

Board of Directors Meeting

December 17, 2019 2:15pm



BOARD OF DIRECTORS

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

DATE: December 17, 2019

LOCATION: Conference Room, Administration Building 695 Moores Creek Lane, Charlottesville, VA

TIME: 2:30 p.m.

AGENDA

1. CALL TO ORDER

- 2. MINUTES OF PREVIOUS BOARD MEETINGS a. Minutes of Regular Board Meeting on November 19, 2019
- 3. RECOGNITION a. Resolution of Appreciation for Kathy Galvin
- 4. EXECUTIVE DIRECTOR'S REPORT
- 5. ITEMS FROM THE PUBLIC
- 6. RESPONSES TO PUBLIC COMMENTS

7. CONSENT AGENDA

- a. Staff Report on Finance
- b. Staff Report on Ongoing Projects
- c. Staff Report on Operations

8. OTHER BUSINESS

a. Presentation: Wholesale Water Meter Program; Senior Civil Engineer, Victoria Fort, PE

b. Presentation: Industrial Pretreatment Program; Lab Manager, Dr. Bill Morris

9. OTHER ITEMS FROM BOARD/STAFF NOT ON AGENDA

10. CLOSED MEETING

11. ADJOURNMENT

GUIDELINES FOR PUBLIC COMMENT AT RIVANNA BOARD OF DIRECTORS MEETINGS

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

Members of the public requesting to speak will be recognized during the specific time designated on the meeting agenda for "Items From The Public." Each person will be allowed to speak for up to three minutes. When two or more individuals are present from the same group, it is recommended that the group designate a spokesperson to present its comments to the Board and the designated speaker can ask other members of the group to be recognized by raising their hand or standing. Each spokesperson for a group will be allowed to speak for up to five minutes.

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

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

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

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

Rev. September 22, 2009



1	
2	RWSA BOARD OF DIRECTORS
3	Minutes of Regular Meeting
4	November 19, 2019
5	
б	A regular meeting of the Rivanna Water and Sewer Authority (RWSA) Board of Directors was
7	held on Tuesday. November 19, 2019 at 2:52 p.m. in the 2 nd floor conference room.
8	Administration Building, 695 Moores Creek Lane, Charlottesville, Virginia.
9	
10	Board Members Present: Lauren Hildebrand, Kathy Galvin, Mike Gaffney, Dr. Liz Palmer.
11	Jeff Richardson, Gary O'Connell.
12	
13	Board Members Absent: Dr. Tarron Richardson.
14	
15	Rivanna Staff Present: David Tungate, Lonnie Wood, Michelle Simpson, Austin Marrs,
16	Andrea Terry, Victoria Fort, Jennifer Whitaker, Scott Schiller, Dr. Bill Morris, Katie McIlwee,
17	Bill Mawver.
18	
19	Attorney(s) Present: Kurt Krueger.
20	
21	Also Present: Members of the public and media representatives.
22	
23	1. CALL TO ORDER
24	Mr. Gaffney called the November 19, 2019 regular meeting of the Rivanna Water and Sewer
25	Authority to order at 2:52 p.m.
26	
27	2. MINUTES OF PREVIOUS BOARD MEETINGS
28	a. Minutes of Regular Board Meeting on October 22, 2019
29	
30	Mr. Gaffney asked the Board members if there were any questions or comments about the
31	November 19, 2019 meeting and heard none.
32	
33	Dr. Palmer moved that the Board approve the minutes of the regular Board meeting of
34	April 23, 2019. The motion was seconded by Ms. Galvin and passed unanimously (4-0). Mr.
35	Richardson and Mr. O'Connell abstained from the vote. Dr. Richardson was absent from
36	the meeting and the vote.
37	
38	3. RECOGNITIONS
39	Mr. Gaffney stated there were no recognitions, noting that they had recognized Ms. Galvin for
40	her eight years of service as a Board member during the RSWA meeting.
41	
42	4. EXECUTIVE DIRECTOR'S REPORT
43	Mr. Mawyer stated the RWSA has been doing staff training and had completed an excavation
44	and trench safety class. He stated 22 of their employees, and 8 employees from the ACSA,
45	attended. He stated they also had safety training on fire extinguishers from the Charlottesville
46	Fire Department.
47	

48 Mr. Mawyer stated Senior Engineer Victoria Fort attended UVA's Major Night and spoke to first year students shout how great it was to work at Biyenne

- first-year students about how great it was to work at Rivanna.
- 50

51 Mr. Mawyer stated he, Mr. Tungate, and Mr. Wood went to an informational meeting in

- 52 Northern Virginia sponsored by the Virginia Risk Sharing Association. He stated it was a good
- ⁵³ opportunity to network with other authorities from areas such as Loudoun, Alexandria, Fairfax,
- 54 Fauquier, and Prince William. He stated it was a good discussion about risk management, safety,
- ⁵⁵ human resource issues. He stated Mr. O'Connell's Human Resource person was there also.
- 56
- 57 Mr. Mawyer stated the City, County, and UVA are planning to dissolve, or have dissolved, the 58 Planning and Coordination Council. He stated they did create the Land Use and Environmental
- ⁵⁹ Planning Committee (LUEPC), which has asked for the Rivanna Executive Director to be a
- 60 member of that committee. He stated this would entail new responsibilities. He asked Mr.
- 61 Richardson if this was final.
- 62
- 63 Mr. Richardson replied that the City Council has approved it, as well as the County Board of 64 Supervisors. He stated UVA was the recommending body.
- 65

Dr. Palmer stated she thought they had the PACC on Thursday that was supposed to make thefinal vote on dissolving themselves.

68

Mr. Richardson explained that the City and County Attorneys stated that since those members
 are members of the Council, and because those members are also members of the PACC, that
 there was not any need to do that.

- 7273 Dr. Palmer stated this was great and that she had not been informed of this.
- 74

7475 Mr. Mawyer stated Rivanna would be a member of the LUEPC.

76

Mr. Richardson noted on the prior discussion during the RSWA meeting about the interest for
 environmental and sustainability topics, that this professional working group will include City,
 County, and UVA and the list of topics includes the environmental and sustainability efforts that

are going on by all three organizations, with an eye on partnership and collaboration. He stated

- this was somewhat different from what Dr. Palmer had brought up, but that it was a parallel
- 82 track.
- 83

Mr. Mawyer stated the month before, they had talked about the possibility of drought actions. He stated they held off to wait and see what the rain did in October, and that they received 7.5" of rain in October, which was 4.5" more than the October normal. He stated in the local area, the

year to date rainfall was equal to normal, and therefore the drought conditions have subsided. He

- stated it appears that the National Weather Service was planning to remove Virginia from its
- drought watch, as was the State.
- 90

91 Mr. Mawyer stated that the new chart from November 14 shows the whole State in green

- 92 (normal), with a couple of yellow areas and one red area in Southeast Virginia. He stated it was
- 93 clear that for Central Virginia and the Middle James region, the precipitation, ground water,

reservoir and stream flows are all green, meaning normal. He stated they were thankful that we 94

- avoided the drought issues. 95
- 96
- 97

98 Mr. Mawyer noted on a related matter that the Authority began transferring water from Sugar Hollow Reservoir on October 28 to refill Ragged Mountain Reservoir. He presented a slide 99 representing Sugar Hollow and the pipeline that supplies water to Ragged Mountain. He stated 100 he gave a scenario in the Executive Director's report that around October 28, they were about 101 130 million gallons below normal at Ragged Mountain, which is just less than 10% of its 1.4 102

- billion gallon capacity. 103
- 104

Mr. Mawyer stated they have been transferring about 3 million gallons a day through the Sugar 105 Hollow pipeline. He stated on the other end, they withdrew about 1.5 million gallons for the 106 Observatory Treatment Plant, so the net gain was about 1.5 million gallons per day. He stated 107

- that doing the math, dividing a deficit of 130 million gallons by 1.5 million gallons per day 108
- would mean it takes about 87-90 days to refill Ragged Mountain through the Sugar Hollow 109 pipeline.
- 110 111

Mr. Mawyer stated another data point is that the pipeline from South Rivanna to Ragged 112

Mountain that is planned for the future is able to transfer about 25 million gallons per day, and 113

after withdrawing 1.5 million gallons per day at Observatory, they could refill Ragged Mountain 114

Reservoir in about six days with a 130 million gallon deficit, compared to 90 days, when that 115 pipeline is available. He stated this would likely come more to the forefront in the spring, when 116

they complete the urban water demand study. 117

118

Mr. Mawyer stated that they have done the reservoir bathymetric studies, so they know how 119 much water they have, and they are figuring out how much water the community will use in the 120

future. He stated that this could be a data point as they look at the CIP and where they keep the 121

project to build the pipeline. He stated that this would be for the RWSA Board's discussion and 122 decision. 123

124

Mr. Gaffney asked if that movement of water could have occurred that summer as well, as South 125 126 Rivanna was overflowing the whole summer.

127

Mr. Mawyer replied that generally on any day that South Rivanna is overflowing, they have an 128 opportunity to transfer. He stated that it doesn't have to be overflowing, but ideally it is so that 129 they can capture the water that is going down the Rivanna River on its way to the bay and use it 130 to refill the reservoir. 131

132

Ms. Galvin stated this was very important and was like a marketing or branding element. 133

134

Mr. Mawyer stated that another quality issue was if the Rivanna Reservoir was muddy, they 135

wouldn't have to transfer, but could wait until times like that day when it is full and overflowing, 136

but the water is clear, and pump less turbid water over to Ragged Mountain. He stated they 137

138 would be able to do it quickly, in six days rather than 90 days. He stated they cannot be selective

with water from Sugar Hollow and that they have to transfer the water when it is available. 139

140

- 141 Mr. Mawyer stated he wanted to celebrate the fact that they have completed calibration of all the
- 142 25 meters that they have in their wholesale master meter program. He credited Ms. Fort, Mr.
- 143 Schiller, Mr. George Cheape, Mr. Brian Baird, and Ms. Whitaker for this. He stated Ms. Fort has
- created a report sheet and that the first wholesale water metering monthly sample report could be
- 145 found in the back of tab 7c.
- 146
- 147 Mr. Mawyer stated that there would be a presentation on this in December with more details, and 148 what they will show is the total amount of water that the City meters have recorded versus the
- ACSA meters. He stated these are compared to the amount of water that is allocated in the Water
- 150 Cost Allocation Agreement from 2012. He presented a graph on the screen, explaining that it
- 151 showed 11.99 MGD, which is the contract amount allocated to the ACSA. He stated it was not 152 the correct data set, but with a sample data set, they are averaging 4.49 MGD, which was far
- the correct data set, but with a sample databelow the allocation.
 - 154
 - Mr. Mawyer stated that on the next page, it showed that the City is allocated 6.71 million gallons per day in accordance with the agreement. He noted again that it was not the correct data, but with the data set they used, the City was averaging 4.6 million gallons per day.
 - 158

Mr. Mawyer stated this reporting is used to monitor the usage of the parties. He stated if one party were to exceed its allocation, the contract then requires a true up of the expenses. He stated the ACSA pays 85% and the City pays 15% for the dam construction project. He stated the ACSA would pay 80% of the cost of the pipeline from South Rivanna to Ragged Mountain, and the City would pay 20%.

164

Mr. Mawyer stated this is a system of 25 meters used to monitor the usage and flow throughout the month, noting that they have to gather a month's data and then a year's data before they can comply with the contract and then have the year's average usage, which would be the first valid data point to compare to the contract allocation. He stated that therefore, they were about a year away from getting the data the contract required.

- 170
- 171 Ms. Galvin stated that this was good to see before she leaves.
- 172

Mr. Mawyer stated that assuming the ACSA Board of Directors approves the joint resolution to
eliminate the Buck Mountain property surcharge on Thursday, all four of the parties (County,
City, ACSA, and Rivanna) will have approved the joint resolution, and the surcharge will have
been eliminated. He stated this cost has been charged for new water connections since 1984.

- 177
- Mr. Mawyer stated that the Authority refinanced about \$17.6 million in bonds they had on which
 they were paying approximately 3.9% interest rate on, which is about \$17.6 million. He noted
 that they refinanced at a lower rate (near 3.06%). He stated that Mr. Wood and his group did a
- great job on this and that it would save about \$95,000 per year in debt service and over \$2
- million over the remaining term of the original bonds, which was 24 years.
- 183
- 184 Mr. Mawyer stated that he, Mr. Tungate, Mr. McKalips, and David Rhoades went to
- 185 Spotsylvania County several weeks prior to look at their biosolids composting facility in

186	Livingston, where they make and sell the "Livingston Blend Compost." He stated that they take
187	all the biosolids from the wastewater plants in Spotsylvania and have quite the facility there,
188	which is adjacent to their landfill. He stated that RWSA has been investigating an opportunity to
189	partner with them, if RWSA needs to find a different or less expensive place to take their
190	biosolids, as Livingston is about half as far as McGill.
191	
192	Dr. Palmer stated she had thought they were more expensive than McGill.
193	
194	Mr. Mawyer stated they currently are more expensive, but that RWSA is still talking with
195	Livingston to see if there is any opportunity to improve the price. He stated that it was a nice
196	plant, across the bridge from Lake Anna, and it was a good tour.
197	
198	Mr. Richardson asked if Mr. Mawyer had noticed an odor there.
199	Ma Marrow stated that it must for sold and said by a local data of the solar
200	Mr. Mawyer stated that it was freezing cold and windy, so he did not.
201	5 ITEMS EDOM THE DUDI IC
202	5. ITEMS FROM THE FUBLIC Mr. Coffnay analytic masting to the public
203	wir. Garmey opened the meeting to the public.
204	As no one came forward to address the Board Mr. Caffney closed this portion of the meeting
205	As no one came forward to address the board, Mr. Garmey closed this portion of the meeting.
200	6 RESPONSES TO PUBLIC COMMENTS
207	Mr. Gaffney stated there were no responses to public comments
200	wir. Garnie'y stated there were no responses to public comments.
200	7 CONSENT AGENDA
211	a. Staff Report on Finance
212	
213	b. Staff Report on Ongoing Projects
214	
215	c. Staff Report on Operations
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217	a. Approval of Board Meeting Schedule for Calendar Year 2020
218	Annual of Work Authonization and Canital Improvement Plan Amondment Urban Water
219	e. Approval of work Authorization and Capital Improvement Plan Amenament – Urban water Domand and Safe Viold Study: Hazen and Saywar Engineers
220	Demana ana saje Tiela siday, Hazen ana sawyer Engineers
221 222	Mr. O'Connell moved that the Board annrove the Consent Agenda. The motion was
222	seconded by Dr. Palmer and passed upanimously (6.0) Dr. Richardson was absent from
225	the meeting and the vote
225	the meeting and the vote.
226	7. OTHER BUSINESS
227	
228	Joint meeting with the Rivanna Solid Waste Authority (RSWA) – 2:52-3:13 p.m.
229	a. Strategic Plan Update
230	Ms. Katie McIlwee stated that the last time a Strategic Plan update was provided was during the
231	Year One wrap-up. She reviewed the values, vision, and mission statements of the Strategic Plan.
232	which are found on posters around the Authority.
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Ms. McIlwee stated that the Goal teams are still working on the same six goals. She stated that the Goal Teams came together at the end of Year One and examined their strategies to decide if they had been completed or needed to move them into Year Two. She stated that three new strategies were started, and the Goal teams collectively are working on 14 strategies, and from those 14 strategies, the Goal Teams developed 58 new tactics for Year Two.

