




Board of Directors Meeting


September 22, 2020


2:15pm



695 Moores Creek Lane | Charlottesville, Virginia 22902-9016

434.977.2970 

434.293.8858 

www.rivanna.org 

BOARD OF DIRECTORS

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

DATE: September 22, 2020

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 August 25, 2020

4. RECOGNITION – DR. TARRON RICHARDSON

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. Approval of Supplemental Water Treatment Systems Study, Design and Construction Agreement with UVA

9. OTHER BUSINESS

*a. Presentation: Water and Wastewater Treatment Facilities and Processes
Director of Operations, Dave Tungate*

10. OTHER ITEMS FROM BOARD/STAFF NOT ON AGENDA

11. CLOSED MEETING

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.

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.



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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 September 22, 2020 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 Chapter 1283 of the 2020 Acts of the Virginia Assembly effective April 24, 2020, and the Resolution of the Authority authorizing the adoption of procedures for electronic public meetings and public hearings, adopted by the Authority on May 26, 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(e) of the County's 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:

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.

Dr. 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, Executive Director

Lonnie Wood, Director of Finance & Administration

Jennifer Whitaker, Director of Engineering and Maintenance

Dave Tungate, Director of Operations

Katie McIlwee, Communications Manager & Executive Coordinator

John Hull, Software Analyst

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



RWSA BOARD OF DIRECTORS
Minutes of Regular Meeting
August 25, 2020

A regular meeting of the Rivanna Water and Sewer Authority (RWSA) Board of Directors was held on Tuesday, August 25, 2020 at 2:47 p.m. via Zoom.

Board Members Present: Mike Gaffney, Dr. Tarron Richardson, Lloyd Snook (left the meeting at 2:59 p.m.), Dr. Liz Palmer, Jeff Richardson, Gary O'Connell, and Lauren Hildebrand.

Board Members Absent: None.

Rivanna Staff Present: Bill Mawyer, Katie McIlwee, Lonnie Wood, Jennifer Whitaker, Matt Bussell, Andrea Terry, John Hull, and Andrea Terry.

Attorney(s) Present: Kurt Krueger.

Also Present: Access to the meeting was available via Zoom for members of the public and media representatives.

1. CALL TO ORDER

Mr. Gaffney called the August 25, 2020 regular meeting of the Rivanna Water and Sewer Authority to order at 2:47 p.m.

2. STATEMENT FROM THE CHAIR

Mr. Gaffney read the following statement aloud: "Notwithstanding any provision in our Bylaws to the contrary, as permitted under the City of Charlottesville's Continuity of Government Ordinance adopted on March 25, 2020, Albemarle County's Continuity of Government Ordinance adopted on April 15th, 2020, and Chapter 1283 of the 2020 Acts of the Virginia Assembly effective April 24, 2020, and the Resolution of the Authority authorizing the adoption of procedures for electronic public meetings and public hearings, adopted by the Authority on May 26, 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(e) of the County's Continuity of Government Ordinance. All board members will identify themselves and state their physical location by electronic means during the roll call which we will hold next. I note for the record that the public has real time audio-visual access to this meeting over Zoom as provided in the lawfully posted meeting notice and real time audio access over telephone, which is also contained in the notice. The public is always invited to send questions, comments, and suggestions to the Board through Bill Mawyer, the Authority's Executive Director, at any time."

Mr. Gaffney called the roll.

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

Mr. Gary O'Connell stated he was located at 168 Spotnap Road.

Dr. Lizbeth Palmer stated she was located at 2958 Mechum Banks Drive in Charlottesville, VA.

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

Dr. Tarron Richardson stated he was located at 605 East Main Street in Charlottesville, VA.

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

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

Mr. Gaffney stated the following Authority staff members were joining the meeting: Bill Mawyer (Executive Director), Lonnie Wood (Director of Finance & Administration), Jennifer Whitaker (Director of Engineering and Maintenance), Dave Tungate (Director of Operations), Andrea Terry (Water Resources Manager), Katie McIlwee (Communications Manager & Executive Coordinator), and John Hull (Software Analyst).

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

As it was a joint session, Mr. Krueger noted that the RSWA meeting was in recess and that the RWSA was open.

Mr. Mawyer noted they would go through the regular agenda and keep the RSWA Board members in the meeting.

3. MINUTES OF PREVIOUS BOARD MEETINGS

a. Minutes of Regular Board Meeting on July 28, 2020

Mr. Gaffney asked board members if they had comments or changes.

Dr. Palmer moved that the board approve the minutes of the previous board meeting. The motion was seconded by Mr. O'Connell and passed unanimously (7-0).

4. RECOGNITION

There were no recognitions.

5. EXECUTIVE DIRECTOR'S REPORT

Mr. Mawyer stated he wanted to recognize Mr. Matthew Mitchell, who is an RWSA employee. He stated he started with Rivanna less than a year ago as an unlicensed Water Operator trainee. He stated in less than a year, Mr. Mitchell completed all the training and experience requirements to take his Class II Water Operator's license test, which he took and passed. He

93 stated the only classification above this level was Class I. He congratulated Mr. Mitchell and
94 applauded the initiative he has taken to do the work at the Authority, as well as at home, to
95 prepare himself for the test.

96
97 Mr. Mawyer stated there was a lot of work going on at the reservoirs. He stated on August 6,
98 they activated the Emergency Action Plan because there were more than 3 inches of rain in 24
99 hours coming across the Sugar Hollow Reservoir Dam. He stated he notified all board members
100 that RWSA had activated the EAP. He stated it all worked out fine, and was an example of how
101 they manage the reservoirs, particularly during storms.

102
103 Mr. Mawyer stated that in Sparta, North Carolina, there was a 5.1 earthquake on August 9. He
104 stated following this, RWSA's two Dam Safety Engineers (Ms. Whitaker and Ms. Victoria Fort)
105 spent a full day in the field inspecting all the dams to make sure they were okay. He stated
106 thankfully, they were.

107
108 Mr. Mawyer stated RWSA had a meeting with the federal Natural Resources Conservation
109 Service the previous Friday as they began the Beaver Creek Reservoir Dam Modification
110 Project. He stated the NRCS is funding a planning study for that project, and RWSA hopes to
111 receive construction funding from them as well, which Ms. Whitaker would speak to in her
112 presentation later.

113
114 Mr. Mawyer stated that Ms. Liz Coleman (Safety Manager) was able to obtain a grant for RWSA
115 from the Virginia Risk Sharing Association. He stated this will be \$4,000 and will be applied to
116 safety equipment.

117
118 Mr. Mawyer presented an update on the easement acquisitions for the Rivanna to Ragged Mtn
119 reservoir pipeline. He noted that the black outline on the map represented locations where they
120 obtained easements, and the green line was the Birdwood line where work was completed. He
121 stated there was the first reading by City Council to grant easements at the Ragged Mountain
122 property for the pipeline. He stated progress was being made in acquiring the easements.

123
124 Mr. Mawyer stated the consent agenda included a large project for a 5kv electrical system
125 upgrade. He stated these are major electrical cables that serve many of the major wastewater
126 facilities at Moores Creek. He stated after a facility inspection, the engineer recommended that
127 the project be accelerated. He stated the project had been slated for 2026, and RWSA now wants
128 to move it to the 2021-2024 timeframe.

129
130 Mr. Mawyer stated there were bids and an award in the consent agenda to Alleghany
131 Construction to replace the rubber gate that is atop the Sugar Hollow Reservoir. He stated
132 Alleghany is the contractor that installed the original rubber gate 20 years ago and was the low
133 bidder on the recent project. He stated they plan to do the work in the fall and following spring.

134
135 Mr. Mawyer stated also on the consent agenda was a project to design a pipeline extension from
136 the South Rivanna Water Treatment Plant, beneath the South Rivanna River, to an existing
137 waterline on north Route 29. He stated in combination with the existing water line beneath the
138 river, they would have two redundant water feeds beneath the South Rivanna River. He stated

as that area continues to grow and expand, RWSA can provide more water to the northern section of its water zones.

6. ITEMS FROM THE PUBLIC

Mr. Gaffney opened "Items from the Public."

Ms. Dede Smith (City of Charlottesville resident) stated she would like to speak to the recent water demand study by Hazen and Sawyer and how it relates to RWSA's plans to build an \$80 million pipeline. She stated in 2005, when the current Community Water Plan was selected, the water demand data used predicted a need for 18.7 million gallons per day (MGD) by 2055. She stated the 2055 demand number in this recent Hazen report has fallen to 13 MGD. She stated the problem is that RWSA needed the 18.7 MGD number to justify the pipeline.

Ms. Smith stated in September 2007, a year after the plan was approved, RWSA held a meeting to disclose the true cost of the plan and stated they couldn't build it all at once without rates going through the roof. She stated Rivanna recommended that the dam be built first, and the pipeline later when it was needed.

Ms. Smith stated at an August 2009 Rivanna Board meeting, in response to objections to this approach from the Friends of the Mormons, Executive Director Tom Frederick stated, "There is a suggestion here that the Ragged Mountain Reservoir won't work without a new pipeline. That depends on demand. We actually used an interim target of 2020 demand from Gannett Fleming's demand analysis and ran the model for those conditions and showed the Sugar Hollow Pipeline still worked under those conditions."

Ms. Smith noted that in Gannett Fleming's 2020 analysis Mr. Frederick referred to, it was 14 MGD. She stated this was worth repeating: Rivanna's computer model showed that the plan works without a pipeline with a demand of at least 14 MGD, which is the new 2070 demand.

Ms. Smith stated she understood the benefits of the expensive pipeline and why some board members really want it. She stated for some, it is fear of the future. She stated for others, it is interests outside of the water supply. She stated the fact is that the data does not support building the pipeline within the next 50 years and more. She stated it is a want, not a need. She stated the elephant in the room is the fact that the ratepayers who will have to pay for the board's comfort level live in the City and Urban Ring, and they are disproportionately low income, Black, and brown. She stated in this post-George Floyd era, there is a whole new language for this kind of policy.

Mr. Neil Williamson, President of the Free Enterprise Forum, stated as a point of history, for the record, the South Fork Rivanna Reservoir was constructed in 1966, which is the year he was born. He stated when it was constructed, it was done with the vision of the future. He stated they didn't have computer models, but they built what they needed for infrastructure.

Mr. Williamson stated they went through a difficult time developing the community-vetted Water Supply Plan, and the pipeline was always a part of that plan. He stated they stood with their friends from the Southern Environmental Law Center, Piedmont Environmental Council,

Charlottesville Area Association of Realtors, and the Chamber of Commerce to say yes to building the Community Water Supply Plan. He stated this was not the plan he thought was going to be approved, and thought they were going to be putting a straw into the river. He stated in time, however, the entirety of the plan was embraced by the community.

Mr. Williamson stated he was hopeful that revisionist history doesn't change this. He stated he firmly believed that the water the area needs will be there for them because of this advanced planning.

Mr. Gaffney closed public comments.

7. RESPONSES TO PUBLIC COMMENT

Mr. Mawyer stated he had a nice discussion with Ms. Dede Smith the week prior for about an hour. He stated he would continue to communicate with her about her concerns. He stated the South Rivanna to Ragged Pipeline is in the CIP from 2027 to 2033, and the current budget is \$80 million. He stated an update is currently being done on that cost estimate.

Dr. Palmer stated she appreciated all the information staff has given the board on the way that they are now looking at the demand analysis and where the DEQ may be going with demand analysis recommendations in the future.

Dr. Palmer reminded everyone that the Sugar Hollow Reservoir watershed is 17 square miles, whereas the South Fork Rivanna Reservoir watershed is 259 square miles. She stated the plan, from the beginning, was to have a pump storage situation where they collect the water at South Fork (which is a great place to collect, but not a great place to store) and pump it over to Ragged Mountain Reservoir, which has a 2-square-mile watershed and is a wonderful place to store water. She stated she appreciated the information staff provided the board on the demand analysis and on the value of this pipeline.

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. *Approval of Flexible Benefits "Cafeteria Plan"*
- f. *Updated Employee Handbook*
- g. *Reimbursement Resolution – CIP Funding*

229 h. *Financial Policy Update*

230
231 i. *Capital Improvement Plan Amendment and Approval of Engineering Services –*
232 *Moore's Creek 5kv Electrical System Upgrade – Hazen & Sawyer*

233
234 j. *Construction Contract Award and Capital Improvement Plan Amendment– Sugar*
235 *Hollow Dam Rubber Crest Gate Replacement*

236
237 k. *Approval of Engineering Services – South Fork Rivanna River Crossing Project –*
238 *Michael Baker International*

239
240 l. *Construction Change Order Authorization – Albemarle-Berkeley Wastewater*
241 *Pump Station Storage Basin Demolition – Pleasant View Construction*

242
243 m. *Amendment of Bylaws to Update the Purchasing Limitations of the Executive*
244 *Director*

245
246 **Dr. Palmer moved that the board approve the Consent Agenda. The motion was seconded**
247 **by Mr. Snook and passed unanimously (7-0).**

248
249 At 2:59 p.m., Mr. Snook left the meeting.

250
251 **9. OTHER BUSINESS**

252
253 a. *Presentation: Crozet Water Projects Update; Jennifer Whitaker, Director of*
254 *Engineering & Maintenance*

255 Ms. Jennifer Whitaker stated she would update the board on the current work and future plans
256 for the Crozet water system. She stated as RWSA embarks on a more outward-facing planning
257 and design effort, they want to make sure that the board and public are kept up to date on the
258 path forward.

259
260 Ms. Whitaker presented a map and listing of currently owned RWSA facilities. She stated the
261 Crozet community is designated as a water and sewer growth area and service area for
262 Albemarle County. She stated RWSA provides the municipal wholesale water service to the
263 area, while ACSA provides the retail service.

264
265 Ms. Whitaker presented a slide of the current facilities. She stated the Beaver Creek Dam, raw
266 water pump station, and intake are on each side of the dam. She stated the raw water piping goes
267 from the dam and pump station up to the Crozet Water Treatment Plant. She stated the finished
268 water piping and finished water pump station are located on the left side of the treatment plant
269 and head to the west to feed the ACSA system.

270
271 Ms. Whitaker stated most of these facilities were constructed in the mid-1960s, meaning that

they were currently about 60 years old and, as such, require either rehabilitation or capacity expansion.

Ms. Whitaker stated given the current rehabilitation needs for the facilities and the population growth in the area, RWSA completed a Drinking Water Infrastructure Master Plan, the findings of which have been discussed both at the board meetings and at the CCAC (Crozet Community Advisory Council). She stated the master plan was completed in 2019 and updated with a supplement in 2020 to reflect current demand patterns that RWSA believes may be COVID-related in the Crozet community.

Ms. Whitaker stated the key takeaways from the plan include that RWSA believes that Beaver Creek Reservoir is an adequate water supply for the community through the 2075 planning horizon. She stated they will have to get a future water withdrawal permit from the Virginia DEQ, which will include mandatory downstream releases from the reservoir.

Ms. Whitaker stated additionally, the water treatment plant capacity must be upgraded to meet the maximum day demand and, ultimately, will eventually have to go to approximately 2.8 MGD.

Ms. Whitaker stated the Beaver Creek Dam requires significant upgrades to meet the recent dam safety requirements. She stated these upgrades are mandatory and not optional. She stated it will require a significant spillway improvement, which will pass through the earthen dam. She stated a new raw water pump station will be associated with that, and RWSA will be working on water distribution piping projects together with the ACSA.

Ms. Whitaker presented a map, noting it was similar to that of the Community Water Supply Plan for the urban system. She stated this map highlighted the projects in Crozet including existing projects, completed projects, and future projects. She stated there is a need to invest approximately \$42 million in the Crozet water system over the next five years.

Ms. Whitaker presented an image of the newly completed finished water pump station that is located on the west side of the water treatment plant and provides water from the water treatment plant to the rest of the system. She stated it is built in a way such that it can be expanded in the future simply by replacing pumps. She stated it currently meets the needs of the community.

Ms. Whitaker stated as has been discussed, there was also a recent granular activated carbon project where RWSA installed carbon contactors for water quality improvements such that they can remove organic materials and minimize disinfection byproducts. She stated this project cost \$3.4 million and was completed in 2018.

Ms. Whitaker stated currently, RWSA was underway with the Crozet Water Treatment Plant upgrade. She stated this plant was an approximately \$8.5-million project and that its capacity was being expanded from 1 MGD to 2.1 MGD. She stated it is expected to be completed near the end of the year.

Ms. Whitaker presented a list of projects that were likely gaining some public-facing discussion.

318 She stated this included the Beaver Creek Dam, its associated raw water pump station, and the
319 piping modifications. She indicated on the slide to a dam that was located elsewhere but was
320 being used as an example of a similar spillway that will be installed in the Beaver Creek Dam.
321 She stated this was a 3.5-cycle labyrinth spillway that will have a bridge over it carrying vehicle
322 traffic on Browns Gap Turnpike. She stated this area goes through the center of the earthen dam.
323 She indicated to a picture on the slide that showed the current raw water pump station in that
324 area.

325
326 Ms. Whitaker stated all these upgrades were intended to satisfy current dam safety requirements
327 to upgrade the dam to be able to pass 100% of the probable maximum flood which, in this
328 vicinity, is in the upper 20s to low 30s in inches of rain in a 24-hour period. She stated they were
329 thus looking at approximately 30 inches of rain in a 24-hour period without a dam failure, and
330 the intent was to be able to pass that water over the structure and to the downstream area without
331 a problem with the dam.

332
333 Ms. Whitaker presented the site analysis for the raw water pump station map. She stated RWSA
334 has looked at six locations, with each of these showing on the image as a dot. She stated there
335 was a site selection memo that was created for RWSA, and they have currently narrowed it down
336 to Sites 1 and 3. She stated they are currently looking at having environmental work ongoing out
337 in the field. She stated they will also be looking at a joint permit submission to DEQ and the
338 Army Corps of Engineers in the fall. She stated they are working with NRCS to do a
339 supplemental watershed plan and environmental assessment study, which will take them through
340 the summer of 2022. She stated from 2022 to 2023, RWSA anticipates design, with construction
341 in 2024 through 2026.

342
343 Mr. O'Connell stated the update was helpful and that the summary graphic was useful.

344
345 Dr. Palmer asked Ms. Whitaker if she could share the presentation with everyone.

346
347 Ms. Whitaker replied she would send it out to the whole board.

348
349 Mr. O'Connell asked Ms. Whitaker if she could quickly speak to the recent water demand and if
350 this had changed the picture at all. He stated it had been very high for over a month.

351
352 Ms. Whitaker replied that currently, the average daily demands in Crozet were still within the
353 projected numbers RWSA looked at in the original Drinking Water Infrastructure Plan. She
354 stated what they were currently seeing was the peak day number consistently staying fairly high,
355 particularly associated with warm weather.

356
357 Ms. Whitaker stated another item RWSA was seeing, because Crozet is 80% residential, is an
358 impact from people working from home more extensively than perhaps they historically have.
359 She stated that number seems to be staying higher than it was the year prior.

360
361 Ms. Whitaker stated RWSA has published a supplement to the Drinking Water Infrastructure
362 Plan and looked at the recent year's numbers compared to the last several years. She stated it
363 does project their ultimate demand numbers to be just a few tenths higher than they originally

364 anticipated. She stated some accommodations have been made for that. She stated they will
365 continue to update and review those demand numbers post-COVID to see whether it is a
366 transient item or a more permanent trend.

367
368 Dr. Palmer asked how the negotiations with the surrounding properties for the dam infrastructure
369 were going. She stated she supposed RWSA was still looking at the location for the pump
370 station.

371
372 Mr. Mawyer replied that RWSA is talking to those people who live on the west side of the
373 Beaver Creek Reservoir, near the proposed pump station site. He stated they have not been very
374 happy that RWSA may need to go across their property. He stated it would be an easement for an
375 underground pipeline and a road over top the pipeline. He stated the pump station itself is
376 actually on Albemarle County property around the reservoir. He stated they are talking with the
377 family to understand the concerns He stated they are nice people and that, for the most part, they
378 understand what it is RWSA is trying to accomplish.

379
380 Mr. Mawyer stated RWSA understands that the family may not be so happy that an easement is
381 needed across their property, so they are looking at all the alternatives. He stated they possibly
382 brought Site 1 back into review so they can assess whether there is any way that would be a
383 better location for the pump station, with a different pipeline route. He stated they try to evaluate
384 the environmental concerns, costs, and the preferences of the people in the area to come up with
385 the best solution and are still in that process.

386
387 *b. Presentation: Buck Mountain Master Plan; Andrea Terry, Water Resources Manager*
388

389 Ms. Andrea Terry stated she would talk about the Buck Mountain Land Use Master Plan. She
390 stated it is approximately 1,300 acres owned by RWSA in Northern Albemarle County. She
391 stated the impetus for the plan was that in April 2019, a former property owner, Dr. Harry
392 Wellons, came to the board requesting that he be able to buy back the land that RWSA had taken
393 through eminent domain in 1983.

394
395 Ms. Terry stated as a follow-up, staff provided a presentation to the board in June of 2019. She
396 stated at that time, the board requested that RWSA prepare a Buck Mountain Master Plan. She
397 stated RWSA hired a local planning firm called Land Planning and Design Associates, and that
398 their team members were on the call and available to answer questions. She stated these team
399 members were Mr. Bill Mechnick and Mr. Tristan Cleveland of LPDA, and their project team
400 also included VHB (Mr. Tim Davis) and PROS Consulting (Mr. Mike Svetz).

401
402 Ms. Terry stated in the 1980s, RWSA acquired 38 parcels in the Buck Mountain Creek
403 watershed with the intent of building a reservoir. She stated the parcels ranged from 1 to 160
404 acres. She stated of the approximately 1,300 acres in total, it cost \$6.95 million. She stated
405 studies of the reservoir site in the late 1990s identified the presence of the James spiny mussel,
406 which shut the project down.

407
408 Ms. Terry stated RWSA is currently using the land as a stream mitigation site for the Ragged
409 Mountain Reservoir expansion. She stated the mitigation started in 2014 and includes 11,511
410 linear feet of streams that now have land conservation buffers. She stated there are sections

411 where the stream was restored and along that area, RWSA planted over 40,500 trees. She stated
412 they have placed the buffer areas into deed restrictions, which is approximately 600 acres.

413
414 Ms. Terry stated the Buck Mountain Master Plan is an evaluation of uses and management of the
415 Buck Mountain property with respect to RWSA's vision, mission, and values. She stated she
416 specifically included in the presentation which plan goals the plan addresses.

417
418 Ms. Terry stated the plan looks at environmental stewardship with water quality protection of the
419 streams. She stated the Buck Mountain watershed is located in the watershed of the South Fork
420 Rivanna Reservoir and, as such, provides protection to a portion of the water quality flowing into
421 the South Rivanna.

422
423 Ms. Terry stated the plan looks at operational optimization and efficient use of resources. She
424 stated it also considers infrastructure and master planning with regards to the current water
425 supply as well as the future.

426
427 Ms. Terry stated the consultants did a lot of work on this and presented a summary of the
428 different sections of work they performed. She stated she would touch on those sections in the
429 presentation, and that the board members would find in their packets that RWSA included the
430 master plan report itself. She stated there is an environmental document that goes into detail with
431 a lot of information, as well as a recreational market analysis.

432
433 Ms. Terry stated the master plan evaluations look at current land use and zoning, infrastructure,
434 roads, utilities in the area, and potential development constraints (e.g. leases, steep slope
435 restrictions, and deed restrictions). She stated the plan addresses the potential of the land as a
436 future reservoir site and includes environmental factors, regulatory history, natural resources
437 description, land management implications, real estate market analysis, and recreation analysis.

438
439 Ms. Terry presented a map, noting that the existing zoning of the property is primarily Rural
440 Area (RA) and that this consists of 1,159 acres. She stated there is a section of it that is Planned
441 Unit Development (PUD), which is 155 acres. She stated this made her wonder why there was a
442 PUD there. She stated the property is adjacent to Hickory Ridge, which is an existing PUD,
443 which explains the existing zoning. She stated Rural Areas are good areas for preservation of
444 agricultural and forested lands; water supply protection; and the conservation of natural, scenic,
445 and historic resources.

