	118,019 130 784 118,933 115,529	\$ \$
Debt Service Budget vs. Actual Revenues Debt Service Rate Revenue Trust Fund Interest Reserve Fund Interest Total Debt Service Revenues Debt Service Costs Total Principal & Interest Reserve Additions-Interest		\$ \$	128,749 1,200 8,300 138,249 126,032 8,300	\$ \$	118,020 1,100 7,608 126,728 115,529 7,608	\$ \$	118,019 130 784 118,933 115,529 784	\$ \$
Debt Service Budget vs. Actual Revenues Debt Service Rate Revenue Trust Fund Interest Reserve Fund Interest Total Debt Service Revenues Debt Service Costs Total Principal & Interest Reserve Additions-Interest Reserve Additions-CIP Growth		\$ \$	128,749 1,200 8,300 138,249 126,032 8,300 3,917	\$ \$	118,020 1,100 7,608 126,728 115,529 7,608 3,591	\$ \$	118,019 130 784 118,933 115,529 784 3,591	\$ \$
Debt Service Budget vs. Actual Revenues Debt Service Rate Revenue Trust Fund Interest Reserve Fund Interest Total Debt Service Revenues Debt Service Costs Total Principal & Interest Reserve Additions-Interest Reserve Additions-CIP Growth Total Debt Service Costs		\$ \$	128,749 1,200 8,300 138,249 126,032 8,300 3,917 138,249	\$ \$ \$	118,020 1,100 7,608 126,728 115,529 7,608 3,591 126,728	\$ \$	118,019 130 784 118,933 115,529 784 3,591 119,903	\$ \$

Rate Center Summary											
Total Revenues Total Expenses	\$	669,281 669,276	\$	613,508 \$ 614,851	596,637 550,822	\$	(16,871) 64,029	-2.75% 10.41%			
Surplus/(Deficit)	\$	5	\$	(1,343) \$	45,815	=					
Costs per 1000 Gallons Operating and DS	\$ \$	30.79 38.81		\$ \$	23.10 29.53						
Thousand Gallons Treated or		17,245		15,808	18,653		2,845	18.00%			
Flow (MGD)		0.047			0.056						

531,032

184,031

71,000

\$

\$

\$

\$

в

<u>Urban Wastewater Rate Center</u> Revenues and Expenses Summary			Budget FY 2021	Ŷ	Budget ear-to-Date	Y	Actual ear-to-Date		Budget vs. Actual	Variance Percentage
Operating Budget vs. Actual										
Revenues	Notes									
Operations Rate Revenue Stone Robinson WWTP Septage Acceptance Nutrient Credits Rate Stabilization Reserve Miscellaneous Revenue		\$	8,033,620 22,788 475,000 45,000 121,233	\$	7,364,152 20,889 435,417 41,250 111,130	\$	8,477,009 13,464 531,080 86,999 111,130 2,224	\$	1,112,858 (7,425) 95,663 45,749 - 2,224	15.11% -35.55% 21.97% 110.91% 0.00%
Interest Allocation		¢	16,100 8 713 741	¢	14,758	¢	4,641	¢	(10,117)	-68.55% 15 51%
		φ	0,713,741	φ	7,307,390	φ	9,220,547	φ	1,230,951	15.51%
Expenses Personnel Cost Professional Services Other Services & Charges Communications Information Technology Supplies Operations & Maintenance Equipment Purchases Depreciation	C D E	\$	1,299,876 143,400 2,020,300 10,700 69,500 1,900 1,767,000 125,250 470,000	\$	1,197,378 131,450 1,851,942 9,808 63,708 1,742 1,619,750 114,813 430,833	\$	1,151,861 227,378 1,921,515 12,328 19,068 1,906 1,846,742 60,738 430,833	\$	45,517 (95,928) (69,574) (2,519) 44,640 (165) (226,992) 54,074 (0)	3.80% -72.98% -3.76% -25.69% 70.07% -9.46% -14.01% 47.10% 0.00%
Reserve Transfers			-	•	-	•	-	•	-	4.000/
Subtotal Before Allocations Allocation of Support Departments		\$	5,907,926 2,805,815	\$	5,421,424 2,583,664	\$	5,672,371 2,501,646	\$	(250,947) 82,017	-4.63% 3.17%
Total Operating Expenses		\$	8,713,741	\$	8,005,088	\$	8,174,017	\$	(168,930)	-2.11%
Operating Surplus/(Deficit)		\$	(0)	\$	(17,492)	\$	1,052,530	-		
Debt Service Budget vs. Actual										
Revenues Debt Service Rate Revenue Septage Receiving Support - County Trust Fund Interest Use of Reserves Reserve Fund Interest <i>Total Debt Service Revenues</i>		\$ \$	8,229,090 109,440 74,000 94,400 295,200 8,802,130	\$ \$	7,543,333 100,320 67,833 86,533 270,600 8,068,619	\$ \$	7,543,382 109,441 7,859 86,533 28,927 7,776,142	\$ \$	50 9,121 (59,974) - (241,673) (292,477)	0.00% 9.09% -88.41% 0.00% -89.31% - 3.62%
Debt Service Costs										
Total Principal & Interest Reserve Additions-Interest Debt Service Ratio Charge Reserve Additions-CIP Growth		\$	7,812,130 295,200 325,000 369,800	\$	7,161,119 270,600 297,917 338,983	\$	7,161,119 28,927 297,917 338,983	\$	- 241,673 - -	0.00% 89.31% 0.00% 0.00%
Total Debt Service Costs Debt Service Surplus//Deficit)		\$	8,802,130	\$	8,068,619	\$	7,826,946	\$	241,673	3.00%
		Ψ		Ψ		Ŷ	(00,004)	=		
		Ra	te Center S	um	mary					
Total Revenues Total Expenses		\$	17,515,871 17,515,871	\$	16,056,215 16,073,707	\$	17,002,690 16,000,964	\$	946,475 72,743	5.89% 0.45%
Surplus/(Deficit)		\$	(0)	\$	(17,492)	\$	1,001,726	=		
Costs per 1000 Gallons Operating and DS		\$ \$	2.57 5.17			\$ \$	2.28 4.47			
Thousand Gallons Treated			3,390,400		3,107,867		3,578,306		470,439	15.14%
or Flow (MGD)			9.289				10.682			

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Rivanna Water & Sewer Authority Monthly Financial Statements - May 2021

<u>Glenmore Wastewater Rate Center</u> Revenues and Expenses Summary			Budget FY 2021	Y	Budget ear-to-Date	Ŷ	Actual lear-to-Date	v	Budget rs. Actual	Variance Percentage
Operating Budget vs. Actual	Noter									
Revenues	NOTES									
Operations Rate Revenue		\$	370 524	\$	339 647	\$	339 647	\$	-	0.00%
Rate Stabilization Reserve		Ψ	24,540	Ψ	22,495	Ψ	22,495	Ψ	-	0.00%
Interest Allocation			700		642		202		(439)	-68.48%
Total Operating Revenues		\$	395,764	\$	362,784	\$	362,344	\$	(439)	-0.12%
Expenses										
Personnel Cost		\$	97,804	\$	90,082	\$	84,119	\$	5,964	6.62%
Professional Services			24,200		22,183		87		22,096	
Other Services & Charges			36,800		33,733		33,011		722	2.14%
Communications			3,200		2,933		3,523		(590)	-20.12%
Information Technology			4,050		3,713		9,289		(5,576)	-150.20%
Supplies	_		-		-		654		(654)	10 -001
Operations & Maintenance	E		109,100		100,008		116,507		(16,498)	-16.50%
Equipment Purchases			3,700		3,392		3,392		0	0.00%
		¢	288 854	¢	9,107	¢	250 749	¢	5 464	2.06%
Allocation of Support Departments		φ	106 907	φ	98 422	φ	239,740	φ	5,404 1 1 <i>4</i> 7	2.00 %
Total Operating Expenses		\$	395 761	\$	363 634	\$	357 023	\$	6 611	1.17%
Operating Surplus/(Deficit)		Š	3	\$	(850)	\$	5.322	Ψ	0,011	1.02 /0
								-		
Debt Service Budget vs. Actual										
Revenues										
Debt Service Rate Revenue		\$	3.778	\$	3,463	\$	3,465	\$	2	0.05%
Trust Fund Interest			- , -	•	-		-		-	
Reserve Fund Interest			3,000		2,750		327		(2,424)	-88.13%
Total Debt Service Revenues		\$	6,778	\$	6,213	\$	3,792	\$	2	0.03%
Debt Service Costs										
Total Dringing & Interest		¢	1 570	¢	1 117	¢	1 117	¢		0.000/
Posonio Additions CIP Crowth		Ф	1,579	Ф	1,447	φ	1,447	ф	-	0.00%
Reserve Additions-Interest			2,199		2,010		2,010		- 2 121	0.00%
Total Debt Service Costs		\$	6 778	\$	6 213	\$	3 790	\$	2,424	39.01%
Debt Service Surplus/(Deficit)		\$	-	\$		\$	2	Ψ	2 ,727	00.0170
								-		
	F	Rate	e Center Su	ımn	nary					
Total Revenues		\$	402 542	\$	368 007	\$	366 136	\$	(2 861)	-0 78%
Total Expenses		Ψ	402,539	Ψ	369,847	Ψ	360,812	Ψ	9,035	2.44%
			/		- ,		-,	-	,	
Surplus/(Deficit)		\$	3	\$	(850)	\$	5,324	-		
Costo por 1000 College		ድ	0 54			¢	0.00			
Costs per 1000 Gallons		¢ ¢	9.51			¢	0.99 0.00			
		φ	9.07			φ	9.09			
Thousand Gallons Treated			41,629		38,160		39,693		1,533	4.02%
or										
Flow (MGD)			0.114				0.118			