239

She stated that some of the highlights for each Goal Team will consists partly of planned tactics and partly of everyday tasks. She stated that going into Year 2, they realized that much of what they do on an everyday basis folds into the Strategic Plans, and accomplishing each strategy will consist of more than just the tactics they have developed. Because of this, she stated that they

- were taking a more blended approach this year.
- 245

Ms. McIlwee stated that Workforce Development Goal Team is currently working on one

strategy, and that is to conduct a training needs assessment and enhance the training program.

- 248 They completed project planning courses for several management trainings with PVCC. She
- stated that they began Virginia Risk Sharing Association (VRSA) online training, that the
- Authority is now a member of. She stated that VRSA also has a video library where they have
- been able to access videos for different topics such as preventing sexual harassment and incident
- reporting training.
- 253

Ms. McIlwee stated that some of the next steps for the Workforce Development Goal Team are to continue working with PVCC to develop a math tutoring programs for water and wastewater operators, who will be sitting for tests for the next higher license. She stated that the Workforce Development team also wants to look at using social media to begin recruiting to try to reach a wider audience for vacant positions. She stated that they also want to expand new employee

- orientation to encompass a full day to better cover HR, payroll, benefits, and safety topics.
- 260

Ms. McIlwee stated that the Operational Optimization Goal Team is working on two strategies. 261 She stated that first, they will continually evaluate, prioritize, and improve key business 262 processes and operational processes. She stated that this included evaluating the biosolids 263 composting and disposal, which included touring several facilities, such as Spotsylvania and 264 265 McGill. She stated that RWSA is now a member of the Biosolids Council and is attending quarterly meetings. She stated that processes at the South Rivanna Water Treatment Plant have 266 been optimized with regards to the belt press operation, and they hired a contractor to clean the 267 EQ Basins to remove excess filter material. 268

269

Ms. McIlwee stated that the corrosion inhibitor study was recently completed, and they have been working with the City and ACSA to develop a press release to get this information out

- because the change to the new, blended product will happen in December.
- 273

Ms. McIlwee stated that the next steps are to implement the new corrosion control inhibitor

- product at all the water treatment plants, install high-speed internet at South Rivanna, and to
- 276 install a nitrogen sensor at Moores Creek Wastewater Treatment Plant.
- 277

- Ms. McIlwee stated that another goal of the Operational Optimization Goal Team was to protect 278
- the workforce and the public through continually growing a culture of safety. She stated that this 279
- included reviewing the Risk and Resiliency Report as required by the American Water 280
- Infrastructure Act (AWIA). She stated that they are installing the remaining web-based cameras 281
- at some of the facilities so they can better remotely monitor them. She stated that they also 282
- completed a security assessment at Moores Creek which included locking the doors, installing 283
- new locks, and having an officer present at Board meetings. 284
- 285
- Ms. McIlwee stated that the next steps will be to continue to integrate additional web-based 286 cameras, and complete the AWIA report by January. 287
- 288

Ms. McIlwee stated that the Communication and Collaboration Goal Team has three strategies it 289 is working on. She stated that they will create and maintain internal communications platforms. 290

- She stated that they have started to demo Microsoft Teams as an internal collaboration tool, 291
- which can be used to work on projects in a collaborative, virtual environment. She stated that 292
- DocLink, their new document management software, is being developed and implemented. She 293
- stated that they would continue communication and collaboration with the Employee Council 294
- and publish the bi-monthly newsletter. 295
- 296
- Ms. McIlwee stated that the next steps for this strategy are to continue implementation of Teams 297
- and DocLink, and communication with employees through the newsletter, Employee Council, 298
- Employee Portal, etc. 299
- 300

Ms. McIlwee stated that another strategy is to create and implement a comprehensive public 301

- outreach plan. She stated that they recently awarded a contract to two contractors for 302
- photography and videography services. She stated that the plan is to get updated photos for the 303 website and also to continue to make facility and project videos. She stated that they would like 304
- to do that for the larger projects, including the Community Water Supply Plan. 305
- 306
- Ms. McIlwee stated that there has been talk with the Workforce Development team about 307 developing an employee orientation, with a welcome video. Additionally, she noted that they 308 would continue to provide tours to schools and civic groups. 309
- 310
- Ms. McIlwee stated that the team's last strategy is to enhance internal and external 311
- communication. She stated that they participated in community events, such as the United Way 312
- Day of Caring, Imagine a Day Without Water, and Rivanna Flow Fest. She noted that the 313
- Engineering department participates in a monthly Technical Advisory Committee meeting with 314
- the City and ACSA. She also noted that they continue to hold quarterly internal team events. 315
- 316
- Ms. McIlwee stated that the next steps for this strategy are to continue to participate in those 317
- types of events and meetings. She stated that they were planning the next manager's meeting 318
- with the City and ACSA, and are also planning to hold another Central Utilities Managers Mixer, 319
- where they have utility managers from a 30-mile radius (including those from Augusta County, 320
- Lynchburg, Louisa, and Amherst) come for a meet-and-greet. 321
- 322

Ms. McIlwee stated that the Environmental Stewardship Goal Team is also working on three 323 strategies, one of which is to increase internal environmental engagement. She stated that much 324 of this involved working with the Communication and Collaboration group. They have also 325 established an Employee Environmental Council. She stated that they will continue to look for 326 activities such as stream cleanups, tree plantings, and other ways to engage employees. She 327 stated that they provide regional leadership and environmental stewardship partnerships. She 328 stated that this included Imagine a Day Without Water, Flow Fest, and tree plantings. She noted 329 that they participate in the Stormwater Partnership as well as the Rivanna Renaissance 330 Conference. 331 332 Ms. McIlwee stated that the next steps will be to continue those partnerships and to look for 333 additional ways to go out into the community to explain what the Authority does, or lend 334 expertise on environmental stewardship topics. 335 336 Ms. McIlwee stated that the last strategy for this group is to evaluate potential opportunities for 337 additional environmental activities at the Authority's facilities. She stated that a major part of 338 this strategy is the Buck Mountain Master Plan, that is currently underway. She stated that 339 another partnership was with Solid Waste Services for the oyster shell recycling program at 340 McIntire, as well as the political sign recycling program. 341 342 Ms. McIlwee stated that the next steps for this strategy will be to complete the Buck Mountain 343 Master Plan and present the findings to the Board, to review the Wetland Mitigation Grading 344 quotes and award that project, and to evaluate the potential for use of solar at the Authority's 345 facilities. 346 347 Ms. McIlwee stated that the Solid Waste Services Goal Team is currently working on two 348 strategies. One of these strategies is to determine community needs and preferred level of 349 service. She stated that Solid Waste is also continuing to provide tours to local schools and 350 provide talks to local civic groups. She noted that they completed the Composting Master Plan. 351 She stated that the next steps will be to continue more collaboration with groups such as 352 SWAAC and local schools. She stated that they will enhance partnerships with local government 353 and UVA. 354 355 Ms. McIlwee stated that the Solid Waste Services Goal Team would like to create a recycling 356 video competition. She stated that they have defined the details of the contest such as judging, 357 start and end dates, and awards. She stated that some of their next steps will be to decide how 358 they want the contest to run, how to market it, and how to reach out to the schools to get the 359 word out about the competition. 360 361 Ms. McIlwee stated that there is also a glass recycling program with the other localities, as the 362 Board had heard about earlier. 363 364 Dr. Palmer stated that she had had a conversation with Mr. McKalips about who exactly from the 365 schools they should work with regarding the video competition, noting that they had tried this 366 367 before and it hadn't panned out. She asked if this was what Mr. McKalips had been talking about with the video contest, or if it was something additional. 368

369 Mr. McKalips replied that it included both of the outreach programs they are trying to do. He 370 stated that they want to educate consumers and provide more tours, to give the community a 371 sense of who the Authority is and what it does. 372 373 Mr. McKalips stated that regarding the video competition, this was similar to Imagine a Day 374 Without Water. He stated that they thought the best place to reach out to people would be 375 through the school system. 376 377 Ms. Galvin asked who they were reaching out to in the City schools. 378 379 Mr. McKalips stated that it has been some ad-hoc talk to specific teachers, but that he couldn't 380 remember the names. He recognized at this point that he is missing a large segment of potential 381 participants, and that it needed some more organization. 382 383 Ms. Galvin expressed that environmental and solid waste topics would be popular with high 384 schoolers. She suggested reaching out to some School Board members. 385 386 Dr. Palmer stated that the SWAAC Operations Committee had this conversation on Monday. She 387 stated that Mr. McKalips took on the task of figuring out who exactly would be the appropriate 388 389 person. 390 Ms. Galvin asked if this was for Albemarle County Schools. 391 392 Dr. Palmer replied yes. 393 394 395 Ms. Galvin wanted to know if he had talked to anyone from City schools. 396 Mr. McKalips stated that he would have to look at the names. 397 398 Ms. McIlwee stated that the Infrastructure and Master Planning Goal Team is continuing to 399 implement an Authority-wide asset management program. She stated that for Phase II, the scope 400 401 of work for program development has been completed. She stated that they are providing data to the consultant and are developing an RFP for procurement of a CMMS software. She stated that 402 they recently completed the bond refinancing. 403 404 405 Ms. McIlwee stated that the next steps will be to use the collected data to begin development of an asset hierarchy structure and inventory, and advertise the RFP. 406 407 Ms. McIlwee stated that the team's other strategy is to develop and maintain long-term Master 408 Plans for all critical assets. She stated that they developed a list of all the asset classes to use 409 within their Master Plan matrix, confirmed Master Plan champions, and have begun to 410 implement projects from the Technology Master Plan (including Doclink, which is one of the 411 Communication and Collaboration team's goals as well). She stated that they also began to 412 develop a procedure to link the Master Plan matrix to the CIP development process. 413 414

Ms. McIlwee stated that the next steps will be to prepare a draft procedure for asset class master plan champions and have the team review and comment. She stated that they will also complete

- the development of the Master Plan's CIP matrix.
- 418

Dr. Palmer stated that she had a comment about environmental issues and sustainability. She stated that when she was reading over the minutes from the last RSWA Board meeting, she read a portion where they were discussing the City and the County's efforts to try to incorporate sustainability, greenhouse gas emissions, and climate change into the decision-making process and trying to quantify it in the absence of a carbon tax. She stated that Ms. Galvin stated they have never had a work session on sustainability and those types of issues, but there had been a

- lot of conversation around that topic.
- 426

Dr. Palmer stated that she knew Rivanna had been doing a lot to be more energy efficient over

- the years and had been listening to all the efforts along those lines for several years now. She
- stated that it would be nice to get an idea of where the Authorities are on sustainability issues.
- She stated that UVA and the City making those efforts, and the County is doing it as part of theirClimate Action Plan.
- 432

Dr. Palmer stated that she recently participate in a panel at the Virginia Recycling Association

membership meeting, and that panel had staff representatives from UVA, City, and County, as
 well as herself, and Mr. Corker from Corker Composting. She stated that the discussion centered

- on how the different entities are trying to incorporate solid waste into climate action planning,
- 437 and that it was a good discussion.
- 438

Dr. Palmer stated that she thinks the City and the County need to understand what Rivanna is doing so they can at least start to talk about it and incorporate it into their thought process. She noted that this also may come in handy when they are making decisions in the future about the forestry plan. She stated that all these things need to be taken into consideration and that they need to able to quantify it in some way.

- 444
- Ms. Galvin stated that perhaps there was an opportunity for a work session between staff.
- 446
 447 Mr. Mawyer stated that the Authorities have to start internally to get their thoughts together, and
 448 perhaps get some consultant help with greenhouse gas and carbon footprint.
- 449

450 Ms. Galvin stated that she was calling a meeting between the City's Office of Sustainability and

their Tree Commission to examine where the synergies exist. She stated that the City's trees have been relegated to being part of the Parks and Recreation Department but are increasingly

becoming more important from the carbon sink phenomenon, and that preserving urban forests is

454 huge. She stated that they were crossing silos in the City, but that there should also be silos

- 455 crossed between agencies.
- 456
- 457 Mr. Mawyer stated that the Authority did recently work with Ms. Hildebrand about using
- 458 methane gas from the wastewater process and whether the City could use that. He stated further,
- that there was thought around whether they are going to continue to use the methane in their
- 460 processes to make heat for the digestors and potentially making electricity for the grid.