446
447 Ms. Terry presented a map showing RWSA's existing leases on the property. She stated there are
448 15 parcels that are leased by 9 leaseholders totaling 484.41 acres. She stated all of those leases
449 are now in 2-year terms. She stated at one point, RWSA had some 5-year leases and some 20-
450 year leases, but they changed that and are now only doing 2-year terms. She stated 8 of the
451 parcels are in agriculture (cattle or horses) and are fenced out of the streams. She stated the
452 remainder are used for quiet enjoyment. She stated the leases currently generate \$1,900 annually.

453
454 Ms. Terry indicated on the map to Property 18-11A and stated this was the parcel that Dr.
455 Wellons had talked about wanting to be able to buy back. She stated other leaseholders have also
456 talked to her about wanting this as an option.

457
458 Ms. Terry presented the current leasing fee structure. She stated pasture is leased at \$10 per acre,
459 forested is leased at \$3 per acre, and the deed-restricted area is leased at \$0 per acre. She stated
460 the total lease value is \$1,900. She stated LPDA and its consultants also did a market analysis,
461 showing that there is a more appropriate range for what RWSA is leasing, which was something
462 to consider. She stated this would change the amount they are receiving each year to somewhere
463 in the range of \$6,300 to \$8,800.

464
465 Ms. Terry presented the considerations used when looking at the site for a future reservoir. She
466 stated there is a good discussion about that on the regulatory side of things, and in the
467 environmental report. She stated there are significant regulatory impediments to use of this as a
468 reservoir in the future. She stated not only do they know that it has been a James spinymussel
469 habitat in the past, but they now also have mitigation sites that would have to be relocated. She
470 stated a lot of money would have to be paid into a mitigation bank if RWSA ever wanted to move
471 them, and that they are not even confident that they could be moved.

472
473 Ms. Terry stated another thing to consider is the fact that the Community Water Supply Plan
474 meets the demands of the public water users for the next 100 years. She stated another
475 consideration was that climate change could create unanticipated water demands and regulatory
476 changes and then, perhaps it could become a reservoir.

477
478 Ms. Terry presented a compilation of all of the land uses at Buck Mountain. She indicated to a
479 map and stated the main road coming across the center of the property was Buck Mountain
480 Road, and the one going up north is Catterton Road. She stated there are two branches to Buck
481 Mountain Creek: Piney Creek on the left, and Buck Mountain Creek on the right. She stated the
482 yellow highlighted areas on the map are the areas RWSA placed into deed restrictions (or
483 conservation areas) and totaled 610 acres. She stated the map also showed fields and pastures in
484 light green, which totaled 226 acres. She stated the forested acres were represented in dark green,
485 which totaled 475 acres.

486
487 Ms. Terry noted how the two main roads (Buck Mountain Road and Catterton Road) allow road
488 access to approximately 197 acres, represented on the map in a crosshatch. She stated the steep
489 slopes were also included.

490
491 Ms. Terry stated she had talked to the board in the past about some property management issues
492 RWSA has on the land. She stated they currently own a bridge with a stream crossing and
493 provide maintenance on the bridge. She stated there is a pond on one of the properties that
494 RWSA originally acquired as part of a reservoir. She stated the pond requires some permitting
495 and maintenance and therefore, some funding to do that. She stated there is a house that was
496 previously rented but is no longer in a condition to be rented.

497
498 Ms. Terry stated of the 600 acres with deed restrictions, there needs to be wildlife management
499 and dealing with invasive vegetation. She stated trespassing, ATVS, and hunting are often issues

500 for RWSA. She stated there are 10 miles of existing gates and fences throughout the property
501 and that RWSA needs a couple better access road agreements on different parts of the property.
502

503 Ms. Terry indicated to a corner of the land, noting that none of the parcels there were currently
504 leased by anyone. She stated their total acreage is 46.1 acres. She stated they have an assessed
505 value of \$655,000 and an average value of \$14,200 per acre. She stated one thing to consider
506 would be what they would be giving up if they sold those properties.
507

508 Ms. Terry stated on the upper-left corner of the pink area on the map, there is a stream that
509 comes along the boundary, straight down and across to the one in the middle. She stated there are
510 buffers in those areas and if RWSA sold this, they would be relinquishing control of what is
511 happening next to Piney Creek, which is one of the waters that flows into the Buck Mountain
512 Creek.
513

514 Ms. Terry stated from the master plan, LPDA developed three different scenarios. She stated one
515 was divestment, involving selling the entire property. She stated Level Two was to sell portions
516 of the property that have the highest sale value and/or are outside the future reservoir boundaries.
517 She stated the second scenario of land management was to retain ownership and manage the
518 property. She stated Scenario Three was active amenitization, meaning to put in amenities. She
519 stated LPDA's suggestion was Scenario Three, Level One, which was to retain ownership and
520 encourage passive recreational use.
521

522 Ms. Terry stated in taking all of this into consideration, staff was bringing forward
523 recommendations for the board's consideration. She stated like LPDA, staff also thinks RWSA
524 should retain ownership for the primary purpose of protecting water quality. She stated in doing
525 that, they would like to manage the property with a focus on additional sustainability uses that
526 they could then possibly use to help offset some of their existing carbon footprint. She stated
527 some of these things would include silviculture, reforestation, and solar sites. She stated RWSA
528 does agree with updating the leases to the market value.
529

530 Ms. Terry stated to do all these things, RWSA will need to develop a comprehensive property
531 management plan and budget.
532

533 Ms. Terry concluded her presentation and offered to answer questions.
534

535 Ms. Hildebrand stated she was curious if RWSA considered looking at, without impacting the
536 mitigation or future reservoir areas, possibly selling off any of the valuable parcels and then
537 designating those funds to help with the management of the site. She asked if increasing the lease
538 value would help to offset some of the management of the site.
539

540 Mr. Gaffney stated he wanted to add a follow-on question to Ms. Hildebrand's question. He
541 stated the four lots that Ms. Terry spoke about on Buck Mountain Road totaled 46 acres, but a
542 building lot for a home in the County would be 2 acres. He stated they could actually cut off the
543 majority of the bottom land there, around the streams, and any of the land in the buffer to get
544 four building sites. He stated this would capture the majority of that value of the 46 acres. He
545 stated this would be something to consider, which would go toward what Ms. Hildebrand was
546 suggesting, which was using that money to help keep up the property.

547
548 Mr. Krueger stated the subdivision by-right ordinance would be true if RWSA had acquired the
549 whole parcel. He stated what he didn't know, and that perhaps Ms. Terry did know, was if those
550 particular parcels were partial condemnations of existing parcels, in which case RWSA has faced
551 that issue before and unless they have paid money to the owner of the property of which they
552 have taken a portion of the property for the remaining development rights, the idea is that only
553 one development right would come from the division by right when they condemn.

554
555 Mr. Gaffney stated he did not follow this. He asked if the map was showing four separate
556 parcels.

557
558 Mr. Krueger stated the question was if there were five development rights on those parcels.

559
560 Mr. Gaffney stated no. He asked if, out of each parcel, they would just keep the 2 acres by Buck
561 Mountain Road. He stated they could do a property division where the back parts have no
562 development right, but this is retained by RWSA. He stated they would end up with four parcels
563 like the one at the bottom of the map, assuming this was about a 2-acre parcel.

564
565 Mr. Krueger asked if this were assuming they got some subdivision by right.

566
567 Mr. Gaffney stated they didn't need to divide any of those to get additional parcels. He stated
568 there were four parcels and that he assumed, based on the assessed value the County has on that,
569 that each one has a building right.

570
571 Mr. Krueger stated that it would, but that they could not necessarily subdivide it further.

572
573 Mr. Gaffney stated they couldn't add division rights.

574
575 Mr. Krueger stated this was correct.

576
577 Mr. Gaffney stated they would get four building parcels of 2 acres or more and keep all of the
578 bottom land they need to maintain the deed restrictions.

580 Mr. Krueger stated he may have made an assumption he should not have made. He stated he was
581 assuming that Mr. Gaffney's proposal would have them subdivide those top three parcels into
582 two parcels, with a smaller buildable lot at the road. He stated RWSA would then keep the back
583 of those lots.

584
585 Mr. Gaffney stated this was correct and they would be separate.

586
587 Ms. Terry asked if this would allow them to keep the back where the stream runs through but
588 allow them to keep the deed-restricted area.

589
590 Mr. Krueger stated he believed this would require them to have at least one subdivision right to
591 do that.

592
593 Mr. Gaffney stated based on \$655,000 in assessed value for that, in four parcels, he assumed that
594 otherwise, they would not be worth that. He stated obviously, this would need to be checked out.

595
596 Mr. Krueger stated he did not know if there is an ability to do that one split or subdivision per
597 parcel there. He stated it depends on how they took it when they condemned it.

598
599 Mr. Gaffney stated they should look into it.

600
601 Dr. Palmer stated if they considered that, she would like to know quite a bit about these specific
602 properties, the condemnation situation, and whether those previous owners are still around. She
603 stated this sounded somewhat problematic to her as she was listening to it.

604
605 Mr. Krueger stated there is the issue of condemning property for a public purpose, then reselling
606 it potentially for a private purpose.

607
608 Dr. Palmer stated this was her concern.

609
610 Ms. Hildebrand asked if it would be considered a public purpose if they designated the money to
611 maintain the rest of the property.

612
613 Mr. Krueger stated he was not sure this was doable and would want to look into that. He stated in
614 some sense, it would prove too much.

615
616 Dr. Palmer stated the additional money Ms. Hildebrand mentioned from taking into
617 consideration the assessed value when they are charging for the leasing agreements would
618 certainly go to that management, which she believed would be a reasonable thing.

620 Mr. Krueger pointed out that those leaseholders are, in a sense, their eyes and ears on the ground
621 for illegal hunting and various nefarious activities that may go on there. He stated those
622 leaseholders help call up the RWSA to report those things, so they serve as a monitoring
623 function.

624
625 Ms. Terry stated it is a huge benefit that their leaseholders will communicate with them when
626 they see issues. She stated they often know things before she does.

627
628 Dr. Palmer thanked Ms. Terry for reminding the board of this, as she recalled her telling them
629 this at a previous session.

630
631 Mr. Gaffney asked if with all the fences and roads Ms. Terry talked about needing maintenance,
632 if any of the leaseholders maintain some of those fences.

633
634 Ms. Terry replied yes. She stated they are allowed to use the buffer areas and deed-restricted
635 areas for quiet enjoyment, and she does believe they do maintain some of the fencing.

636
637 Mr. Gaffney asked how this would affect a change where they allow passive recreation (e.g.
638 hiking, mountain biking), as he assumed this would cross some of those lease holdings.

639
640 Ms. Terry replied that people cannot trespass on someone else's leasehold unless they have
641 permission to use it. She stated there are some instances where different leaseholders are fine
642 with that.

643
644 Ms. Terry stated the area has a lot of old trails, and one of the recommendations in the
645 environmental report was if RWSA is going to manage this into the future, they should make a
646 better network of trails for them to facilitate going in and out of the buffer areas.

647
648 Mr. Gaffney asked, given that the streams are fenced off, if they would lease the streams as well,
649 or if they would have enough room to put paths along the streams. He asked if the leases cross
650 the major streams.

651
652 Ms. Terry replied that they do, in places.

653
654 Mr. Mawyer stated RWSA is not allowed to build any paths within the conservation area,
655 however. He stated within the conservation area next to the stream, no development is allowed.
656 He stated walking is the only thing one can do in there, and they cannot build a path for walking.

657
658 Dr. Palmer stated she agreed with the recommendations in the report. She stated she always likes
659 to remind the public that this property was used for the water supply plan for mitigation, which

was important at the time they would have had to buy those credits elsewhere. She stated it was considered to be a huge plus to be able to do the remediation there, in their own watershed. She stated there are now plenty of communities that are buying land in the watersheds of their water supplies.

Dr. Palmer stated she would like to know what it costs to make some of the improvements that were suggested in the plan. She stated she would prefer to go forward with the recommendations in the plan, with finding out how much it costs and what the timeline would be in which the improvements would be implemented.

Ms. Terry stated the next step would be for RWSA to develop a comprehensive property management plan and budget. She stated this was something the RWSA would want them to do to outline the costs and what might need to happen.

Dr. Palmer stated this would be her preference.

Mr. O'Connell stated this made sense.

Ms. Hildebrand stated it was a good idea. She stated they will then know what kind of dollars they were talking about.

Dr. Palmer moved that the RWSA develop the comprehensive property management plan and budget and bring this back to the board. The motion was seconded by Mr. O'Connell and passed unanimously (6-0). (Mr. Snook was absent from the vote.)

At 3:46 p.m., Dr. Palmer moved to reopen the Rivanna Solid Waste Authority meeting. Mr. Oberdorfer seconded the motion, which passed unanimously (6-0). (Mr. Snook was absent from the vote.)

The joint session of the RSWA and RWSA boards began.

Mr. Gaffney called the roll of RSWA board members. Mr. Oberdorfer, Dr. Palmer, Dr. Richardson, Mr. Richardson, Mr. Stewart, and Mr. Gaffney all stated their presence.

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

Ms. Katie McIlwee stated she would provide a quick update of implementation of year two of the Strategic Plan.

Ms. McIlwee presented the values, vision, and mission that Rivanna has been following since implementation began. She stated year two implementation's overall completion rate was lower than expected. She stated that this was due to the COVID-19 pandemic, which impacted each goals teams' ability to meet and complete their tactics. She stated many of the tactics that had been developed had a very public-facing nature and either had to be put on hold or changed as they went through the implementation of the second half of the year.

Ms. McIlwee stated there were six goals: workforce development, operational optimization, communication and collaboration, environmental stewardship, solid waste services, and infrastructure master planning. She stated they worked on 14 strategies and had developed 58 tactics to complete those strategies.

Ms. McIlwee stated that workforce development implemented numerous training programs throughout the year. She stated some were through PVCC, and there was another being researched that would use the LinkedIn platform. Additionally, she stated that a new employee orientation video was created, as well as an entirely new employee orientation program.

Ms. McIlwee stated in response to COVID-19, Rivanna quickly developed a work-from-home policy and were able to send part of the workforce home on certain days to try to minimize impacts in the administrative and engineering buildings, whenever possible.

Ms. McIlwee stated Rivanna would like to further expand new employee orientations to incorporate IT into the process. She stated they also want to look at implementing more training platforms as previously mentioned.

Ms. McIlwee stated that operational optimization completed several studies , which had been presented to the board, such as biosolids disposal. She stated they had fiber installed at the South Rivanna Water Treatment Plant to help increase internet service. She stated a new piece of lab equipment was purchased which will allow for increased testing efficiency and expansion of types of test the lab is able to conduct.

Ms. McIlwee stated as next steps, they are continuing to upgrade or test the internet at South Rivanna to ensure it has been optimized. She stated there will be an additional sensor research to improve the wastewater treatment process.

Ms. McIlwee stated that through the safety strategy of organizational optimization, the Water Infrastructure Protection Plan was submitted to the EPA in March of 2020. She stated additional cameras have been installed at some of the facilities so they can be remotely monitored. She stated additional AEDs had been acquired for each facility to further protect the workforce, as

well as additional fall protection equipment and a complete update and review of the safety manual that was completed that year.

Ms. McIlwee stated next steps will be to submit their emergency response plan to the EPA in September. She stated Rivanna will continue installing web-based cameras so they can observe all facilities remotely.

Ms. McIlwee stated many new ways of communicating and collaborating came into play during the last 5-6 months due to COVID-19. She stated Rivanna is heavily using Microsoft Teams for meetings, so that business can continue as normal. She stated they are getting closer to fully implementing their document management system. She also stated they continue to publish their newsletter to the workforce.

Ms. McIlwee stated next steps for the communication and collaboration goal team include continuing implementation of the document management software, and continuing to communicate with staff through the newsletter, employee council, employee portal, and other means, as necessary.

Ms. McIlwee stated Rivanna was also able to complete several facility videos and updated pictures on their website through their video and photography contracts. She stated they continue to plan and determine where these photos and videos can be expanded.

Ms. McIlwee stated one area that has definitely been affected by COVID-19 is the "Imagine a Day Without Water" event that Rivanna held jointly with the City and ACSA. She stated she has been meeting with representatives to figure out how to hold the event virtually for 2020. She stated they hope that events like this can continue, but they need to find new ways to do them since there are currently in-person constraints.

Ms. McIlwee stated the next steps include researching use of social media, which is something Rivanna has been looking at for some time and hopes to start implement soon. She stated with things being more remote, it seemed like a good time to carry that forward. She stated they have also researched streaming board meetings (once they return to in-person meetings) in order to continue the virtual nature of the meetings and allow people who cannot make it in person to watch the meetings.

Ms. McIlwee stated in terms of environmental stewardship, there were many good events such as the Day of Caring, river cleanup, and roadside cleanup at the beginning of year two, but they had tapered off towards the end of the year due to COVID-19. She stated Rivanna looked for ways to still participate, but in a socially distant and responsible matter. She stated the same was true for

777 “Imagine a Day Without Water,” Rivanna Flow Fest, and stormwater partnerships. She stated
778 they can still collaborate with these entities, though in a virtual manner.

779
780 Ms. McIlwee stated environmental activities at Rivanna facilities include completion of the Buck
781 Mountain Master Plan. She stated oyster shell recycling has been started at the McIntire
782 Recycling Center, as well as several other recycling programs that Rivanna has picked up
783 throughout the year, which included political sign collection, pizza box composting, and cooking
784 oil collection.

785
786 Ms. McIlwee stated next steps include evaluating the potential use of solar at Rivanna facilities
787 and implementing the Buck Mountain property management plan.

788
789 Ms. McIlwee stated the solid waste services goal team was definitely impacted by COVID-19.
790 She stated one thing that had been planned for that year was a recycling video contest for local
791 children . She stated with schools closing in March and not going back until possibly after the
792 first of the year, this tactic has been put on hold indefinitely. She stated the solid waste goal team
793 was looking for other ways to reinvent some of those programs or figure out other ways they can
794 partner with local school and community groups.

795
796 Ms. McIlwee stated in terms of infrastructure and master planning, the CMMS (Computerized
797 Maintenance Management System) was moving along. She stated it would be advertised for
798 procurement and implemented in the upcoming year. She stated the team completed the Urban
799 Water Demand and Supply Master Plan and continue to update the master plan matrix to include
800 current and anticipated master planning efforts. She noted there was a lot underway and a lot
801 planned in this area.

802
803 Ms. McIlwee stated year three had officially kicked off, and that the goal teams will work to
804 determine how to finish the tactics that were not completed last year, or to change those tactics to
805 make them work in the current environment.

806
807 Ms. McIlwee stated the Workforce Development Team will continue to expand training
808 opportunities. She stated Operational Optimization has upgrades to multiple water treatment
809 plants and wastewater treatment plants underway. She stated the Communication and
810 Collaboration Team hopes to implement social media. She stated the Environmental Stewardship
811 Team is using a Virginia Department of Health grant to implement a watershed protection
812 program. She stated the Solid Waste Services Team will continue to look for ways to expand and
813 promote recycling and refuse services in the area. She stated the Infrastructure and Master
814 Planning Team will continue implementation of the asset management program and CMMS
815 software.

817 Ms. McIlwee concluded her presentation.

818
819 Mr. O'Connell stated many good things were being accomplished.

820
821 Dr. Palmer stated she finds these reviews of the Strategic Plan valuable. She thanked Ms.
822 McIlwee for her presentation.

823
824 Mr. Gaffney stated it took many years to get an Executive Director to commit to a Strategic Plan,
825 and that he is very impressed at every board meeting with how they are using the Strategic Plan
826 and how it is a live document that improves everything within both authorities. He congratulated
827 and thanked everyone.

828
829 Mr. Richardson stated he agreed with his fellow board members.

830
831 ***10. OTHER ITEMS FROM BOARD/STAFF NOT ON AGENDA***

832 Dr. Palmer stated there are now signs at Sugar Hollow, in respect to littering, and asked who
833 officially was responsible for putting those up and paying for these signs.

834
835 Ms. Terry asked Dr. Palmer if she was referring to those signs that are below the dam and along
836 the Mormons River.

837
838 Dr. Palmer replied yes, in addition to the signs at the makeshift parking lot at the bottom.

839
840 Ms. Terry replied that she believed that Trout Unlimited put many signs on the section
841 downstream of the dam.

842
843 Dr. Palmer stated the same signs are also in the parking lot.

844
845 Ms. Terry stated Rivanna recently put up some "No Swimming signs."

846
847 Mr. Gaffney asked if they put any "No Swimming" signs up below the dam.

848
849 Ms. Terry replied no.

850
851 ***11. CLOSED MEETING***

852 Mr. Gaffney stated there would be a closed session for both boards.

853
854 **At 4:01 p.m., Dr. Palmer moved that Board of Directors of the Rivanna Water and Sewer**
855 **Authority enter into a joint closed meeting with the Rivanna Solid Waste Authority Board**
856 **to discuss confidential personnel matters as permitted by Section 2.2-3711(A)(1) of the**

Code of Virginia. The motion was seconded by Mr. O'Connell and passed unanimously (6-0). (Mr. Snook was absent from the vote.)

After the closed session, Mr. Krueger called the roll for Water and Sewer board members. Ms. Hildebrand, Dr. Richardson, Mr. Gaffney, Dr. Palmer, Mr. Richardson, and Mr. O'Connell each stated their presence.

Mr. Gaffney stated the boards had just conducted an annual performance review for their Executive Director, Mr. Mawyer. He noted that Mr. Mawyer has requested no pay increase because his staff also had no pay increase, and the boards wanted to honor and appreciate that fact. He stated they also wanted to thank Mr. Mawyer for his leadership in the past year, which has been exemplary not only through the normal course of business, but through the COVID challenges of running a water and wastewater treatment authority as well as a solid waste authority.

Mr. Gaffney stated as a board, they feel extremely grateful to have such leadership at Rivanna and look forward to another wonderful fiscal year.

Mr. O'Connell stated it was a great year.

Mr. Mawyer thanked the board members.

Mr. Krueger stated they would need to do a certification for the joint closed meetings before moving on to other business.

At 4:44 p.m., Mr. O'Connell moved to approve the following resolution:

Whereas the Rivanna Water and Sewer Authority has convened a joint closed meeting with the Rivanna Solid Waste Authority on this date, pursuant to an affirmative recorded vote and in accordance with the provisions of the Virginia Freedom of Information Act; and whereas, Section 2.2-3712(D) of the Code of Virginia requires a certification by the Rivanna Water and Sewer Authority that such closed meeting was conducted in conformity with Virginia law; now therefore, be it resolved that the Rivanna Water and Sewer Authority hereby certifies that, to the best of each member's knowledge, (1) only public business matters lawfully exempted from open meeting requirements by Virginia law were discussed in the executive meeting to which the certification resolution applies, and (2) only such public business matters as were identified in the motion convening the closed meeting were heard, discussed, or considered by the Rivanna Water and Sewer Authority.

The motion was seconded by Dr. Palmer and passed unanimously (6-0). (Mr. Snook was absent from the vote.)

12. ADJOURNMENT

At 4:45 p.m., Dr. Palmer moved to adjourn the meeting of the Rivanna Water and Sewer Authority. The motion was seconded by Mr. O'Connell and passed unanimously (6-0). (Mr. Snook was absent from the vote.)



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

Joint Resolution of Appreciation for Dr. Tarron Richardson

WHEREAS, Dr. Richardson has served as a member of the Rivanna Water & Sewer Authority and Solid Waste Authority Boards of Directors since May of 2019; and

WHEREAS, over that same period Dr. Richardson has demonstrated leadership in water and sewer, solid waste and recycling services; and has been a valuable member of the Boards of Directors and a resource to the Authorities; and

WHEREAS, Dr. Richardson's understanding of the water, sewer, solid waste and recycling operations of the City of Charlottesville, the Water & Sewer Authority and the Solid Waste Authority has supported a strategic decision-making process that provided benefits to the customers served by the City of Charlottesville as well as the community as a whole.

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

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

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

Michael Gaffney, Chairman
Jeff Richardson
Lloyd Snook
Liz Palmer
Gary O'Connell
Lauren Hildebrand
Paul Oberdorfer
Lance Stewart



MEMORANDUM

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

FROM: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: EXECUTIVE DIRECTOR'S REPORT

DATE: SEPTEMBER 22, 2020

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:

- Paul Sugg earned his Class 2 Wastewater Operator's License

STRATEGIC PLAN GOAL: Operational Optimization

GFOA's Certificate of Achievement for Excellence in Financial Report

Rivanna Water and Sewer Authority has been awarded the Certificate of Achievement for Excellence in Financial Reporting by the Government Finance Officers Association (GFOA) for the comprehensive annual financial report (CAFR) for the fiscal year ended on June 30, 2019. This is the highest form of recognition in government accounting and financial reporting.