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		-								
<u>Scottsville Wastewater Rate Center</u> Revenues and Expenses Summary			Budget FY 2021	Y	Budget 'ear-to-Date	Ŷ	Actual 'ear-to-Date	Ţ	Budget vs. Actual	Variance Percentage
Operating Budget vs. Actual										
Devenue	Notes									
Operations Rate Revenue		¢	308 088	¢	283 230	¢	283 230	¢	_	0.00%
Interest Allocation		Ψ	600	Ψ	200,200	Ψ	172	Ψ	(378)	-68 75%
Total Operating Revenues		\$	309,588	\$	283,789	\$	283,411	\$	(378)	-0.13%
Exponence										
Demonpol Cost		¢	07 217	¢	90 626	¢	94 110	¢	5 517	6 160/
Professional Sonvices		φ	97,317	φ	09,030	φ	04,119	φ	(225)	0.13%
Other Services & Charges	п		2,100		21 734		2,150		(223)	-11.71%
Communications	D		3 720		3 410		27,500		(3,020)	-20.01%
Information Technology			1 500		1 375		478		897	65 25%
Supplies			500		458		470		458	00.20%
Operations & Maintenance	F		57 812		52 994		256 424		(203 420)	-383 87%
Equipment Purchases	-		3 700		3 392		200,424		(200,420)	-000.07 %
Depreciation			20,000		18 333		18 333		(0)	0.00%
Subtotal Before Allocations		\$	210 359	\$	193 257	\$	396 007	\$	(202 749)	-104 91%
Allocation of Support Departments		Ŧ	99.228	Ŧ	91.356	Ŧ	89,902	Ŧ	1.454	1.59%
Total Operating Expenses		\$	309,587	\$	284.613	\$	485.908	\$	(201,295)	-70.73%
Operating Surplus/(Deficit)		\$	1	\$	(824)	\$	(202,497)			
Dakt Coming Dudwating Actual										
Debt Service Budget vs. Actual										
Revenues										
Debt Service Rate Revenue		\$	9,442	\$	8.655	\$	8.657	\$	2	0.02%
Trust Fund Interest		Ŧ	100	Ŧ	92	Ŧ	14	Ŧ	(77)	-84.32%
Reserve Fund Interest			4.200		3.850		392		(3.458)	-89.82%
Total Debt Service Revenues		\$	13,742	\$	12,597	\$	9,063	\$	(3,534)	-28.05%
Debt Service Costs		•		•	0.040	•	0.040	•		0.000/
Total Principal & Interest		\$	7,464	\$	6,842	\$	6,842	\$	-	0.00%
Reserve Additions-Interest			4,200		3,850		392		3,458	89.82%
Estimated New Principal & Interest		-	2,078	*	1,905	*	1,905	*	-	0.00%
Total Debt Service Costs		<u>\$</u>	13,742	\$ ¢	12,597	\$ ¢	9,139	\$	3,458	27.45%
Debt Service Surplus/(Dench)		φ		φ	-	φ	(13)	:		
		Rat	e Center S	um	mary					
Total Revenues		\$	323 330	\$	296.386	\$	292 474	\$	(3 912)	-1.32%
Total Expenses		Ψ	323,329	Ŷ	297,210	¥	495,047	Ψ.	(197,837)	-66.56%
Surplus/(Deficit)		\$	1	\$	(824)	\$	(202,573)			

Costs per 1000 Gallons Operating and DS	\$ \$	13.39 13.98	\$ \$	17.44 17.77	
Thousand Gallons Treated		23,126	21,199	27,860	6,661
Flow (MGD)		0.063		0.083	

(202,573)

\$

31.42%

Administration

Administration		Budget FY 2021		Ye	Budget Year-to-Date		Actual Year-to-Date		Budget s. Actual	Variance Percentage	
Operating Budget vs. Actual		<u> </u>									
Revenues	Notes										
Payment for Services SWA		\$	543,000	\$	497,750	\$	497,750	\$	-	0.00%	
Miscellaneous Revenue			2,000		1,833		47,115		45,281	2469.90%	
Total Operating Revenues		\$	545,000	\$	499,583	\$	544,865	\$	45,281	9.06%	
Expenses											
Personnel Cost	в	\$	1,906,136	\$	1,756,602	\$	1,768,999	\$	(12,397)	-0.71%	
Professional Services			183,000		167,750		92,179		75,571	45.05%	
Other Services & Charges			80,600		73,883		69,617		4,266	5.77%	
Communications			21,500		19,708		19,778		(70)	-0.35%	
Information Technology			177,000		162,250		157,083		5,167	3.18%	
Supplies			24,250		22,229		18,672		3,557	16.00%	
Operations & Maintenance	Е		75,200		68,933		96,337		(27,404)	-39.75%	
Equipment Purchases			24,000		22,000		12,833		9,167	41.67%	
Depreciation			-		-		-		-		
Total Operating Expenses		\$	2,491,686	\$	2,293,356	\$	2,235,499	\$	57,856	2.52%	

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Department Summary											
Net Costs Allocable to Rate Centers		\$	(1,946,686)	\$	(1,793,772)	\$	(1,690,635)	\$	(103,138)	5.75%	
Allocations to the Rate Centers											
Urban Water	44.00%	\$	856,542	\$	789,260	\$	743,879	\$	45,381		
Crozet Water	4.00%	\$	77,867		71,751		67,625		4,126		
Scottsville Water	2.00%	\$	38,934		35,875		33,813		2,063		
Urban Wastewater	48.00%	\$	934,409		861,011		811,505		49,506		
Glenmore Wastewater	1.00%	\$	19,467		17,938		16,906		1,031		
Scottsville Wastewater	1.00%	\$	19,467		17,938		16,906		1,031		
	100.00%	\$	1,946,686	\$	1,793,772	\$	1,690,635	\$	103,138		

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Maintenance

			Budget FY 2021		Budget Year-to-Date		Actual Year-to-Date	V	Budget s. Actual	Variance Percentage
Operating Budget vs. Actual	Notes									
Povenues										
Revenues		¢		¢		¢		¢		
Miscellaneous Revenue		φ	-	φ	-	φ	- 3 101	φ	- 3 101	
Total Operating Revenues		\$		\$	-	\$	3,101	\$	3,101	
		.		-		<u> </u>	0,101	.		
Expenses										
Personnel Cost Professional Services	в	\$	1,233,605	\$	1,136,366	\$	1,234,249	\$	(97,883) -	-8.61%
Other Services & Charges			50,700		46,475		18,242		28,233	60.75%
Communications			17,400		15,950		18,915		(2,965)	-18.59%
Information Technology			8,500		7,792		11,380		(3,588)	-46.05%
Supplies			2,000		1,833		219		1,615	88.08%
Operations & Maintenance			84,550		77,504		82,034		(4,530)	-5.84%
Equipment Purchases			139,000		127,417		112,750		14,667	11.51%
Depreciation					-		-		<u> </u>	
Total Operating Expenses		\$	1,535,755	\$	1,413,337	\$	1,477,789	\$	(64,452)	-4.56%
	[Dep	artment S	um	imary					
Net Costs Allocable to Rate Centers	[Dep \$	oartment S (1,535,755)	um \$	1,413,337)	\$	(1,474,688)	\$	67,554	-4.78%
Net Costs Allocable to Rate Centers Allocations to the Rate Centers	[Dep \$	oartment S (1,535,755)	um \$	1,413,337)	\$	(1,474,688)	\$	67,554	-4.78%
Net Costs Allocable to Rate Centers <u>Allocations to the Rate Centers</u> Urban Water	30.00%	Dep \$ \$	0artment S (1,535,755) 460,727	um \$	1,413,337) (1,413,337) 424,001	\$	<u>(1,474,688)</u> 442,406	\$	67,554	-4.78%
Net Costs Allocable to Rate Centers <u>Allocations to the Rate Centers</u> Urban Water Crozet Water	30.00% 3.50%	Dep \$	eartment S (1,535,755) 460,727 53,751	um \$ \$	11,413,337) (1,413,337) 424,001 49,467	\$ \$	(1,474,688) 442,406 51,614	\$ \$	67,554 (18,405) (2,147)	-4.78%
Net Costs Allocable to Rate Centers <u>Allocations to the Rate Centers</u> Urban Water Crozet Water Scottsville Water	30.00% 3.50% 3.50%	Dep \$	460,727 53,755	um \$ \$	1 mary (1,413,337) 424,001 49,467 49,467 49,467	\$ \$	(1,474,688) 442,406 51,614 51,614	\$	67,554 (18,405) (2,147) (2,147)	-4.78%
Net Costs Allocable to Rate Centers <u>Allocations to the Rate Centers</u> Urban Water Crozet Water Scottsville Water Urban Wastewater	30.00% 3.50% 3.50% 56.50%	Dep \$	460,727 53,751 53,751 867,702	<u>um</u> \$	11,413,337) (1,413,337) 424,001 49,467 49,467 798,535	\$	(1,474,688) 442,406 51,614 51,614 833,199	\$	67,554 (18,405) (2,147) (2,147) (34,663)	-4.78%
Net Costs Allocable to Rate Centers <u>Allocations to the Rate Centers</u> Urban Water Crozet Water Scottsville Water Urban Wastewater Glenmore Wastewater	30.00% 3.50% 3.50% 56.50% 3.50%	Sep	460,727 53,751 53,751 867,702 53,751	um \$	11,413,337) (1,413,337) 424,001 49,467 49,467 798,535 49,467	\$	(1,474,688) 442,406 51,614 51,614 833,199 51,614	\$	67,554 (18,405) (2,147) (2,147) (34,663) (2,147)	-4.78%
Net Costs Allocable to Rate Centers <u>Allocations to the Rate Centers</u> Urban Water Crozet Water Scottsville Water Urban Wastewater Glenmore Wastewater Scottsville Wastewater	30.00% 3.50% 3.50% 56.50% 3.50% 3.00%) \$ \$	460,727 53,751 53,751 867,702 53,751 867,702 53,751 46,073	<u>um</u> \$	11,413,337) (1,413,337) 424,001 49,467 49,467 798,535 49,467 42,400	\$	(1,474,688) 442,406 51,614 51,614 833,199 51,614 44,241	\$	67,554 (18,405) (2,147) (2,147) (34,663) (2,147) (1,841)	-4.78%