461 Ms. Galvin stated that it could be a matter of brainstorming what everyone is doing and getting it 462 on a map. 463 464 465 Mr. Mawyer stated that there could be some way to quantify the benefits in regard to greenhouse gas and carbon footprint. He stated that the Authority needed help in how they calculate those 466 things. 467 468 Dr. Palmer stated that she would like to know, collectively, what the Authorities are doing. She 469 stated that having a starting place of what was happening would be helpful to her. 470 471 Comprehensive Annual Financial Report Fiscal Year Ending June 30, 2019 472 *b*. Mr. Robert Huff of Robinson, Farmer, Cox Associates presented. He reiterated that his 473 comments were applicable to the RWSA. He stated that their opinion is unmodified, and internal 474 controls were operating as described. He stated that they had no differences with management. 475 476 Mr. Huff added that with the report, RWSA achieved the Certificate of Achievement for 477 Excellence in Financial Reporting, which was noteworthy. He stated that the numbers were 478 much larger for the RWSA, with \$360 million in assets and a net position increase by \$5.2 479 480 million, which is a 4% year over year increase. He stated that this all boded well for the RWSA, moving forward, and concluded his remarks. 481 482 Observatory and South Rivanna Water Treatment Plant Construction Project Update 483 С. Mr. Scott Schiller, Engineering Manager, presented. He stated that this project went out to 484 advertisement for bids last week. He stated that he would provide a brief update on the project, 485 the schedule, and discuss some of the components of the project. 486 487 Mr. Schiller presented the current site plan for South Rivanna. He stated that this was post-GAC, 488 indicating to a GAC facility which has the vessels, contactors, and intermediate pumps. He 489 indicated to a chlorine contact tank. He stated that these were added during the GAC project, as 490 well as a liquid lime facility. 491 492 Mr. Schiller stated that as part of the current project being put out to bid, additional significant 493 facilities were being added, including an extension onto the filter building for two additional 494 filters, enclosing of the liquid lime storage area, an Administration Building for the Water 495 Department, and an alum and fluoride storage building. He stated that it also included a number 496 of improvements to the sedimentation basins and the flocculation basins as well as electrical 497 498 improvements. 499 Mr. Schiller stated that he would review the major components and focus more on renderings. 500 He presented a picture of the filter building, explaining that they would add two filters to the end 501 of it. He stated that they have four existing filters and would be adding two more, which would 502 allow for the more reliable treatment of 12-MGD. He stated that this was important as they move 503 504 into the phasing of the project. 505 Mr. O'Connell asked if this would allow them to add filters more at the end of the building. 506

- 507
- Mr. Schiller replied yes, indicating to some additional space on the picture for potential 16-MGD 508 expansion as well. He stated that they had learned their lesson, as there was a blower located 509 there that was installed during the GAC project, and they relocated it to a spot where they 510
- wouldn't have to relocate it again for the 16-MGD improvement. 511
- 512

Mr. Schiller stated that there was also a fluoride and alum storage building. He stated that 513

- currently, alum is stored in the third level of the filter building with no room for expansion. He 514
- stated that in order to give them the appropriate amount of space, they are building a new 515
- building for this, as well as for fluoride. He showed a picture of the inside of the building, 516 pointing out the tanks and chemical feed equipment. He also indicated translucent removal
- 517 panels that can be removed to get the tanks out in the future. 518
- 519
- 520 Mr. Schiller presented a picture of the liquid lime facility that was built during the GAC project.
- He stated that there is lime stored in the tanks, and also an electrical building. He stated that 521
- everything works well during warmer weather but when it gets colder, there are issues with 522
- freezing of the lines. He stated that they heat-trace the lines, but it is not as reliable as they would 523
- like it to be, so they decided to enclose all of this in the building to heat the space. He stated that 524
- this was the same concept applicable to the other chemical storage building. 525
- 526
- Mr. Schiller presented a picture of the new Administration Building, which includes offices for 527
- all the managers as well as the treatment supervisors, a conference room, lunchroom and kitchen, 528
- bathrooms, locker rooms, and a workspace for the operators. He stated that this would allow 529
- them to pull many of the management personnel into one location as opposed to being scattered 530
- throughout the area. 531
- 532
- 533 Dr. Palmer asked who in the current Administration Building would be move to the new
- Administration Building. 534
- 535

Mr. Schiller stated that no one from that building would move. He stated that the new building 536 would move staff that are currently in another location at South Rivanna that is being repurposed 537 for a control room and lab, and staff from Observatory as well. He stated that there are also staff 538 539 in an office in the Sludge Processing Building who will be moved into the new building. He stated that moving these personnel together into one building would assist with deficiencies in 540

- communication. 541
- 542

Mr. Schiller stated that this was the majority of the South Rivanna work in terms of the buildings 543 and filter expansion. He stated that he didn't talk about the basins, but that there were new mud 544 valves and gate valves associated with that. 545

546

Mr. Schiller presented the existing site plan for the Observatory Plant as it was developed under 547

- the GAC project. He indicated on the plan the GAC facility, which has the vessels with the 548 contactors. He stated that there is also the intermediate pump station there, as well as the chlorine
- 549
- contact tank and other existing facilities. 550
- 551

Mr. Schiller stated that in terms of the new proposed plan and what is out for bid currently, some 552 of the major things they are doing include improving the entrance. He stated that large vehicles, 553 especially lowboys, bottom out going over the hump coming into the facility, so they are going 554 to level this out and create a smoother path. 555 556 Mr. O'Connell asked if this would take care of the GAC replacement issue. 557 558 Mr. Schiller replied yes. He stated that they will also create a loop road, which will be important 559 for chemical deliveries as well as GAC deliveries. He stated that they currently have to make a 560 significant effort to exit and that this loop road should alleviate the issues. 561 562 Mr. Mawyer noted the retaining wall on the east side. 563 564 565 Mr. Schiller replied that there was a retaining wall that begins to fall off as its heads towards the football stadium. He stated that it would help support the new loop road. 566 567 Mr. Schiller stated that they will have a new, large chemical storage building. He indicated 568 where the plan shows an expansion of the GAC facility. He stated that this is being bid as an 569 alternate in contract documents, so they will see how the pricing comes back and bring it to the 570 RWSA Board for approval, if it seems to be a fair value. He stated that this had not been updated 571 in the budget. 572 573 Mr. Schiller indicated where the plan shows an expansion to the filter building, where they will 574 put in some new backwash pumps. He stated that they would be demolishing two of the 575 sedimentation basins (1 and 3). 576 577 Mr. Schiller presented the proposed future 20-MGD site plan. He stated that the thought was that 578 as they move to 20-MGD in treatment capacity, they will essentially have to build a parallel 579 treatment plant in order to produce an adequate amount of water from the existing plant. He 580 stated that the location where the existing sedimentation basins 1 and 3 are will be new 581 flocculation and sedimentation basins and filters. He stated that getting those basins out of the 582 way now will help provide that opportunity in the future. He stated that there are additional GAC 583 584 facilities and that one of the lagoons will be repurposed for a new high service pump station as well as an additional point of contact. 585 586 587 Mr. Schiller stated that this has all been discussed with UVA, so they are aware of the 20-MGD layout and some of the space needs on that site. 588 589 Mr. Schiller stated that as far as general improvements, they are doing improvements to 590 sedimentation basins by putting in plate settlers. He stated that they were building a new water 591 flume. He stated that they were completely rebuilding all the filters and the filter gallery piping. 592 He stated that there were many additional improvements that were being done, but that he was 593 focusing on the larger buildings. 594 595 596 Mr. Schiller presented renderings of the new chemical building. He also showed the existing pretreatment building, as well as the flocculation and sedimentation basins. He explained that these 597

were views from the plant side and from McCormick. He stated that it seemed this will be

- beneficial as it blocks the view of a number of facilities on the plant, so this had been wellreceived thus far.
- 601

603

- 602 Mr. O'Connell asked if this was all brick.
- Mr. Schiller replied yes, explaining that the brick will match the existing structures.
- Mr. Schiller presented an internal layout, noting that it was two stories. He stated that one floor
 will contain alum and liquid lime. He stated that the upper level will have fluoride and corrosion
 inhibitor storage. He stated that it will be a fairly large building.
- 609
- 610 Mr. Schiller stated that they would be expanding the GAC system. He stated that they are
- 611 proposing an alternate bid item, and that they currently have two vessels or contactors as well as 612 bypass piping, valves, and flow meters in the other portion of that building. He stated that they
- will be adding four vessels to this for a total of six vessels, and that they are doubling the
- footprint of the building to add those vessels and get them up to a more appropriate treatment
- 615 percentage.
- 616
- Mr. Schiller presented a picture of the existing filter building on the outside, as well as where the addition will be. He stated that a couple new backwash pumps would be there, as well as blower as part of the backwash process. He stated that the existing backwash pumps were down in the
- gallery and there was no way to pull those pumps as they were installed. He stated that these will
- be moved out and provide an opportunity for those to be better accessed. He stated that they
- would also demolish all the piping in the gallery and replace it. He stated that it was a
- 623 comprehensive filter improvement project, as well as rebuilding the filters themselves. He stated
- that they would replace the underdrains and all the media to allow for a new filter process.
- 625
- Mr. Mawyer stated that in the video they made of the renovations, they showed the piping in the gallery that needed to be replaced.
- 628
- Mr. Schiller stated that as far as the overall schedule, they advertised last week for bids. He stated that they were currently looking at December 19 as the bid opening. He stated that they would then plan to bring this to the Board in January for approval and then based upon getting
- would then plan to bring this to the Board in January for approval and then bascontracts signed, they would likely start construction in March.
- 633
- Mr. Schiller stated that some of the more important parts of this are that they would begin
- construction at the South Rivanna plant. He stated that the Observatory plant shutdown from
- December 2021 to February 2022 was very important and could not be rescheduled because it
- coincides with the UVA holiday break. He stated that they have to completely take the plant
 down to do some of the improvements he had just mentioned. He stated that the first phase will
- be important to ensure they have the new filters and reliability at South Rivanna to provide the
- flow they need to the urban system prior to the shutdown at Observatory.
- 641

facilities. He stated that for an overall estimated contract or construction budget, they were 643 looking at anywhere from \$30 million to \$35 million. 644 645 Mr. O'Connell asked if there was a lot of interest from contractors. 646 647 Mr. Schiller replied yes. He stated that they had a number of general contractors attend the 648 contractors' breakfast and had a number of people inquiring immediately once the ad ran. He 649 stated that they were also made aware that there were a couple of treatment plants that will be 650 bidding in January, and that Rivanna's bid opening in December should be a benefit as far as 651 getting some good pricing ahead of those other projects. 652 653 Dr. Palmer asked if at the end of substantial completion in 2021 for the South Fork Rivanna 654 Treatment Plant, the capacity of that plant will be 12 MGD. She asked if the Observatory Water 655 Treatment Plant's final completion would be Fall 2022, with the capacity of that plant being 10 656 MGD. 657 658 Mr. Schiller replied this was correct. 659 660 Mr. Mawyer stated that the capacities were not quite equal, but close. He stated that they 661 considered going to 12 MGD at Observatory, but it was a significant cost increase, so they didn't 662 think the value was there when they didn't need 20 MGD for guite a while. He stated that there 663 could be expansion of several MGD in the decades to come, but there wouldn't be value in doing 664 it now. He stated that they would rather put any extra money in the new additional GAC than 665 into more treatment capacity. 666 667 668 Dr. Palmer asked what the status was on the South Fork to Ragged Mountain pipeline acquisition of easements. 669 670 Mr. Mawyer replied that they made a number of offers to people and were negotiating with 671 businesses and private entities throughout the route, particularly around Birdwood, Reservoir 672 Road, and the Barracks Road area. He stated that going back to the north, there are Albemarle 673 674 County Schools and that Rivanna is talking with them to go back behind Albemarle and Jouett. He stated that coming up Lambs Road, they would go down Rio Road, which involves talking to 675 VDOT. He stated that there may be private properties down Woodburn Road they will have to 676 677 deal with. 678 Dr. Palmer asked if they had acquired any easements at that point, or if they were still working 679 680 on all of them. 681 Mr. Gaffney replied that they had gotten Birdwood. 682 683 684 Dr. Palmer stated that this was a big one and she was very glad this happened. 685 686 Mr. Mawyer stated that they had "irons in the fire" with most of the properties along the route but that they hadn't completed any of the acquisitions yet. 687

Mr. Schiller stated that they anticipate final completion of the project in Fall 2022 for both

642

688	
689	Mr. Gaffney asked if Birdwood and the Foundation made up a third of the route.
690	
691	Mr. Mawyer replied that it was a huge part of the route because it goes across the Faulkner
692	property over to Colthurst Drive.
693	
694	Dr. Palmer asked if they had the rest of the Foundation property behind the Birdwood Golf
695	Course.
696	
697	Mr. Mawyer replied that they did not have it, but that they were working with them on it. He
698	stated that the UVA Foundation has property to the north and to the south of the Birdwood
699	section that was built.
700	
701	Mr. O'Connell asked if Mr. Mawyer had any idea how many months out they would have the
702	property.
703	
704	Mr. Mawyer deferred to Ms. Fort.
705	
706	Ms. Fort replied that she believed they would have offers out to all private and public property
707	owners by sometime in the spring, and then from there, they can continue to negotiate. She stated
708	that they were at a point where they may be coming to an agreement with some of the private
709	property owners fairly soon, and that it has been a matter of back-and-forth negotiation with the
710	property owners.
711	
712	9. OTHER ITEMS FROM BOARD/STAFF NOT ON AGENDA
713	There were none.
714	
715	10. CLOSED MEETING: Lease or Acquisition of Real Property
716	At 3:49 p.m., Dr. Palmer moved that the Board of Directors of the Rivanna Water and
717	Sewer Authority enter into a closed meeting to discuss the lease of real property and
718	consultation with legal counsel regarding such lease, as permitted by Section 2.2-3/11.A.3
719	and A.8 of the Code of Virginia. The motion was seconded by Ms. Hildebrand and passed
720	unanimously (6-0). Dr. Richardson was absent from the meeting and the vote.
721	At 4.22 n m, the Beend accommoding energies and Dr. Delmen moved that the Beend
722	At 4:52 p.m., the Board reconvened in open session and Dr. Paimer moved that the Board
723	certify by a recorded vote that, to the best of each member's knowledge, only public
724	The second secon
725	rection of information Act and only such public business matters as were identified in the
/26	motion authorizing the closed meeting were heard, discussed, or considered in the closed
727	Dishardson was absort from the meeting and the vote
728	Richaruson was absent from the meeting and the vole.
129	11 Adjournment
/3U 721	11. Aujvul lillitili At 1.32 n m Dr. Palmar mayad to adjourn the meeting of the Divernes Water and Server
/31 720	Authority The motion was seconded by Ms. Calvin and passed uponimously (6.0). Dr
132	Authority. The mouth was seconded by 1918. Gaivin and passed unanimously (0-0). DF.
133	אוכוומו עסטוו אימס מטסכות ודטווו נווכ וווכלנוווץ מווע נווכ יטוכי



Joint Resolution of Appreciation for Kathy Galvin

WHEREAS, Ms. Galvin has served as a member of the Board of Directors for the Rivanna Water & Sewer Authority and the Rivanna Solid Waste Authority since November 2011; and

WHEREAS, over that same period Ms. Galvin 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, Ms. Galvin'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. During Ms. Galvin's tenure and through her efforts, major projects were completed including:

- the Ragged Mountain Reservoir Dam
- the Rivanna Sewer Pumping Station
- Odor Control Improvements at the Moores Creek Advanced Water Resource Recovery Facility
- Granular Activated Carbon Filters for all water treatment plants
- a Refuse Transfer Station at the Ivy Material Utilization Center
- a Strategic Plan for both Authorities; and

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

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the Rivanna Water & Sewer Authority and the Rivanna Solid Waste Authority recognize, thank, and commend Ms. Galvin for her 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 her 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 Tarron Richardson 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: DECEMBER 17, 2019

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:

• Mr. Vincent Deavers, Mechanic; obtained his Commercial Drivers License.