STRATEGIC PLAN GOAL: INFRASTRUCTURE AND MASTER PLANNING

S. Rivanna to Ragged Mtn Reservoir Water Line, Pump Station and Sediment Removal Facility

The Board of Directors of the Albemarle County Service Authority renewed its endorsement to complete this water supply project from 2027 – 2033, as indicated by the attached letter dated August 20, 2020. This endorsement is consistent with the project schedule in our CIP.

Progress continues in our efforts to acquire the 9.5 miles of easements and agreements (with VDOT) for this 36" water line. City Council approved easements on four properties

located near Ragged Mtn reservoir on September 8th. Easements have been obtained from 8 private owners, and negotiations continue with the remaining 4 private owners. We have completed our process to notify VDOT about our planned locations in the street right-of-ways. Discussions continue for remaining easements with the UVA Foundation and the County School Board.

Negotiations with two private owners, as well as with UVA, the UVA Foundation and the Virginia Department of Forestry are also ongoing for water line easements between the planned Ragged Mtn Reservoir pump station and the Observatory Water Treatment Plant.

A map of the pipe alignment with acquisition information is attached.

Beaver Creek Dam, Pump Station and Piping Improvements Project

We attended a meeting on September 3rd with residents of the Beaver Creek Reservoir area. The purpose of the meeting was to provide information about construction of improvements to the spillway required by State Dam Safety regulations, as well as relocation of the raw water pump station and piping. This project is scheduled to be completed from 2024 – 2026. Attendees were concerned about the possible closure of Brown's Gap Turnpike during construction, and construction of the raw water pump station and piping on the west side of the reservoir. We reviewed the possible construction of a temporary road, or use of a traffic detour, around the dam during construction. We will continue to coordinate with this group as alternatives are considered with VDOT and other regulatory agencies including the federal Natural Resources Conservation Service.



Government Finance Officers Association
203 North LaSalle Street, Suite 2700
Chicago, Illinois 60601-1210
312.977.9700 fax: 312.977.4806

7/15/2020

Michael A. Gaffney
Board Chair
Rivanna Water & Sewer Authority, Virginia

Dear Mr. Gaffney:

We are pleased to notify you that your comprehensive annual financial report (CAFR) for the fiscal year ended June 30, 2019 qualifies for GFOA's Certificate of Achievement for Excellence in Financial Reporting. The Certificate of Achievement is the highest form of recognition in governmental accounting and financial reporting, and its attainment represents a significant accomplishment by a government and its management.

When a Certificate of Achievement is awarded to a government, an Award of Financial Reporting Achievement (AFRA) is also presented to the individual(s) or department designated by the government as primarily responsible for its having earned the Certificate. This award has been sent to the submitter as designated on the application.

We hope that you will arrange for a formal presentation of the Certificate and Award of Financial Reporting Achievement, and give appropriate publicity to this notable achievement. A sample news release is included to assist with this effort.

We hope that your example will encourage other government officials in their efforts to achieve and maintain an appropriate standard of excellence in financial reporting.

Sincerely,

Michele Mark Levine
Director, Technical Services



August 20, 2020

Board of Directors
Rivanna Water and Sewer Authority
695 Moores Creek Lane
Charlottesville, Virginia 22902

Re: Water Supply Plan Projects

Dear Members of the Rivanna Water and Sewer Authority Board:

On behalf of the Albemarle County Service Authority's (ACSA) Board of Directors, we want to convey our most recent discussion and action on the Water Supply Plan, particularly the Ragged Mountain Reservoir to South Fork Rivanna Reservoir (RMR-SFRR) Raw Water Line, or "Pipeline". We have been following the recent discussions closely, including an in-depth presentation at our last Board meeting. We want to reiterate the ACSA Board position in light of the RWSA CIP and recent RWSA Board discussion.

At the August 20, 2020 meeting, the ACSA Board of Directors approved the following motion: "That the ACSA Board of Directors continue to give the Executive Director guidance on the timing of the "Pipeline" by concurring with the recommendation to focus on a CIP schedule for the pipeline of 2027-2033, as the preferred approach and that the 12-foot pool level increase at the Ragged Mountain Reservoir be in place upon the completion of the pipeline scheduled for 2033."

In support of this approach, the recent safe yield study (July 23, 2020) concluded that "to maximize supply reliability, not to mention other benefits like supply redundancy and environmental streamflow benefits, executing the improvements [Ragged Mountain pool raise and South Fork to Ragged Mountain pipeline] at the same time is warranted."

We look forward to working with our water partners in seeing the completion of the "full" Water Supply Treatment and Piping Plan, including the completion of the full height pool level (plus 12 feet) at the Ragged Mountain Reservoir, the capacity expansion at the Observatory Water Treatment Plant to 10 mgd, the associated water pump station upgrades, the construction of the Central Urban Waterline, and the RMR-SFRR Pipeline.

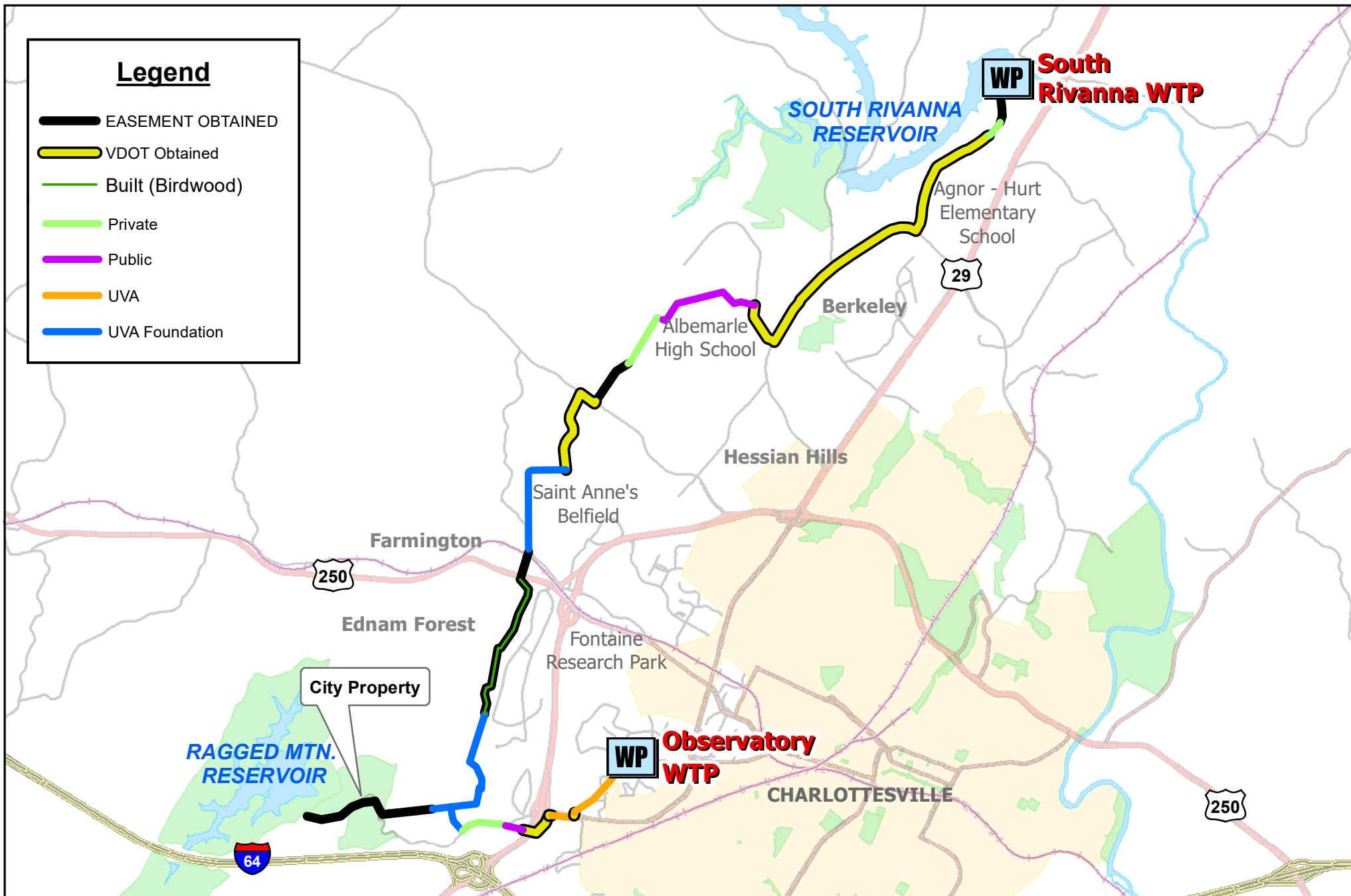
Sincerely,

A handwritten signature in black ink, appearing to read "Clarence Roberts".

Clarence Roberts, Chair
Albemarle County Service Authority
Board of Directors

cc: Bill Mawyer, Executive Director ✓
Jennifer Whitaker, Director of Engineering

168 Spotnap Road • Charlottesville, VA 22911 • Tel (434) 977-4511 • Fax (434) 979-0698
www.serviceauthority.org



Preliminary South Rivanna Reservoir to Ragged Mountain Reservoir Water Line



Miles
0 0.25 0.5



695 Moores Creek Lane
Charlottesville, VA 22902
p.434-977-2970
www.rivanna.org
www.rivannagis.org

Data used in this map was provided by the RWSA, City of Charlottesville, Albemarle Co. GDS, and the UVA FM Dept. Duplication of data or redistribution of this map without permission from the RWSA Engineering Dept. is prohibited.

Date: 9/16/2020



MEMORANDUM

TO: RIVANNA WATER & SEWER AUTHORITY
BOARD OF DIRECTORS

FROM: LONNIE WOOD, DIRECTOR OF FINANCE AND
ADMINISTRATION

REVIEWED: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: AUGUST MONTHLY FINANCIAL SUMMARY – FY 2021

DATE: SEPTEMBER 22, 2020

Urban Water flow and rate revenues are 14% over budget estimates through August, and Urban Wastewater flow and rate revenues are 5% over budget. Revenues and expenses are summarized in the table below:

	Urban Water	Urban Wastewater	Total Other Rate Centers	Total Authority
Operations				
Revenues	\$ 1,518,987	\$ 1,601,098	\$ 382,292	\$ 3,502,377
Expenses	(1,256,056)	(1,358,953)	(385,311)	(3,000,320)
Surplus (deficit)	<u>\$ 262,931</u>	<u>\$ 242,145</u>	<u>\$ (3,019)</u>	<u>\$ 502,057</u>
Debt Service				
Revenues	\$ 1,152,703	\$ 1,509,615	\$ 276,945	\$ 2,939,263
Expenses	(1,158,060)	(1,426,090)	(278,284)	(2,862,434)
Surplus (deficit)	<u>\$ (5,357)</u>	<u>\$ 83,525</u>	<u>\$ (1,339)</u>	<u>\$ 76,829</u>
Total				
Revenues	\$ 2,671,690	\$ 3,110,713	\$ 659,237	\$ 6,441,640
Expenses	(2,414,116)	(2,785,043)	(663,595)	(5,862,754)
Surplus (deficit)	<u><u>\$ 257,574</u></u>	<u><u>\$ 325,670</u></u>	<u><u>\$ (4,358)</u></u>	<u><u>\$ 578,886</u></u>

When reviewing the Authority as a whole, operating revenues are \$381,000 over budget and operating expenses are \$39,000 under budget.

A. Annual Transactions

Some revenues and expenses are over the prorated year-to-date budget due to one-time annual payments made or revenues received for the year. These transactions appear to be significant impacts on the budget vs. actual monthly comparisons but will even out as the year progresses. Annual payments are made for lease payments, health savings accounts,

certain maintenance agreements, and insurance. Septage receiving support revenue of \$109,441 is received annually from the County.

- B. Personnel Costs (Maintenance – page 9) – Maintenance department salaries were underbudgeted in error.

Attachments

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

Consolidated
Revenues and Expenses Summary

<i>Budget</i>	<i>Budget</i>	<i>Actual</i>	<i>Budget</i>	<i>Variance</i>
<i>FY 2021</i>	<i>Year-to-Date</i>	<i>Year-to-Date</i>	<i>vs. Actual</i>	<i>Percentage</i>

Operating Budget vs. Actual

Notes

Revenues

Operations Rate Revenue	\$	17,381,293	\$	2,896,882	\$	3,139,975	\$	243,093	8.39%
Lease Revenue		105,000		17,500		24,899		7,399	42.28%
Admin., Maint. & Engineering Revenue		545,000		90,833		109,603		18,769	20.66%
Other Revenues		542,788		90,465		295,814		205,349	226.99%
Use of Reserves-GAC		535,220		89,203		-		(89,203)	-100.00%
Rate Stabilization Reserves		240,027		40,005		40,005		-	0.00%
Interest Allocation		35,100		5,850		1,684		(4,166)	-71.22%
Total Operating Revenues	\$	19,384,428	\$	3,230,738	\$	3,611,979	\$	381,241	11.80%

Expenses

Personnel Cost	A, B	\$	8,913,257	\$	1,403,994	\$	1,409,574	\$	(5,580)	-0.40%
Professional Services	A		602,700		100,450		116,111		(15,661)	-15.59%
Other Services & Charges			3,136,780		522,797		476,438		46,358	8.87%
Communications	A		161,020		26,837		50,772		(23,936)	-89.19%
Information Technology	A		392,950		65,492		86,458		(20,966)	-32.01%
Supplies			47,045		7,841		4,960		2,881	36.74%
Operations & Maintenance	A		4,918,416		819,736		773,139		46,597	5.68%
Equipment Purchases			352,250		58,708		49,136		9,572	16.30%
Depreciation			860,000		143,333		143,333		(0)	0.00%
Reserve Transfers			-		-		-		-	
Total Operating Expenses		\$	19,384,418	\$	3,149,188	\$	3,109,922	\$	39,266	1.25%
Operating Surplus/(Deficit)		\$	10	\$	81,550	\$	502,057			

Debt Service Budget vs. Actual

Revenues

Debt Service Rate Revenue	\$	15,861,016	\$	2,643,503	\$	2,643,504	\$	1	0.00%
Use of Reserves		954,652		159,109		159,109		-	
Septage Receiving Support - County		109,440		18,240		109,441		91,201	500.01%
Buck Mountain Lease Revenue		1,600		267		-		(267)	-100.00%
Trust Fund Interest		135,900		22,650		8,545		(14,105)	-62.28%
Reserve Fund Interest		666,000		111,000		18,665		(92,335)	-83.19%
Total Debt Service Revenues	\$	17,728,608	\$	2,954,768	\$	2,939,263	\$	(15,505)	-0.52%

Debt Service Costs

Total Principal & Interest	\$	14,380,219	\$	2,396,703	\$	2,396,703	\$	-	0.00%
Reserve Additions-Interest		666,000		111,000		18,665		92,335	83.19%
Debt Service Ratio Charge		725,000		120,833		120,833		-	0.00%
Reserve Additions-CIP Growth		1,957,394		326,232		326,232		-	0.00%
Total Debt Service Costs	\$	17,728,613	\$	2,954,769	\$	2,862,433	\$	92,335	3.12%
Debt Service Surplus/(Deficit)	\$	(5)	\$	(1)	\$	76,829			

Summary

Total Revenues	\$	37,113,036	\$	6,185,506	\$	6,551,241	\$	365,735	5.91%
Total Expenses		37,113,031		6,103,956		5,972,355		131,601	2.16%
Surplus/(Deficit)	\$	5	\$	81,550	\$	578,886			

Rivanna Water & Sewer Authority
Monthly Financial Statements - August 2020

Urban Water Rate Center
Revenues and Expenses Summary

<i>Budget FY 2021</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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Operating Budget vs. Actual

Notes

Revenues

Operations Rate Revenue	\$ 7,118,541	\$ 1,186,424	\$ 1,356,533	\$ 170,110	14.34%
Lease Revenue	75,000	12,500	18,431	5,931	47.45%
Miscellaneous	-	-	127,613	127,613	
Use of Reserves-GAC	500,000	83,333	-	(83,333)	-100.00%
Rate Stabilization Reserves	94,254	15,709	15,709	-	0.00%
Interest Allocation	14,600	2,433	700	(1,733)	-71.21%
Total Operating Revenues	\$ 7,802,395	\$ 1,300,399	\$ 1,518,987	\$ 218,588	16.81%

Expenses

Personnel Cost	\$ 1,918,361	\$ 303,583	\$ 293,755	\$ 9,828	3.24%
Professional Services	A 134,000	22,333	79,985	(57,651)	-258.14%
Other Services & Charges	738,130	123,022	115,176	7,846	6.38%
Communications	A 76,000	12,667	19,276	(6,609)	-52.18%
Information Technology	85,500	14,250	13,140	1,110	7.79%
Supplies	5,745	958	322	635	66.35%
Operations & Maintenance	2,159,300	359,883	315,579	44,304	12.31%
Equipment Purchases	28,000	4,667	4,171	495	10.61%
Depreciation	300,000	50,000	50,000	-	0.00%
Reserve Transfers	-	-	-	-	
Subtotal Before Allocations	\$ 5,445,036	\$ 891,362	\$ 891,404	\$ (42)	0.00%
Allocation of Support Departments	2,357,359	372,940	364,652	8,288	2.22%
Total Operating Expenses	\$ 7,802,395	\$ 1,264,302	\$ 1,256,056	\$ 8,246	0.65%
Operating Surplus/(Deficit)	\$ 0	\$ 36,097	\$ 262,931		

Debt Service Budget vs. Actual

Revenues

Debt Service Rate Revenue	\$ 6,178,645	\$ 1,029,774	\$ 1,029,766	\$ (8)	0.00%
Trust Fund Interest	49,000	8,167	3,085	(5,082)	-62.23%
Reserve Fund Interest	339,600	56,600	9,519	(47,081)	-83.18%
Use of Reserves	662,000	110,333	110,333	-	0.00%
Lease Revenue	1,600	267	-	(267)	-100.00%
Total Debt Service Revenues	\$ 7,230,845	\$ 1,205,141	\$ 1,152,703	\$ (52,438)	-4.35%

Debt Service Costs

Total Principal & Interest	\$ 5,215,445	\$ 869,241	\$ 869,241	\$ -	0.00%
Reserve Additions-Interest	339,600	56,600	9,519	47,081	83.18%
Debt Service Ratio Charge	400,000	66,667	66,667	-	0.00%
Reserve Additions-CIP Growth	1,275,800	212,633	212,633	-	0.00%
Total Debt Service Costs	\$ 7,230,845	\$ 1,205,141	\$ 1,158,060	\$ 47,081	3.91%
Debt Service Surplus/(Deficit)	\$ -	\$ -	\$ (5,357)		

Rate Center Summary

Total Revenues	\$ 15,033,240	\$ 2,505,540	\$ 2,671,690	\$ 166,150	6.63%
Total Expenses	15,033,240	2,469,443	2,414,116	55,327	2.24%
Surplus/(Deficit)	\$ 0	\$ 36,097	\$ 257,574		
Costs per 1000 Gallons	\$ 2.30		\$ 1.94		
Operating and DS	\$ 4.42		\$ 3.73		
Thousand Gallons Treated	3,397,700	566,283	647,509	81,226	14.34%
or					
Flow (MGD)	9.309		10.444		

Rivanna Water & Sewer Authority
Monthly Financial Statements - August 2020

Crozet Water Rate Center
Revenues and Expenses Summary

<i>Budget FY 2021</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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Operating Budget vs. Actual

Notes

Revenues

Operations Rate Revenue	\$ 1,028,808	\$ 171,468	\$ 171,468	\$ -	0.00%
Lease Revenues	30,000	5,000	6,468	1,468	29.37%
Use of Reserves-GAC	26,000	4,333	-	(4,333)	-100.00%
Interest Allocation	2,100	350	99	(251)	-71.61%
Total Operating Revenues	\$ 1,086,908	\$ 181,151	\$ 178,036	\$ (3,116)	-1.72%

Expenses

Personnel Cost	\$ 302,598	\$ 47,876	\$ 46,739	\$ 1,137	2.37%
Professional Services	15,000	2,500	9,601	(7,101)	-284.06%
Other Services & Charges	142,360	23,727	15,553	8,174	34.45%
Communications	5,600	933	3,806	(2,873)	-307.84%
Information Technology	2,250	375	80	295	78.66%
Supplies	1,350	225	171	54	23.88%
Operations & Maintenance	353,292	58,882	86,996	(28,114)	-47.75%
Equipment Purchases	3,000	500	500	-	0.00%
Depreciation	40,000	6,667	6,667	0	0.00%
Reserve Transfers	-	-	-	-	
Subtotal Before Allocations	\$ 865,450	\$ 141,684	\$ 170,113	\$ (28,429)	-20.06%
Allocation of Support Departments	221,456	35,048	34,459	589	1.68%
Total Operating Expenses	\$ 1,086,906	\$ 176,733	\$ 204,573	\$ (27,840)	-15.75%
Operating Surplus/(Deficit)	\$ 2	\$ 4,419	\$ (26,537)		

Debt Service Budget vs. Actual

Revenues

Debt Service Rate Revenue	\$ 1,311,312	\$ 218,552	\$ 218,552	\$ -	0.00%
Trust Fund Interest	11,600	1,933	726	(1,207)	-62.43%
Use of Reserves	198,252	33,042	33,042	-	0.00%
Reserve Fund Interest	15,700	2,617	448	(2,169)	-82.88%
Total Debt Service Revenues	\$ 1,536,864	\$ 256,144	\$ 252,768	\$ (3,376)	-1.32%

Debt Service Costs

Total Principal & Interest	\$ 1,217,569	\$ 202,928	\$ 202,928	\$ -	0.00%
Reserve Additions-Interest	15,700	2,617	448	2,169	82.88%
Reserve Additions-CIP Growth	303,600	50,600	50,600	-	0.00%
Total Debt Service Costs	\$ 1,536,869	\$ 256,145	\$ 253,976	\$ 2,169	0.85%
Debt Service Surplus/(Deficit)	\$ (5)	\$ (1)	\$ (1,208)		

Rate Center Summary

Total Revenues	\$ 2,623,772	\$ 437,295	\$ 430,804	\$ (6,491)	-1.48%
Total Expenses	2,623,775	432,878	458,549	(25,671)	-5.93%
Surplus/(Deficit)	\$ (3)	\$ 4,418	\$ (27,745)		
Costs per 1000 Gallons	\$ 5.47		\$ 4.72		
Operating and DS	\$ 13.20		\$ 10.59		
Thousand Gallons Treated	198,830	33,138	43,308	10,170	30.69%
Flow (MGD)	0.545		0.699		

Rivanna Water & Sewer Authority
Monthly Financial Statements - August 2020

Scottsville Water Rate Center
Revenues and Expenses Summary

<i>Budget FY 2021</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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Operating Budget vs. Actual

Notes

Revenues

Operations Rate Revenue	\$ 520,812	\$ 86,802	\$ 86,802	\$ -	0.00%
Use of Reserves-GAC	9,220	1,537	-	(1,537)	-100.00%
Interest Allocation	1,000	167	49	(118)	-70.70%
Total Operating Revenues	\$ 531,032	\$ 88,505	\$ 86,851	\$ (1,655)	-1.87%

Expenses

Personnel Cost	\$ 184,031	\$ 29,101	\$ 28,520	\$ 580	1.99%
Professional Services	71,000	11,833	1,103	10,730	90.68%
Other Services & Charges	22,780	3,797	4,132	(335)	-8.82%
Communications	4,600	767	1,220	(453)	-59.15%
Information Technology	650	108	160	(52)	-47.73%
Supplies	200	33	-	33	100.00%
Operations & Maintenance	87,662	14,610	12,044	2,567	17.57%
Equipment Purchases	2,500	417	417	(0)	0.00%
Depreciation	20,000	3,333	3,333	(0)	0.00%
Reserve Transfers	-	-	-	-	-
Subtotal Before Allocations	\$ 393,423	\$ 63,999	\$ 50,929	\$ 13,070	20.42%
Allocation of Support Departments	137,604	21,809	21,816	(7)	-0.03%
Total Operating Expenses	\$ 531,027	\$ 85,808	\$ 72,745	\$ 13,063	15.22%
Operating Surplus/(Deficit)	\$ 5	\$ 2,697	\$ 14,106		