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Laboratorv

	1									
<u>Laboratory</u>			Budget FY 2021	Ye	Budget ear-to-Date	Ye	Actual ear-to-Date	v	Budget s. Actual	Variance Percentage
Operating Budget vs. Actual	1	<u> </u>								
Revenues	Notes									
N/A										
Expenses										
Personnel Cost Professional Services		\$	404,171 -	\$	372,429 -	\$	364,112 -	\$	8,317 -	2.23%
Other Services & Charges			7,600		6,967		6,047		919	13.19%
Communications			2,100		1,925		1,580		345	
Information Technology			2,500		2,292		6,588		(4,296)	-187.46%
Supplies			1,300		1,192		1,322		(130)	-10.91%
Operations & Maintenance			97,250		89,146		68,058		21,088	23.66%
Equipment Purchases			1,600		1,467		1,467		0	0.00%
		¢	- 516 521	¢	475 417	¢	-	¢	- 26 2/3	5 52%
		Ψ	510,521	Ψ	475,417	Ψ	443,173	Ψ	20,243	5.52 /6
	Depa	rtme	ent Summ	ary	1					
Net Costs Allocable to Rate Centers		\$	(516,521)	\$	(475,417)	\$	(449,173)	\$	(26,243)	5.52%
Allocations to the Rate Centers										
Urban Water	44.00%	\$	227,269	\$	209,183	\$	197,636	\$	11,547	
Crozet Water	4.00%		20,661		19,017		17,967		1,050	
Scottsville Water	2.00%		10,330		9,508		8,983		525	
Urban Wastewater	47.00%		242,765		223,446		211,111		12,334	
Glenmore Wastewater	1.50%		7,748		7,131		6,738		394	
Scottsville Wastewater	1.50%		7,748		7,131		6,738		394	
	100.00%	\$	516,521	\$	475,417	\$	449,173	\$	26,243	

Engineering

<u>Engineering</u>			Budget FY 2021		Budget Year-to-Date	Actual Year-to-Date	V	Budget s. Actual	Variance Percentage
Operating Budget vs. Actual									
Revenues	Notes								
Payment for Services SWA		\$	-	\$	-	\$ 15.301	\$	15.301	
Total Operating Revenues		\$	-	\$	-	\$ 15,301	\$	15,301	
Expenses									
Personnel Cost		\$	1.469.358	\$	1.354.057	\$ 1.331.750	\$	22.307	1.65%
Professional Services	С	·	30,000	•	27,500	42,286	•	(14,786)	-53.77%
Other Services & Charges			13,800		12,650	8,154		4,496	35.54%
Communications			16,200		14,850	14,157		693	4.67%
Information Technology			41,500		38,042	26,774		11,267	29.62%
Supplies			9,800		8,983	4,054		4,930	54.88%
Operations & Maintenance			127,250		116,646	36,216		80,430	68.95%
Equipment Purchases			21,500		19,708	19,708		(0)	0.00%
Depreciation & Capital Reserve Transfers			-		-	-		-	
Total Operating Expenses		\$	1,729,408	\$	1,592,436	\$ 1,483,100	\$	109,336	6.87%
		Dep	oartment S	um	imary				
Net Costs Allocable to Rate Centers		\$	(1,729,408)	\$	(1,592,436)	\$ (1,467,799)	\$	(94,036)	5.91%

Net Costs Allocable to Rate Centers	:	\$ (1,729,408)	\$ (1,592,436)	\$ (1,467,799)	\$ (94,036)	5.91%
Allocations to the Rate Centers						
Urban Water	47.00%	\$ 812,822	\$ 748,445	\$ 689,865	\$ 58,579	
Crozet Water	4.00%	69,176	63,697	58,712	4,985	
Scottsville Water	2.00%	34,588	31,849	29,356	2,493	
Urban Wastewater	44.00%	760,939	700,672	645,832	54,840	
Glenmore Wastewater	1.50%	25,941	23,887	22,017	1,870	
Scottsville Wastewater	1.50%	25,941	23,887	22,017	1,870	
	100.00%	\$ 1,729,408	\$ 1,592,436	\$ 1,467,799	\$ 124,637	
Rivanna Water and Sewer Authority Flow Graphs







434.293.8858

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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 JUNE 2021
- DATE: JULY 27, 2021

WATER OPERATIONS:

The average and maximum daily water produced in June 2021 was as follows:

Water Treatment Plant	Average Daily Production (MGD)	Maximum Daily Production in the Month (MGD)
Observatory	1.51	2.38 (6/30/2021)
South Rivanna	8.65	9.63 (6/17/2021)
North Rivanna	<u>0.46</u>	0.54 (6/29/2021)
Urban Total	10.62	12.02 (6/30/2021)
Crozet	0.74	0.97 (6/29/2021)
Scottsville	0.05	0.09 (6/09/2021)
Red Hill	0.0017	0.003 (6/30/2021)
RWSA Total	11.42	-

• All RWSA water treatment facilities were in regulatory compliance during the month of June.

Status of Reservoirs (as of July 19, 2021):

- ▶ Urban Reservoirs: 92.13 % of Total Useable Capacity
- Ragged Mountain Reservoir is not full (94.55%)
- ➢ Sugar Hollow Reservoir is not full (61.4%)*
- South Rivanna Reservoir is full (100%)
- Beaver Creek Reservoir is full (100%)
- Totier Creek Reservoir is full (100%)

*The Sugar Hollow Reservoir has been lowered for replacement of the rubber bladder on the dam. This

project is nearing completion and stream inflows can start to refill the Sugar Hollow Reservoir.

WASTEWATER OPERATIONS:

All RWSA Water Resource Recovery Facilities (WRRFs) were in regulatory compliance with their effluent limitations during June 2021. Performance of the WRRFs in June was as follows compared to the respective VDEQ permit limits:

WRRF	Average Daily Effluent	Average CBOD ₅ (ppm)		Average Total Suspended Solids (ppm)		Average Ammonia (ppm)	
	(MGD)	RESULT	LIMIT	RESULT	LIMIT	RESULT	LIMIT
Moores Creek	9.27	3.0	10	1.3	22	0.11	2.2
Glenmore	0.095	5.6	15	7.9	30	NR	NL
Scottsville	0.045	5.2	25	2.6	30	NR	NL
Stone Robinson	0.0008	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 June 2021.

State Annual A (lb./yr.) P	Allocation Permit	Average Monthly Allocation (lb./mo.) *	Moores Creek Discharge June (lb./mo.)	Performance as % of monthly average Allocation*	Year to Date Performance as % of annual allocation
Nitrogen	282,994	23,583	4,404	19%	16%
Phosphorous	18,525	1,544	623	40%	18%

*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







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: JULY 27, 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: <u>https://www.rivanna.org/wp-content/uploads/2021/06/2022-2026-CIP-Final.pdf</u>

Under Construction

- 1. South Rivanna and Observatory Water Treatment Plant Renovations
- 2. Crozet Flow Equalization Tank
- 3. MC Aluminum Slide Gate Replacements
- 4. MC Exterior Lighting Improvements
- 5. MC Generator Fuel Expansion
- 6. MC Clarifier and Silo Demolition
- 7. Glenmore WRRF Influent Pump & VFD Addition

Design and Bidding

- 8. Ragged Mtn Reservoir to Observatory WTP Raw Water Line and Pump Station
- 9. South Rivanna to Ragged Mtn. Raw Water Line Birdwood to Old Garth
- 10. Beaver Creek Dam, Pump Station and Piping Improvements
- 11. Airport Road Water Pump Station and Piping
- 12. South Fork Rivanna River Crossing
- 13. MC 5kV Electrical System Upgrades

Planning and Studies

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

- 15. Urban Finished Water Infrastructure Master Plan
- 16. Upper Schenks Branch Interceptor, Phase II
- 17. Asset Management Plan
- 18. MC Facilities Master Plan
- 19. SRR to RMR Pipeline Pretreatment Pilot Study
- 20. Central Water Pipe

Other Significant Projects

- 21. Urgent and Emergency Repairs
- 22. Interceptor Sewer & Manhole Repair
- 23. Security Enhancements

Under Construction

1. South Rivanna and Observatory Water Treatment Plant Renovations

Design Engineer:	Short Elliot Hendrickson, Inc. (SEH)
Construction Contractor:	English Construction Company (Lynchburg, VA)
Construction Start:	May 2020
Percent Complete:	35%
Base Construction Contract +	
Change Orders to Date = Current Value:	\$36,748,500 + \$474,849.89 = \$37,223,349.89
Completion:	March 2023
Budget:	\$43,000,000

<u>Current Status</u>: Work continues at the SRWTP with construction of the filter building expansion, the Alum and Fluoride Chemical Storage Building, Administration Building, sedimentation basin improvements and the replacement of high service pumps and VFDs. Work at the OBWTP includes new electrical and process lines to the existing Pretreatment Building, an electrical ductbank and coordination with Dominion Power and UVA on a new electrical service.

2. Crozet Flow Equalization Tank

Design Engineer: Construction Contractor: Construction Start: Percent Complete: Based Construction Contract + Change Orders to Date = Current Value: Completion: Budget: Schnabel Engineering Anderson Construction (Lynchburg, VA) September 2020 50%

\$4,406,300 November 2022 \$5,400,000 <u>Current Status</u>: Tank concrete wall panels are being poured in onsite casting beds with the tank floor scheduled to be poured in late July. Tank assembly will begin after the floor is sufficiently cured.

3. MC Aluminum Slide Gate Replacements

Design Engineer:	Hazen and Sawyer
Construction Contractor:	Waco Incorporated (Sandston, VA)
Construction Start:	September 2020
Percent Complete:	70%
Base Construction Contract +	
Change Orders to Date = Current Value:	\$373,600 - \$30,400 = \$343,200
Completion:	October 2021
Budget:	\$675,000

<u>Current Status</u>: Waco replaced the 2 sluice gates at the holding pond pump station. They are awaiting delivery of materials to repair four corroded mud valves at the headworks.