Educational Assistance Program

Through our improved education reimbursement program, which increased from \$2625 to \$5250 annually in this fiscal year, we are supporting two employees in their efforts to obtain graduate degrees.

STRATEGIC PLAN GOAL: COMMUNICATION AND COLLABORATION

Community Outreach

Katie McIlwee, Communications Manager, along with representatives from ACSA and the City of Charlottesville, hosted the Imagine a Day Without Water awards ceremony for the student and teacher winners. The contest was open to students in grades K - 12. A total of 305 poster submissions were received.

STRATEGIC PLAN GOAL: INFRASTRUCTURE AND MASTER PLANNING

Wastewater Treatment

Dave Tungate, Director of Operations, Rob Haacke, Wastewater Manager, and I attended the Virginia Association of Municipal Wastewater Agencies (VAMWA) quarterly meeting in Richmond to get the latest information about proposed nutrient removal requirements included in the State's update to EPA for restoration of water quality in the Chesapeake Bay.

S. Rivanna to Ragged Mtn Reservoir Water Line Easements

Acquisition efforts continue. Offers have been made to 9 of 11 private property owners, with 1 acceptance. Documents are also being prepared for 3 public property owners (VDOT, City, County School Board).

Observatory Water Treatment Plant Lease

Negotiations are continuing with UVA.

STRATEGIC PLAN GOAL: OPERATIONAL OPTIMIZATION

Biosolids Disposal

Dave Tungate and I attended the Virginia Biosolids Council annual meeting in Richmond to stay aware of biosolids disposal regulations, technologies and opportunities.

STRATEGIC PLAN GOAL: ENVIRONMENTAL STEWARDSHIP

Sustainability

We will assess our current and future programs for greenhouse gas reduction, carbon sequestration, and other climate action and sustainability opportunities. A consultant with expertise in this area will provide training and assistance.



MEMORANDUM

TO: RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS

FROM: LONNIE WOOD, DIRECTOR OF FINANCE AND ADMINISTRATION

REVIEWED: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: NOVEMBER MONTHLY FINANCIAL SUMMARY – FY 2020

DATE: DECEMBER 17, 2019

Urban Water flow and rate revenues are 11% over budget estimates for the first five months of this fiscal year, 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	\$ 3,534,953	\$ 3,846,767	\$ 944,795	\$ 8,326,515			
Expenses	(3,498,869)	(3,677,793)	(880,295)	(8,056,957)			
Surplus (deficit)	\$ 36,084	\$ 168,974	\$ 64,500	\$ 269,558			
Debt Service Revenues Expenses Surplus (deficit)	\$2,851,372 (2,819,298) \$32,074	\$ 3,719,690 (3,631,543) \$ 88,147	\$ 626,078 (623,349) \$ 2,729	\$ 7,197,140 (7,074,190) \$ 122,950			
Total Revenues Expenses	\$6,386,325 (6,318,167)	\$ 7,566,457 (7,309,336)	\$ 1,570,873 (1,503,644)	\$ 15,523,655 (15,131,147)			
Surplus (deficit)	\$ 68,158	\$ 257,121	\$ 67,229	\$ 392,508			

Urban Wastewater received the annual Nutrient Exchange Credit of \$78,763 and billed Albemarle County for the annual septage receiving support of \$109,441 in July.

Some expense categories are over the <u>prorated</u> year-to-date budget as follows, but should even out over the course of the year compared to budget estimates, unless otherwise noted:

- A. Personnel Costs (Administration page 8) Wages paid to summer interns and the annual contributions to health savings accounts.
- B. Professional Services (Urban Water, Urban Wastewater, Engineering pages 2, 5, 11) Urban Water has spent more than the total annual amount budgeted for legal fees related to the Observatory plant lease and Buck Mountain land issues. Engineering has incurred

unbudgeted expenditures for engineering and technical services for an addition to the engineering trailer complete. Urban Wastewater is over the prorated budget for engineering/technical services.

- C. Other Services and Charges (Urban Water page 2) Utilities
- D. Communications (Urban Water page 2) Telephone and data services.
- E. Information Technology (Engineering page 11) Engineering has spent \$10,900 more than the annual budget in this category.
- F. Operations & Maintenance (Urban Water, Urban Wastewater, Glenmore Wastewater, Administration – pages 2, 5, 6, 8) – Urban Water is over the annual budget for pipeline repair costs. Urban Wastewater is over the prorated budget on pump station maintenance costs. Glenmore Wastewater is over the prorated budget on equipment maintenance and repair costs. The Administration department paid \$12,600 in July for some heating and air conditioning work in the Administration building.
- G. Equipment Purchases (Urban Water page 2)

Attachments

Rivanna Water & Sewer Authority

Monthly Financial Statements - November 2019

Fiscal Year 2020

										
			Budget		Budget		Actual		Budget	Variance
Consolidated			FY 2020	Y	ear-to-Date	Y	ear-to-Date	,	vs Actual	Percentage
Povenues and Expenses Summary	,				Cui 10				10. 10	I Groomag
Nevenues and Expenses cannue.										l
Operating Budget vs. Actual										
	Notes									
Povonijos	NOLUE									
Operations Rate Revenue		\$	17.381,293	\$	7.242,205	\$	7.747,988	\$	505,783	6.98%
Lease Revenue		`	100,000	•	41,667	•	51,810	•	10,143	24.34%
Admin., Maint. & Engineering Revenue			478,000		199,167		215,163		15,996	8.03%
Other Revenues			562,478		234,366		507,114		272,749	116.38%
Use of Reserves			667,000		277,917		-		(277,917)	-100.00%
Interest Allocation		¢	31,500	¢	13,125	¢	19,602	¢	6,47/	49.35%
i otai Operating Revenues		Þ	19,220,271	φ	0,000,440	φ	0,341,077	φ	533,23 i	0.00 /0
_										
Expenses	٨	¢	0 760 070	ድ	0 600 507	¢	0 602 010	¢	7 570	0.010/
Personnel Cost	A R	\$	8,160,010 666 050	\$	3,690,501 277 521	ቅ	3,683,010	\$	0 / 5/ 0 (99 976)	U.∠170 32.06%
Protessional Services	ь С		2 020,000 2 020 612		۱ عد, ۱ ا∠ 1 211 922		200,401 1 202 322		(00,970) (51 400)	-32.0070 _4 14%
Ollier Services a Unaryes	n n		2,900,012		ے حق, 1,24 1,322 59 414		1,290,022 77 622		(31,400) (18,208)	-4.1470
Information Technology	F		352 750		146 979		142 893		4 086	2.78%
Pupplige	-		46 180		19 242		11 590		7 652	39 77%
Operations & Maintenance	F		5 069 478		2 112 283		2 182 743		(70 461)	-3 34%
Fouinment Purchases	Ġ		359.550		149.813		163 194		(13 381)	-8.93%
Depreciation	0		843.000		351.250		351 250		(10,00.)	0.00%
Reserve Transfers									-	
Total Operating Expenses		\$	19.220,291	\$	8.049,010	\$	8,272,119	\$	(223,110)	-2.77%
Operating Surplus/(Deficit)		\$	(20)	\$	(40,563)	\$	269,558	<u> </u>		
			i					•		
Debt Service Budget vs. Actual										
Revenues										
Debt Service Rate Revenue		\$	15.861,022	\$	6.608,759	\$	6.608,760	\$	1	0.00%
Septage Receiving Support - County		4	109,440	÷	45.600	+	109,441	Ŧ	63.841	140.00%
Buck Mountain Surcharge			125,900		52,458		69,600		17.142	32.68%
Buck Mountain Lease Revenue			1,600		667		2,120		1.453	217.99%
Trust Fund Interest			158,200		65,917		105,513		39.596	60.07%
Reserve Fund Interest			690,000		287,500		301,706		14,206	4.94%
Total Debt Service Revenues		\$	16,946,162	\$	7,060,901	\$	7,197,139	\$	136,238	1.93%
Naht Sarvica Caete										
Total Dringingl & Interact		¢	11 173 236	¢	6 030 515	¢	6 030 515	¢	_	0.00%
l otal Mincipal & Interest		Ф	14,473,230	Ф	0,030,515	Ф	0,030,010	Ф	-	4 0 4 %
Reserve Additions-Interest			725 000		201,000		301,100		(14,200)	-4.34 /0
Departie Additions CIP Growth			1 055 725		302,000 120 885		302,003 120 885		-	0.00%
Reserve Audilions-Or Growin Total Debt Service Costs		¢	1,000,720	¢	7 059 984	\$	7 074 189	¢	(14 206)	
Debt Service Surplus/(Deficit)		\$	2,201	\$	917	\$	122,950	ψ	(17,200)	-0.20 /0
		<u> </u>		_				:		
			Summar	у						
Total Revenues		\$	36.166,433	\$	15.069,347	\$	15.738,816	\$	669,469	4.44%
Total Expenses		Ŧ	36.164,252	+	15.108,993	-	15.346,309	+	(237,315)	-1.57%
Surplus/(Deficit)		\$	2,181	\$	(39,646)	\$	392,508	•	(,- ,,	-
• • •			· · · ·		`		· · · ·	;		

Rivanna Water & Sewer Authority Monthly Financial Statements - November 2019

<u>Urban Water Rate Center</u> Revenues and Expenses Summary			Budget FY 2020	Ye	Budget ear-to-Date	Y	Actual 'ear-to-Date		Budget vs. Actual	Variance Percentage
Operating Budget vs. Actual	Nut									
	NOTES									
Coordines Pate Payanua		¢	7 110 514	¢	2 066 050	¢	3 205 224	¢	220 175	11 100/
Operations Rate Revenue		\$	7,118,541	\$	2,900,059	\$	3,295,234	\$	329,175	11.10%
Miscellaneous			70,000		29,107		103 204		9,004 103 204	51.1570
Use of Reserves			600 000		250 000		100,204		(250,000)	-100.00%
Interest Allocation			13.200		5.500		8.174		2.674	48.62%
Total Operating Revenues		\$	7,801,741	\$	3,250,725	\$	3,534,953	\$	284,228	8.74%
Exponsos										
Personnel Cost		¢	1 861 134	¢	783 111	¢	786 432	¢	(2.088)	-0.38%
Professional Services	в	φ	207 200	φ	86 333	φ	135 324	φ	(2,900)	-0.30%
Other Services & Charges	c		574 963		239 568		314 212		(74,644)	-30.75%
Communications	D		65 100		200,000		34 543		(7 418)	-27.35%
Information Technology	-		77 000		32 083		21 504		10,580	32.98%
Supplies			6 100		2 542		1 844		698	27 46%
Operations & Maintenance	F		2 356 590		981 913		1 073 785		(91 872)	-9.36%
Equipment Purchases	G		50 500		21 042		38 478		(17,436)	-82 86%
Depreciation	•		300.000		125.000		125.000		-	0.00%
Reserve Transfers			-		-		-		-	
Subtotal Before Allocations		\$	5,498,587	\$	2,299,049	\$	2,531,121	\$	(232,072)	-10.09%
Allocation of Support Departments			2,303,155		970,754		967,749		3,005	0.31%
Total Operating Expenses		\$	7,801,742	\$	3,269,803	\$	3,498,870	\$	(229,067)	-7.01%
Operating Surplus/(Deficit)		\$	(1)	\$	(19,077)	\$	36,084	_		
								=		
Debt Service Budget vs. Actual										
Revenues										
Debt Service Rate Revenue		\$	6,178,598	\$	2,574,416	\$	2,574,415	\$	(1)	0.00%
Trust Fund Interest			54,000		22,500		35,980		13,480	59.91%
Reserve Fund Interest			387,000		161,250		169,257		8,007	4.97%
Buck Mountain Surcharge			125,900		52,458		69,600		17,142	32.68%
Lease Revenue			1,600		667		2,120		1,453	217.99%
Total Debt Service Revenues		\$	6,747,098	\$	2,811,291	\$	2,851,372	\$	40,081	1.43%
Daht Samiaa Caata										
Tetel Dringing & Interact		¢	E 222 409	¢	0 176 150	¢	2 176 159	¢		0.00%
Posenie Additione Interest		Φ	3,223,490	φ	2,170,430	φ	2,170,430	φ	-	0.00%
Reserve Additions-Interest			367,000		101,250		109,237		(0,007)	-4.97%
Posonyo Additions CIP Growth			736 600		306.017		206 017		-	0.00%
Total Dabt Sarvias Costs		¢	6 747 098	¢	2 811 291	¢	2 819 298	¢	(8 007)	-0.28%
Debt Service Surplus/(Deficit)		\$	-	\$	- 2,011,231	\$	32,074	Ψ	(0,007)	-0.2070
								=		
		Ra	te Center S	Sun	nmary					
Total Payanuan		¢	14 540 020	¢	6 062 016	¢	6 206 225	¢	224 200	E 2E0/
Total Exponses		¢	14,546,659	Ф	6,062,016	ф	0,300,323	Ф	324,309	0.00% 2.00%
Total Expenses			14,340,040		0,001,094		0,310,107	-	(237,074)	-3.90 %
Surplus/(Deficit)		\$	(1)	\$	(19,077)	\$	68,158			
		<u> </u>		·			,	-		
		¢	0.00			<u>~</u>	0.00			
Costs per 1000 Gallons		\$	2.30			\$	2.22			
Operating and DS		\$	4.28			\$	4.02			
Thousand Gallons Treated			3 397 700		1 415 708		1 572 904		157 196	11 10%
or			0,001,100		1,110,700		1,072,004		101,100	11.1070
Flow (MGD)			9.309				10.280			