Debt Service Budget vs. Actual

Revenues

Debt Service Rate Revenue	\$ 128,749	\$ 21,458	\$ 21,458	\$ (0)	0.00%
Trust Fund Interest	1,200	200	77	(123)	-61.55%
Reserve Fund Interest	8,300	1,383	224	(1,159)	-83.81%
Total Debt Service Revenues	\$ 138,249	\$ 23,042	\$ 21,759	\$ (1,283)	-5.57%

Debt Service Costs

Total Principal & Interest	\$ 126,032	\$ 21,005	\$ 21,005	\$ -	0.00%
Reserve Additions-Interest	8,300	1,383	224	1,159	
Reserve Additions-CIP Growth	3,917	653	653	-	
Total Debt Service Costs	\$ 138,249	\$ 23,042	\$ 21,882	\$ 1,159	5.03%
Debt Service Surplus/(Deficit)	\$ -	\$ -	\$ (123)		

Rate Center Summary

Total Revenues	\$ 669,281	\$ 111,547	\$ 108,610	\$ (2,937)	-2.63%
Total Expenses	669,276	108,850	94,627	14,223	13.07%
Surplus/(Deficit)	\$ 5	\$ 2,697	\$ 13,983		
Costs per 1000 Gallons	\$ 30.79		\$ 19.52		
Operating and DS	\$ 38.81		\$ 25.39		
Thousand Gallons Treated	17,245	2,874	3,727	853	29.67%
or					
Flow (MGD)	0.047		0.060		

Rivanna Water & Sewer Authority
Monthly Financial Statements - August 2020

Urban Wastewater Rate Center
Revenues and Expenses Summary

Budget FY 2021	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
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Operating Budget vs. Actual

Notes

Revenues

Operations Rate Revenue	\$ 8,033,620	\$ 1,338,937	\$ 1,411,919	\$ 72,983	5.45%
Stone Robinson WWTP	22,788	3,798	2,448	(1,350)	-35.55%
Septage Acceptance	475,000	79,167	78,166	(1,000)	-1.26%
Nutrient Credits	45,000	7,500	86,999	79,499	1059.98%
Rate Stabilization Reserve	121,233	20,206	20,206	-	0.00%
Miscellaneous Revenue	-	-	587	587	
Interest Allocation	16,100	2,683	773	(1,910)	-71.20%
Total Operating Revenues	\$ 8,713,741	\$ 1,452,290	\$ 1,601,098	\$ 148,808	10.25%

Expenses

Personnel Cost	\$ 1,299,876	\$ 204,996	\$ 195,929	\$ 9,068	4.42%
Professional Services	143,400	23,900	8,654	15,246	63.79%
Other Services & Charges	2,020,300	336,717	315,027	21,690	6.44%
Communications	10,700	1,783	4,905	(3,122)	-175.05%
Information Technology	69,500	11,583	9,323	2,261	19.52%
Supplies	1,900	317	265	51	16.16%
Operations & Maintenance	1,767,000	294,500	290,111	4,389	1.49%
Equipment Purchases	125,250	20,875	16,132	4,743	22.72%
Depreciation	470,000	78,333	78,333	(0)	0.00%
Reserve Transfers	-	-	-	-	
Subtotal Before Allocations	\$ 5,907,926	\$ 973,005	\$ 918,679	\$ 54,326	5.58%
Allocation of Support Departments	2,805,815	444,303	440,274	4,029	0.91%
Total Operating Expenses	\$ 8,713,741	\$ 1,417,308	\$ 1,358,953	\$ 58,355	4.12%
Operating Surplus/(Deficit)	\$ (0)	\$ 34,982	\$ 242,145		

Debt Service Budget vs. Actual

Revenues

Debt Service Rate Revenue	\$ 8,229,090	\$ 1,371,515	\$ 1,371,524	\$ 9	0.00%
Septage Receiving Support - County	109,440	18,240	109,441	91,201	500.01%
Trust Fund Interest	74,000	12,333	4,648	(7,685)	-62.31%
Use of Reserves	94,400	15,733	15,733	-	0.00%
Reserve Fund Interest	295,200	49,200	8,268	(40,932)	-83.19%
Total Debt Service Revenues	\$ 8,802,130	\$ 1,467,022	\$ 1,509,615	\$ 42,593	2.90%

Debt Service Costs

Total Principal & Interest	\$ 7,812,130	\$ 1,302,022	\$ 1,302,022	\$ -	0.00%
Reserve Additions-Interest	295,200	49,200	8,268	40,932	83.19%
Debt Service Ratio Charge	325,000	54,167	54,167	-	0.00%
Reserve Additions-CIP Growth	369,800	61,633	61,633	-	0.00%
Total Debt Service Costs	\$ 8,802,130	\$ 1,467,022	\$ 1,426,090	\$ 40,932	2.79%
Debt Service Surplus/(Deficit)	\$ -	\$ -	\$ 83,525		

Rate Center Summary

Total Revenues	\$ 17,515,871	\$ 2,919,312	\$ 3,110,713	\$ 191,401	6.56%
Total Expenses	17,515,871	2,884,329	2,785,043	99,286	3.44%
Surplus/(Deficit)	\$ (0)	\$ 34,982	\$ 325,670		
Costs per 1000 Gallons	\$ 2.57		\$ 2.28		
Operating and DS	\$ 5.17		\$ 4.67		
Thousand Gallons Treated	3,390,400	565,067	595,998	30,931	5.47%
or					
Flow (MGD)	9.289		9.613		

Rivanna Water & Sewer Authority
Monthly Financial Statements - August 2020

Glenmore Wastewater Rate Center
Revenues and Expenses Summary

<i>Budget FY 2021</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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Operating Budget vs. Actual

Notes

Revenues

Operations Rate Revenue	\$ 370,524	\$ 61,754	\$ 61,754	\$ -	0.00%
Rate Stabilization Reserve	24,540	4,090	4,090	-	0.00%
Interest Allocation	700	117	34	(83)	-71.13%
Total Operating Revenues	\$ 395,764	\$ 65,961	\$ 65,878	\$ (83)	-0.13%

Expenses

Personnel Cost	\$ 97,804	\$ 15,444	\$ 14,223	\$ 1,220	7.90%
Professional Services	24,200	4,033	-	4,033	
Other Services & Charges	36,800	6,133	4,842	1,292	21.06%
Communications	3,200	533	907	(374)	-70.09%
Information Technology	4,050	675	15	660	97.82%
Supplies	-	-	-	-	
Operations & Maintenance	A 109,100	18,183	24,035	(5,851)	-32.18%
Equipment Purchases	3,700	617	617	0	0.00%
Depreciation	10,000	1,667	1,667	0	0.00%
Subtotal Before Allocations	\$ 288,854	\$ 47,285	\$ 46,305	\$ 980	2.07%
Allocation of Support Departments	106,907	16,970	17,176	(206)	-1.21%
Total Operating Expenses	\$ 395,761	\$ 64,255	\$ 63,481	\$ 775	1.21%
Operating Surplus/(Deficit)	\$ 3	\$ 1,706	\$ 2,397		

Debt Service Budget vs. Actual

Revenues

Debt Service Rate Revenue	\$ 3,778	\$ 630	\$ 630	\$ 0	0.05%
Trust Fund Interest	-	-	-	-	
Reserve Fund Interest	3,000	500	93	(407)	-81.34%
Total Debt Service Revenues	\$ 6,778	\$ 1,130	\$ 723	\$ 0	0.03%

Debt Service Costs

Total Principal & Interest	\$ 1,579	\$ 263	\$ 263	\$ -	0.00%
Reserve Additions-CIP Growth	2,199	367	367	-	0.00%
Reserve Additions-Interest	3,000	500	93	407	81.34%
Total Debt Service Costs	\$ 6,778	\$ 1,130	\$ 723	\$ 407	36.00%
Debt Service Surplus/(Deficit)	\$ -	\$ -	\$ 0		

Rate Center Summary

Total Revenues	\$ 402,542	\$ 67,090	\$ 66,601	\$ (489)	-0.73%
Total Expenses	402,539	65,385	64,204	1,181	1.81%
Surplus/(Deficit)	\$ 3	\$ 1,706	\$ 2,397		
Costs per 1000 Gallons	\$ 9.51		\$ 9.32		
Operating and DS	\$ 9.67		\$ 9.43		
Thousand Gallons Treated or Flow (MGD)	41,629	6,938	6,809	(129)	-1.86%
	0.114		0.110		

Rivanna Water & Sewer Authority
Monthly Financial Statements - August 2020

Scottsville Wastewater Rate Center
Revenues and Expenses Summary

<i>Budget FY 2021</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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Operating Budget vs. Actual

Notes

Revenues

Operations Rate Revenue	\$ 308,988	\$ 51,498	\$ 51,498	\$ -	0.00%
Interest Allocation	600	100	29	(71)	-71.38%
Total Operating Revenues	\$ 309,588	\$ 51,598	\$ 51,527	\$ (71)	-0.14%

Expenses

Personnel Cost	\$ 97,317	\$ 15,362	\$ 14,223	\$ 1,139	7.41%
Professional Services	2,100	350	-	350	100.00%
Other Services & Charges	23,710	3,952	3,943	9	0.23%
Communications	3,720	620	936	(316)	-51.00%
Information Technology	1,500	250	478	(228)	-91.13%
Supplies	500	83	-	83	100.00%
Operations & Maintenance	57,812	9,635	5,117	4,519	46.90%
Equipment Purchases	3,700	617	617	0	0.00%
Depreciation	20,000	3,333	3,333	(0)	0.00%
Subtotal Before Allocations	\$ 210,359	\$ 34,203	\$ 28,647	\$ 5,556	16.24%
Allocation of Support Departments	99,228	15,746	15,865	(120)	-0.76%
Total Operating Expenses	\$ 309,587	\$ 49,948	\$ 44,512	\$ 5,436	10.88%
Operating Surplus/(Deficit)	\$ 1	\$ 1,650	\$ 7,015		

Debt Service Budget vs. Actual

Revenues

Debt Service Rate Revenue	\$ 9,442	\$ 1,574	\$ 1,574	\$ 0	0.02%
Trust Fund Interest	100	17	9	(8)	-48.76%
Reserve Fund Interest	4,200	700	112	(588)	-84.00%
Total Debt Service Revenues	\$ 13,742	\$ 2,290	\$ 1,695	\$ (596)	-26.01%

Debt Service Costs

Total Principal & Interest	\$ 7,464	\$ 1,244	\$ 1,244	\$ -	0.00%
Reserve Additions-Interest	4,200	700	112	588	84.00%
Estimated New Principal & Interest	2,078	346	346	-	0.00%
Total Debt Service Costs	\$ 13,742	\$ 2,290	\$ 1,702	\$ 588	25.67%
Debt Service Surplus/(Deficit)	\$ -	\$ -	\$ (8)		

Rate Center Summary

Total Revenues	\$ 323,330	\$ 53,888	\$ 53,221	\$ (667)	-1.24%
Total Expenses	323,329	52,239	46,214	6,024	11.53%
Surplus/(Deficit)	\$ 1	\$ 1,650	\$ 7,007		
Costs per 1000 Gallons	\$ 13.39		\$ 11.47		
Operating and DS	\$ 13.98		\$ 11.91		
Thousand Gallons Treated	23,126	3,854	3,881	27	0.69%
or					
Flow (MGD)	0.063		0.063		

Rivanna Water & Sewer Authority
Monthly Financial Statements - August 2020

Administration

<i>Budget FY 2021</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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Operating Budget vs. Actual

Notes

Revenues

Payment for Services SWA	\$ 543,000	\$ 90,500	\$ 90,500	\$ -	0.00%
Miscellaneous Revenue	2,000	333	10,851	10,518	3155.37%
Total Operating Revenues	\$ 545,000	\$ 90,833	\$ 101,351	\$ 10,518	11.58%

Expenses

Personnel Cost	A	\$ 1,906,136	\$ 299,069	\$ 309,319	\$ (10,251)	-3.43%
Professional Services		183,000	30,500	11,574	18,926	62.05%
Other Services & Charges		80,600	13,433	9,967	3,466	25.80%
Communications		21,500	3,583	3,940	(356)	-9.95%
Information Technology	A	177,000	29,500	47,838	(18,338)	-62.16%
Supplies		24,250	4,042	2,815	1,227	30.35%
Operations & Maintenance		75,200	12,533	9,372	3,161	25.22%
Equipment Purchases		24,000	4,000	2,333	1,667	41.67%
Depreciation		-	-	-	-	
Total Operating Expenses		\$ 2,491,686	\$ 396,660	\$ 397,159	\$ (499)	-0.13%

Department Summary

Net Costs Allocable to Rate Centers		\$ (1,946,686)	\$ (305,827)	\$ (295,808)	\$ (10,019)	3.28%
<u>Allocations to the Rate Centers</u>						
Urban Water	44.00%	\$ 856,542	\$ 134,564	\$ 130,155	\$ 4,409	
Crozet Water	4.00%	\$ 77,867	\$ 12,233	\$ 11,832	\$ 401	
Scottsville Water	2.00%	\$ 38,934	\$ 6,117	\$ 5,916	\$ 200	
Urban Wastewater	48.00%	\$ 934,409	\$ 146,797	\$ 141,988	\$ 4,809	
Glenmore Wastewater	1.00%	\$ 19,467	\$ 3,058	\$ 2,958	\$ 100	
Scottsville Wastewater	1.00%	\$ 19,467	\$ 3,058	\$ 2,958	\$ 100	
	100.00%	\$ 1,946,686	\$ 305,827	\$ 295,808	\$ 10,019	

Rivanna Water & Sewer Authority
Monthly Financial Statements - August 2020

Maintenance

<i>Budget FY 2021</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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Operating Budget vs. Actual

Notes

Revenues

Payment for Services SWA
Miscellaneous Revenue

Total Operating Revenues

\$ -	\$ -	\$ -	\$ -	\$ -
-	-	983	983	
\$ -	\$ -	\$ 983	\$ 983	

Expenses

Personnel Cost
Professional Services
Other Services & Charges
Communications
Information Technology
Supplies
Operations & Maintenance
Equipment Purchases
Depreciation

Total Operating Expenses

B	\$ 1,233,605	\$ 194,478	\$ 212,252	\$ (17,773)	-9.14%
	-	-	-	-	
	50,700	8,450	4,004	4,446	52.62%
A	17,400	2,900	9,297	(6,397)	-220.58%
	8,500	1,417	1,236	181	12.76%
	2,000	333	65	268	80.54%
	84,550	14,092	15,685	(1,593)	-11.30%
	139,000	23,167	20,500	2,667	11.51%
	-	-	-	-	
	\$ 1,535,755	\$ 244,837	\$ 263,038	\$ (18,201)	-7.43%

Department Summary

Net Costs Allocable to Rate Centers

\$ (1,535,755)	\$ (244,837)	\$ (262,055)	\$ 19,184	-7.84%
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Allocations to the Rate Centers

Urban Water	30.00%	\$ 460,727	\$ 73,451	\$ 78,617	\$ (5,166)
Crozet Water	3.50%	53,751	8,569	9,172	(603)
Scottsville Water	3.50%	53,751	8,569	9,172	(603)
Urban Wastewater	56.50%	867,702	138,333	148,061	(9,728)
Glenmore Wastewater	3.50%	53,751	8,569	9,172	(603)
Scottsville Wastewater	3.00%	46,073	7,345	7,862	(517)
	100.00%	\$ 1,535,755	\$ 244,837	\$ 262,055	\$ (17,218)

Rivanna Water & Sewer Authority
Monthly Financial Statements - August 2020

Laboratory

<i>Budget FY 2021</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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Operating Budget vs. Actual

Notes

Revenues

N/A

Expenses

Personnel Cost	\$ 404,171	\$ 63,484	\$ 63,036	\$ 448	0.71%
Professional Services	-	-	-	-	
Other Services & Charges	7,600	1,267	83	1,183	93.42%
Communications	2,100	350	223	127	
Information Technology	2,500	417	102	315	75.64%
Supplies	1,300	217	340	(123)	-56.79%
Operations & Maintenance	97,250	16,208	9,890	6,318	38.98%
Equipment Purchases	1,600	267	267	0	0.00%
Depreciation	-	-	-	-	
Total Operating Expenses	\$ 516,521	\$ 82,209	\$ 73,940	\$ 8,269	10.06%

Department Summary

Net Costs Allocable to Rate Centers		\$ (516,521)	\$ (82,209)	\$ (73,940)	\$ (8,269)	10.06%
<u>Allocations to the Rate Centers</u>						
Urban Water	44.00%	\$ 227,269	\$ 36,172	\$ 32,534	\$ 3,638	
Crozet Water	4.00%	20,661	3,288	2,958	331	
Scottsville Water	2.00%	10,330	1,644	1,479	165	
Urban Wastewater	47.00%	242,765	38,638	34,752	3,886	
Glenmore Wastewater	1.50%	7,748	1,233	1,109	124	
Scottsville Wastewater	1.50%	7,748	1,233	1,109	124	
	100.00%	\$ 516,521	\$ 82,209	\$ 73,940	\$ 8,269	

Rivanna Water & Sewer Authority
Monthly Financial Statements - August 2020

Engineering

<i>Budget FY 2021</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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Operating Budget vs. Actual**Revenues**

Payment for Services SWA

Total Operating Revenues

\$ -	\$ -	\$ 7,269	\$ 7,269	
\$ -	\$ -	\$ 7,269	\$ 7,269	

Expenses

Personnel Cost

Professional Services

Other Services & Charges

Communications

Information Technology

Supplies

Operations & Maintenance

Equipment Purchases

Depreciation & Capital Reserve Transfers

Total Operating Expenses

A

\$ 1,469,358	\$ 230,602	\$ 231,578	\$ (976)	-0.42%
30,000	5,000	5,193	(193)	-3.86%
13,800	2,300	3,713	(1,413)	-61.44%
16,200	2,700	6,262	(3,562)	-131.92%
41,500	6,917	14,087	(7,171)	-103.67%
9,800	1,633	982	652	39.91%
127,250	21,208	4,310	16,898	79.68%
21,500	3,583	3,583	(0)	0.00%
-	-	-	-	
\$ 1,729,408	\$ 273,944	\$ 269,708	\$ 4,235	1.55%

Department Summary

Net Costs Allocable to Rate Centers

\$ (1,729,408)	\$ (273,944)	\$ (262,440)	\$ 3,033	-1.11%
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Allocations to the Rate Centers

Urban Water

Crozet Water

Scottsville Water

Urban Wastewater

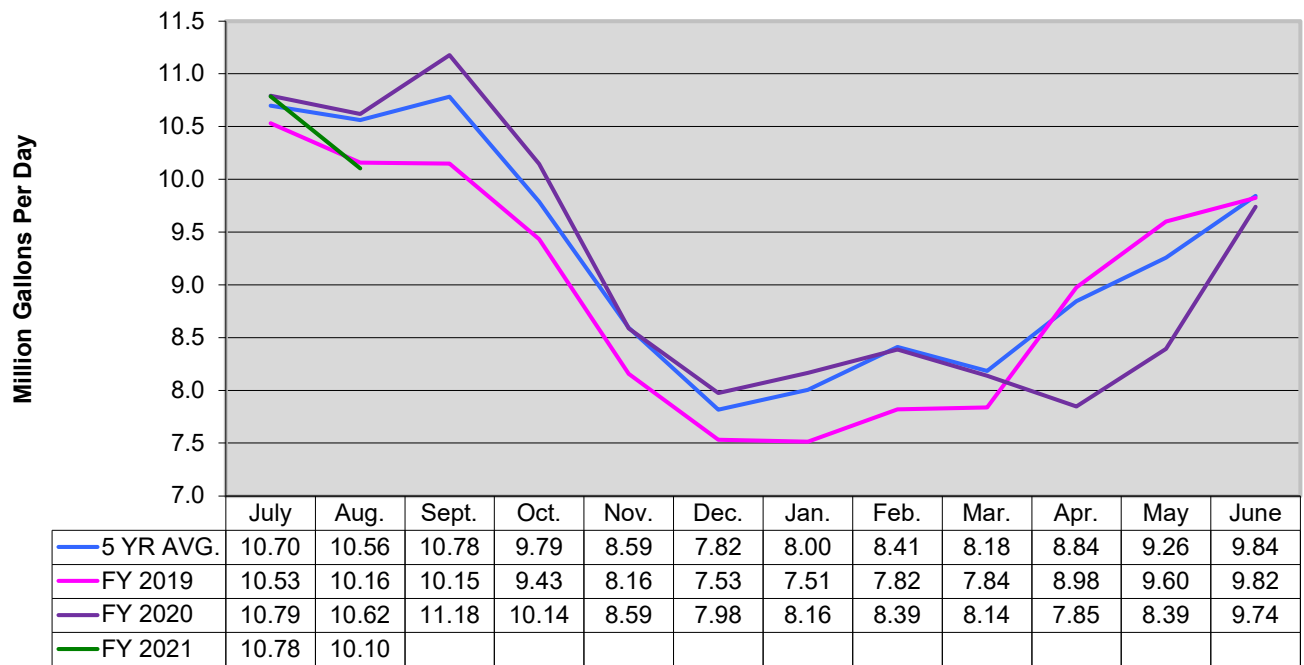
Glenmore Wastewater

Scottsville Wastewater

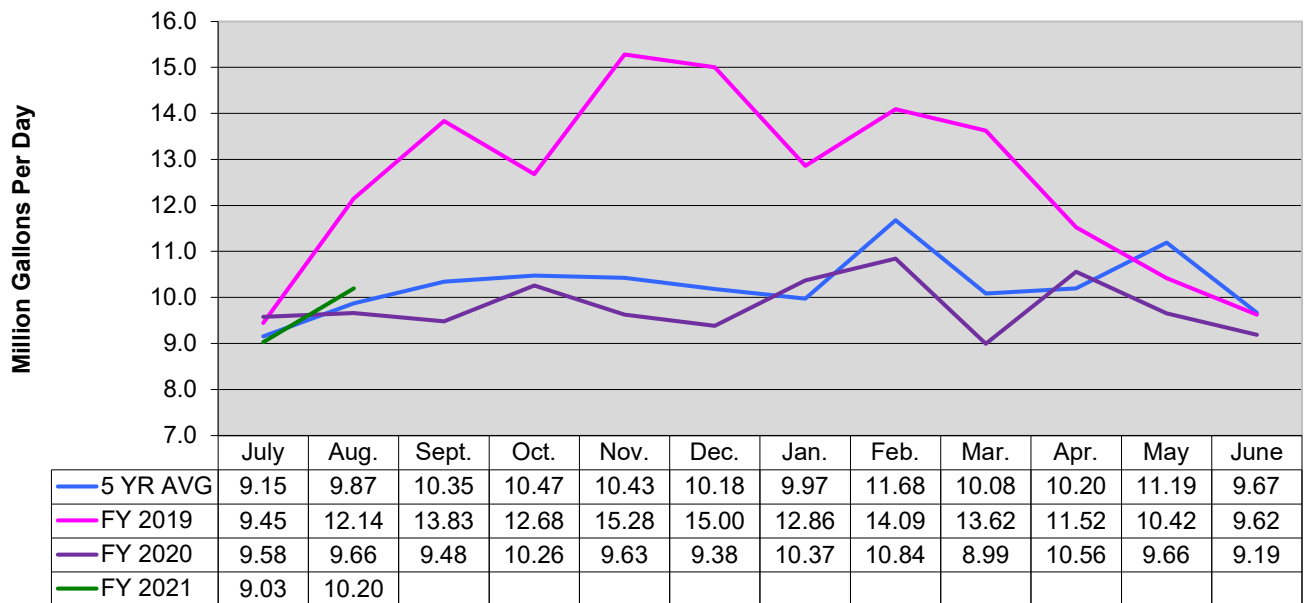
47.00%	\$ 812,822	\$ 128,754	\$ 123,347	\$ 5,407
4.00%	69,176	10,958	10,498	460
2.00%	34,588	5,479	5,249	230
44.00%	760,939	120,535	115,473	5,062
1.50%	25,941	4,109	3,937	173
1.50%	25,941	4,109	3,937	173
100.00%	\$ 1,729,408	\$ 273,944	\$ 262,440	\$ 11,504

**Rivanna Water and Sewer Authority
Flow Graphs**

Urban Water Flows



Urban Wastewater Flows





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 AUGUST 2020

DATE: SEPTEMBER 22, 2020

WATER OPERATIONS:

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

<i>Water Treatment Plant</i>	<i>Average Daily Production (MGD)</i>	<i>Total Monthly Production (MG)</i>	<i>Maximum Daily Production in the Month (MGD)</i>
Observatory	1.28	39.78	1.86 (08/27/20)
South Rivanna	8.38	259.80	9.48 (08/02/20)
North Rivanna	<u>0.44</u>	<u>13.59</u>	0.78 (08/16/20)
<i>Urban Total</i>	10.10	313.17	11.54 (08/02/20)
Crozet	0.64	19.73	0.88 (08/18/20)
Scottsville	<u>0.061</u>	<u>1.88</u>	0.07 (08/11/20)
<i>RWSA Total</i>	10.80	334.78	---

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

Status of Reservoirs (as of September 9, 2020):

- Urban Reservoirs: 99.40 % of Total Useable Capacity
- Ragged Mountain Reservoir is -0.24 feet (98.89 %)
- Sugar Hollow Reservoir is full (100%)
- South Rivanna Reservoir is full (100%)
- Beaver Creek Reservoir is full (100%)
- Totier Creek Reservoir is full (100%)

WASTEWATER OPERATIONS:

All RWSA Water Resource Recovery Facilities (WRRFs) were in regulatory compliance with their effluent limitations during August 2020. Stone-Robinson School was closed for the month of August and had zero discharge. Performance of the WRRFs in August was as follows compared to the respective VDEQ permit limits:

WRRF	Average Daily Effluent Flow (mgd)	Average CBOD₅ (ppm)		Average Total Suspended Solids (ppm)		Average Ammonia (ppm)	
		RESULT	LIMIT	RESULT	LIMIT	RESULT	LIMIT
Moore's Creek	10.58	<QL	10	0.3	22	<QL	2.2
Glenmore	0.115	5.0	15	5.0	30	NR	NL
Scottsville	0.076	6.0	25	3.0	30	NR	NL
Stone Robinson	0.000	NR	30	NR	30	NR	NL

NR = Not Required

NL = No Limit

<QL: Less than analytical method quantitative level (2.0 ppm for CBOD, 1.0 ppm for TSS, and 0.1 ppm for Ammonia).