4. MC Exterior Lighting Improvements

Design Engineer:	Hazen and Sawyer
Construction Contractor:	Pyramid Electrical Contractors (Richmond, VA)
Construction Start:	April 2021
Percent Complete:	35%
Base Construction Contract +	
Change Order to Date = Current Value:	\$349,000
Completion:	February 2022
Budget:	\$600,000

<u>Current Status</u>: Mobilization began this month. Construction activities include installation of conduit on basin walls, installation of erosion and sediment control measures, and excavations required for light pole bases.

5. MC Generator Fuel Storage Expansion

Design Engineer:	SEH, Inc.
Construction Contractor:	Waco, Inc.
Construction Start:	July 2021
Percent Complete:	15%
Base Construction Contract +	
Change Order to Date = Current Value:	\$168,860
Completion:	Fall 2021
Budget:	\$250,000

<u>Current Status</u>: The 8,000 gallon, above ground fuel storage tank has been ordered and delivery is expected in 12-14 weeks . Contractor will complete the concrete pad for the tank during the tank lead time.

6. MC Clarifier and Lime Silo Demolition

Design Engineer:	Hazen and Sawyer
Project Start:	October 2020
Project Status:	Construction Award
Construction Start:	October 2021
Completion:	May 2022
Budget:	\$790,000

<u>Current Status</u>: A recommendation for award and CIP amendment is included in this month's Board packet.

7. Glenmore WRRF Influent Pump and VFD Addition

Design Consultant:	Wiley Wilson
Project Start:	August 2020
Project Status:	Bidding
Construction Start:	October 2021
Completion:	May 2022
Budget:	\$370,000

<u>Current Status</u>: A recommendation for award and CIP amendment is included in this month's Board packet.

Design and Bidding

8. <u>Ragged Mountain Reservoir to Observatory Water Treatment Plant Raw Water Line and Pump</u> <u>Station</u>

Baker International (Baker)/Kimley-Horn
2018
Easement Acquisition
000

Current Status:

Easement negotiations with two private owners, UVA, the UVA Foundation, and the Virginia Department of Forestry are in progress. Board Reports for the design of the Ragged Mountain Reservoir to Observatory Water Treatment Plant Raw Water Line and Pump Station are included in this month's Board packet.

9. South Rivanna Reservoir to Ragged Mtn. Reservoir Raw Water Line – Ivy Road to Old Garth

Design Engineer:

Kimley-Horn

Project Start:	June 2021
Project Status:	5% Design
Construction Start:	2022
Completion:	2023
Budget:	\$1,980,000

Current Status:

One remaining easement is under negotiation with the UVA Foundation. Design is underway. Construction is scheduled to begin during the summer of 2022.

10. 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:	50% NRCS Planning Process
Construction Start:	2024
Completion:	2026
Budget:	\$27,000,000

<u>Current Status</u>: The NRCS planning study continues and is moving into a review of spillway upgrade alternatives. A second public meeting is anticipated in the fall of 2021. Staff expects to make a recommendation to the Board in August on a site for a future new Raw Water Pump Station and Intake at Beaver Creek.

11. Airport Road Water Pump Station and Piping

Design Engineer:	Short Elliot Hendrickson (SEH)
Project Start:	July 2019
Project Status:	85% Design
Construction Start:	Winter 2021/2022
Completion:	June 2023
Budget:	\$7,600,000

<u>Current Status</u>: Site Plan, ARB, and WPO submittals were made to the County in June, in addition to the VDH submittal. RWSA and ACSA staff are reviewing the 90% design submittal.

12. <u>South Fork Rivanna River Crossing</u>

Design Engineer:	Michael Baker International (Baker)
Project Start:	November 2020
Project Status:	20% Design
Construction Start:	Spring 2022
Completion:	Fall 2023
Budget:	\$3,655,000

<u>Current Status</u>: Property owner notices were sent related to survey and utility location. Baker and their subconsultants will begin survey work during the last week of July.

13. MC 5 kV Electrical System Upgrades

Hazen and Sawyer
August 2020
60% Design
March 2022
June 2024
\$4,600,000

<u>Current Status</u>: Hazen conducted a site visit in July to determine the availability of spare conduits between the various electrical components in order to plan for the 5kV Cable Replacements included in the project. Work continues on the 95% Design Documents, which are due to RWSA staff in October.

Planning and Studies

11	South Divonn	Docomucir	to Doggo	Mtn Dog	onvoin Woton	Line Dight of W	Vor
14.	South Kivainia	a Nesei vuii	i u naggei	I IVILII. INES	ervon vvaler	Line Kight-of-	v a y

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

<u>Current Status</u>: Progress continues in our efforts to acquire the 8 miles of easements and agreements (with VDOT) for this 36" water line. Discussions continue on remaining easements with 3 private owners and the UVA Foundation.

15. Urban Finished Water Infrastructure Master Plan

Design Engineer:	Michael Baker International (Baker)
Project Start:	November 2018
Project Status:	95% complete
Completion:	September 2021
Budget:	\$253,000

<u>Current Status:</u> Baker is addressing comments on the draft report. Once the draft report is finalized, it will be circulated to stakeholders for review and comment.

16.	Upper Schenks Branch Interceptor, Phase II	
	Design Engineer: Project Start:	Frazier Engineering, P.A. TBD

Project Status:	Alignment Analysis
Construction Start:	TBD
Completion:	TBD
Budget:	\$3,985,000

<u>Current Status</u>: Discussions about the pipe alignment with the County and the City continue with a focus on installation within an easement as opposed to being in McIntire Road. Design efforts are being reinitiated with that intent and project schedules and costs are being updated.

17. Asset Management Plan

GHD, Inc.
July 2018
Phase 2 – 95% Complete
CMMS Implementation – 30% Complete
2021
\$1,115,000

<u>Current Status</u>: A draft Tactical Asset Management Plan has been submitted for review. For implementation of the new CMMS, workshops have been scheduled in July and August to begin the software configuration process. GHD completed a draft of an asset register based on an export of assets from the current work order system that is being replaced. Workshops have been held to review the draft register and provide any necessary updates.

18. MC Facilities Master Plan

Design Consultant:	Hazen and Sawyer
Project Start:	August 2019
Project Status:	90% Complete
Completion:	September 2021
Budget:	\$275,000

Current Status: Hazen submitted the draft Master Plan and staff is providing an initial review.

19. <u>SRR to RMR Pipeline – Pretreatment Pilot Study</u>

Design Consultant: Project Start:	SEH August 2020
Project Status:	95% Complete (Phase 1), 10% Complete (Phase 2)
Completion:	July 2022
Budget:	\$22,969 (Phase 1), \$98,629 (Phase 2)

<u>Current Status</u>: Phase 1 analysis of existing water quality and seasonal weather data is substantially complete. Phase 2 of the study has begun, and includes detailed reservoir water quality modeling

performed by DiNatale Water Consultants. The initial focus will be on desktop-based models, as RWSA Operations staff collects more data from the two reservoirs to better understand background nutrient levels and how these fluctuate day-to-day throughout the seasons.

20. Central Water Line

Design Consultant:	Michael Baker International (Baker)
Project Start:	February 2021
Project Status:	5% Design
Completion:	July 2022
Budget:	\$25 M

Current Status: Baker is finalizing the Routing Study report and starting detailed design.

Other Significant Projects

21. Urgent and Emergency Repairs

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

Project	Project Description	Approx. Cost
No.		
2019-07	Urban Water Line Valve and Blow-off Repair	\$100,000
2020-14	MCWWPS Gate Valve 205 Replacement	TBD
2020-20	Finished Water Sampling Stations	\$150,000
2020-21	PCI Erosion	\$125,000
2020-23	MCI Erosion @ Moores Creek Crossing (Near Avon Ct)	\$40,000
2021-02	CZI-MH-96 Slope Failure	\$40,000
2021-04	UWL-ARV-15 Settlement	\$25,000
2021-08	MCAWRRF Digester Manway Sealing	\$70,000
2021-09	SLW Erosion Near SLW-022	\$15,000
2021-13	UWL-ARV-12 Abandonment and Replacement	\$75,000

• <u>Urban Water Line Valve and Blow-off Repair</u>: 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. Faulconer Construction mobilized to UWL-025 at Gasoline Alley during the week of April 5. Similar to UWL-017, a redundant valve was installed to end any leakage from the site, and the outlet was reworked by Faulconer Construction to allow for a safe and effective discharge should the assembly ever need to be used during a system emergency. Repairs at this location were completed on April 14. Relocation of a nearby ARV in a difficult to access location is still being planned, however, this has been moved to a separate project due to the anticipated depth of the water main and proximity of adjacent utilities (Project No. 2021-13). 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 as availability allows.

- 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 cannot be inspected due to the incoming flows.
- <u>Finished Water Sampling Stations</u>: 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. This work is slated to be completed by Faulconer Construction in August.
- PCI Erosion: RWSA 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 and site conditions allow.

- <u>MCI Erosion @ Moores Creek Crossing (Near Avon Ct)</u>: 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. Staff visited the site on May 21, and confirmed that no infrastructure is exposed at this time. However, the placement of large rip-rap will be required to protect the sewer line from future high flow/erosion events. Staff has coordinated the work with the surrounding property owners and applicable regulatory agencies, with work slated to be completed in August.
- <u>CZI-MH-96 Slope Failure</u>: Following recent heavy rains, the RWSA Engineering Department performed a 1-year inspection of the previous bank repair at CZI-MH-96. While the vast majority of the repair was found to be in good condition, a short stretch of the imbricated stone wall was undercut from behind, which caused a short stretch of the wall to become dislodged and fall over. Staff will coordinate the repairs with its On-Call Contractor, which will include repairs to the wall and additional erosion control measures behind the wall. Work is anticipated to be completed in August, and coordination with applicable regulatory agencies and property owners has been completed.
- <u>UWL-ARV-15 Settlement:</u> While marking a Miss Utility Ticket, the RWSA Engineering Department identified an ARV that was settling with a small section of Kenwood Lane. No immediate danger to the ARV is present, however, staff has looked at the issue with its On-Call Maintenance Contractor and is coordinating the necessary repairs for completion following some adjacent City sanitary sewer replacement.
- <u>MCAWRRF Digester Manway Sealing</u>: Staff has identified the immediate need to repair gas leaks in Digesters #1, #2 and #3 at the MCAWRRF. The gas leaks are a safety concern and are causing significant concrete degradation which has led to Digester #2 being taken out of service thereby reducing solids processing redundancy. Following external and internal inspections by our engineering consultants, it has been decided that installation of rubber seals in the manways and sample ports will mitigate gas leaks into the annular roof space and decrease further concrete degradation. Waco, Inc. was selected to perform the work under an Emergency Declaration by the Executive Director and seals have been installed in Digester #2. As that digester is placed back into service, the effectiveness of the seals will be evaluated prior to proceeding with seal installations in Digesters #1 and #3.
- <u>Erosion Near SLW-022</u>: In Spring 2021, staff identified an area of erosion over RWSA's 20" Southern Loop Waterline (SLW), located near Forest View Road in Albemarle County. During subsequent site visits, it was determined that an adjacent creek/stormwater channel has silted in, causing water to become redirected over the RWSA Easement during heavy rain events. Staff is

coordinating easement restoration efforts through its On-Call Maintenance Contract, and is also coordinating with Albemarle County Water Resources staff on potential collaborative efforts to address the issues on the RWSA easement and improve stormwater flow in the area.