Rivanna Water & Sewer Authority

Monthly Financial Statements - November 2019

<u>Crozet Water Rate Center</u> Revenues and Expenses Summary			Budget FY 2020	Ye	Budget ear-to-Date	Ye	Actual ear-to-Date	v	Budget s. Actual	Variance Percentage
Operating Budget vs. Actual										
Rovenues	Notes									
Operations Rate Revenue		\$	1 028 808	\$	428 670	\$	428 670	\$		0.00%
Lease Revenues		Ψ	30.000	Ψ	12.500	Ψ	13.559	Ψ	1.059	8.47%
Use of Reserves			52,000		21,667		-		(21,667)	-100.00%
Interest Allocation			1,800		750		1,137		387	51.59%
Total Operating Revenues		\$	1,112,608	\$	463,587	\$	443,366	\$	(20,221)	-4.36%
Expenses										
Personnel Cost		\$	300.589	\$	126.522	\$	125.493	\$	1.028	0.81%
Professional Services		Ŧ	12,850	Ŧ	5,354	•	-	Ŧ	5,354	100.00%
Other Services & Charges			137,816		57,423		44,820		12,604	21.95%
Communications			4,950		2,063		2,625		(563)	-27.28%
Information Technology			2,600		1,083		740		344	31.74%
Supplies			1,395		581		502		79	13.66%
Operations & Maintenance			398,400		166,000		96,602		69,398	41.81%
Equipment Purchases			6,500		2,708		4,249		(1,541)	-56.89%
Depreciation			30,000		12,500		12,500		-	0.00%
Reserve Transfers		<u>۴</u>	-	¢	-	¢	-	¢	-	00.470/
Subtotal Before Allocations		ф	895,100 217 513	ф	374,235	Ф	287,530	ф	80,704	23.17%
		\$	1 112 613	\$	465 937	\$	378 460	\$	87 477	18 77%
Operating Surplus//Deficit)		\$	(5)	\$	(2.351)	\$	64.905	Ψ	07,477	10.7770
Revenues Debt Service Rate Revenue Trust Fund Interest Reserve Fund Interest <i>Total Debt Service Revenues</i> Debt Service Costs Total Principal & Interest Reserve Additions-Interest Reserve Additions-CIP Growth <i>Total Debt Service Costs</i> Debt Service Surplus/(Deficit)		\$ \$ \$ \$	1,311,312 5,500 21,500 1,338,312 1,230,815 21,500 86,000 1,338,315 (3)	\$ \$ \$ \$	546,380 2,292 8,958 557,630 512,840 8,958 35,833 557,631 (1)	\$ \$ \$ \$	546,380 3,693 9,353 559,426 512,840 9,353 35,833 558,026 1,400	\$ \$ \$	1,401 395 1,796 (395) - (395)	0.00% 61.15% 4.40% 0.32% 0.00% -4.40% 0.00% -0.07%
	D	ata	Contor Su	mn	2011					
	K	ale	Center Su		idi y					
Total Revenues Total Expenses		\$	2,450,920 2,450,928	\$	1,021,217 1,023,568	\$	1,002,791 936,486	\$	(18,425) 87,082	-1.80% 8.51%
Surplus/(Deficit)		\$	(8)	\$	(2,352)	\$	66,305	:		
Costs per 1000 Gallons		\$	5 59			\$	3 94			
Operating and DS		\$	12.31			\$	9.75			
Thousand Gallons Treated			199,053		82,939		96,098		13,159	15.87%
Flow (MGD)			0.545				0.628			

Rivanna Water & Sewer Authority Monthly Financial Statements - November 2019

<u>Scottsville Water Rate Center</u> Revenues and Expenses Summary			Budget FY 2020	Ye	Budget ear-to-Date	Actual Year-to-Date		v	Budget s. Actual	Variance Percentage
Operating Budget vs. Actual										
Pavanuas	Notes									
Operations Rate Revenue		¢	E20 912	¢	217 005	¢	217 005	¢		0.00%
Use of Reserves		φ	15 000	φ	217,005	φ	217,005	ው ድ	- (6.250)	-100.00%
Interest Allocation			800		333		510	Ψ	(0,230)	52 90%
Total Operating Revenues		\$	536,612	\$	223,588	\$	217,515	\$	(6,074)	-2.72%
Expanses										
Barsonnal Cost		¢	107 3/0	¢	83 086	¢	82 201	¢	795	0.05%
Professional Services		φ	20 000	φ	8 3 3 3	φ	02,301	φ	8 3 3 3	100.00%
Other Services & Charges			20,000		13 883		8 3 2 4		5 5 5 8	40.00%
Communications			3 430		1 4 2 9		2 3 1 9		(890)	-62 25%
Information Technology			800		333		2,010		(67)	-02.20%
Sunnlies			410		171		142		29	17 11%
Operations & Maintenance			121 3/0		50 558		35 810		14 748	20.17%
Equipment Purchases			3 200		1 3 3 3		5 614		(4 280)	-321 03%
Depreciation			20,000		8 333		8 3 3 3		(4,200)	-521.05%
Reserve Transfers			20,000		0,000		- 0,000		(0)	0.0070
Subtotal Before Allocations		\$	399.847	\$	167,460	\$	143.242	\$	24.218	14.46%
Allocation of Support Departments		Ŧ	136,770	•	57,706	Ŧ	56,450	Ŧ	1,256	2.18%
Total Operating Expenses		\$	536,617	\$	225,167	\$	199,692	\$	25,474	11.31%
Operating Surplus/(Deficit)		\$	(5)	\$	(1,578)	\$	17,822	_		
Revenues Debt Service Rate Revenue Trust Fund Interest Reserve Fund Interest <i>Total Debt Service Revenues</i>		\$	128,749 1,700 8,400 138,849	\$	53,645 708 3,500 57,854	\$ \$	53,645 1,055 <u>3,620</u> 58,321	\$ \$	(0) 347 120 467	0.00% 48.96% 3.44% 0.81%
Debt Service Costs										
Total Principal & Interest		\$	129,524	\$	53,968	\$	53,968	\$	-	0.00%
Reserve Additions-Interest			8,400		3,500		3,620		(120)	
Reserve Additions-CIP Growth		_	925	*	385	*	385	*	- (4.00)	0.04%
I Otal Debt Service Costs Debt Service Surplus//Deficit)		م \$	130,049	م \$	57,054	<u>ֆ</u>	346	Þ	(120)	-0.21%
Debt der vice durphus/(Dentity		<u> </u>		Ψ		Ψ	040	-		
	R	ate	Center Su	ımn	nary					
		¢	675 161	¢	201 110	¢	775 025	¢	(5 607)	1 000/
Total Expanses		φ	675 469	φ	201,442	φ	210,000	φ	(0,007)	-1.99%
Total Expenses			075,400		203,020		257,000	-	25,554	0.90%
Surplus/(Deficit)		\$	(5)	\$	(1,578)	\$	18,169	-		
Costs per 1000 Gallons Operating and DS		\$ \$	29.56 37.21			\$ \$	28.06 36.21			
Thousand Gallons Treated			18,151		7,563		7,116		(447)	-5.91%
or Flow (MGD)			0.050				0.047			

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Rivanna Water & Sewer Authority Monthly Financial Statements - November 2019

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Urban Wastewater Rate Center			Budget		Budget		Actual		Budget	Variance
Revenues and Expenses Summary			FY 2020	Ŷ	'ear-to-Date	Y	ear-to-Date		/s. Actual	Percentage
Operating Budget vs. Actual										
	Notes									
Revenues										
Operations Rate Revenue		\$	8,033,620	\$	3,347,342	\$	3,523,949	\$	176,607	5.28%
Stone Robinson WWTP			22,478		9,366		7,433		(1,933)	-20.64%
Septage Acceptance			450,000		187,500		227,625		40,125	21.40%
Nutrient Credits			90,000		37,500		78,763		41,263	110.03%
			14 400		6 000		- 8 008		2 008	10.06%
Total Operating Revenues		\$	8.610.498	\$	3.587.708	\$	3.846.767	\$	2,990	7.22%
		<u> </u>	0,010,100	Ŧ	0,001,100	•		•	,	
Expenses		•		•	500.044	•	500.004	•	0.050	0.000/
Personnel Cost	Б	\$	1,281,463	\$	539,614	\$	536,264	\$	3,350	0.62%
Other Services & Charges	Б		2 020 825		72,917 946 177		147,402		(74,546)	-102.23%
Communications			2,030,023		40,177		6 3 1 8		(1,904)	-0.23%
Information Technology			62 500		26 042		15 210		10.832	41 59%
Supplies			2,700		1.125		204		921	81.84%
Operations & Maintenance	F		1.724.650		718.604		747.390		(28,786)	-4.01%
Equipment Purchases			77,500		32,292		28,509		3,783	11.71%
Depreciation			470,000		195,833		195,833		(0)	0.00%
Reserve Transfers			-		-				-	
Subtotal Before Allocations		\$	5,835,068	\$	2,436,949	\$	2,525,351	\$	(88,401)	-3.63%
Allocation of Support Departments			2,775,430		1,170,526		1,152,442		18,084	1.54%
Total Operating Expenses		\$	8,610,498	\$	3,607,475	\$	3,677,793	\$	(70,317)	-1.95%
Operating Surplus/(Deficit)		\$	(0)	\$	(19,768)	\$	168,974	=		
Debt Service Budget vs Actual	ľ									
Dest Gervice Budger VS. Actuar	I									
Revenues										
Debt Service Rate Revenue		\$	8,229,143	\$	3,428,810	\$	3,428,810	\$	0	0.00%
Septage Receiving Support - County			109,440		45,600		109,441		63,841	140.00%
Trust Fund Interest			96,900		40,375		64,679		24,304	60.20%
Reserve Fund Interest			266,900		111,208		116,760		5,552	4.99%
Total Debt Service Revenues		\$	8,702,383	\$	3,625,993	\$	3,719,690	\$	93,697	2.58%
Debt Service Costs										
Total Principal & Interest		\$	7 880 079	\$	3 283 366	\$	3 283 366	\$	_	0.00%
Reserve Additions-Interest		Ψ	266 900	Ψ	111 208	Ψ	116 760	Ψ	(5 552)	-4 99%
Debt Service Ratio Charge			325.000		135.417		135.417		(0,002)	0.00%
Reserve Additions-CIP Growth			230,400		96,000		96,000		-	0.00%
Total Debt Service Costs		\$	8,702,379	\$	3,625,991	\$	3,631,543	\$	(5,552)	-0.15%
Debt Service Surplus/(Deficit)		\$	4	\$	2	\$	88,147	=		
		Rat	e Center S	um	mary					
		Tiut		am	inary					
Total Revenues		\$	17,312,881	\$	7,213,700	\$	7,566,457	\$	352,757	4.89%
Total Expenses			17,312,877		7,233,467		7,309,336	_	(75,869)	-1.05%
Surplus/(Deficit)		\$	4	\$	(19,766)	\$	257,121	-		
Costs per 1000 Gallens		¢	2.54			¢	2 47			
Operating and DS		φ \$	2.04 5.11			φ \$	∠.47 1 01			
		φ	0.11			φ	4.91			
Thousand Gallons Treated			3,390.400		1,412.667		1,487.526		74,859	5.30%
or			,,		, ,		, , ,		,	
Flow (MGD)			9.289				9.722			