Nutrient discharges at the Moore's Creek AWRRF were as follows for August 2020.

State Annual Allocation (lb./yr.) Permit		Average Monthly Allocation (lb./mo.) *	Moore's Creek Discharge August (lb./mo.)	Performance as % of monthly average Allocation*	Year to Date Performance as % of annual allocation
Nitrogen	282,994	23,583	4,378	19%	18%
Phosphorous	18,525	1,544	746	48%	18%

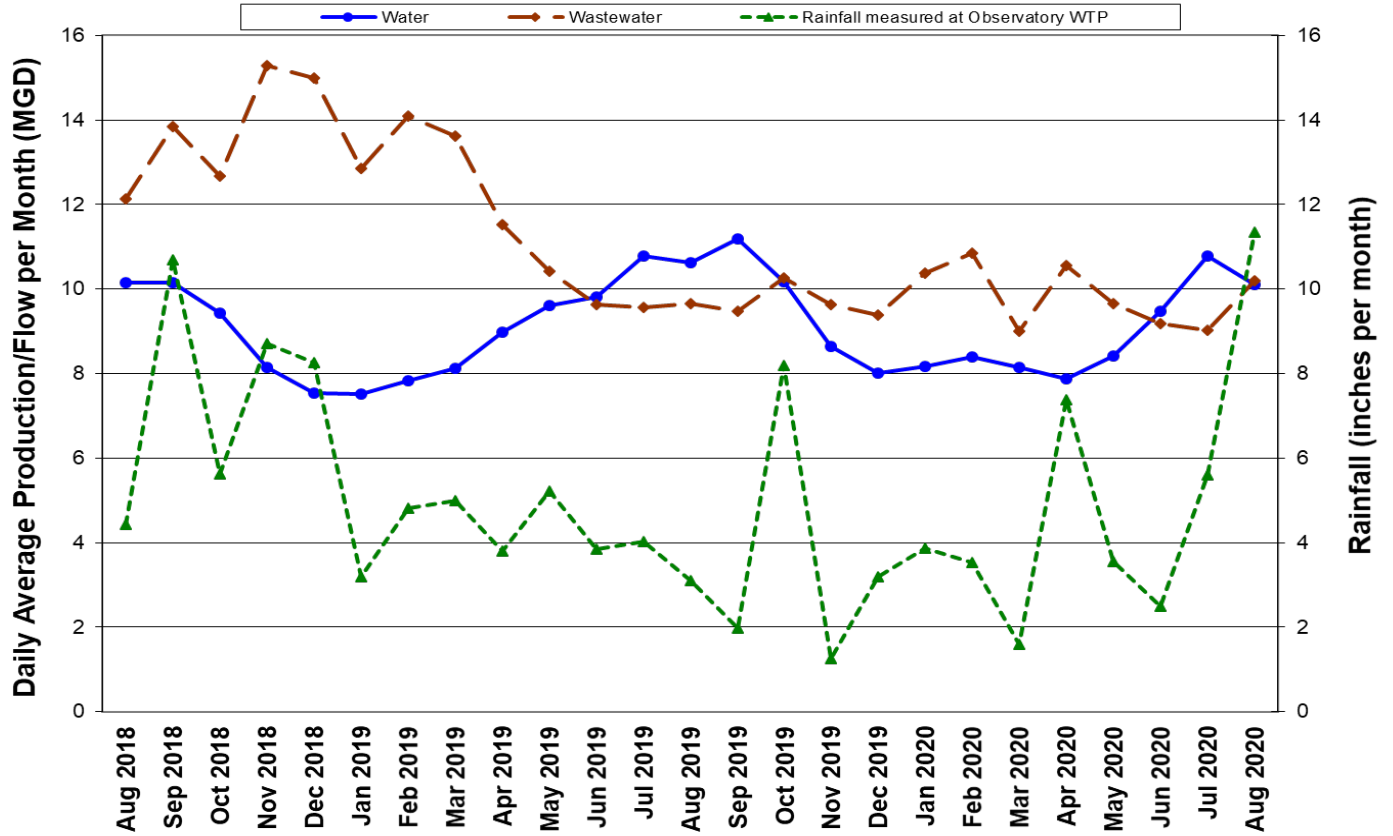
*State allocations are expressed as annual amounts. One-twelfth of that allocation is an internal monthly benchmark for comparative purposes only.

WATER AND WASTEWATER DATA:

The following graphs are provided for review:

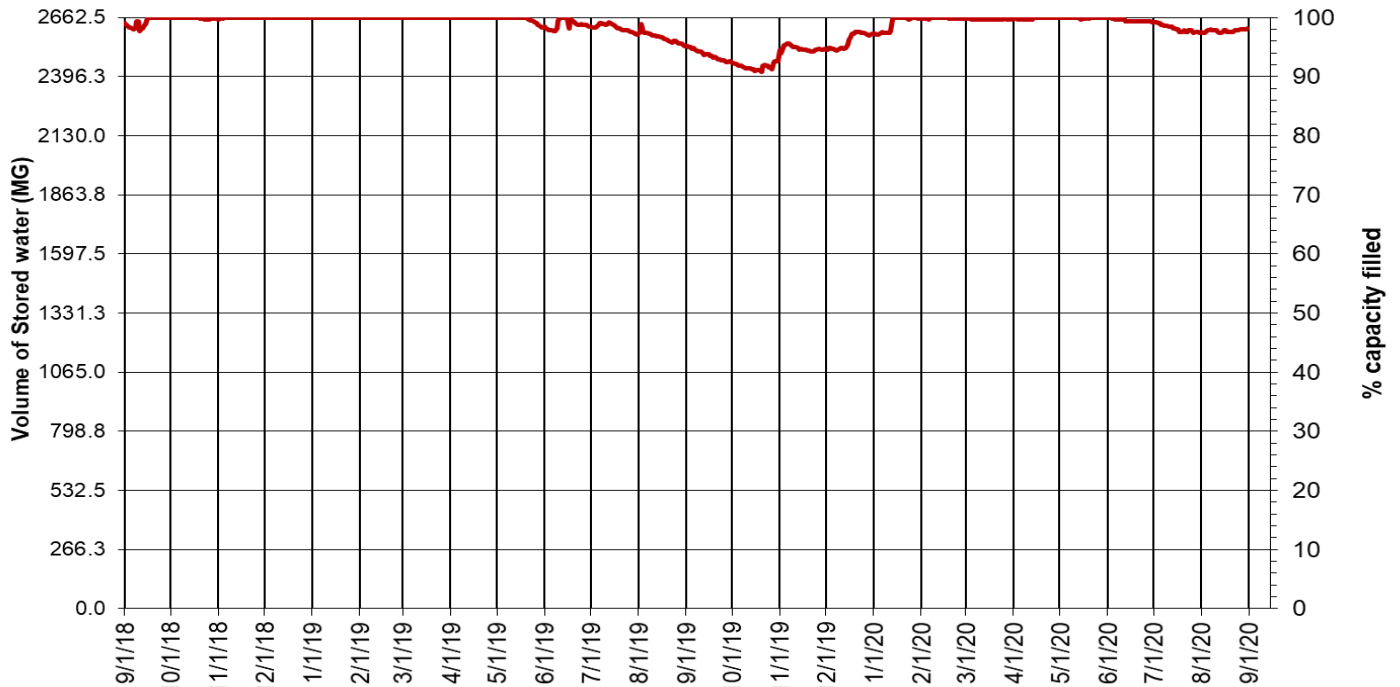
- Usable Urban Reservoir Water Storage
- Urban Water and Wastewater Flows versus Rainfall

Urban Water and Wastewater Flows versus Rainfall



Usable Urban Reservoir Water Storage

Maximum 2,662.5 MG after 5/1/19



MEMORANDUM

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

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

REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: STATUS REPORT: ONGOING PROJECTS

DATE: SEPTEMBER 22, 2020

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

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

Under Construction

1. Crozet Water Treatment Plant Expansion
2. South Rivanna and Observatory Water Treatment Plant Renovations
3. MC Holding Ponds, Solids Removal and Disposal - Odor Control Phase 2
4. Crozet Flow Equalization Tank
5. MC Aluminum Slide Gate Replacements
6. South Rivanna Dam – Gate Repairs
7. Sugar Hollow Dam – Gate Replacement and Intake Tower Repairs

Design and Bidding

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

Planning and Studies

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

Other Significant Projects

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

Under Construction

1. Crozet Water Treatment Plant Expansion

Design Engineer:	Short Elliot Hendrickson (SEH)
Construction Contractor:	Orders Construction Co. (WVA)
Construction Start:	December 2018
Percent Complete:	75%
Base Construction Contract + Change Order to Date = Current Value:	\$7,170,000- \$225,600.80 = \$6,945,399.20
Completion:	May 2021
Budget:	\$8,500,000

Current Status: Work continues on the expansion of the Chemical Building with installation of platforms and chemical feed pumps and piping, backwash tank construction and installation of pumps and mixers inside the tank, and site improvements including grading and curb and gutter installation. Upcoming work includes a jack and bore under Route 240 to connect piping from the backwash tank to the plant and reconstruction of the second filter.

2. South Rivanna and Observatory Water Treatment Plant Renovations

Design Engineer:	Short Elliot Hendrickson, Inc. (SEH)
Construction Contractor:	English Construction Company (Lynchburg, VA)
Construction Start:	May 2020
Percent Complete:	10%
Base Construction Contract + Change Orders to Date = Current Value:	\$36,748,500
Completion:	March 2023
Budget:	\$43,000,000

Current Status: Work continues on the liquid lime enclosure and masonry walls, filter building expansion including excavation for the building's foundation along with piping relocations, and yard piping modifications including chemical feed lines and relocation of the backwash waste line for the eventual construction of the Alum and Fluoride Chemical Storage Building.

3. MC Holding Ponds, Solids Removal and Disposal – Odor Control Phase 2

Design Engineer:	Short Elliot Hendrickson (SEH)
Construction Contractor:	Merrell Bros., Inc. (Indiana)
Construction Start:	August 2020
Percent Complete:	40%
Base Construction Contract + Change Orders to Date = Current Value:	\$839,785
Completion:	December 2020
Budget:	\$975,000

Current Status: Contractor has cleaned out both equalization basins near the head of the plant, and transferred solids from the west holding pond to the east holding pond. Start-up of press operations will begin by mid-September.

4. Crozet Flow Equalization Tank

Design Engineer:	Schnabel Engineering
Construction Contractor:	Anderson Construction (Lynchburg, VA)
Construction Start:	September 2020
Percent Complete:	0%
Based Construction Contract + Change Orders to Date = Current Value:	\$4,406,300
Completion:	November 2022
Budget:	\$5,400,000

Current Status: A preconstruction and safety meeting has been scheduled for September 22nd.

5. MC Aluminum Slide Gate Replacements

Design Engineer:	Hazen and Sawyer
Construction Contractor:	Waco Incorporated (Sandston, VA)
Construction Start:	September 2020
Percent Complete:	0%
Base Construction Contract + Change Orders to Date = Current Value:	\$373,600 - \$30,400 = \$343,200
Completion:	October 2021
Budget:	\$675,000

Current Status: Contract execution is in progress. The preconstruction and safety meeting will be completed in September

6. South Rivanna Dam – Gate Repairs

Design Engineer:	N/A
Contractor:	Bander Smith, Inc. (Richmond, VA)
Construction Start:	September 2020
Project Status:	30%
Completion:	December 2020
Budget:	\$900,000

Current Status: A condition assessment of the 36” mud gates has been completed. RWSA’s on-call dam maintenance contractor will proceed with replacement of missing stem guides and actuators to improve the seal of the existing gates. This work is anticipated to be completed between September and November 2020. If replacement of one or more of the gates is determined to be necessary, that work is expected to take place in December of 2020.

7. Sugar Hollow Dam – Gate Replacement and Intake Tower Repairs

Design Engineer:	Schnabel Engineering
Contractor:	Allegheny Construction (Roanoke, VA)
Project Status:	0%
Construction Start:	Spring 2021
Completion:	Fall 2021
Budget:	\$1,700,000

Current Status: A Notice to Proceed will be issued in October of 2020 and construction will be completed by fall of 2021.

Design and Bidding

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

Design Engineer:	Michael Baker International (Baker)
Project Start:	August 2018
Project Status:	Prelim Design & Easement Acquisition in Progress
Construction Start:	2023
Completion:	2026
Budget:	\$18,000,000

Current Status: Easement discussions with private owners and UVA are underway.

9. Beaver Creek Dam, Pump Station and Piping Improvements

Design Engineer:	Schnabel Engineering (Dam)
Design Engineer:	Hazen & Sawyer (Pump Station)
Project Start:	February 2018
Project Status:	5% Design and Permitting Underway
Construction Start:	2023
Completion:	2026
Budget:	\$27,000,000

Current Status: A site selection study for the new Raw Water Pump Station, Intake and Piping has been substantially completed. Hazen is moving forward with environmental investigations required for development of a Joint Permit Application to be submitted to the VDEQ in the fall of 2020. A two-year planning study for the Beaver Creek Dam and Pump Station upgrades kicked off in late August. The study is being completed with 100% funding from the Natural Resources Conservation Service (NRCS), part of the US Department of Agriculture (USDA). Following completion of the study and approval by NRCS in 2022, staff plans to pursue additional federal funding for up to 65% of the cost of design and construction.

10. Airport Road Water Pump Station and Piping

Design Engineer:	Short Elliot Hendrickson (SEH)
Project Start:	July 2019
Project Status:	30% Design
Construction Start:	Spring 2021
Completion:	2022
Budget:	\$5,800,000

Current Status: The site plan submittal to the County of Albemarle was made on August 24, 2020. The Preliminary Engineering Report submittal to VDH is anticipated by mid-September. The easement acquisition process required for installation of the water line has begun with the development of a plat and the initiation of discussions with the property owner.

11. South Fork Rivanna River Crossing

Design Engineer:	Michael Baker International (Baker)
Project Start:	August 2020
Project Status:	0% Design
Construction Start:	Fall 2021
Completion:	Summer 2023
Budget:	\$2,800,000

Current Status: The Board approved a work authorization for design, bidding, and construction phase services last month. Following execution of the work authorization, a project kick-off meeting will be scheduled.

12. MC Clarifier and Lime Silo Demolition

Design Engineer:	Hazen and Sawyer
Project Start:	August 2020
Project Status:	0% Design
Construction Start:	Summer 2021
Completion:	Summer 2022
Budget:	\$655,000

Current Status: A Work Authorization for design, bidding and construction administration services required for this project is being developed with Hazen and Sawyer.

13. MC Generator Fuel Storage Expansion

Design Engineer:	SEH
Project Start:	August 2020
Project Status:	Project Planning
Construction Start:	Winter 2020/2021
Completion:	Summer 2021
Budget:	\$100,000

Current Status: Staff has consulted with the Maintenance Department to confirm project requirements. SEH has visited the site and is now preparing a Work Authorization for assistance with design and development of a quote package for the new tank and concrete pad that the tank will be placed on. This project is required to increase the amount of diesel storage for the main plant generator from a 22 hour supply to a 72 hour supply as requested by the Maintenance Department

14. MC Facility Renovations

Design Engineer:	SEH, Inc.
Project Start:	August 2020
Project Status:	0% Design
Construction Start:	Winter 2020/2021
Completion:	Summer 2021
Budget:	\$300,000

Current Status: Staff is working with to develop a work authorization to evaluate the Duty Station for conversion into office space. This conversion will require extensive cleaning and the relocation of load bearing walls. This analysis will help confirm the anticipated expense associated with facility renovations and the feasible nature of the work.

15. MC Exterior Lighting Improvements

Design Engineer:	Hazen and Sawyer
Project Start:	May 2019
Project Status:	20% Design

Construction Start:	December 2020
Completion:	February 2022
Budget:	\$1,000,000

Current Status: Coordinating a Site Plan Amendment and ARB approval with Albemarle County. Hazen is working on design documents and the Minor Site Plan Amendment to the County based on the most recent comments the RWSA Maintenance Department will install some of the lighting fixtures.

16. MC 5 kV Electrical System Upgrades

Design Engineer:	Hazen and Sawyer
Project Start:	August 2020
Project Status:	0% Design
Construction Start:	March 2022
Completion:	June 2024
Budget:	\$4,600,000

Current Status: Staff is coordinating with the Design Engineer to ensure that all of the existing, 1980s-vintage 5kV infrastructure is included for replacement.

17. Glenmore WRRF Influent Pump and VFD Addition

Design Consultant:	Wiley Wilson
Project Start:	August 2020
Project Status:	0% Design
Construction Start:	Winter 2020/2021
Completion:	Summer 2021
Budget:	\$65,000

Current Status: Staff is confirming the required scope of work with the Operations and Maintenance Departments. Wiley|Wilson have begun developing a Work Authorization for design, bid, and construction administration services.

Planning and Studies

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

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

Current Status: Progress continues in our efforts to acquire the 9.5 miles of easements and agreements

(with VDOT) for this 36" water line. City Council approved easements on four properties located near Ragged Mtn reservoir on September 8th. Easements have been obtained from 8 private owners, and negotiations continue with the remaining 4 private owners. We have completed our process to notify VDOT about our planned locations in the streets right-of-way. Discussions continue on remaining easements with the UVA Foundation and the County School Board.

Negotiations with two private owners, as well as with UVA, the UVA Foundation and the Virginia Department of Forestry are also ongoing for water line easements between the planned Ragged Mtn Reservoir pump station and the Observatory Water Treatment Plant.

19. Urban Finished Water Infrastructure Master Plan

Design Engineer:	Michael Baker International (Baker)
Project Start:	November 2018
Project Status:	75% complete
Completion:	December 2020
Budget:	\$253,000

Current Status: Baker is developing and conducting hydraulic model runs to indicate infrastructure piping and storage tank requirements at specific locations. Workshops with ACSA and the City are anticipated over the next 60 days.

20. Upper Schenks Branch Interceptor, Phase II

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

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

21. Asset Management Plan

Design Engineer:	GHD, Inc.
Project Start:	July 2018
Project Status:	Phase 2 – 65% Complete
Completion:	2020
:	\$1,115,000

Current Status: Development of an asset register, condition assessment protocols, and a pilot study of the asset management process is underway. A request for quotations for procurement of computerized maintenance management software (CMMS) has been provided to various vendors and quotes are due

on September 24th.

22. Albemarle-Berkley PS Capacity Analysis

Design Consultant:	GHD, Inc.
Project Start:	September 2019
Project Status:	20% Complete
Completion:	December 2020
Budget:	\$40,000

Current Status: The Capacity Analysis is ongoing, with the Design Consultant finalizing the first draft of the report. Staff will be engaging the Albemarle County Public Schools Financial Planning Department, to ensure that the report is encompassing the most recent enrollment projections and pertinent ACPS CIP Projects.

23. MC Facilities Master Plan

Design Consultant:	Hazen and Sawyer
Project Start:	August 2019
Project Status:	60% Complete
Completion:	March 2021
Budget:	\$275,000

Current Status: Study is underway and multiple workshops have been held with staff. Asset management discussions with Hazen have prompted additional projects, such as the MC 5kV Electrical System Upgrades, and structural inspections of our equalization basins, holding ponds, and digesters.

24. SRR to RMR Pipeline – Pretreatment Pilot Study

Design Consultant:	SEH
Project Start:	August 2020
Project Status:	Project Planning
Completion:	TBD
Budget:	TBD

Current Status: Staff is reviewing previous studies associated with pretreatment needs and project costs. Initial discussions have taken place with SEH related to updating the pretreatment approach.

Other Significant Projects

25. Urgent and Emergency Repairs

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

Project No.	Project Description	Approx. Cost
2018-06	South Rivanna Dam Apron and River Bank Repairs	\$200,000
2019-07	Urban Water Line Valve and Blow-off Repair	\$125,000
2020-06	Erosion between WBI MH-22 and MH-23	\$150,000
2020-07	Stillhouse Waterline Exposure @ Ivy Creek	\$182,000
2020-10	Erosion along access road to South Rivanna RWPS	\$10,000
2020-12	NRW-093 Valve Failure	\$190,000
2020-14	MCWWPS Gate Valve 205 Replacement	TBD
2020-15	SRW-ARV-16 Failure	\$5,000
2020-16	Albemarle-Berkeley WWPS Bypass Connection	\$50,000
2020-17	North Rivanna Waterline @ Camelot Drive	\$125,000

- South Rivanna Dam Apron and River Bank Repairs: Repairs to the north and south concrete aprons will be designed by Schnabel Engineering and those services will be procured from the on-call contractor.
- Urban Water Line Valve and Blow-off Repair: Faulconer Construction has completed the installation of a new drain valve at UWL-017, as well as the associated modifications to the drain line outlet and creek bank. With the installation of the new drain valve on March 18th, any leakage in this location has ceased. Staff continues to coordinate the logistics of the UWL-025 replacement near Gasoline Alley, including the appropriate location of the discharge. Staff has also been notified of a similar (slight leakage) issue at UWL-010 near Route 29. Staff will continue coordinating and planning these repairs with Faulconer Construction, with the repairs tentatively scheduled for completion in the Fall.
- Erosion over WBI Between MH-22 and MH-23: While performing routine line inspections in March, the RWSA Maintenance Department discovered that an adjacent creek had eroded its way over the top of RWSA's 12" Woodbrook Interceptor (WBI). While no infrastructure is exposed at this time, the sewer was not designed to run under the creek (no encasement present), and future high flow events will continue to erode cover from the top of the pipe (currently estimated at 2-4'). Staff has received regulatory approval from the U.S. Army Corps of Engineers, as well as sent notifications to surrounding property owners. Faulconer Construction is anticipated to mobilize to the site during the week of September 14th to perform the necessary access improvements, with the bank stabilization scheduled to begin during the week of September 21st. The work is anticipated to take approximately 6 weeks to complete.