• <u>UWL-ARV-12 Abandonment and Replacement:</u> As mentioned under the Urban Waterline Valve and Blow-off repair project above, UWL-ARV-12, which is located in the entrance to the Exxon Gas Station along Rio Road, is slated to be abandoned in place due to its condition and difficult to access location. The Air Release Valve will be relocated into an adjacent grassy area, improving performance with all-new materials, and facilitating better staff access. This work will be performed through the On-Call Maintenance Contract as availability allows.

22. Interceptor Sewer and Manhole Repair

Design Engineer:	Frazier Engineering
Construction Contractor:	TBD
Construction Start:	November 2017
Percent Complete:	Procurement
Base Construction Contract +	
Change Orders to Date = Current Value:	TBD
Expected Completion:	June 2022
Total Capital Project Budget:	\$1,088,330 (Urban) + \$880,000 (Crozet) =
	\$1,968,330

<u>Current Status</u>: With the completion of the Upper Morey Creek Interceptor (MRI) Point Repair/New MH Installation, all rehabilitation work on the Upper MRI has been completed. Staff continues coordination on the lower Powell Creek Interceptor and a portion of the Woodbrook Interceptor, as these are the next high-priority areas 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. After discussions with RWSA's current Sanitary Sewer Rehabilitation Contractor, IPR Northeast, it was determined that they were going to be unable to complete the necessary sewer cleaning and televising prior to the Substantial Completion date for the Contract. Staff has issued a quote package to procure a contractor who will perform the necessary sewer cleaning and televising along the Powell Creek and Woodbrook Interceptors, with the goal of completing this work during the summer season. Once that work is complete, staff can review the CCTV and plan for the necessary sewer rehabilitation.

23. Security Enhancements

Design Engineer:	N/A		
Construction Contractor:	Security 101		
Construction Start:	March 2020		
Percent Complete:	100% WA 1, 20% WA 2 & 3		
Based Construction Contract +			
Change Orders to Date = Current Value:	\$718,428.00 (WA1) + \$91,130.32 (WA2) +		
	\$128,166.69 (WA3) = \$937,725.01 (total)		
Completion:	September 2021 (WA 2 & 3)		
Approved Capital Budget:	\$2,730,000		

<u>Current Status</u>: Access control system installation is underway for all exterior doors at MCAWRRF, as well as all WTP motorized gates. Device installation at all sites has been completed. The Card Access System is in use at the Administration, Engineering, and Maintenance Buildings at MCAWRRF, as well as at the WTP gates. Programming has been completed by Security 101, and the only task that remains is some door/lock improvements at MCAWRRF, which will help enhance the functionality of the access control system and allow it to be placed fully online. This work will be completed under Work Authorization No. 2, along with installation of card access on 3 additional doors, and improvements to the intercom system in the Administration Building. Work Authorization No. 3 is also underway, which will include card access installation at the Crozet and Scottsville WTPs. Equipment has been ordered for both WA No. 2 & 3, and Security 101 is awaiting the arrival of the equipment following its lead times. Improvements to the intercom system in the Administration Building have been completed, and conduit installation at Crozet and Scottsville WTP is underway.

History

Under Construction

1. 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.

2. 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.

3. 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.

4. 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 the project was awarded to Pyramid

Electrical Contractors, LLC. Notice to Proceed was provided on April 13, 2021.

5. 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. A Notice of Award was issued to Waco, Inc.

6. 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 inplant 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. The project was advertised, and bids are due on July 1, 2021.

7. 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. A work authorization for this project has been finalized and design is underway. The project was advertised, and bids are due on July 8, 2021.

Design and Bidding

8. <u>Ragged Mountain Reservoir to Observatory Water Treatment Plant Raw Water Line and</u> <u>Raw Water Pump Station</u>

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. South Rivanna Reservoir to Ragged Mtn. Reservoir Raw Water Line -Birdwood to Old Garth

This project is the continuation of the SRR to RMR 36" raw water pipeline built on the Birdwood Golf Course. Design effort were authorized in June 2021 with construction anticipated in Summer 2022.

10. Beaver Creek Dam and Pump Station Improvements

<u>Dam:</u> 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.

<u>Pump Station</u>: 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.

11. 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.

12. 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.

13. 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.

Planning and Studies

14. 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.

15. 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.

16. 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.

17. 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 also assisted RWSA with the procurement of a new CMMS software package to facilitate the overall program. Cityworks was selected and implementation has begun.

18. 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.

19. 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 studied 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.

The study is anticipated to be completed in 4 phases: 1. Analysis and Correlation of Existing Water Quality and Seasonal Weather Data 2. Enhanced Water Quality Sampling 3. Pretreatment Piloting 4. Level Setting for the Final Pretreatment Solution. Phase 1 commenced in January 2021.

20. Central Water Line

Route alignment determination, hydraulic modeling, and preliminary design were underway in 2017. Due to the complicated nature of our finished water systems, it was decided at the August 2018 Board meeting that a more comprehensive approach was warranted and we should complete the Finished Water Master Plan prior to moving forward with final design and construction of the Central Water Line (formerly referred to as the Avon to Pantops Water Main). The focus of this project was on the southern half of the urban area water system which is currently served predominantly by the Avon

Street and Pantops water storage tanks. The Avon Street tank is hydraulically well connected to the Observatory Water Treatment Plant, while the Pantops tank is well connected to the South Rivanna Water Treatment Plant. The hydraulic connectivity between the two tanks, however, is less than desired, creating operational challenges and reduced system flexibility. In 1987, the City and ACSA developed the Southern Loop Agreement which laid out two key phases (with the first being built at the time). The 1987 Agreement and planning efforts were a starting point for this current project. An engineering contract has been negotiated and was approved by the Board of Directors in July 2017. Recent efforts and modeling for the Urban Finished Water Infrastructure Master Plan have determined that a central water line corridor through the City is the best option to hydraulically connect the Observatory Water Treatment Plant to the Pantops area.

Other Significant Projects

21. 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.

• <u>Urban Water Line Valve and Blow-off Repair</u>

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.

22. 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.

23. 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.



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 JUNE 2021
DATE:	JULY 27, 2021

The monthly and average daily Urban water system usages by the City and the ACSA for June 2021 were as follows:

	Month	Daily Average	
City Usage (gal)	151,466,267	5,048,209	47.5%
ACSA Usage (gal)	167,293,906	5,576,464	52.5%
Total (gal)	318,740,173	10,624,672	

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

NOTE: Annual calibration testing of wholesale and finished water meters was completed in June, 2021. Meter Site 25, located on Colonnade Drive, was not able to be calibrated due to a malfunctioning valve. RWSA is assessing options for repairing the valve and will calibrate this meter in the next cycle.



Figure 1: City of Charlottesville Monthly Water Usage and Allocation

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





TO: RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS

FROM: ANDREA BOWLES, WATER RESOURCES MANAGER

REVIEWED BY: JENNIFER WHITAKER, DIRECTOR OF ENGINEERING AND MAINTENANCE

BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: DROUGHT MONITORING REPORT

DATE: JULY 27, 2021

Staff continues to carefully monitor the weather for indications of drought. Attached is a Drought Monitoring Report which looks at DEQ drought status, local precipitation statistics, reservoir storage, and regional streamflows.

Current drought status is Normal.

Board Action Requested:

Provided for informational purposes only.



www.rivanna.org

Memorandum

Date:	7/19/21
To:	Bill Mawyer
From:	Andrea Bowles
Cc:	Dave Tungate; Matt Bussell; Jennifer Whitaker; Wayne Barnes
Re:	Drought Monitoring Report

Current Status DEQ and USDA



VA DEQ Drought Status 7-18-2021

The Virginia Drought Monitoring Task Force met on June 25, 2021 and again on July 8, 2021. The reports acknowledged that the state is seeing lower than normal rainfall reports, however, no drought phases have been initiated. The Task Force reported that no Virginia utilities had implemented restrictions. The next meeting is scheduled for July 29, 2021.

DEQ Current Drought status is: Normal

Precipitation

Charlottesville Precipitation (in.)			
July to-date	2.35		
July normal -to-date	1.94		
Year-to-date	18.47		
Normal for Year-to-date	22.51		
Departure from normal	-4.04		

Source: National Weather Service, National Climatic Data Center (NCDC). Daily Climatological Report for Charlottesville, VA, July 18, 2021

Low chance of rain in next two weeks. Possibility of isolated thunderstorms.

Current Reservoir Status

Reservoir	Level (ft)	% Full	Useable Storage Volume (MG)	Rainfall (in)	Flow Release to River#
Sugar Hollow *	-10.12′	61.40	209.48	0.00	0.08 MGD
Ragged Mountain	-1.44′	94.55	1,390.71	0.04	0.04 MGD
South Rivanna	Full	100.00	884.9	0.22	Spillway Overflow
Totier Creek	Full	100.00	155	0.00	Spillway overflow
Beaver Creek	-0.57	96.40.	479.60	0.20	N/A

*Sugar Hollow Reservoir drawn down for construction. Not currently transferring to RMR

Urban Reservoirs useable capacity of 92.13%.