Rivanna Water & Sewer Authority

Monthly Financial Statements - November 2019

<u>Glenmore Wastewater Rate Center</u> Revenues and Expenses Summary			Budget FY 2020	Ye	Budget ear-to-Date	Y	Actual ear-to-Date	v	Budget s. Actual	Variance Percentage
Operating Budget vs. Actual										
	Notes									
Revenues										
Operations Rate Revenue		\$	370 524	\$	154 385	\$	154 385	\$	-	0 00%
Interest Allocation		φ	570,524 700	Ψ	292	φ	104,000 <u>4</u> 21	φ	- 140	47 86%
Total Operating Revenues		\$	371,224	\$	154,677	\$	154.816	\$	140	0.09%
Expanses			,	•	,	,	,	,		
Experises Demonpol Cost		ሱ	05 040	ሱ	40 4 40	ሱ	20 570	¢	E70	4 400/
Personner Cost Professional Services		\$	95,340	φ	40,143	Ф	39,5/3	Ф	5/U (2 104)	1.42%
Protessional Services			- 35 210		- 14 671		2,194 15 505		(2,194) (025)	6 200/
Communications			30,21U 2000		14,071		10,095		(920) (320)	-0.30%
Information Technology			3,000		1,230		1,002 8/10		(332)	-20.0470
Supplies			3,700		1,042		- 040		42	100 00%
Operations & Maintenance	F		119 450		40 771		- 72 573		(22 802)	-45 81%
Fouipment Purchases	•		2 900		1 208		1 000		2002)	17 24%
Depreciation			5 000		2 083		2 083		200	0.00%
Subtotal Before Allocations		\$	264.700	\$	110.709	\$	135,441	\$	(24.731)	-22.34%
Allocation of Support Departments		+	106,527	Ŧ	44,971	+	43.643	7	1,328	2.95%
Total Operating Expenses		\$	371,227	\$	155,680	\$	179,084	\$	(23,403)	-15.03%
Operating Surplus/(Deficit)		\$	(3)	\$	(1,003)	\$	(24,267)		. , ,	
Revenues Debt Service Rate Revenue Trust Fund Interest		\$	3,778	\$	1,574	\$	1,575	\$	1	0.05%
Reserve Fund Interest			3,100		1,292		1,509		217	16.79%
Total Debt Service Revenues		\$	6,878	\$	2,866	\$	3,084	\$	1	0.03%
Debt Service Costs Total Principal & Interest		\$	1,578	\$	658	\$	658	\$	-	0.00%
Reserve Additions-CIP Growth		\$	2,200						(0.1-)	
Reserve Additions-Interest		•	3,100	¢	1,292	¢	1,509	¢	(217)	-16.79%
I otal Debt Service Costs Debt Service Surplus//Deficit)		\$ \$	0,0/0 -	ֆ \$	1,949	φ \$	2,100	φ	(217)	-11.13%
		Ψ	-	Ψ	517	Ψ	510			
	F	Rate	Center Su	mm	ary					
TitlDimm		÷	070 100	¢	457 546	*	457 000	*	0.57	0.000
Total Expenses		\$	378,102 378,105	\$	157,543 157,629	\$	157,900 181,250	\$	357 (23,620)	0.23% -14.98%
Surplus/(Deficit)		\$	(3)	\$	(87)	\$	(23,350)	•		
Costs per 1000 Gallons Operating and DS		\$ \$	9.31 9.48			\$ \$	13.64 13.80			
Thousand Gallons Treated			39,892		16,622		13,131		(3,491)	-21.00%
or Flow (MGD)			0.109				0.086			

Rivanna Water & Sewer Authority Monthly Financial Statements - November 2019

<u>Scottsville Wastewater Rate Center</u> Revenues and Expenses Summary		Budget FY 2020	Y	Budget ear-to-Date	Ŷ	Actual ear-to-Date	V	Budget s. Actual	Variance Percentage
Operating Budget vs. Actual									
Note	es								
Revenues									
Operations Rate Revenue	\$	308,988	\$	128,745	\$	128,745	\$	-	0.00%
Interest Allocation		600		250		353		103	41.14%
Total Operating Revenues	\$	309,588	\$	128,995	\$	129,098	\$	103	0.08%
Expenses									
Personnel Cost	\$	95 366	\$	40 154	\$	39 573	\$	581	1 45%
Professional Services	Ψ	2 000	Ψ	833	Ψ		Ψ	833	100.00%
Other Services & Charges		28,000		11 667		9 749		1 917	16 43%
Communications		3 930		1 638		1 684		(47)	-2 87%
Information Technology		1 700		708		-		708	100.00%
Supplies		25		10		_		10	100.00%
Operations & Maintenance		58 850		24 521		23 047		1 474	6.01%
Equipment Purchases		3 200		1 333		1 000		333	25.00%
Depreciation		18 000		7,500		7,500			0.00%
Subtotal Before Allocations	\$	211 071	\$	88 364	\$	82 554	\$	5 810	6 58%
Allocation of Support Departments	Ŷ	98 523	Ŧ	41 584	Ŧ	40 504	Ŷ	1 079	2 60%
Total Operating Expenses	\$	309.594	\$	129.947	\$	123.058	\$	6.890	5.30%
Operating Surplus/(Deficit)	\$	(6)	\$	(952)	\$	6,040	+	-,	
Revenues Debt Service Rate Revenue Trust Fund Interest	\$	9,442 100	\$	3,934 42	\$	3,935 106	\$	1 64	0.02%
Reserve Fund Interest		3,100		1,292		1,207		(85)	-6.57%
Total Debt Service Revenues	\$	12,642	\$	5,268	\$	5,247	\$	(20)	-0.38%
Debt Service Costs Total Principal & Interest Reserve Additions-Interest	\$	7,742 3,100	\$	3,226 1,292	\$	3,226 1,207	\$	- 85	0.00%
Estimated New Principal & Interest	•	1,800	¢	750	*	/50	*	-	4 649/
I Otal Debt Service Costs	<u>\$</u>	12,042	\$	5,266	\$	5,163	Þ	60	1.01%
Dest Service Surplus/(Dench)	Ψ		Ψ		Ψ	00	:		
	Rate	e Center S	umi	mary					
Total David and	•	000.000	¢	404.000	¢	404.045	¢		0.000
Total Revenues Total Expenses	\$	322,230 322,236	\$	134,263 135,215	\$	134,345 128,241	\$	83 6,974	0.06% 5.16%
Surplus/(Deficit)	\$	(6)	\$	(952)	\$	6,105	:		
Costs per 1000 Gallons	\$	14 28			\$	16.53			
Operating and DS	\$	14.87			\$	17.23			
Thousand Gallons Treated	·	21,677		9,032		7,444		(1,588)	-17.58%
or									
Flow (MGD)		0.059				0.049			

Rivanna Water & Sewer Authority Monthly Financial Statements - November 2019

<u>Administration</u>			Budget FY 2020	Ŷ	Budget ear-to-Date	Ye	Actual ear-to-Date	v	Budget s. Actual	Variance Percentage
Operating Budget vs. Actual		<u> </u>								
	Notes									
Revenues										
Payment for Services SWA		\$	466,000	\$	194,167	\$	194,167	\$	(0)	0.00%
Miscellaneous Revenue			2,000		833		12,372		11,539	1384.65%
Total Operating Revenues		\$	468,000	\$	195,000	\$	206,539	\$	11,539	5.92%
Expenses										
Personnel Cost	Α	\$	1,841,351	\$	776,407	\$	811,561	\$	(35,155)	-4.53%
Professional Services			229,000		95,417		58,271		37,145	38.93%
Other Services & Charges			106,400		44,333		41,673		2,660	6.00%
Communications			18,500		7,708		9,069		(1,361)	-17.65%
Information Technology			174,250		72,604		69,842		2,763	3.80%
Supplies			21,500		8,958		6,681		2,277	25.42%
Operations & Maintenance	F		64,500		26,875		40,654		(13,779)	-51.27%
Equipment Purchases			24,000		10,000		6,173		3,827	38.27%
Depreciation			-		-		-		-	
Total Operating Expenses		\$	2,479,501	\$	1,042,302	\$	1,043,926	\$	(1,623)	-0.16%

Department Summary											
Net Costs Allocable to Rate Centers		\$	(2,011,501)	\$	(847,302)	\$	(837,387)	\$	(9,915)	1.17%	
Allocations to the Rate Centers											
Urban Water	44.00%	\$	885,060	\$	372,813	\$	368,450	\$	4,363		
Crozet Water	4.00%	\$	80,460		33,892		33,495		397		
Scottsville Water	2.00%	\$	40,230		16,946		16,748		198		
Urban Wastewater	48.00%	\$	965,520		406,705		401,946		4,759		
Glenmore Wastewater	1.00%	\$	20,115		8,473		8,374		99		
Scottsville Wastewater	1.00%	\$	20,115		8,473		8,374		99		
	100.00%	\$	2,011,501	\$	847,302	\$	837,387	\$	9,915		

Rivanna Water & Sewer Authority Monthly Financial Statements - November 2019

Maintenance

<u>Maintenance</u>			Budget		Budget		Actual		Budget	Variance
			FY 2020		Year-to-Date		Year-to-Date	V	s. Actual	Percentage
Operating Budget vs. Ac	tual									
	Note	s								
Revenues										
Payment for Services SWA		\$	10,000							
Miscellaneous Revenue		Ŧ	-		-		6,756		6,756	
Total Operat	ing Revenues	\$	10,000	\$	-	\$	6,756	\$	6,756	
Exponsos										
Personnel Cost		\$	1 345 633	\$	566 950	\$	533 215	\$	33 735	5 95%
Professional Services		Ψ	-	Ψ		Ψ		Ψ		0.0070
Other Services & Charges			14,500		6,042		6,357		(315)	-5.21%
Communications			17,600		7,333		11,052		(3,719)	-50.71%
Information Technology			6,500		2,708		2,277		431	15.93%
Supplies			2,000		833		123		710	85.23%
Operations & Maintenance			77,400		32,250		31,171		1,079	3.35%
Equipment Purchases			147,150		61,313		50,262		11,051	18.02%
Depreciation			-		-		-		-	
Total Operat	ing Expenses	\$	1,610,783	\$	677,429	\$	634,456	\$	42,972	6.34%
		Dep	oartment S	um	imary					
Net Costs Allocable to Rate Cen	ters	\$	(1,600,783)	\$	(677,429)	\$	(627,700)	\$	(36,216)	5.35%
Allocations to the Rate Center	<u>'S</u>	∩%¢	180 225	¢	203 220	¢	199 240	¢	1/ 010	
Crozot Water	30.00	0% p	400,235	φ	203,229	φ	21 070	φ	14,919	
Scottsville Water	3.50	0%	56 027		23,710		21,970		1 740	
	0.00	0 /0	00,027		20,710		21,070		1,740	
Urban Wastewater	56.50	0%	904.442		382.747		354,651		28.097	
Glenmore Wastewater	3.50	0%	56,027		23,710		21,970		1,740	
Scottsville Wastewater	3.00	0%	48,023		20,323		18,831		1,492	
	100.00	0% \$	1,600,783	\$	677,429	\$	627,700	\$	49,729	

Rivanna Water & Sewer Authority Monthly Financial Statements - November 2019

Laboratory

<u>Laboratory</u>			Budget FY 2020	Ye	Budget ear-to-Date	Ye	Actual ear-to-Date	v	Budget s. Actual	Variance Percentage
Operating Budget vs. Actual]									
Revenues	Notes									
N/A										
Expenses										
Personnel Cost Professional Services		\$	394,222	\$	166,146 -	\$	158,850 -	\$	7,296	4.39%
Other Services & Charges			9.230		3.846		276		3.570	92.83%
Communications			1,153		480		614		(133)	
Information Technology			2,500		1,042		-		1,042	100.00%
Supplies			2,150		896		218		677	75.61%
Operations & Maintenance			61,500		25,625		30,268		(4,643)	-18.12%
Equipment Purchases			2,200		917		708		208	22.73%
Depreciation			-		-		-		-	
Total Operating Expenses		\$	472,955	\$	198,952	\$	190,934	\$	8,017	4.03%
	Depa	rtme	ent Summ	ary	/					
Net Costs Allocable to Rate Centers		\$	(472,955)	\$	(198,952)	\$	(190,934)	\$	(8,017)	4.03%
Allocations to the Rate Centers										
Urban Water	44.00%	\$	208,100	\$	87,539	\$	84,011	\$	3,528	
Crozet Water	4.00%		18,918		7,958		7,637		321	
Scottsville Water	2.00%		9,459		3,979		3,819		160	
Urban Wastewater	47.00%		222,289		93,507		89,739		3,768	
Glenmore Wastewater	1.50%		7,094		2,984		2,864		120	
Scottsville Wastewater	1.50%		7,094		2,984		2,864		120	
	100.00%	\$	472,955	\$	198,952	\$	190,934	\$	8,017	

Rivanna Water & Sewer Authority Monthly Financial Statements - November 2019

Engineering

<u>Engineering</u>		Budget FY 2020		Budget Year-to-Date		Actual Year-to-Date		Budget s. Actual	Variance Percentage
Operating Budget vs. Actual									
Revenues									
Payment for Services SWA		\$	-	\$ -	\$	1,868	\$	1,868	
Total Operating Revenues		\$	-	\$ -	\$	1,868	\$	1,868	
Expenses									
Personnel Cost		\$	1,347,631	\$ 568,123	\$	569,747	\$	(1,624)	-0.29%
Professional Services	в		20,000	8,333		23,245		(14,912)	-178.94%
Other Services & Charges			10,350	4,313		4,155		157	3.65%
Communications			14,500	6,042		7,816		(1,775)	-29.38%
Information Technology	E		21,200	8,833		32,081		(23,248)	-263.18%
Supplies			9,800	4,083		1,875		2,208	54.07%
Operations & Maintenance			86,798	36,166		31,443		4,722	13.06%
Equipment Purchases			42,400	17,667		27,201		(9,534)	-53.97%
Depreciation & Capital Reserve Transfers									
Total Operating Expenses		\$	1,552,679	\$ 653,560	\$	697,564	\$	(44,005)	-6.73%

	Department Summary									
Net Costs Allocable to Rate Centers		\$	(1,552,679)	\$	(653,560)	\$	(695,696)	\$	45,873	-7.02%
Allocations to the Rate Centers										
Urban Water	47.00%	\$	729,759	\$	307,173	\$	326,977	\$	(19,804)	
Crozet Water	4.00%		62,107		26,142		27,828		(1,685)	
Scottsville Water	2.00%		31,054		13,071		13,914		(843)	
Urban Wastewater	44.00%		683,179		287,566		306,106		(18,540)	
Glenmore Wastewater	1.50%		23,290		9,803		10,435		(632)	
Scottsville Wastewater	1.50%		23,290		9,803		10,435		(632)	
	100.00%	\$	1,552,679	\$	653,560	\$	695,696	\$	(42,137)	
Rivanna Water and Sewer Authority Flow Graphs