- STW Exposure @ Ivy Creek: While performing routine line inspections in April, the RWSA Maintenance Department identified that RWSA's 12" Stillhouse Waterline (STW) had become exposed on the bank of Ivy Creek. Maintenance Department staff was able to temporarily protect the waterline with nearly 500 sandbags, and Engineering Department staff began coordination with the U.S. Army Corps of Engineers, Virginia Marine Resources Commission, and RWSA's On-Call Maintenance Contractor, Faulconer Construction. All appropriate regulatory approvals were received, and Faulconer Construction mobilized to the site to begin the placement of 175-200 LF of large rip-rap along the creek bank on May 11th. The creek bank armament/repairs were completed in June, and Faulconer Construction performed final site touch-up/restoration efforts on the access road to the site in early August.
- Erosion along access road to South Rivanna Raw Water Pump Station/Dam: Staff was notified in April that the access road to the South Rivanna Raw Water Pump Station and Dam had become undermined, caused by the lack of an armored v-ditch. RWSA Maintenance staff has installed fresh fill and a rip-rap v-ditch along the road, in order to fill in the undermined locations and allow for better control of stormwater. Staff is evaluating the need for additional improvements, which may be required to ensure that the stormwater makes it to the culvert located adjacent to the pump station.
- NRW-093 Valve Failure: On Friday Morning, May 29, following the successful replacement of NRW-096 under RWSA's ongoing Valve Repair-Replacement Project, RWSA Maintenance and Engineering staff was slowly refilling the 24" South Rivanna and 12" North Rivanna Waterlines (SRW and NRW, respectively), when RWSA valve NRW-093 unexpectedly failed after being completely opened. Using the brand new NRW-096, the issue was quickly isolated to the 12" NRW, and RWSA mobilized its On-Call Maintenance Contractor, Faulconer Construction. Extensive efforts by Faulconer Construction, as well as RWSA Maintenance and Engineering staff, continued on the necessary line repairs overnight into Saturday Morning, when the line was reopened by RWSA and ACSA Maintenance staffs. This work also required extensive efforts to repave approximately 150' of Route 29, which was completed by S.L. Williamson as a subcontractor to Faulconer Construction. Faulconer recently finished the necessary sidewalk repairs, as well as final grading and seeding after receiving the required permitting from VDOT.
- Moores Creek WWPS Gate Valve 205 Replacement: In July 2020, RWSA Operations staff identified that MCWWPS Gate Valve 205 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 of the PS are not fully holding when placed in a closed position. Staff is currently evaluating the needs associated with bypass pumping around MCWWPS, which would allow for the permanent installation of the No. 205 Gate Valve Replacement, as well as replacement of the adjacent valves mentioned above and inspections of equipment inside of the PS that normally can't be inspected due to the incoming flows.

- SRW-ARV-16 Failure: On Wednesday afternoon, July 15th, the RWSA Maintenance Department was working to upgrade SRW-ARV-16, an existing, 1960s-vintage, Manual ARV, to a new Automatic ARV assembly. While working around the valve box structure, the valve box unexpectedly shifted, causing debris to become pinched against the old ARV and ultimately a failure (breakage) of the assembly. The RWSA and ACSA Maintenance Departments responded quickly to isolate the necessary section of water main in the Rio Road Corridor, and the RWSA Maintenance Department was able to access the Corporation Stop, end the leakage, and begin placing the line back into service shortly thereafter.
- Albamarle-Berkeley WWPS Bypass Pumping Connections: The existing pumping equipment inside of the Albamarle-Berkeley WWPS was installed in 1973, and in recent years, has seen excessive run times with minimal starts and stops. The pumping equipment has well exceeded its useful life expectancy, and the ongoing Capacity Analysis (discussed above in Planning & Studies) will serve to establish the basis for future improvements to the PS. However, in the interim, there is a need to provide emergency pumping capabilities, in the event of unanticipated pump failure. On September 8th, RWSA will be coordinating a planned, overnight shutdown of the Albamarle-Berkeley WWPS for its On-Call Maintenance Contractor, Faulconer Construction, to tie-in an emergency bypass connection, which will allow RWSA Operations and Maintenance staff to quickly mobilize a temporary pump in the event of unanticipated issues with the permanent pumping equipment. The single PS shutdown will be needed to cut in a tee/valve assembly during the overnight hours, but the rest of the work will have no impact to PS operations. Preparatory work at the site began during the week of August 31st.
- North Rivanna Waterline @ Camelot Drive: Around 4:30 pm on Saturday, August 15, 2020, RWSA was notified of a water main break at the intersection of Camelot Drive and Seminole Trail, located just East of the North Rivanna Water Treatment Plant in the Camelot Subdivision. RWSA mobilized its On-Call Maintenance Contractor, Faulconer Construction, and upon exposing the existing 12" Main, it was determined that the pipe had an 8-10' split extending from a joint. The water main repair was completed around 5:30 am on Sunday Morning, August 16th, and water service was completely restored by 7:00 am. A boil water advisory was issued by ACSA/RWSA, due to the catastrophic nature of the event. Extensive road repairs were required to Camelot Drive, which were completed by Tuesday Afternoon, August 18th.

26. Interceptor Sewer and Manhole Repair

Design Engineer:

Construction Contractor:

Construction Start:

Frazier Engineering

IPR Northeast

November 2017

Percent Complete:	40%
Base Construction Contract + Change Orders to Date = Current Value:	\$1,000,838.79
Expected Completion:	June 2021
Total Capital Project Budget:	\$1,088,330 (Urban) + \$880,000 (Crozet) = \$1,968,330

Current Status: Repairs to the Upper Morey Creek Interceptor remain underway. A critical section of sewer under Rt. 250 was lined on August 28, 2020. Design efforts for a new manhole to be installed North of Rt. 250 are underway (with a slight sewer realignment to rectify an existing utility conflict). Staff continues to coordinate with both the consultant and contractor to get the repairs completed as soon as possible on this portion of MRI. Staff has also been working with the consultant to identify the highest-priority items elsewhere in the sanitary sewer system for the next round of repairs, likely to occur on the Powell Creek Interceptor.

27. Security Enhancements

Design Engineer:	N/A
Construction Contractor:	Security 101
Construction Start:	March 2020
Percent Complete:	75%
Based Construction Contract + Change Orders to Date = Current Value:	\$744,136.80 - \$25,708.80 = \$718,428.00 (WA #1)
Completion:	2021
Approved Capital Budget:	\$2,730,000

Current Status: Access control system installation is underway for all exterior doors at MCAWRRF, as well as all WTP motorized gates. Device installation remains underway across the site, with most buildings on the South side of the facility having been completed. Work is ongoing on the North side of MCAWRRF, with work at the WTP gates slated to start in October. Staff is also finalizing the overall policy for the access control program, which will be needed to bring new employees into the system and assign access rights.

History

Under Construction

1. Crozet Water Treatment Plant Expansion

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

2. South Rivanna and Observatory Water Treatment Plant Renovations

An informational meeting with prospective contractors was held on September 26, 2019 to maximize interest in the project. A project kickoff meeting with staff was held on November 14, 2018 and 30% design documents were provided in February. A Value Engineering Workshop took place the week of April 8, 2019, and a memo summarizing the results has been 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 contractors will be included in the design.

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

3. MC Holding Pond Solids Removal and Disposal – Odor Control Phase 2

Over the last 10 – 20 years, grit and organic material have accumulated in the Wet Weather Holding Ponds and Equalization Basins at the Moores Creek Advanced Water Resource Recovery Facility (MC). Following extensive liquid and vapor phase testing and computer modeling, these solids were identified as a major source of odor in Hazen and Sawyer's Phase 2 Odor Control Plan, and approved at the January 2015 Board of Directors meeting for incorporation into the 2015-19 Capital Improvement Plan. Now that all other Phase 2 Odor Control projects have been completed, this final phase of the project is to remove these accumulated solids.

4. 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.

5. 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 Ultraviolet 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. The work specific to the Moores Creek Pump Station will be bid under a separate project due to the extensive bypass pumping.

6. South Rivanna Dam – Gate Repairs

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

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

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

Design and Bidding

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

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

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

9. Beaver Creek Dam and Pump Station Improvements

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

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

In 2020, staff received grant funding for a planning and environmental study from the Natural Resources Conservation Service (NRCS). The project kicked off in August 2020 and is expected to

be completed in July 2022. Following completion of the study and acceptance of the Plan-Environmental document by NRCS, staff will pursue additional grant funding through NRCS that, if available, could cover up to 65% of final design and construction costs.

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

10. Airport Road Water Pump Station and Piping

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

11. South Fork Rivanna River Crossing

RWSA has previously identified through master planning that a 24-inch water main will be needed from the South Rivanna Water Treatment Plant (SRWTP) to Hollymead Town Center to meet future water demands. Two segments of this water main were constructed as part of the VDOT Rt. 29 Solutions projects, including approximately 10,000 LF of 24-inch water main along Rt. 29 and 600 LF of 24-inch water main along the new Berkmar Drive Extension, behind the Kohl's department store. To complete the connection between the SRWTP and the new 24-inch water main in Rt. 29, there is a need to construct a new river crossing at the South Fork Rivanna River. Acquisition of right-of-way will be required at the river crossing.

12. MC Clarifier and Lime Silo Demolition

The two in-plant clarifiers were constructed in the late 1950's and were taken out of service as a result of the Odor Control Project at the plant. Due to the age of the tanks, various components have significantly deteriorated over time and no additional uses for these tanks have been identified. In addition, due to their out-of-service status, they remain empty and a safety concern for plant staff and visitors. There is also an abandoned lime silo currently located adjacent to the Solids Handling Building. Lime was previously used with the old plat and frame presses before centrifuges were

installed for sludge dewatering purposes. This project will include the complete demolition of the in-plant clarifiers by removing all existing components, backfilling the area and returning the area to open space and removing the lime silo from the plant and properly disposing of it.

13. MC Generator Fuel Expansion

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

14. MC Facility Renovations

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

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

15. MC Exterior Lighting Improvements

The lighting at the 80-acre MCAWWRF 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 photometric 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.

16. MC 5 kV Electrical System Upgrades

After discussions through the Moores Creek Facilities Master Plan, it was identified that several areas of the MCAWWRF, 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.

17. Glenmore WRRF Influent Pump and VFD Addition

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

Planning and Studies

18. 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.

19. 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.

20. 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 through 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.

21. Asset Management Plan

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

22. Albemarle-Berkeley PS Capacity Analysis

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

The Capacity Analysis Study began in Spring 2020.

23. Buck Mountain Master Plan

The purpose of this Master Plan is to consider alternatives for use of the 1300 acre property purchased in the 1980's for a water supply reservoir, which was never built. 600 acres are currently under deed restrictions to mitigate the environmental impacts of the expanded Ragged Mountain Dam. Development of the Buck Mountain Master Plan will consider past and current uses of the property, identify alternatives, and provide recommendations for strategic use of the property into the future.

24. 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.

25. SRR to RMR Pipeline – Pretreatment Pilot Study

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

Other Significant Projects

26. Urgent and Emergency Repairs

- **South Rivanna Dam Apron and River Bank Repairs**

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

- **Urban Water Line Valve and Blow-off Repair**

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

27. 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.

28. 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 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.

MEMORANDUM

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

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

REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: WHOLESALE METERING REPORT FOR AUGUST 2020

DATE: SEPTEMBER 22, 2020

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

	<i>Month</i>	<i>Daily Average</i>	
City Usage (gal)	140,233,150	4,523,650	44.8%
ACSA Usage (gal)	172,943,245	5,578,814	55.2%
Total (gal)	313,176,395	10,102,464	

The *RWSA Wholesale Metering Administrative and Implementation Policy* requires that water use be measured based upon the annual average daily water demand of the City and ACSA over the trailing twelve (12) consecutive month period. The *Water Cost Allocation Agreement (2012)* established a maximum water allocation for each party. If the annual average water usage of either party exceeds this value, a financial true-up would be required for the debt service charges related to the Ragged Mountain Dam and the SRR-RMR Pipeline projects. Below are graphs showing the calculated monthly water usage by each party, the trailing twelve-month average (extended back to September 2019*), and that usage relative to the maximum allocation for each party (6.71 MGD for the City and 11.99 MGD for ACSA).

Notes:

*Usage data through October 2019 are based on retail metered flows due to the unavailability of wholesale metering data. Data shown from November 2019 forward represents the usage calculated through the RWSA Wholesale Metering program.

Meter Site 26 (Seminole Trail) was repaired on August 26, 2020, and Site 1 (Pepsi Place) is currently experiencing reporting issues. Flows for those sites for August 2020 was calculated using the average of the most recent three months of available data in accordance with the *RWSA Wholesale Metering Administrative and Implementation Policy*. A new meter for site 1 has been ordered and is expected to be installed in September 2020.

Figure 1: City of Charlottesville Monthly Water Usage and Allocation

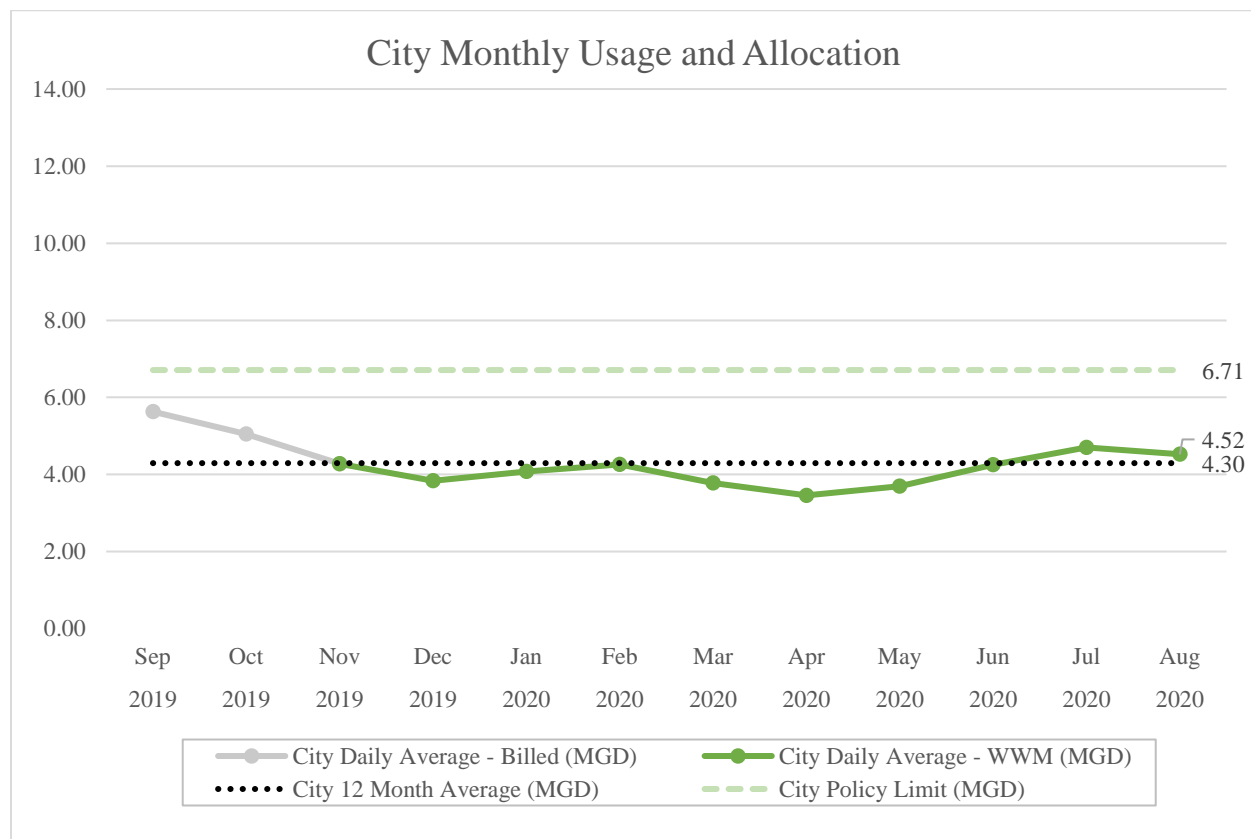
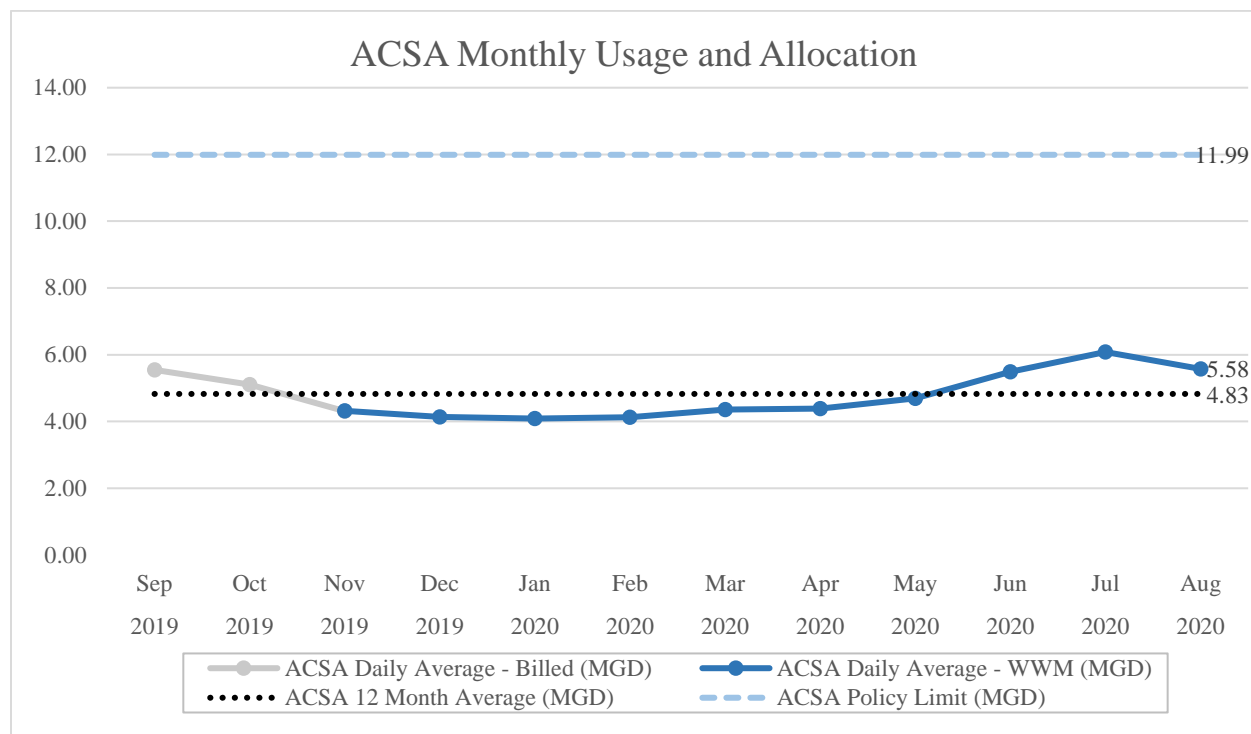


Figure 2: Albemarle County Service Authority Monthly Water Usage and Allocation





MEMORANDUM

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

FROM: DAVE TUNGATE, DIRECTOR OF OPERATIONS

REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR

**SUBJECT: APPROVAL OF SUPPLEMENTAL WATER TREATMENT
SYSTEMS STUDY, DESIGN AND CONSTRUCTION
AGREEMENT WITH UVA**

DATE: SEPTEMBER 22, 2020

The proposed Agreement is to assist UVA by evaluating its Water Management Plan for several UVA facilities. Based on the results of the evaluations, we may design and construct supplemental water treatment systems for those facilities. Upon completion of any supplemental treatment facilities, a separate Agreement will be developed for our staff to operate and maintain those treatment systems. A Confidentiality Agreement has been requested by UVA for this project.

We have been assisting the City Utilities Department and UVA with a review of the water management programs for several UVA facilities since May 2019. Thru this planning process, it was agreed that RWSA was the appropriate organization to evaluate, design, construct, and operate any supplemental water treatment system for UVA facilities. All UVA facilities are served by drinking water produced by RWSA water treatment plants. This Agreement provides the terms for completion of this project, including financial support by UVA for all costs. This is planned as a three Phase project, generally to include:

- Phase One: Evaluation
- Phase Two: Preliminary Design and Regulatory Review
- Phase Three: Final Design, Regulatory Approval, and Construction

Board Action Requested:

Authorize the Executive Director to execute a Project Agreement and a Confidentiality Agreement with UVA to complete the study, design and construction of any supplemental water treatment systems in UVA facilities, as well as any Work Authorizations with our consultants, as needed to complete the project.

Attachments.

**SUPPLEMENTAL WATER TREATMENT SYSTEMS STUDY, DESIGN AND
CONSTRUCTION AGREEMENT**

BETWEEN

THE UNIVERSITY OF VIRGINIA

AND

THE RIVANNA WATER AND SEWER AUTHORITY

This **Supplemental Water Treatment Systems Study, Design and Construction Agreement** (this “Agreement”) is made this ____ day of _____, 2020 by and between the **University of Virginia** (“UVA”) and the **Rivanna Water and Sewer Authority** (the “Authority”, individually a “Party”, and together referred to as the “Parties”).

UVA and the Authority have agreed to enter into this Agreement pursuant to which the Authority will provide the evaluation, planning, design and construction of supplemental potable water treatment systems located in the UVA facilities identified below. UVA will provide full financial support to the Authority for this capital project to include the necessary management, legal, design consultants and construction expenses required by the Authority to provide the necessary supplemental water treatment systems.

1. Scope of the Project and Funding

UVA has requested the Authority to provide supplemental water treatment systems (SWTS) in the UVA Hospital and the Transitional Care Hospital (TCH). The SWTS may include a review and update of UVA’s Water Management Program along with other measures recommended by the Authority’s consultants (“Engineer”), to potentially include re-chlorination systems. These SWTS will be designed and constructed to achieve the water management goals of UVA.

The project will be completed in three Phases. Phase One will include investigations by the Engineer to review existing water quality data, water management plans, premise plumbing drawings, and water age and flow data. Additional water sampling and analysis will be completed. The collective information will provide a basis for any recommendations to update water sampling strategies and management plans. Preliminary costs for Phase One investigations in the UVA Hospital (\$) and the TCH (\$) total approximately \$, with completion within four months after authorization to proceed.

During Phase One, the Authority will need information and assistance from UVA for the identified facilities including:

1. The Water Management Plan.
2. Potable water plumbing diagrams to include water sources, primary and emergency exterior distribution system connections, meters, piping materials, point of use treatment equipment (filters, UV systems), booster pumps, water heaters, and bladder tanks for any of the buildings that could receive re-chlorinated water.

3. Historic water quality data including all sampling results, sampling SOPs, and lab methods used.
4. Access to spaces for water quality sampling and plumbing investigations.

A detailed scope of work for Phase Two will be determined with estimated costs after completion of Phase One. During Phase Two, and with prior authorization to proceed from UVA, the Authority and the Engineer anticipate completion and submission of the following information to the Virginia Department of Health (VDH):

1. A Preliminary Engineering Report with conceptual design information.
2. A water quality sampling and flushing plan for each of the building water systems to obtain compliance information required by the Safe Drinking Water Act, including:
 - Revised Total Coliform Rule
 - Stage 2 Disinfection By Products Rule
 - Lead and Copper Rule
 - Simulated Distribution System tests
 - A Corrosion Control study

The Authority anticipates completion of Phase Two studies in approximately four months after authorization to proceed, after which, additional time will be needed to receive approval from VDH for any supplemental treatment modifications.

A detailed scope of work and project budget for completion of Phase Three will be provided by the Authority upon completion of Phase Two. During Phase Three, and with prior authorization to proceed from UVA, the Authority and the Engineer will:

- Prepare detailed construction plans and specifications.
- Submit these documents to the VDH for final approval.
- Advertise for competitive construction bids, with consideration for any Authority-Furnished Equipment to accelerate project completion.
- Administer and inspect the construction project.

It is anticipated that these SWTS may be operational within 18 months after authorization to proceed with Phase Three. The Authority will conduct regularly scheduled project update meetings with representatives from UVA, the City of Charlottesville Utilities Department and the Albemarle County Service Authority.

The Authority will make all reasonable efforts to effectively and efficiently manage, design and construct these facilities. Upon approval of the budget for Phases One, Two and Three by UVA, UVA agrees to reimburse the Authority as costs are incurred within 30 calendar days of the Authority's monthly written request for such payment.