USGS Gaging Stations Near Urban Area

<u>Rolling 7-day avg: July 12 - 18 2021</u> <u>Median daily flow: July 18, 2021;</u> for the periodic of record (approx. 30 - 80 years)

Gage #	Streamflow: rolling 7- day avg		Streamflow: median daily flow	
	cfs	mgd	cfs	mgd
1	16.4	10.61	35	22.62
2	7.6	4.88	14	9.05
3	22.1	14.28	23	14.86
4	36.0	23.23	62	40.07

- 1. 02031000 Mechums River near White Hall, VA https://waterdata.usgs.gov/usa/nwis/uv?02031000
- 2. 02032250 Moormans River near Free Union, VA https://nwis.waterdata.usgs.gov/va/nwis/uv?site_no=02032250
- 3. 02032640 N F Rivanna River near Earlysville, VA https://waterdata.usgs.gov/va/nwis/uv/?site_no=02032640&PARAmeter_cd=00065,00060,00062
- 4. 02032515 S F Rivanna River near Charlottesville, VA https://waterdata.usgs.gov/va/nwis/uv/?site_no=02032515&PARAmeter_cd=00065,00060,62620,62614

Oasis Modeling

• As RWSA continues to monitor the conditions, the drought model may be run when warranted.



TO: RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS

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

REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: APPROVAL OF ENGINEERING SERVICES – RAGGED MOUNTAIN RESERVOIR TO OBSERVATORY WATER TREATMENT PLANT RAW WATER PUMP STATION – KIMLEY-HORN

DATE: JULY 27, 2021

The Ragged Mountain Reservoir (RMR) to Observatory Water Treatment Plant (OBWTP) Raw Water Pump Station (RMR PS) is planned to replace the existing Stadium Road and Royal Pump Stations, which have exceeded their design lives (over 40 and 70 years old, respectively) and require increasing levels of maintenance due to the aging buildings and process/mechanical equipment inside of each. In addition, significant capital upgrades would be required to allow the two existing pump stations to reliably meet the OBWTP's upcoming expanded capacity of 10 million gallons per day (MGD). As such, the new pump station will be designed with a capacity of at least 10 MGD to the Observatory WTP and will be integrated with the planned South Rivanna Reservoir (SRR) to RMR pipe for improved operational and cost efficiencies. This integrated pump station will also include the capacity to transfer up to 16 MGD of raw water from RMR back to the South Rivanna WTP (SRWTP), as envisioned in the Community Water Supply Plan.

RWSA entered into a term agreement with Kimley-Horn and Associates on May 4, 2021 for Professional Water & Sewer Engineering Services. Under this Contract, Kimley-Horn would provide Professional Engineering Services for the RMR PS Project to include design, permitting, bidding, construction administration and part-time field inspection services. All design work outside of the fence line of the anticipated PS site will be performed under a separate RMR to OBWTP Raw Water Line Work Authorization, which is also included in this month's Board packet. A determination will be made during the design of both efforts as to whether the pump station and water line work will be bid as a single project.

Board Action Requested:

Authorize the Executive Director to execute a work authorization with Kimley-Horn and Associates for Design, Survey, Geotechnical, Permitting, Bidding, and Construction Phase services for the RMR to OBWTP Raw Water Pump Station Project, for an amount not to exceed

\$1,156,508, and any amendments needed to complete the tasks identified above, not to exceed 25% of the original contract amount, provided the resulting total value is within the Board approved total CIP project budget.



TO: RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS

- FROM: JENNIFER A. WHITAKER, DIRECTOR OF ENGINEERING AND MAINTENANCE
- **REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR**

SUBJECT:APPROVAL OF ENGINEERING SERVICES – RAGGED
MOUNTAIN RESERVOIR TO OBSERVATORY WATER
TREATMENT PLANT RAW WATER PIPE – KIMLEY-HORN

DATE: JULY 27, 2021

Raw water is currently transferred from the Ragged Mountain Reservoir (RMR) to the Observatory Water Treatment Plant (OBWTP) by way of two 18-inch cast iron water pipes which have been in service for more than 110 and 70 years, respectively. In addition to the need to increase transfer capacity between the RMR and OBWTP, increased frequency of emergency repairs and expanded maintenance requirements have necessitated replacement of these water pipes with a single, new raw water pipe. This new raw water pipe is expected to be constructed of 36-inch ductile iron and will span a distance of approximately 3.5 miles, to include all water pipe from RMR to the proposed Pump Station (PS), as well as all water pipe from the PS to the OBWTP, and from the PS to the southern terminus of the previously constructed Birdwood Raw Water Pipe.

RWSA entered into a term agreement with Kimley-Horn and Associates on May 4, 2021 for Professional Water & Sewer Engineering Services. Under this Contract, Kimley-Horn would provide Professional Engineering Services for the RMR to OBWTP Water Pipe Project to include design, permitting, bidding, construction administration and part-time field inspection services. All design work within the fence line of the anticipated PS site will be performed under the RMR PS Work Authorization, which is also include in this month's Board packet. A determination will be made during the design of both efforts as to whether the water pipe and pump station will be bid as a single project.

Board Action Requested:

Authorize the Executive Director to execute a work authorization with Kimley-Horn and Associates for Design, Survey, Geotechnical, Permitting, Bidding, and Construction Phase services for the RMR to OBWTP Raw Water Pipe Project, for an amount not to exceed \$1,066,667, and any amendments needed to complete the tasks identified above, not to exceed 25% of the original contract amount, provided the resulting total value is within the Board approved total CIP project budget.



TO: RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS

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

REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: CONSTRUCTION CONTRACT AWARD AND CAPITAL IMPROVEMENT PLAN AMENDMENT- GLENMORE WRRF INFLUENT PUMP AND VFD ADDITION

DATE: JULY 27, 2021

The Glenmore WRRF is predicted to receive additional dry and wet weather flows as residential and commercial construction within the service area continues. Future wet weather flows will require higher influent pumping capacity. An additional pump and electrical variable frequency drive (VFD) will be required to maintain firm capacity. In addition, the exhaust fan in the pump station wet well is deteriorated and needs to be replaced.

A Request for Bids was issued on June 8, 2021, and a pre-bid conference was held on June 16, 2021. Construction bids were opened on July 8, 2021. Three bids were received for the project ranging from \$288,000 to \$354,900. The apparent low bid was received from MEB General Contractors at \$288,000.

Our design engineer, Wiley|Wilson, has reviewed the bid received from MEB General Contractors, and finds that the proposal meets the project specifications, and has verified that the bid and attached documents are both responsive and responsible. Therefore, we are recommending award to MEB General Contractors as the apparent low bidder for a contract price of \$288,000.

The current Capital Improvement Plan budget for this project is \$120,000. This project budget accounted for installation of a new pump and VFD, but once design began, additional project needs were identified related to the installation of additional wire and conduit, cleaning of the wet well as required for installation of the pump suction elbow, and replacement of the wet well exhaust fan and associated components. Based on the range of bid prices received, Wiley|Wilson and staff believe the pricing provided is in accordance with the current market value for the work. Incorporating MEB's bid value of \$288,000 represents an increase to the CIP Budget of \$250,000.

Board Action Requested:

Staff requests that the Board of Directors:

- 1. Authorize the Executive Director to award a construction contract to MEB General Contractors for a total value of \$288,000 for the Glenmore WRRF Influent Pump and VFD Addition Project, and any change orders up to 15% of the original contract amount.
- 2. Amend the Capital Improvement Plan for Fiscal Years 2022 2026 to include a budget increase for the Glenmore WRRF Influent Pump and VFD Addition Project of \$250,000. This amendment would bring the total budget for the Glenmore Pump and VFD project to \$370,000.



TO: RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS

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

REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT:CONSTRUCTION CONTRACT AWARD AND CAPITAL
IMPROVEMENT PLAN AMENDMENT- MOORES CREEK IN-
PLANT CLARIFIERS AND LIME SILO DEMOLITION

DATE: JULY 27, 2021

Moores Creek AWRRF has several treatment processes that are no longer in use and require demolition and removal. Two in-plant clarifiers were constructed in the late 1950's and were taken out of service after completion of the Odor Control Project around 2018. 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 plate and frame presses before centrifuges were installed for sludge dewatering purposes around 2018. 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.

A Request for Bids was issued on June 3, 2021, and a virtual pre-bid conference was held on June 15, 2021. Construction bids were opened on July 1, 2021. Two bids were received for the project ranging from \$643,000 to \$1,389,000. The apparent low bid was received from Pleasant View Developers at \$643,000.

Our design engineer, Hazen & Sawyer, has reviewed the bid received from Pleasant View Developers and finds that their proposal meets the project specifications, and has verified that the bid and attached documents are both responsive and responsible. Therefore, we are recommending award to Pleasant View Developers as the apparent low bidder for a contract price of \$643,000.

The current Capital Improvement Plan budget for this project is \$655,000, but based on a more recent construction cost estimate developed for the project, pricing was expected to exceed the available budget due to the current economic situation and the heavy construction market. Based on the range of bid prices received, Hazen & Sawyer and staff believe the pricing provided is in accordance with the current market value for the work. Incorporating Pleasant View Developer's

bid value of \$643,000 represents an increase to the CIP Budget of \$135,000.

Board Action Requested:

Staff requests that the Board of Directors:

- 1. Authorize the Executive Director to award a construction contract to Pleasant View Developers for a total value of \$643,000 for the MCAWRRF In-Plant Clarifiers and Lime Silo Demolition Project, and any change orders up to 15% of the original contract amount.
- 2. Amend the Capital Improvement Plan for Fiscal Years 2022 2026 to include a budget increase for the MCAWRRF In-Plant Clarifiers and Lime Silo Demolition Project of \$135,000. This amendment would bring the total budget for the MCAWRRF In-Plant Clarifiers and Lime Silo Demolition Project to \$790,000.