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: DECEMBER 17, 2019

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

Under Construction

- 1. Crozet Water Treatment Plant Expansion
- 2. Valve Repair Replacement (Phase 2)
- 3. Scottsville WTP Finished Water Metering Improvements
- 4. Buck's Elbow Ground Storage Tank Chlorination System
- 5. Moores Creek Wetland Hydrology Improvements

Design and Bidding

- 6. Observatory Water Treatment Plant Expansion
- 7. South Rivanna Water Treatment Plant Improvements
- 8. Ragged Mountain Reservoir to Observatory Water Treatment Plant Raw Water Line and Raw Water Pump Station
- 9. Crozet Flow Equalization Tank
- 10. Beaver Creek Dam Alterations
- 11. Beaver Creek Raw Water Pump Station
- 12. Crozet Interceptor Pump Station Rebuilds
- 13. MC Digester Sludge Storage Improvements
- 14. MC Aluminum Slide Gate Replacements
- 15. Sugar Hollow Dam Rubber Crest Gate Replacement and Intake Tower Repairs
- 16. Route 29 Water Pump Station
- 17. South Rivanna Dam Gate Repairs

Planning and Studies

- 18. South Fork Rivanna Reservoir to Ragged Mountain Reservoir Water Line Right-of-Way
- 19. Urban Water Demand and Safe Yield Study
- 20. Urban Finished Water Infrastructure Master Plan
- 21. South Rivanna River Crossing and North Rivanna Transmission Main
- 22. Upper Schenks Branch Interceptor, Phase II
- 23. Asset Management Plan
- 24. Albemarle-Berkeley PS Basin Demolition and Capacity Analysis
- 25. Buck Mountain Master Plan

Other Significant Projects

- 26. Urgent and Emergency Repairs
- 27. Interceptor Sewer & Manhole Repair
- 28. Security Enhancements
- 29. NRWTP Raw Metering Improvements
- 30. NRWTP Sludge Lagoon Study and Needs Assessment
- 31. MCAWRRF Cogeneration System Analysis

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 Completion:	26%
Base Construction Contract +	
Change Order to Date = Current Value:	\$7,170,000- \$285,000 = \$6,885,000
Expected Completion Date:	May 2021
Total Capital Project Budget:	\$8,500,000

<u>Current Status</u>: Continuing work on the expansion of the Chemical Building, sanitary force main installation, and backwash lagoon improvements.

2. Valve Repair – Replacement (Phase 2)

Design Engineer:	RWSA / Dewberry
Construction Contractor:	Garney Construction
Construction Start:	May 2019
Percent Complete:	15%
Base Construction Contract +	
Change Orders to Date = Current Value:	843,460.00 - 333,525.21 + 178,322.33 =
	\$988,257.12

Expected Completion:	October 2020
Total Capital Project Budget:	\$1,132,914

Current Status: Valve replacements will resume in March.

3. <u>Scottsville WTP – Finished Water Metering Improvements</u>

Design Engineer:	Short Elliot Hendrickson (SEH)
Construction Contractor:	Anderson Construction Inc.
Construction Start:	November 2019
Percent Complete:	95%
Base Construction Contract +	
Change Orders to Date = Current Value:	\$115,500
Completion:	April 2020
Approved Capital Budget:	\$145,000

<u>Current Status</u>: Meter has been installed. Calibration underway.

4. Buck's Elbow Ground Storage Tank Chlorination System

Design Engineer:	Short Elliot Hendrickson (SEH)
Construction Contractor:	Littleton and Associates, Inc.
Construction Start:	September 2019
Percent Complete:	0%
Base Construction Contract +	
Change Orders to Date = Current Value:	\$186,000
Completion:	April 2020
Approved Capital Budget:	\$239,000

<u>Current Status</u>: Contractor will mobilize in January, prior to the delivery of the Chlorine Feed Building.

5. MC Wetland Hydrology Improvements

Design Engineer: Project Start:	VHB March 2019
Construction Start:	December 2019, ECS, Mid-Atlantic
Completion:	February 2020
Approved Capital Budget:	\$95,000

Current Status: Construction is underway.

Design and Bidding

6. Observatory Water Treatment Plant Expansion

Design Engineer:	Short Elliot Hendrickson, Inc. (SEH)
Project Start:	October 2017
Project Status:	Bidding
Construction Start:	March 2020
Completion:	March 2023
Approved Capital Budget:	\$19,700,000
Current Project Estimate:	\$25,500,000

Current Status: Construction bids are due in January 2020.

7. South Rivanna Water Treatment Plant Improvements

Short Elliot Hendrickson (SEH)
October 2017
Bidding
March 2020
March 2023
\$15,000,000

Current Status: Construction bids are due in January 2020.

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

Design Engineer:	Michael Baker International (Baker)
Project Start:	August 2018
Project Status:	Prelim Design & Easement Acquisition in Progress
Construction Start:	2022
Completion:	2026
Approved Capital Budget:	\$3,877,000
Current Project Estimate:	\$18,000,000

Current Status: Easement acquisitions are underway.

9. Crozet Flow Equalization Tank

Design Engineer:	Schnabel Engineering
Project Start:	October 2016
Project Status:	99% Design
Construction Start:	March 2020
Completion:	June 2021
Approved Capital Budget:	\$4,860,000

Current Status: Construction bids will be received in February 2020.

10. Beaver Creek Dam Alterations

Design Engineer:	Schnabel Engineering
Project Start:	February 2018
Project Status:	Final Design and Permitting Underway
Construction Start:	2023
Completion:	2026
Approved Capital Budget:	\$4,898,000
Current Project Estimate:	\$15,000,000

<u>Current Status</u>: Final design of the dam improvements is underway. Development of a Joint Permit Application for the new Pump Station, Intake, and Beaver Creek Dam Spillway Upgrades began in May 2019 and is expected to be completed in the summer of 2020. Staff will pursue federal funding for the project.

11. Beaver Creek Raw Water Pump Station and Intake

Design Engineer:	Hazen & Sawyer
Project Start:	August 2018
Project Status:	Permitting and Site Selection Work Underway
Construction Start:	2023
Completion:	2026
Approved Capital Budget:	\$4,138,000
Current Project Estimate:	\$8,000,000

<u>Current Status</u>: A site selection study for the new Raw Water Pump Station and intake will be completed by January 2020. Development of a Joint Permit Application for the new Pump Station, Intake, and Beaver Creek Dam Spillway Upgrades will be completed in the summer of 2020.

12. Crozet Interceptor Pump Station Rebuilds

Design Engineer:	RWSA
Project Start:	July 2018
Project Status:	50% Design
Construction Start:	2019
Completion:	2023
Approved Capital Budget:	\$545,000

<u>Current Status</u>: The Maintenance Department has begun pump replacement work associated with this overall project. Other improvements are being coordinated with the completion of the Crozet Flow Equalization Tank project.

13. MC Digester Sludge Storage Improvements

Design Engineer:	TBD
Project Start:	Summer 2019
Project Status:	Preliminary Design
Construction Start:	Spring 2020
Completion:	Winter 2020
Approved Capital Budget:	\$313,000

Current Status: Completing an interior inspection of the sludge storage tank in December.

14. MC Aluminum Slide Gate Replacements

Design Engineer:	Hazen and Sawyer
Project Start:	November 2018
Project Status:	Bidding
Construction Start:	March 2020
Completion:	December 2020
Approved Capital Budget:	\$470,000

Current Status: Construction bids will be received in February 2020.

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

Design Engineer:	Schnabel Engineering
Project Start:	January 2019
Project Status:	Design 40%
Construction Start:	2021
Completion:	2021
Approved Capital Budget:	\$1,140,000

<u>Current Status</u>: Schnabel is proceeding with design of the new rubber crest gate and compiling a list of recommended repairs based on recent site inspections. Construction anticipated to begin in late spring or summer of 2021.

16. Route 29 Water Pump Station and Piping

Short Elliot Hendrickson (SEH)
July 2019
Preliminary Design 15%
2021
2022
\$2,300,000

<u>Current Status</u>: Geotechnical investigations and Preliminary Engineering Report preparation are in progress.

17. South Rivanna Dam – Gate Repairs

Design Engineer:	N/A
Project Start:	July 2019
Project Status:	Contract Pending
Construction Start:	Spring- Fall 2020
Completion:	2020
Approved Capital Budget:	\$900,000

<u>Current Status</u>: RWSA anticipates completing repair or replacement of the gates with its on-call dam services contractor, Bander Smith, Inc. Gate repairs are currently expected to occur in late spring or summer of 2020 following a condition assessment of the gates this winter.

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
Approved Capital Budget:	\$2,295,000

<u>Current Status</u>: Acquisition efforts continue. Offers have been made to 9 of 11 private property owners, with 1 acceptance. Documents are also being prepared for 3 public property owners (VDOT, City, County School Board).

19. Urban Water Demand and Safe Yield Study

Design Engineer:	Hazen and Sawyer
Project Start:	November 2018
Project Status:	85% complete
Completion:	January 2020
Approved Capital Budget:	\$154,000

Current Status: Hazen is moving forward with the Safe Yield analysis and report writing.

20. Urban Finished Water Infrastructure Master Plan

Design Engineer:	Michael Baker International (Baker)
Project Start:	November 2018
Project Status:	55% complete
Completion:	June 2020
Approved Capital Budget:	\$253,000

Current Status: Model development and calibration is on-going and will incorporate the finalized water

demand information.

21. South Rivanna River Crossing and North Rivanna Transmission Main

Design Engineer:	Michael Baker International (Baker)
Project Start:	July 2020
Project Status:	Preliminary Design 5%
Construction Start:	2021
Completion:	2023
Approved Capital Budget:	\$5,340,000

<u>Current Status</u>: Design of the North Rivanna Transmission Main has begun as part of the Route 29 Water Pump Station Project.

22. Upper Schenks Branch Interceptor, Phase II

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

<u>Current Status</u>: A report documenting additional subsurface exploration work to gather rock information along the alignment in McIntire Road as well as across the ballfield was completed in October 2019. The report results are being reviewed with the City Utilities Department.

23. Asset Management Plan

Design Consultant:	GHD, Inc.
Project Start:	July 2018
Project Status:	Phase 1 – 99% Complete
	Phase 2 – 5% Complete
Completion:	2020
Approved Capital Budget:	\$500,000

<u>Current Status</u>: Development of an asset register, condition assessment protocols, and a pilot study of the asset management process is underway.

24. Albemarle-Berkeley PS Basin Demolition and Capacity Analysis

Design Consultant:	GHD, Inc.
Project Start:	September 2019
Project Status:	Design 10%
Completion:	2021

Approved Capital Budget:

\$200,000

<u>Current Status</u>: Staff is finalizing the Work Authorizations for the respective projects with the Consultant. Staff also continues to coordinate with Albemarle County Public Schools to find more information on their sewer system(s) that tie into the PS.

LPDA (Charlottesville)
November 2019
15% Complete
May 2020
\$56,000

Current Status: Study is underway.

Other Significant Projects

26. Urgent and Emergency Repairs

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

Project	Project Description	Approx. Cost
No.		
2018-06	South Rivanna Dam Apron and River Bank Repairs	\$200,000
2019-07	Urban Water Line Valve and Blow-off Repair	TBD
2019-09	Miscellaneous Water Main ARV Installations	\$50,000
2019-12	South Rivanna WTP 4-inch Seal Water Line Repair	\$30,000

- <u>South Rivanna Dam Apron and River Bank Repairs</u>: Repairs to the north and south concrete aprons will be designed by Schnabel Engineering and those services will be procured separately from the on-call contract.
- <u>Urban Water Line Valve and Blow-off Repair</u>: Faulconer Construction will be performing the valve replacement(s), as well as any piping/outlet modifications to the drain line. Staff is coordinating the logistics of the project, including the associated water main shutdown. While coordination for the initial repair on Mallside Forest Court is underway, a second, blow off repair has been identified on the Urban Water Line on Gasoline Alley. Staff has notified the Contractor and will begin coordinating this repair as well.
- <u>Miscellaneous Water Main ARV Installations</u>: Based on water system operations, two locations for additional air release valves have been identified. One will be installed on the Pantops Water

Line on Pen Park Lane and the other will be installed on the Stillhouse Water Line on Hydraulic Road. Staff is working with Faulconer Construction to have these valves installed this winter. Water main locations and depths have been confirmed, and installation of the ARV on Hydraulic Road is underway.

• <u>South Rivanna WTP 4-inch Seal Water Line Repair</u>: Faulconer Construction in concert with RWSA Maintenance staff responded to line break on the 4-inch raw water pump station seal water line on December 4th. A temporary bypass line was established and the deep line break, located adjacent to treatment basins, was repaired. Final restoration was completed December 9th.

27. Interceptor Sewer and Manhole Repair

Design Engineer:	Frazier Engineering
Construction Contractor:	IPR Northeast
Construction Start:	November 2017
Percent Complete:	40%
Base Construction Contract +	
Change Orders to Date = Current Value:	\$1,244,337.19
Expected Completion:	June 2021
Total Capital Project Budget:	\$1,088,330 (Urban) + \$625,000 (Crozet) =
	\$1,713,330

<u>Current Status</u>: Repairs to the Upper Morey Creek Interceptor are underway. The Contractor has mobilized to complete the latest round of Cured in Place Piping (CIPP) installations, as well as manhole rehabilitations.

28. <u>Security Enhancements</u>

Contractor:	Security 101
Construction Start:	August 2019
Percent Complete:	Design 10%
Completion:	2021
Approved Capital Budget:	\$1,000,000

<u>Current Status:</u> The initial Work Authorization will begin in February 2020 to include access control implementation at all exterior doors at MCAWRRF, as well as the motorized gates at all WTPs.