2. Construction of Supplemental Water Treatment Systems

The Authority will construct the SWTS consistent with the design documents prepared by the Engineer and approved by UVA as well as by the VDH. The Authority will be responsible for obtaining the permitting, design and construction of the SWTS. The SWTS will be constructed in a timely manner to the extent of the Authority's reasonable control. Reasonable efforts will be made to expedite construction where practicable and within the reasonable control of the Authority. The Authority will provide

professional project management services throughout the design, bidding and construction of the SWTS. Such services include establishing and updating project costs estimates and schedules. The Parties agree that the overall project costs for design and construction of the SWTS will depend upon numerous factors, many of which are beyond the direct control of the Authority including, but not limited to, market changes in commodity prices, bid competitiveness within the construction industry, competency and performance of the construction contractor which must be acquired within the limitations of the Virginia Public Procurement Act, and any unforeseen conditions later identified but not fully known at the beginning of design.

The Authority may make adjustments to the project scope during design, bidding and construction. However, to the extent such project scope adjustments may materially affect the preliminary or detailed design, the Authority will consult with the UVA before making such adjustments. The construction contract for the SWTS may be subject to approval by the Authority's Board of Directors. The Authority may authorize change orders as it deems necessary and appropriate for the management of the construction contract and within timeframes necessary to avoid delay claims from the contractor, and will consult with the UVA's Director of Operations or designee, prior to execution of any material change order. The Authority's Executive Director shall obtain the approval of the Authority's Board of Directors prior to executing any change order in an amount which would exceed the amount authorized by the Board.

3. Insurance

The Authority shall maintain a Commercial General Liability insurance policy, providing coverage for bodily injury and property damage, with limits of liability not less than \$1,000,000 per occurrence and \$3,000,000 aggregate with coverage for Premises/Operations, Products/Completed Operations, Contractual Liability, Owners and Contractors Protective Liability coverage, and Personal Injury and Pollution Liability or separate Pollution Liability insurance. The Authority shall also maintain Workers Compensation coverage meeting statutory requirements in the Commonwealth of Virginia, and Employers Liability coverage with limits of at least \$100,000. In addition, the Authority shall maintain Automobile Insurance with a minimum combined single Limit of Liability for bodily injury and property damage of \$1,000,000 per accident, with coverage for owned, hired, and non-owned automobiles. The Authority agrees to maintain such insurance coverage throughout the term of this Agreement with insurers or approved municipal self-insurance pools licensed to do business in the Commonwealth of Virginia. All A.M. Best rated insurance carriers will maintain an A.M. Best financial rating of at least A-, and to furnish evidence to the UVA of such coverage prior to the commencement of the work for Phase One, and throughout the Term. UVA shall be named on the Commercial General Liability Insurance policy as an additional insured, and the proper name to use is: The Commonwealth of Virginia, and the Rector and Visitors of the University of Virginia, its officers, employees, and agents. In regard to personal property owned by the Authority, it is agreed that it shall maintain property insurance for the Special Causes of Loss perils plus earthquake and flood perils that covers at least 80% of the personal property.

The Authority shall ensure that all contractors and subcontractors hired by the Authority who will be entering onto the Premises for the purpose of demolition or construction shall be sufficiently and appropriately bonded and shall obtain the following commercial insurance policies before and while engaged in such Work: a Commercial General Liability Insurance Policy, providing coverage for bodily injury and property damage, with limits of liability not less than \$2,000,000 per occurrence and \$4,000,000 aggregate with coverage for Premises/Operations, Products/Completed Operations, Contractual, Owners and Contractors Protective Liability coverage, and Personal Injury; and Workers Compensation coverage

meeting statutory requirements in the Commonwealth of Virginia, and Employers Liability coverage of at least \$1,000,000 and include the Alternate Employers Endorsement; and Automobile Insurance with a minimum combined single Limit of Liability for bodily injury and property damage of \$1,000,000 per accident, with coverage for owned, hired, and non-owned automobiles; and the general contractor will also maintain an Umbrella Liability Policy with limits of at least \$5,000,000. In addition, the Authority shall ensure that the Authority and UVA shall be named as an “additional insureds” on the Commercial General Liability Insurance Policies of all contractors and subcontractors, and the proper wording for the University is: The Commonwealth of Virginia, and the Rector and Visitors of the University of Virginia, its officers, employees, and agents. The Authority shall ensure that a Special Cause of Loss or “All Risks” Builders Risk Insurance policy is in effect with respect to any construction, renovations, or improvements during the period of time that Work is taking place in an amount equal to the full replacement cost of all materials, equipment, and property related to the construction of the Improvements, with the Authority named on the policy as an “additional named insured” and that the policy will be endorsed to allow the Builders Risk policy to include “permission to complete and occupy” the Work during construction. Certificates of insurance indicating that the insurance coverage outlined in this Section 3 is in force will be received and maintained by the Authority prior to the start of construction.

4. Term of Agreement

This Agreement shall be effective upon execution. This Agreement may be terminated upon thirty days written notice by the Parties. Upon termination, UVA shall reimburse the Authority for all costs incurred by the Authority, including, but not limited to, design and consultants fees, legal fees and other administrative soft” costs in connection with the design and construction of the SWTS (collectively, the “Authority Costs”).

5. Amendment

Any amendment to this Agreement must be made in writing and signed by the Authority and the UVA.

6. Governing Law

This Agreement shall be governed in all respects by the laws of the Commonwealth of Virginia.

7. Notices

Any notice, invoice, statement, instructions, or direction required or permitted by this Agreement shall be addressed as follows:

To UVA:	UVA FM Director of Operations
	1450 Leake Drive
	P.O. Box 400726
	Charlottesville, VA 22904-4726

To the Authority: Executive Director
 Rivanna Water & Sewer Authority
 695 Moores Creek Lane
 Charlottesville, Virginia 22902-0979

or to such other address or addresses as shall at any time or from time to time be specified by any Party by written notice to the other Party.

8. Execution

This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

[SIGNATURES ON FOLLOWING PAGE]

WHEREAS these terms are agreeable to the University of Virginia and the Rivanna Water and Sewer Authority, and each Party offers its signature as of the date below.

THE UNIVERSITY OF VIRGINIA:

Cheryl L. Gomez, P.E., LEED AP
UVA Director of Operations

Date

RIVANNA WATER AND SEWER AUTHORITY:

William I. Mawyer, Jr., P.E.
Executive Director

Date

CONFIDENTIALITY AGREEMENT

This Confidentiality Agreement (this "Agreement") is made and entered into as of _____, 2020 and between the undersigned parties (each, a "Party", and collectively, the "Parties").

WITNESSETH:

WHEREAS, the Parties, The Rector and Visitors of the University of Virginia ("University") and Rivanna Water and Sewer Authority ("RWSA") desire to evaluate a potential transaction regarding the assessment and enhancement of Potable Water for certain locations of the University (the "Project");

WHEREAS, in connection with such evaluation, each Party (as such, each "Disclosing Party") desires to disclose to the other Party (as such, each a "Recipient") certain Confidential Information (as defined herein) pursuant to and in reliance on the terms set forth in this Agreement for their mutual benefit and for the protection of their Confidential Information, and expect to enter into a formal engagement in the form of a binding agreement for the duration of the Project ("Relationship");

NOW, THEREFORE, in consideration of the mutual covenants and obligations hereinafter set forth, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and intending to be legally bound, it is hereby agreed between the Parties, as follows:

1. **"Confidential Information"** as used herein shall mean with respect to the Disclosing Party, (a) all information that is clearly and conspicuously marked as confidential at the time of delivery to the Receiving Party, related to the Project, and either (b) proprietary information, intellectual property information or otherwise protected by law, or (c) information concerning Disclosing Party's business, assets, projects, operation, activities or affairs, whether of a technical or financial nature, (including, without limitation, reports, financial information, identities of actual or potential business partners or customers, business plans and proposals, economic data, market data, fuel procurement, supply and transportation information, ideas, concepts, trade secrets, know-how, processes, and other technical or business information, whether concerning the Disclosing Party's or its affiliate's businesses, the Project, or otherwise) that has not been publicly disclosed and that the Recipient or its affiliates acquires or has acquired directly or indirectly from the Disclosing Party, together with all notes, analyses, summaries or studies prepared by or for Recipient, whether orally, in writing, electronically or in any other form, that contain such Confidential Information.
2. **Confidentiality.** The Recipient shall be subject to the following obligations with respect to the Confidential Information of the Disclosing Party:
 - a. to keep the Confidential Information confidential and secret, and not, without previous written consent of Disclosing Party, directly or indirectly disclose the Confidential Information to anyone, except as expressly permitted in paragraph (b) below;
 - b. to disclose the Confidential Information (whether directly or indirectly and by whatever means or method) only to those directors, officers, employees, principals, agents, representatives, contractors and subcontractors of Recipient and its affiliates (hereinafter, "Recipient's Representatives") who have reason or need to know Confidential Information for the purpose of enabling the Recipient to assess the Project's feasibility and to ensure that such representatives do not disclose any of the Confidential Information to any individual or person (whether or not employed by the Recipient) except those with such a need to know (in all cases, the Recipient shall be responsible and liable for any breach of this Agreement by it or any of Recipient's Representatives whether the Confidential Information is provided directly or indirectly by the Disclosing Party or the Recipient).
 - c. not to use the Confidential Information for any purpose other than in connection with assessing feasibility of the Parties' proposed transaction with respect to the Project; without limiting the generality of the foregoing;
 - d. to exercise at least the same degree of care with respect to the Confidential Information as the Recipient uses in handling its own proprietary information.

- e. The foregoing obligations of confidentiality and non-use in this Agreement shall not apply to:
 - i. information that at the time of disclosure is already in the public domain;
 - ii. information that after disclosure hereunder becomes part of the public domain by publication or otherwise through no negligent act or omission or willful misconduct of the Recipient that is in breach of this Agreement; and information that is independently developed by Recipient from information not defined as "Confidential Information" in this Agreement;
 - iii. information that can be proven by the Recipient to have been known to it prior to the date of disclosure and not obtained or derived in contravention of this confidentiality obligation in favor of the Disclosing Party;
 - iv. information acquired in good faith from a third party and, at the time of such acquisition, the Receiving Party has no knowledge or reason to believe that such information was wrongfully obtained or disclosed by the third party; or
 - v. information disclosed as a result of the Recipient's obligation to disclose imposed by applicable law (including, but not limited to, the Virginia Freedom of Information Act (Section 2.2-3700 et seq. (Virginia Code Ann.)) governmental regulation, or legal process; provided, however, the Recipient shall give the Disclosing Party prompt notice of the service of the subpoena or other process, unless such notice is prohibited by law, so that the Disclosing Party may seek a protective order or other legal remedy to prevent disclosure within the timeframe required for disclosure under such applicable law, and shall disclose only such information as the Recipient determines is required by such process or protective order.
 - f. The term "affiliate" shall mean any company or entity that (a) controls, either directly or indirectly, a Party, (b) is controlled, directly or indirectly, by such Party, or (c) is directly or indirectly controlled by a company or entity, that directly or indirectly controls such Party, or a related person. "Control" means the right to exercise 50% or greater of the voting rights (stock or otherwise) of such entity.
3. **No Rights.** Nothing contained herein shall be construed as granting to either Party any license or right under any patent, copyright, or other intellectual property of the other Party, nor shall this Agreement impair the right of either Party to contest the scope, validity or alleged infringement of any patent or copyright. In addition, title to the Confidential Information shall remain at all times with Disclosing Party, and nothing contained herein shall be construed as assigning, conveying, selling or otherwise granting any ownership rights to the Confidential Information to Recipient. Notwithstanding the provisions of Section 10, herein below, the Disclosing Party represents and warrants that it has, or will have at the time of disclosure, the legal right to use and disclose any intellectual or otherwise protected property interests that are included in the Confidential Information.
4. **Term.** The foregoing commitments of each Party shall survive any termination of the Relationship between the parties.
5. **Governing Law.** This Agreement shall be governed by, construed and enforced in accordance with the laws of the Commonwealth of Virginia, without regard to the principles of conflicts of law and the Uniform Computer Information Transaction Act, all rights and remedies to be construed and interpreted in accordance therewith.
6. **Enforcement.** In the event of a breach of this Agreement, or in the event that such breach appears imminent, a Party shall be entitled to pursue all legal and equitable remedies to which it may be entitled under the laws of the Commonwealth of Virginia. In no event, however, shall either Party be liable to the other for any consequential, punitive, special, exemplary, indirect or other similar damages whether the same are based on or arise under or out of contract, warranty, delay, tort including without limit negligence, statute, strict liability, or otherwise.
7. **No Obligations.** Neither this Agreement, nor the disclosure of Confidential Information under this Agreement, nor the ongoing discussions and correspondence between the Parties or their respective directors, officers, employees, agents, representatives, contractors or subcontractors shall create any obligation of a Party to furnish information to the other Party or their respective affiliates, if any, or to enter into any binding commitment regarding the Project. If in the future, the Parties elect to enter into a binding commitment regarding the Project, such commitment will be explicitly stated in a separate written agreement executed by both Parties, and the

Parties hereby affirm that they do not intend their discussions, correspondence, and other activities to be construed as forming a contract regarding the subject matter of the Confidential Information or any other transaction between them without execution of such separate written agreement.

8. **Return or Destruction of Confidential Information.** At any time upon the written request of the Disclosing Party, and subject to any applicable laws (including, but not limited to, the Virginia Public Records Act, Section 42.1-76 et. seq. (Code of Virginia Ann.)) and regulations, Recipient and Recipient's Representatives shall promptly return or destroy all Confidential Information made available by the Disclosing Party, including without limitation, any copies or extracts or other reproductions thereof, analyses, compilations, studies or other documents in whatever form prepared by or for the Recipient and containing Confidential Information. The destruction of Confidential Information shall be certified to the Disclosing Party by an authorized officer of Recipient supervising such destruction. The Recipient may retain copies of Confidential Information (a) if, based on the advice of legal counsel, such destruction would be unlawful or violate any order, judgment, writ or decree to which the Recipient or its Representatives are subject or bound, (b) to comply with applicable law, regulation, stock exchange rules or bona fide internal document retention and archival policies and (c) residing in the Recipient's automatic computer backup systems; provided, however, that in each case the retained Confidential Information may not be used or disclosed except in accordance with the terms of this Agreement. The Parties acknowledge that any Confidential Information that may have been disclosed by the Recipient pursuant to subpoenas, court orders, Freedom of Information requests, and other circumstances addressed in Section 2(e)(v), above, will not be retrieved or destroyed by the Recipient.
9. **Costs.** Recipient and Recipient's Representatives shall bear all costs of the evaluation of the Confidential Information provided by the Disclosing Party, including the fees and disbursements of counsel and advisors engaged by Recipient.
10. **No Warranty.** The Parties hereby acknowledge that neither Party, nor any of its respective agents, or representatives, affiliates or assigns makes any representations or warranties whatsoever, either express or implied, concerning the accuracy, completeness or correctness of the Confidential Information disclosed hereunder, nor shall any such representation or warranty be implied. Disclosing Party expressly disclaims any and all liability that may be based on the Confidential Information, errors therein or omissions therefrom. Subject to such limitations and restrictions as may be specified therein, only those representations and warranties that are made in a binding agreement for the Project, when, as and if executed, will have any legal effect. Recipient receives and utilizes such Confidential Information at its sole cost, risk and exposure. Recipient agrees that Disclosing Party shall not have any liability under the terms and conditions of this Agreement resulting from the use of or reliance upon the Confidential Information unless damage or injury to the Recipient or third parties is caused by or arises from the negligent acts or omissions or willful misconduct of the Disclosing Party, or from the Disclosing Party's violation of any applicable laws, rules, licenses, or regulations, or from Disclosing Party's breach of contracts with third parties. At all times hereunder Disclosing Party shall retain ownership of all Confidential Information disclosed.
11. **Public Disclosures/Press Releases.** Subject to the provisions of Section 2(e)(v), above, neither Party shall issue any press release or make any public disclosure of any kind including one that indicates that discussions or negotiations are taking place concerning the Project or a possible transaction without the prior written consent of the other Party, which consent shall not be unreasonably, withheld, conditioned or delayed.
12. **Miscellaneous.** This Agreement represents the entire agreement between the Parties with respect to the subject matter herein, and may be executed in one or more separate counterparts, all of which shall constitute one and the same agreement and may be amended only in writing executed by both Parties. The failure of either Party to enforce or insist upon compliance with any of the terms or conditions of this Agreement, the waiver of any term or condition of this Agreement, or the granting of an extension of time for performance, shall not constitute the permanent waiver of any term or condition of this Agreement, and this Agreement and each of its provisions shall remain at all times in full force and effect. No amendment, modification and/or discharge of this Agreement shall be valid or binding on the Parties unless made in writing and signed on behalf of each of the Parties by their respective duly authorized officers or representatives. All notices hereunder shall be in writing and mailed, faxed or otherwise delivered to the address shown above, unless the Party to whom notice is to be given has provided a change of address to the other Party in writing (and then to such changed address) and shall be effective upon receipt or on the fifth (5th) business day after posting if by first class U.S. mail.

IN WITNESS WHEREOF, the Parties have made and executed this Agreement effective as of the date first above written.

**The Rector and Visitors of the
University of Virginia**

By: _____

Title: Executive Vice President and
Chief Operating Officer

Rivanna Water and Sewer Authority

By: _____
William I. Mawyer, Jr. P.E.

Title: Executive Director

Water and Wastewater Facilities and Treatment Processes

PRESENTED BY:

DAVE TUNGATE, DIRECTOR OF OPERATIONS

BOARD OF DIRECTORS MEETING

SEPTEMBER 22, 2020



Drinking Water Processes

- Protect raw water quality in the reservoirs
- Pump raw water from reservoirs to water treatment plants
- Treat the water to exceed Safe Drinking Water Act standards
- Pump drinking water into the distribution system to meet daily water demands
- Maintain distribution system water quality



South Fork Rivanna Reservoir



Sugar Hollow Reservoir



Ragged Mountain Reservoir



Beaver Creek Reservoir



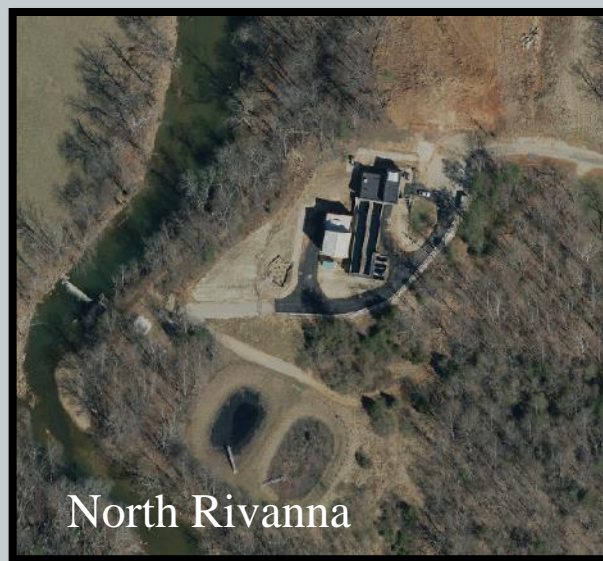
Totier Creek Reservoir

Water Supply Reservoirs

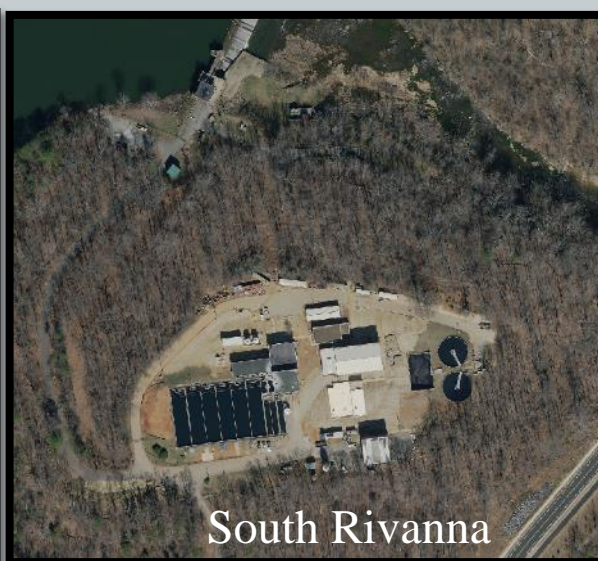
Facilities & Staffing

Water Treatment	Capacity in Million Gallons per Day	
South Rivanna	12	Under renovation
Observatory	7.7	Under renovation
North Rivanna	2	
Crozet	1	Under renovation
Scottsville	0.25	
Red Hill Well Field	0.006	
Water Plant Operators	26.4	

Wastewater Treatment	Capacity in Million Gallons per Day	
Moores Creek	15	
Glenmore	0.381	
Scottsville	0.10 and 0.20	
Stone Robinson	0.006	
Wastewater Plant Operators	16	