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: FY 22 – 26 CAPITAL IMPROVEMENT PLAN AMENDMENT – EMMET STREET WATER PIPE PROJECT

DATE: JULY 27, 2021

We are requesting an additional FY 22 Capital Project with a budget of \$1 M to fund collaborative "betterment" work with two of UVA's current projects: the Ivy Corridor Public Realm project, and the Contemplative Commons project. This funding includes engineering and construction costs for these betterment opportunities, as well as planning efforts for the overall Emmet Street Water Line Project to identify additional betterment opportunities and plans for future components of the project.

Background

Through our Urban Finished Water Master Planning process, we have identified a need to upsize the existing 16" water transmission main in Emmet Street to a 30" main and to extend a 24" water main from the CSX Railroad near Lambeth Field to the South Rivanna Water Line at Hydraulic Road. These water main improvements will be needed by 2045. Two current University of Virginia construction projects have been identified within this Emmet Street corridor as opportunities for water line betterment coordination to cost effectively upsize portions of the existing 16" water main to a 30" main to meet future water system needs.

The first of these betterment opportunities is the Ivy Corridor Public Realm plan, which requires relocation of a short section of the RWSA 16" main in Emmet Street to accommodate a large new stormwater culvert. RWSA is proposing to pay betterment to increase the relocated water main to 30" and extend the limits of the water line relocation to minimize future disturbance to other utilities. Construction of this project is already underway, and the RWSA relocation and betterment work is expected to take place in fall of 2021.

The second betterment opportunity is the construction of the UVA Contemplative Commons Building adjacent to the UVA Dell pond. This project includes construction of a large-diameter stormwater pipe in proximity to an existing 16" RWSA water main. Contemplative Commons is expected to be bid this summer with construction to begin in the fall of 2021. Both projects offer the opportunity to reduce traffic impacts and disruption to these spaces though the use of coordinated efforts to significantly reduce future construction and site restoration costs.

Board Action Requested:

Amend the Capital Improvement Plan for Fiscal Years 2022 - 2026 to create a new project with a budget of \$1 M for an Emmet Street Water Line Project. This funding is proposed for Fiscal Year 2022.



MEMORANDUM

TO: RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS

FROM: LONNIE WOOD, DIRECTOR OF FINANCE AND ADMINISTRATION

REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: REIMBURSEMENT RESOLUTION – CIP FUNDING

DATE: JULY 27, 2021

Adoption of the Capital Improvement Plan (CIP) at the regular June meeting allows the Authority to move forward into a period of significant financing activity to fund many of the construction projects identified in the plan. We are currently using the latest bond issue from the Series 2018 Bond to finance several projects. However, as detailed in the approved CIP document, additional debt funding not covered in the current bonds for several projects is required over the next five years.

The attached Resolution of Official Intent (reimbursement resolution) and Exhibit A provide an estimate that as much as \$129 million in new debt funding may be needed to finance project costs, which can be implemented in multiple issuances over several years as needed. After adding issuance cost requirements, a total of up to \$132.9 million is estimated. As projects begin, we typically use 100% cash from the capital fund to pay project costs. Occasionally, we use temporary financing before bond sales to fund the projects. Then, after permanent financing is in place, bond proceeds are used to partially pay back cash to the capital fund (or pay off temporary financing) - in essence pay ourselves back. This capability to pay ourselves back as each debt issuance takes place is very important to provide the financial flexibility and continuity as projects are implemented while also complying with debt covenants and regulations (e.g. arbitrage requirements).

In order to perform this reimbursement with tax exempt borrowings, the Authority needs to have a "Reimbursement Resolution" in place each year after the new CIP is adopted. The attached resolution does this and <u>does not</u> specifically authorize the issuance of the debt. This resolution does not fix the exact amount of the future debt we will issue, although it is important that we not issue debt in amounts larger than the amount stated in this resolution. The attached resolution states the official intention of the Board to fund projects with debt, and additionally states that some proceeds of this debt, when issued for the purposes of funding projects in the CIP, will be used to pay for costs incurred <u>prior to</u> the date of the debt being issued. The Authority has routinely adopted reimbursement resolutions in the past and adopted one similar to this following the last several updates of the CIP that were approved by the Board. The reimbursement resolution included with the Board agenda item is required for tax-exempt bond issues.

Board Action Requested:

Approve the attached *Resolution of Official Intent To Reimburse Expenditures With Proceeds of a Borrowing*.

Attachment

RESOLUTION OF OFFICIAL INTENT TO REIMBURSE EXPENDITURES WITH PROCEEDS OF A BORROWING

WHEREAS, Rivanna Water and Sewer Authority (the "Borrower") intends to acquire, construct and equip improvements to its water and sewer system, including without limitation the capital improvement projects described in <u>Exhibit A</u> attached hereto (collectively, the "Project"); and

WHEREAS, plans for the Project have advanced and the Borrower expects to advance its own funds to pay expenditures related to the Project (the "Expenditures") prior to incurring indebtedness and to receive reimbursement for all or a portion of such Expenditures from proceeds of tax-exempt bonds or taxable debt, or both;

BE IT RESOLVED BY THE RIVANNA WATER AND SEWER AUTHORITY:

1. The Borrower intends to utilize the proceeds of tax-exempt bonds (the "Bonds") or to incur other debt, in an amount not currently expected to exceed \$132,900,000 to pay all or a portion of the costs of the Project.

2. The Borrower intends that the proceeds of the Bonds be used to reimburse the Borrower for Expenditures with respect to the Project made on or after the date that is no more than 60 days prior to the date hereof. The Borrower reasonably expects on the date hereof that it will reimburse the Expenditures with the proceeds of the Bonds or other debt.

3. Each Expenditure was or will be, unless otherwise approved by bond counsel, either (a) of a type properly chargeable to a capital account under general federal income tax principles (determined in each case as of the date of the Expenditure), (b) a cost of issuance with respect to the Bonds, (c) a nonrecurring item that is not customarily payable from current revenues, or (d) a grant to a party that is not related to or an agent of the Borrower so long as such grant does not impose any obligation or condition (directly or indirectly) to repay any amount to or for the benefit of the Borrower.

4. The Borrower intends to make a reimbursement allocation, which is a written allocation by the Borrower that evidences the Borrower's use of proceeds of the Bonds to reimburse an Expenditure, no later than 18 months after the later of the date on which the Expenditure is paid or the Project is placed in service or abandoned, but in no event more than three years after the date on which the Expenditure is paid. The Borrower recognizes that exceptions are available for certain "preliminary expenditures," costs of issuance, certain <u>de minimis</u> amounts, expenditures by "small issuers" (based on the year of issuance and not the year of expenditure) and expenditures for construction of at least five years.

5. The Borrower intends that the adoption of this resolution confirms the "official intent" within the meaning of Treasury Regulations Section 1.150-2 promulgated under the Internal Revenue Code of 1986, as amended.

6. This resolution shall take effect immediately upon its passage.

July 27, 2021 - draft

2022 - 2026 2021 - 2025 Adopted Adopted CIP Change \$ CIP **Project Cost** \$ 95,873,000 \$ 74,977,900 \$ 20,895,100 **Urban Water Projects** 39,725,330 22,520,000 **Urban Wastewater Projects** 17,205,330 Non-Urban Projects & Shared 34,555,000 35,011,000 (456,000)**Total Project Cost Estimates** \$ 170,153,330 \$ 132,508,900 \$ 37,644,430 **Funding in place** Work-in-Progress (paid for) \$ 6,913,000 5,402,500 1,510,500 \$ **Debt Proceeds Available** 19,755,100 29,488,800 (9,733,700)Cash-Capital Available 7,686,300 4,688,000 (2,998,300)\$ 31,356,100 Ś 42,577,600 \$ (11,221,500) **Financing Needs Possible Future Reserves** \$ 9,700,000 10,630,000 (930,000) New Debt 129,097,230 79,301,300 49,795,930 \$ 138,797,230 89,931,300 \$ 48,865,930 Ś **Total Funding** \$ 170,153,330 \$ 132,508,900 \$ 37,644,430 Percentage of funding in place 18.4% 32.1% Ratio of debt to expense 91.5% 86.2% Ratio of cash to expense 8.5% 13.8%

Summary of the Capital Improvement Plan and financing plan as adopted on May 25, 2021:

The undersigned Secretary of the Rivanna Water and Sewer Authority hereby certifies that the foregoing is a true and correct copy of the resolutions adopted by the Board of Directors of the Authority at the regular meeting of the Board of Directors held on **July 27, 2021**.

Name: Jeff Richardson

Title: Secretary, Rivanna Water and Sewer Authority

Water & Sewer Funding from the "American Rescue Plan Act of 2021"



PRESENTED TO THE BOARD OF DIRECTORS BY BILL MAWYER, EXECUTIVE DIRECTOR JULY 27, 2021



Federal Stimulus and Resilience Funding Review

- 1. "Coronavirus Aid, Relief and Economic Security Act of 2020" (CARES Act):
 - \$2 Trillion
 - Provided economic relief for individuals and businesses resulting from the COVID pandemic, including additional unemployment benefits and reimbursement of COVID related expenses for localities

2. "American Recue Plan Act of 2021" (ARPA):

- \$1.9 Trillion
- Provides economic relief, premium pay to essential workers, recovery of reduced revenues for localities, and investments in water, sewer and/or broadband infrastructure

3. "American Jobs Plan of 2021" (proposed):

- \$1-3.5 Trillion
- Provide major investment in transportation, utilities, housing, and school infrastructure over 10 years
- 4. FEMA "Building Resilient Infrastructure and Communities" (BRIC) Program of 2020:
 - \$0.001 Trillion = \$1 Billion in 2021
 - Shovel-ready projects
 - 25% matching funds requirement
 - Applications to State in October 2021
 - Competition is historically high for these funds, and "Median Household Income" is a factor

ARPA Overview

- •There are two major "American Rescue Plan Act" (ARPA) pots of money from the federal government.
 - One to the States, called the Coronavirus State Fiscal Recover Fund
 - One to Local governments, called the Coronavirus Local Fiscal Recovery Fund
- •The Commonwealth of Virginia is receiving \$4.3 billion for its fund. The Local Fund in Virginia will receive about \$3 billion for metropolitan cities, counties, and towns.
- •While Water and Sewer Authorities do not have a <u>direct</u> appropriation or access to either the State or Local pots of money, it is possible that either or both the State and the Local funds could appropriate funds to Authorities.
- •For the State to appropriate funds to Authorities, the General Assembly will have to decide to use some of its funds for water and sewer projects, and its appropriation will have to specifically include Authorities. The GA will convene in August to decide how to appropriate its \$4.3 billion.
- •For a Local government to appropriate funds to Authorities, its governing board/council will have to do so.

The Coronavirus Local Fiscal Recovery Fund in Virginia

Nationwide, local governments will receive \$130.2 billion in aid to be split among counties, metropolitan cities and non-entitlement units of local government (NEUs).

- Counties: \$65.1 billion → *Virginia Counties* = \$1,657,924,506
- Metropolitan cities: \$45.57 billion → Virginia Metro Cities = \$618,276,089
- NEUs (certain cities, towns and villages with fewer than 50,000 people): \$19.53 billion → Virginia NEUs= \$633,753,549

Four General Uses of the Local Fiscal Recovery Fund

- Respond to the public health emergency or its negative economic impacts;
- Provide premium pay to essential workers or grants to employers of essential workers by providing premium pay to eligible workers;
- Provide government services to the extent of any revenue reduction resulting from the pandemic; and
- 4. Make necessary capital investments in water, sewer, and/or broadband infrastructure.

Eligible uses do not include depositing funds into any pension fund.

Make Necessary Investments in Water, Sewer, and/or Broadband Infrastructure

Water and Sewer:

- If the project would be eligible to receive funding through the Environmental Protection Agency's <u>Clean Water State Revolving Fund</u> (CWSRF) or the <u>Drinking</u> <u>Water State Revolving Fund</u> (DWSRF), it works for the Local Fiscal Recovery Fund.
- Local governments identify the investments in water and sewer infrastructure that are of the highest priority for their communities.
- U.S. Treasury encourages using Fiscal Recovery funds for projects that:
 - Improve drinking water infrastructure
 - Consolidate or establish drinking water systems
 - Support cybersecurity needs to protect water or sewer infrastructure
 - Support efforts to address climate change
 - Provide relief in cases of a natural disaster
- Note: Funds cannot be used for the non-federal match portion of CWSRF, DWSRF funding

Make Necessary Investments in Water, Sewer, and/or Broadband Infrastructure

1. If an eligible water/wastewater project was planned or started *prior* to March 3, 2021 <u>AND</u> The project costs were incurred *after* March 3, 2021, Local Fiscal Recovery Funds may be used for these costs.

 Construction on eligible water, sewer, or broadband infrastructure projects may continue until December 31, 2026, assuming funds have been obligated by December 31, 2024.

Potential Projects for ARPA Funds

Red Hill WTP Upgrade	\$0.2 M
Scottsville WTP Lagoon Liners Replacement	\$0.35 M
Raw Water Pipe, Ivy Road to Old Garth (SRR-RMR)	\$2 M
Methane Reuse Facility Repairs, MC WWTP	\$4 M
2nd Pipe Crossing, South Rivanna River	\$5 M
Electrical System Replacement, MC WWTP	\$5 M
Sedimentation Improvements, SR WTP	\$6 M
Central Water Pipe, OB WTP to High/Long St Bridge	\$25 M
Raw Water Pipe & Pump Station, RMR to OB WTP	\$25 M

Requests for State & Federal Funds

- 1. Several localities (Cities of Richmond, Alexandria and Lynchburg):
 - Requested \$1.4 B from State ARPA to correct combined sewer overflow issues.
- 2. Virginia Water and Wastewater Authorities Association:
 - Requested State ARPA funds be provided directly to Authorities
- 3. Virginia Municipal Drinking Water Association:
 - Requested State ARPA funds for drinking water infrastructure
- 4. National Association of Clean Water Agencies:
 - Urging Congressional Leadership for the highest level of funding for clean water infrastructure (American Jobs Plan).
- 5. Va Dept of Health, Office of Drinking Water:
 - Requested list of RWSA water projects

Summary:

- RWSA is not scheduled to receive any direct funding from the ARPA program for water and sewer infrastructure.
- Funding must come from the State, County and/or City.
- We are exploring funding opportunities thru the BRIC and "American Jobs Plan" programs.

QUESTIONS?

Strategic Plan YearThree Update

for the Board of Directors

Presented By: Katie McIlwee, Communications Manager

July 27, 2021



Strategic Direction

<u>Values</u>

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

January 2021 – July 2021:

Target Completion: 50%

Overall Completion: 56%

Workforce Development To attract, develop, and

retain a professional, highly skilled, dedicated, and versatile team

6 Goals

Environmental Stewardship

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

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

14 **Strategies**

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

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

26 Tactics

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

Workforce Development

Overall Completion: 60%

Goal Team Leader: Betsy Nemeth & Lonnie Wood

Conduct Training Needs Assessment & Enhance the Training Program

• Employees completed an Individual Development Plan based on their needs and year-end evaluations

Next Steps:

• Continue to work with PVCC on developing training relevant to different positions/department within the Authorities

Develop a Comprehensive Staffing, Classification, and Compensation Plan

- Issued RFP for completion of a Compensation Study and awarded contract to Evergreen Solutions, LLC
- Held kick-off meeting to begin compensation study

• Issue salary/benefits survey to peer groups

Operational Optimization

Overall Completion: 60%

Goal Team Leader: Dave Tungate

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

- Implemented quarterly GAC vessel backwashing schedule
- Began installation of automated system for polymer dosing
- Installed dissolved oxygen control at Scottsville WWTP
- Continued implementation of corrosion inhibitor

Next Steps:

- Complete installation of polymer dosing system
- Complete testing on dissolved oxygen control at Scottsville WWTP
- Complete implementation of corrosion inhibitor

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

- Completed addition of web-based cameras at Crozet, Glenmore, and Scottsville WWTP
- Completed Glenmore needs assessment
- Completed COVID response procedures
- Purchased articulated extension ladders
- Continued new employee safety training
- Updated Safety Manual

- Add new web-based cameras to Observatory WTP
- Review Glenmore needs assessment
- Begin construction on Glenmore WWTP safety upgrades
- Conduct fire and active shooter drills

Communication & Collaboration

Overall Completion: 65%

Goal Team Leader: Katie McIlwee

Create & Maintain Internal Communication Platforms

- Continued implementation of document management system
- Created a Records Management Policy
- Published bi-monthly newsletter

Create & Implement a Comprehensive Public Outreach Plan

- Developed Social Media Policy
- Created a Rivanna Authorities Facebook page and used FB page to advertise special events

Enhance Internal & External Communication

- Participated in Fix-a-Leak week activities with the City and ACSA
- Continued to live-stream monthly Board Meetings

Next Steps:

- Complete migration of legacy documents
- Create "how-to" guides and training videos for use of the Document Management System
- Plan and schedule project/facility videos
- Continue maintenance of website
- Continue use of social media to share information with the public
- Research broadcasting Board Meetings virtually once in-person meetings resume
- Resume facility tours, as appropriate
- Participate in "Day of Caring"
- Present to the Crozet Community Advisory Committee

Environmental Stewardship

Overall Completion: 50%

Goal Team Leader: Andrea Bowles

Increase Internal Environmental Engagement

• Participated in Oyster Shell Bagging Project at Ivy MUC Provide Regional Leadership in Environmental Stewardship Partnerships

- Continued Stormwater partnership and James River Riparian Consortium participation
- County Stream Health Workgroup

Evaluate Potential Opportunities for Additional Environmental Activities at RWSA Facilities

- Began development of Buck Mountain Property Management Plan to include engagement with neighbors
- Evaluated potential for silviculture and solar at Buck Mountain properties

- Next Steps:
- Continue to look for opportunities, such as stream cleanups, tree plantings, etc. to engage employees
- Participate in "Day of Caring"
- Continue with existing coordination
- Look for opportunities for collaboration

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

Solid Waste Services

Overall Completion: 55%

Goal Team Leader: Phil McKalips

Determine Community Needs & Preferred Service Levels

- Continued Recycling Ambassador Program at McIntire
- Participated in Oyster Shell Bagging Project at Ivy MUC to complete processing of oyster shells for seeding and return to the bay
- Published first recycling quiz for public via Rivanna Authorities' Facebook page

Next Steps:

- Begin design of Keene Convenience Center
- Complete repairs to the irrigation pond dam

Enhance Partnerships with Local Governments and UVA

- Implemented glass collection agreement with UVA
- Supported various UVA and student projects related to recycling
- Upgraded used cooking oil collection program across all sites for composting

- Conduct a study of regional localities mulch prices
- Continue coordinating with neighboring Counties to organize glass collection

Infrastructure & Master Planning

Overall Completion: 45%

Goal Team Leader: Scott Schiller

Implement an Authority-Wide Asset Management Program

- Developed a draft Tactical Asset Management Plan
- Began implementation of CMMS with mapping complete and configuration workshops scheduled
- Began phase 3 work with the creation of an Authority-wide asset registry for use in Cityworks

Next Steps:

- Begin the Cityworks configuration process through multiple workshops
- Review and finalize the draft Tactical Asset Management Plan

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

- Further analyzed the potential location of new digester complex at the Moores Creek WWTP
- Held internal review meetings on the draft Finished Water Master Plan
- Completed a routing study for the Central Water Line and initiated design services
- Coordinated with ACSA to finalize a plan for decommissioning of the North Rivanna WTP
- Developed a work authorization for the Glenmore and Stone Robinson WWTPs master plans/needs assessments
- Completed Crozet WTP upgrade

- Continue the master plan/needs assessment work for Glenmore and Stone Robinson WWTPs
- Finalize the reports associated with the Moores Creek WWTP and Finished Water Master Plans
- Schedule the annual master planning gap assessment
- Increase Crozet raw water pumping

Questions?