North Rivanna



South Rivanna



Observatory



Crozet



Scottsville



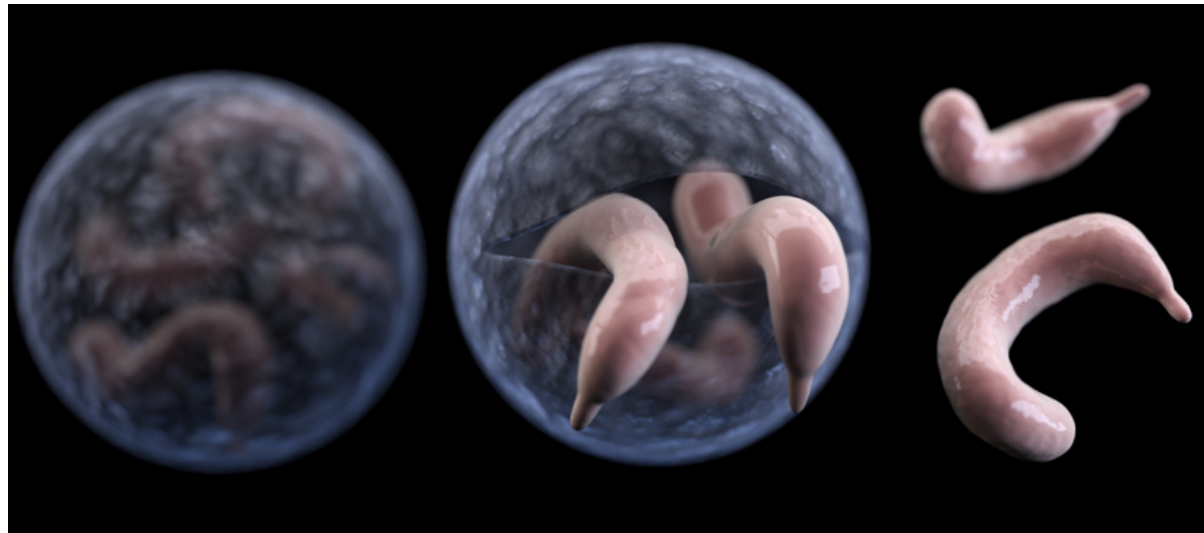
Red Hill

Water Treatment Plants



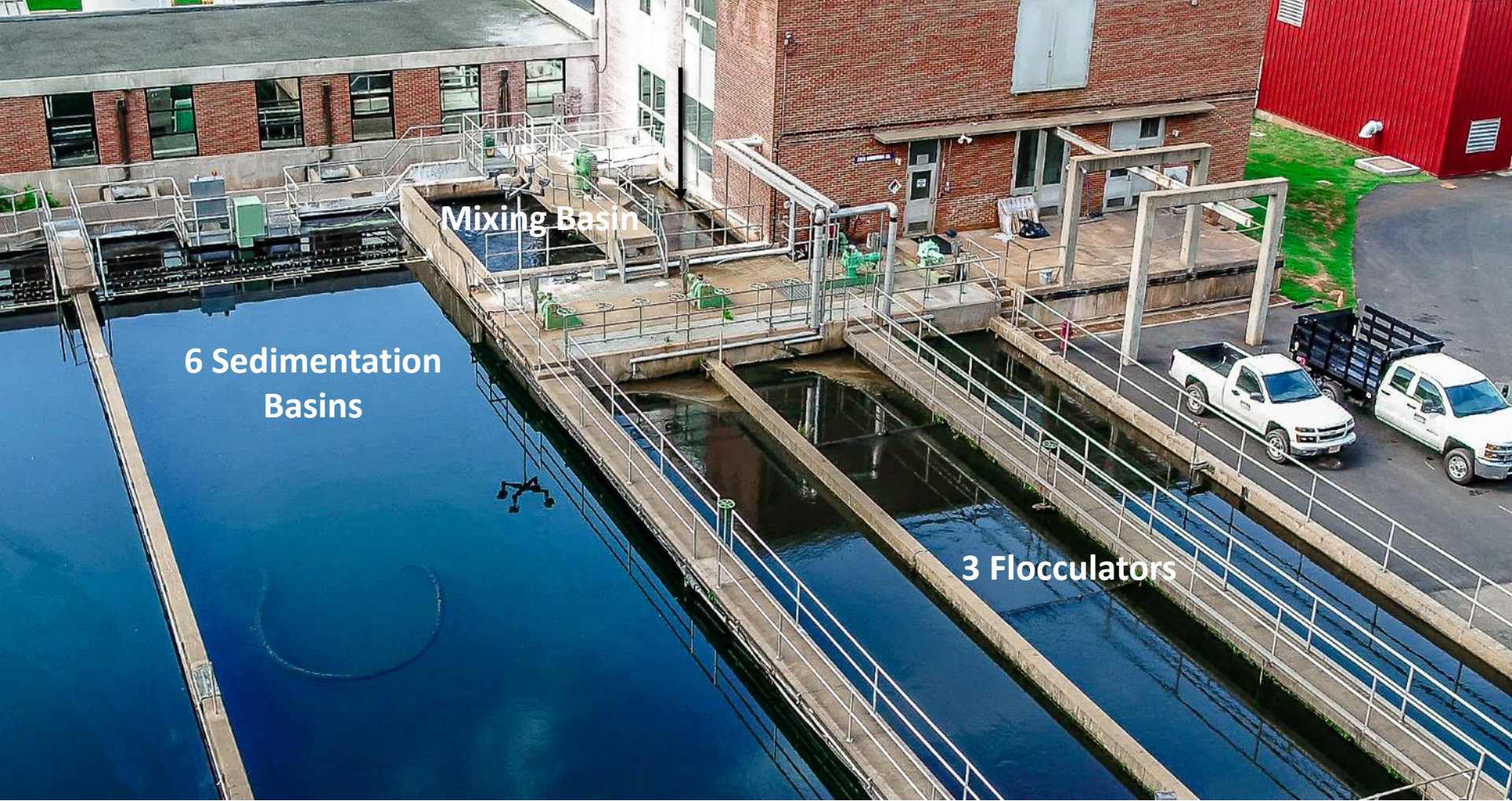
South Rivanna Reservoir

Giardia & Cryptosporidium





South Rivanna Raw Water Pump Station



6 Sedimentation
Basins

Mixing Basin

3 Flocculators

South Rivanna WTP

Heavy floc
particles
passing into
sedimentation
basins



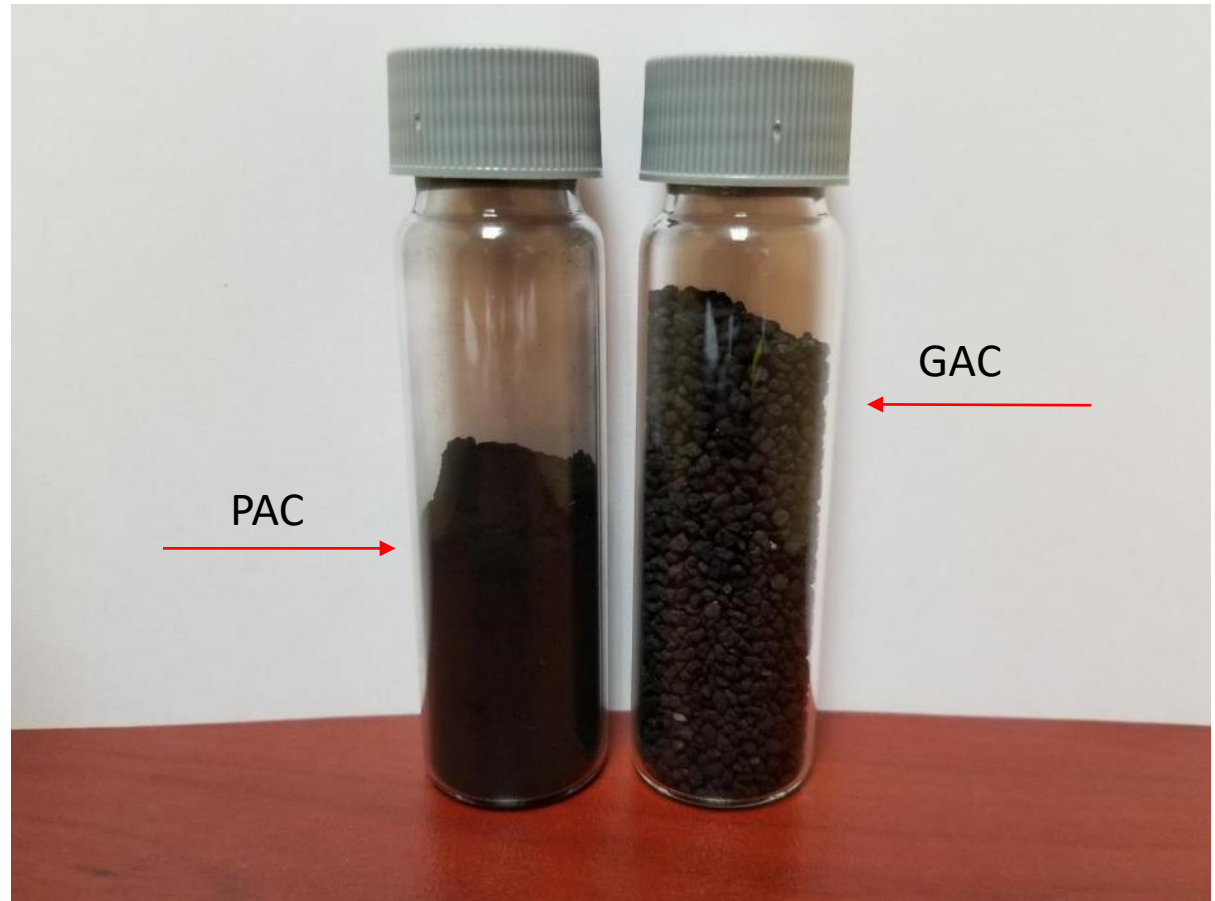


South Rivanna WTP

Finished Water Pumps



Activated Carbon





Powdered Activated Carbon



Granular Activated Carbon Contactors



South Rivanna WTP

8 Contactors
320,000 lbs of GAC
8 MGD Capacity



Observatory WTP

2 Contactors
80,000 lbs of GAC
2 MGD Capacity



North Rivanna WTP

1 Contactor
40,000 lbs of GAC
1 MGD Capacity



Crozet WTP

2 Contactors
40,000 lbs of GAC
1 MGD Capacity

Scottsville WTP

2 Contactors
12,000 lbs of GAC
0.25 MGD
Capacity



Filter Belt Press

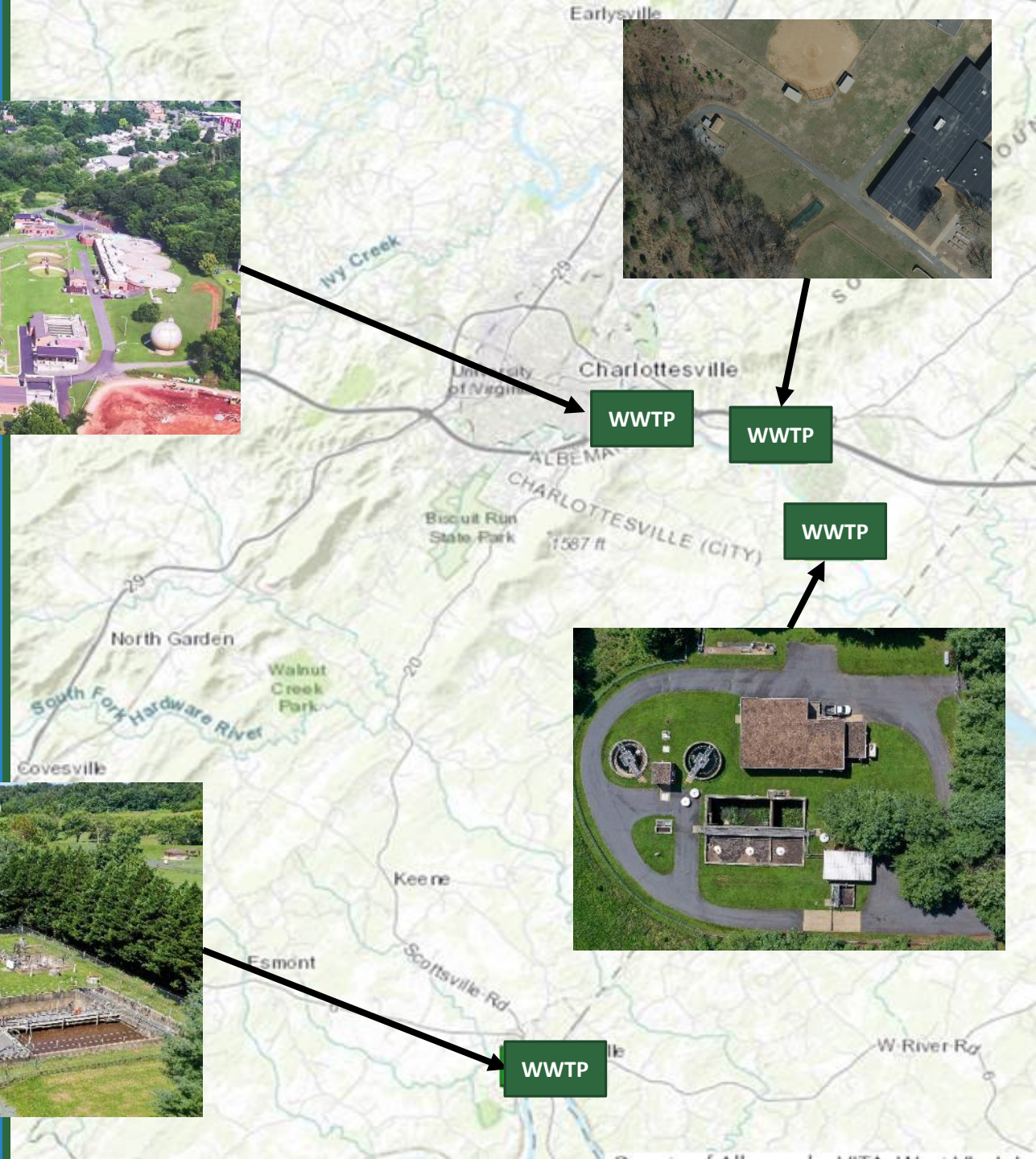


Drinking Water Testing Requirements

Monthly reports submitted to Virginia Department of Health include the following:

- Daily volume of water pumped and produced at each facility
- Amount of chemicals and dosage used daily at each water plant (coagulant, lime, powder activated carbon, polymer, corrosion inhibitor, chlorine, and fluoride)
- Filter turbidity and backwash, water temperatures (raw and finished), and pH reports
- Finished water chlorine residuals and disinfection calculations
- Total Coliform sample results for Urban, Crozet, Scottsville, and Red Hill Systems

Wastewater Facilities

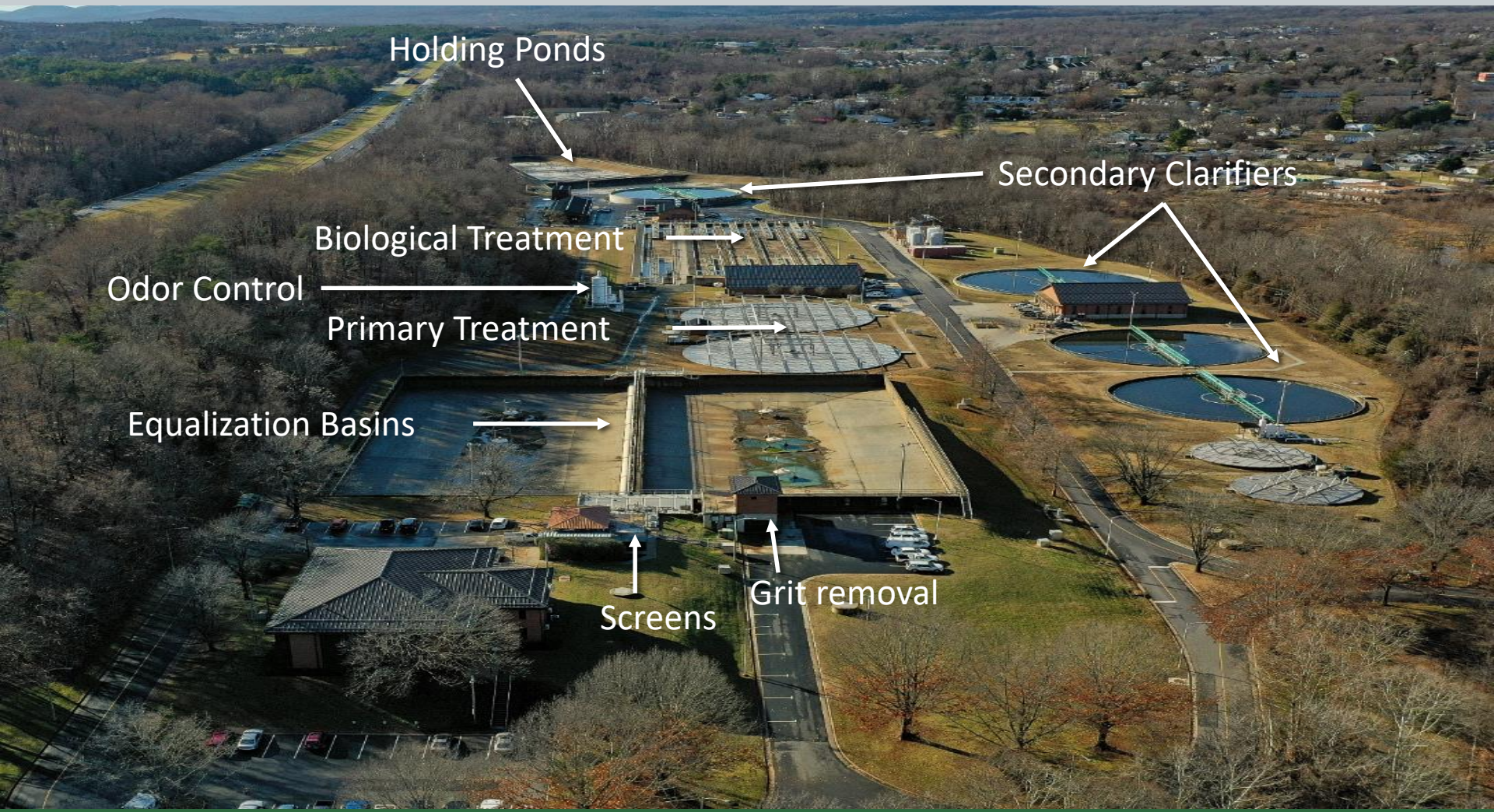


WWTP

WWTP

WWTP

WWTP



Moores Creek AWWRF



Moores Creek AWWRF

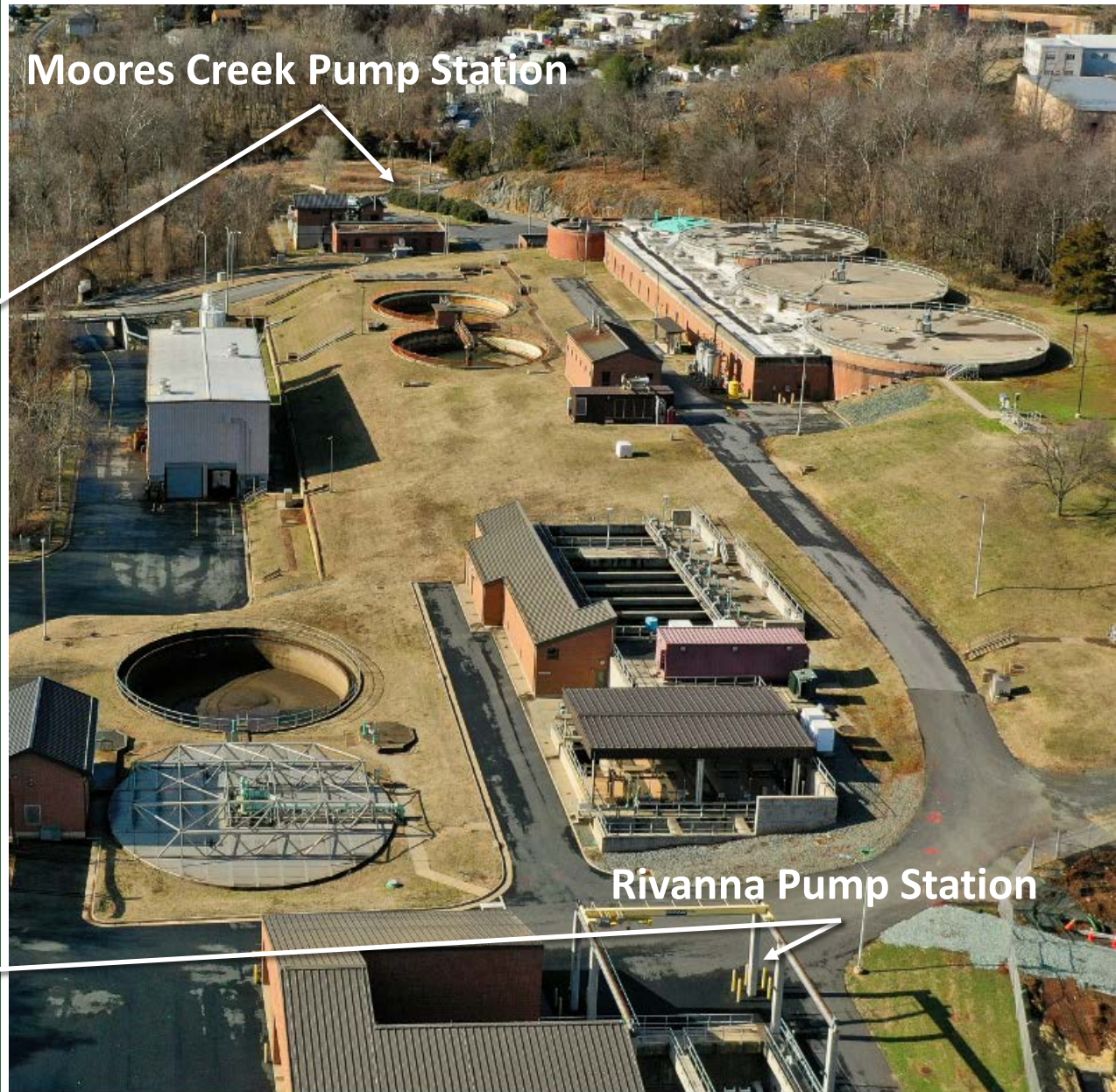


Moores Creek “Dry Side”

Sewer Pump Stations at Moore's Creek

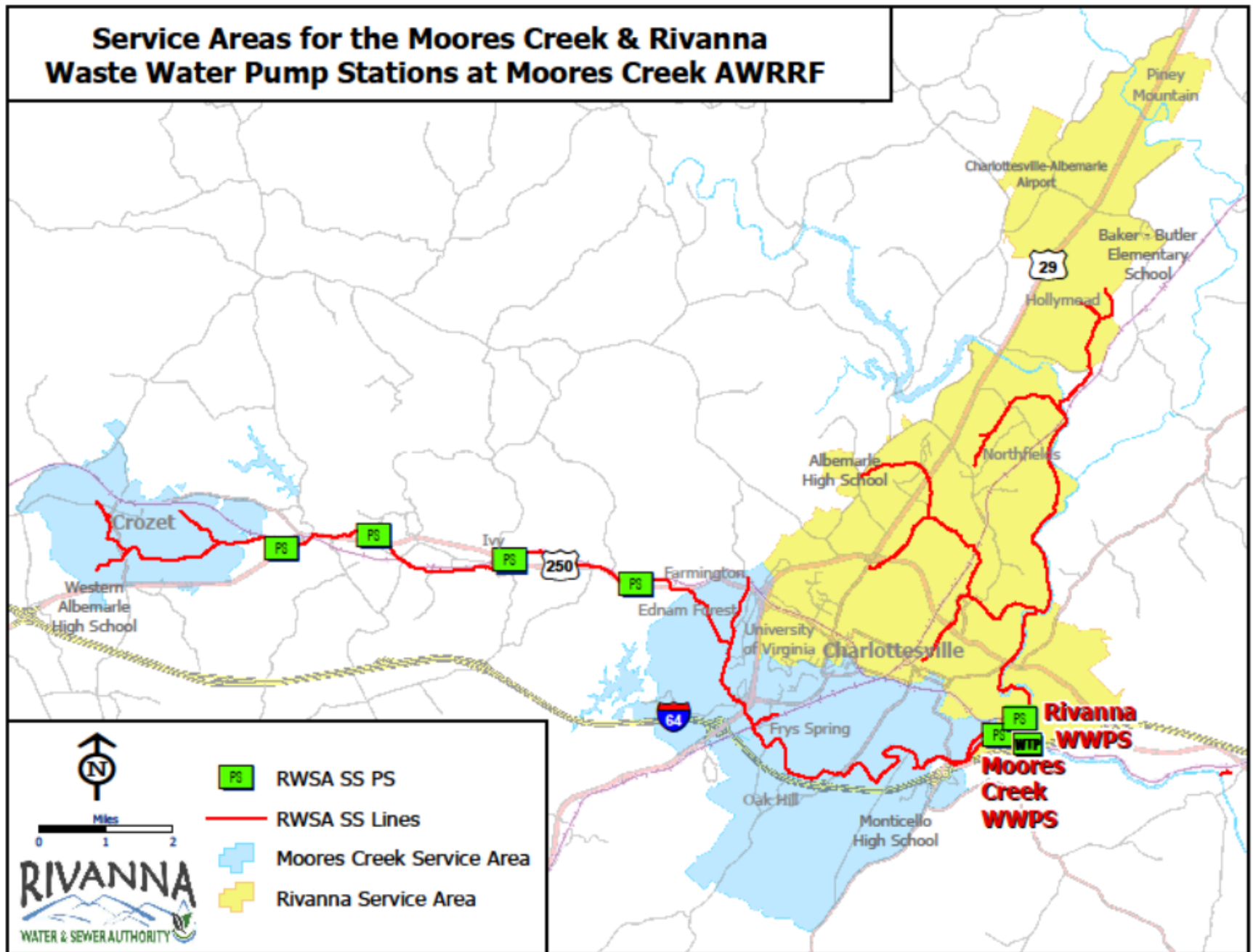


Moore's Creek Pump Station



Rivanna Pump Station

Service Areas for the Moores Creek & Rivanna Waste Water Pump Stations at Moores Creek AWRRF





Screens



Debris Removed with screens

Grit Removal System



Grit
Removed





Primary Treatment

Odor control for Primary Clarifiers



Biological Treatment





Secondary Clarifiers



Sand Filters



Ultraviolet light channels

Discharge to Moores Creek



Centrifuge



Dewatered Sludge (biosolids)



Moores Creek Nutrients

Nutrient discharges at the Moores Creek AWRRF were as follows for August 2020.

<i>State Annual Allocation (lb./yr.) Permit</i>		<i>Average Monthly Allocation (lb./mo.) *</i>	<i>Moores Creek Discharge August (lb./mo.)</i>	<i>Performance as % of monthly average Allocation*</i>	<i>Year to Date Performance as % of annual allocation</i>
Nitrogen	282,994	23,583	4,378	19%	18%
Phosphorous	18,525	1,544	746	48%	18%

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

Wastewater Plant Performance Testing

Monthly compliance reports are sent to Virginia Department of Environmental Quality

- Moores Creek

- Dissolved oxygen (DO) daily
- pH daily
- Total Suspended Solids (TSS) 5 times a week
- Ammonia 5 times a week
- Escherichia coli (E.Coli) bacteria 4 times a week
- Total Phosphorus 2 times a week
- Total Nitrogen 2 times a week
- Chemical Biological Oxygen Demand 1 time a week



Questions?