Staff are currently working on several O&M related projects within the water and wastewater systems as listed below:

#	Project Description	Total Approx. Value
30	NRWTP Raw Water Metering Improvements	\$135,000
31	NRWTP Sludge Lagoon Study and WTP Needs Assessment	\$60,100
32	MCAWRRF Cogeneration System Analysis	\$48,300

29. NRWTP Raw Water Metering Improvements

RWSA is working to have a magnetic flow meter installed on the raw water line in an exterior below grade vault.

30. NRWTP Sludge Lagoon Study and WTP Needs Assessment

The needs assessment report was completed in September 2019. Construction activities associated with these improvements are being evaluated as part of the CIP development process.

31. MCAWRRF Cogeneration System Analysis

Alternatives will be presented to the Board in early 2020 to replace, modify or eliminate the facility.

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 discharge 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.

In May 2018, a final version of the *Wholesale Metering Administration and Implementation Policy* was completed and forwarded to the ACSA and the City. RWSA terminated the construction contract with Linco, Inc. on April 2, 2018 and coordinated the remaining work in-house.

2. Valve Repair – Replacement (Phase 2)

Due to the recently completed Piney Mountain Tank Rehabilitation project and bypass pumping necessary for that work, two valves identified for replacement in the Valve Repair-Replacement Project have been unavailable to be replaced. As such, the Contractor demobilized from the project on May 21, 2019.

Isolation valves are critical for normal operation of the water distribution system and timely emergency response to water main breaks. Staff continuously reviews results from an ongoing Valve Exercising and Condition Assessment Program. This project will replace the highest-priority valves that are identified during the condition assessment as not operable and not repairable. Phase 2 will continue replacing inoperable and unrepairable valves in the North Rivanna Finished Water System, but it will also replace (and potentially repair) valves on the South Rivanna, Crozet, Pantops, and Southern Loop Finished Water Systems. Once all specified valves have been repaired/replaced in Phase 2, the focus will shift to replacing older isolation valves in subsequent phases.

A Request for Bids (RFB) was issued on November 6, 2018. RWSA staff opened bids for the project on December 11, 2018, and Garney Companies, Inc. was the apparent low bidder (\$843,460). The RWSA Board of Directors approved the bid award recommendation and Capital Improvement Plan Budget Amendment on January 22, 2019. A Notice to Proceed was issued on May 6, 2019.

Two (2) valve replacements were completed in May 2019; one (1) valve was replaced on the Crozet Waterline, and one (1) valve was replaced on the South Rivanna Waterline. Due to the unavailability of certain valves and lead times on selected materials, the contractor demobilized from the project in late May. The Capital Improvement Plan was further amended on October 22, 2019 to compensate the contractor for this extra demobilization/remobilization, as well as the installation of a necessary bypass line that will keep South Rivanna WTP in service during one of the valve replacements.

3. <u>Scottsville WTP – Finished Water Metering Improvements</u>

The Scottsville WTP is permitted to provide up to 0.25 MGD of potable drinking water to ACSA customers in the Scottsville service area. After water has been treated in the plant, it is collected in an existing clearwell, which was constructed with the original facility. From the clearwell, the water is pumped into the distribution system by one of the two high service pumps. The flow from these pumps is not metered. In order to keep a record of the total flow entering the Scottsville system, plant operators must periodically conduct draw-down tests to verify the pumping rate of each of the two pumps. The total flow is then calculated based on the run time of each pump. This method of measuring flow is not accurate, as the pumping rate will vary based on the clearwell level and the hydraulic grade line of the distribution system. In addition, the Virginia Department of Health has indicated that the flow should be metered during recent conversations related to the disinfection profile calculation throughout the plant. The purpose of this project is to install a finished water meter at the plant. Construction bids were opened on May 29, 2019. Notice of Award was provided to the contractor on July 9, 2019 and a Notice to Proceed was provided on August 26, 2019.

4. Buck's Elbow Ground Storage Tank Chlorination System

The Contract Documents have been executed by both parties, and a Notice to Proceed (NTP) was issued on September 9, 2019.

The two million-gallon Bucks Elbow Ground Storage Tank provides finished water storage for the Crozet Area. Historically, RWSA has experienced low chlorine residuals in the tank during the warm weather months due to water age and stratification. When chlorine residuals drop, RWSA must manually feed chlorine into the tank. This meant that staff had to bring all required pumping infrastructure to the site and climb the tank to access the injection point(s). To enhance the efficiency and safety of this process, SEH is assisting RWSA with the design of a chlorine feed system that is capable of one-person operation, will not require tank climbing or confined space entry into the adjacent altitude valve vault, and will minimize overall chemical exposure risk to RWSA staff. An active mixing system will also be installed at the Buck's Elbow Ground Storage Tank as a part of the work to supplement the existing passive mixing system. This will ensure that the tank is being appropriately mixed during the chlorine feed process and will decrease overall stratification in the tank.

SEH completed an update to the project's original Alternatives Analysis (completed in Winter 2017 as an O&M Project) and held a review meeting with RWSA Engineering and Operations staff during

the week of May 6, 2019. This document was submitted to VDH for preliminary review following the meeting. Bidding documents were finalized, and the Request for Bids was issued on June 20, 2019. Bids were opened on July 11, 2019, and the apparent low bidder was Littleton and Associates, Inc. (\$186,000). A Bid Award Recommendation and Capital Improvement Plan Amendment was approved by the Board of Directors on July 23, 2019. A Notice of Award was issue to Littleton and Associates, Inc. on August 6, 2019. The Notice to Proceed was issued on September 9, 2019.

5. MC Wetland Hydrology Improvements

As part of the Ragged Mountain project, RWSA was required to mitigate for impacts to streams and wetlands. The stream mitigation was completed on the Buck Mtn. property, and the wetland mitigation site is located along Moores Creek on Franklin St. RWSA has been monitoring the mitigation sites, as required by the project permit, since they were constructed in 2014. Reports on the success of the sites are required by the Department of Environmental Quality (DEQ) for 10 years. From this monitoring, it was determined that the wetland is holding more water than is ideal for its function. VHB designed a Hydrology Improvement Plan for the site, which was approved by DEQ. RWSA has obtained the necessary County permits for the improvements (i.e., Erosion and Sediment Control permit).

Design and Bidding

6. Observatory Water Treatment Plant Expansion

An informational meeting with prospective contractors was held on September 26, 2019 to maximize interest in the project. A project kickoff meeting with staff was held on November 14, 2018 and 30% design documents were provided in February. A Value Engineering Workshop took place the week of April 8, 2019, and a memo summarizing the results has being completed. Agreed upon results were incorporated into the project. This project will upgrade the plant from 7.7 to 10 MGD capacity. Costs to upgrade the plant to 12 MGD were determined to be too high at this time. Much of the Observatory Water Treatment Plant is original to the 1953 construction. A Condition Assessment Report was completed by SEH in October of 2013. The approved Capital Improvement Plan project was based on the findings from this report. The flocculator systems were replaced and upgraded as part of the Drinking Water Activated Carbon and WTP Improvements project (GAC). Four additional GAC contactors will be included in the design.

7. South Rivanna Water Treatment Plant Improvements

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 13, 2018 and 30% design documents were provided in February. A Value Engineering Workshop took place the week of April 8th and a memo summarizing the results has being completed. Agreed upon results were incorporated into the project. The projects herein include: 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.

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

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

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

9. 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. A data collection period has been completed which includes a wetlands investigation of the project site and a topographic survey of the site has also been completed.

10. Beaver Creek Dam Alterations

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.

11. Beaver Creek Raw Water Pump Station and Intake

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.

12. Crozet Interceptor Pump Station Rebuilds

The Crozet Interceptor Pump Stations were constructed in the 1980's and many of the components are still original. The project will include the replacement of pumps and valves at Pump Station No. 2 in order to improve pumping capabilities at this location and provide spare parts for the pumps at Pump Station No. 1. This work will also include roof replacements at all four pump stations, siding replacement for the wet well enclosure at Pump Station No. 3, and installation of a new water well at Pump Station No. 3. Components of this project will be coordinated and timed to properly coincide with the Crozet Flow Equalization Tank project.

13. MC Digester Sludge Storage Improvements

With the second centrifuge installation, additional capacity for storage of digested sludge would provide the Authority operational flexibility it does not currently have. Additionally, the sole sludge storage tank at the MCAWRRF was constructed in 1959 of reinforced concrete and is in need of repairs. This project would convert one of the three existing anaerobic digesters (Digester No. 1) into a sludge storage tank through piping modifications, and would provide redundancy to the existing sludge storage tank so it can be removed from service, cleaned, inspected, and repaired with minimal

impact to the existing sludge dewatering operations. The piping configuration would also allow flexibility for the anaerobic digester to be used as either an anaerobic digester or sludge storage tank as needed for operations. The scope of work would include piping modifications, hydraulic improvements, tank safety improvements such as handrail and lights, and structural improvements to the existing sludge storage tank roof.

14. MC Aluminum Slide Gate Replacements

Several large aluminum slide gates are located at the influent side of the Moores Creek Pump Station. These gates allow staff to stop or divert flow to perform maintenance activities. After repeated attempts to repair the deteriorated gates, it is now necessary to replace the gates and modify the gate arrangement. There are also several deteriorated gates at the Ultraviolent disinfection facility that leak water, causing a reduced capacity of the facility. Replacement of these gates will restore the process to full capacity.

15. 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 will include repairs to the intake gate valves and tower walls, including repair or replacement of intake trash racks, and sealing/grouting of minor concrete wall cracks.

16. Route 29 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.

17. <u>South Rivanna Dam – Gate Repairs</u>

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.

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 Water Demand and Safe Yield Study

The City of Charlottesville, Albemarle County Service Authority, and RWSA entered into the Ragged Mountain Dam Project Agreement in 2012. This Agreement included provisions to monitor the bathymetric capacity of the Urban water reservoirs as well as a requirement to conduct reoccurring demand analysis, demand forecasting and safe yield evaluations. This study will evaluate and calculate current and future demands and present safe yield. Per the project Agreement, these analyses shall be completed by calendar year 2020.

20. 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.

21. South Rivanna River Crossing and North Rivanna Transmission Main

An update to the Airport Zone Study Report was completed in summer of 2018, confirming the need for and timing of the river crossing and transmission main. As work associated with the Route 29 Pump Station begins, improvements to the North Rivanna Transmission Main as needed to facilitate that project, will be included in that project. 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 Airport Road Pump Station Site, RWSA plans to construct a new river crossing at the South Fork Rivanna River and two "gap" sections of 24-inch water main between the already completed sections. Much of the new water main route is within VDOT right-of-way; however, acquisition of right-ofway will be required at the river crossing and on the Kohl's Property at Hollymead Town Center. The North Rivanna Transmission Main improvements portion of this CIP project have been moved to the Route 29 Pump Station project to allow for the connection of that pump station to the distribution system. These project changes will be formalized during the upcoming CIP development process.

22. Upper Schenks Branch Interceptor, Phase II

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

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

23. 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.

24. <u>Albemarle-Berkeley PS Basin Demolition and Capacity Analysis</u> Historically, the Albemarle Berkley Pump Station was co-located within an open-air basin that occasionally collected sewage during power outages. With the addition of a back-up power generator, the basin no longer serves a technical purpose. Given the proximity of the deteriorating structure to school property, this project serves to demolish and fill the area of the existing basin. In addition, due

to unacceptably high run times on the pumps themselves, a second part of the overall project will be to perform a capacity analysis of the PS, given the current and projected upstream conditions.

25. 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.

Other Significant Projects

26. <u>Urgent and Emergency Repairs</u>

• 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.

<u>Miscellaneous Water Main ARV Installations</u>

Based on water system operations, two locations for additional air release valves have been identified. One will be installed on the Pantops Water Line on Pen Park Lane and the other will be installed on the Stillhouse Water Line on Hydraulic Road. Staff is working with Faulconer Construction to have these valves installed this winter. Water main locations and depths are being confirmed and then construction activities will begin.

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.

28. Security Enhancements

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

RWSA Engineering staff held a meeting with Operations staff to discuss overall project needs and priorities in October 2018. Meetings with ACSA and City staff were held in Fall/Winter 2018-2019 to discuss how access control and intrusion detection systems have been implemented into to the day-to-day operations of the two utilities. A Request for Proposal (RFP) for an Implementer to facilitate selection of an access control system, confirmation of design requirements based upon RWSA's facilities and project goals, and installation of the selected system was issued on June 6, 2019. RWSA conducted a Pre-Proposal Meeting on June 14, 2019, and proposals were opened on June 27, 2019. Interviews were conducted on July 15-16, 2019, and a Contract Award Recommendation was brought to the Board on July 23, 2019.

29. NRWTP Raw Water Metering Improvements

The NRWTP is permitted to provide up to 2.0 MGD of potable drinking water to customers located in the Urban service area. After water is pumped from the raw water pump station on the North Fork Rivanna River, the raw water flow is metered by an orifice plate, or insert style meter, prior to entering the rapid mix chamber. The meter is located behind the existing powdered activated carbon feed system and is difficult to access. In addition, RWSA recognizes that the accuracy of this style of meter is reduced by laying length conditions in comparison to modern magnetic flow meters which have been installed at other locations.

30. NRWTP Sludge Lagoon Study and WTP Needs Assessment

The two lagoons or settling ponds at the plant are earthen basins designed to capture and hold residuals generated through the treatment process as well as periodic draining and washdown of the sedimentation and flocculation basins. The basins were designed to allow all the residuals and solids to settle out and then the clarified water to be decanted and conveyed to the river. The operational use of these lagoons is not as originally intended, and the Virginia Department of Environmental Quality has concerns regarding their condition. A study is being performed to determine how they can be improved, and other locations on site that may be less prone to flood waters. Under this project, a needs assessment at the plant will be also be performed and updated.

31. MCAWRRF Cogeneration System Analysis

The MCAWRRF currently utilizes a cogeneration facility which accepts digester gas and uses it to create electricity and heat. The facility was put into operation in 2011. The generator supplies power back to the plant electrical distribution system providing energy usage savings through offsetting usage with the electric utility. Unfortunately, there have been a number of issues associated with operation of the generator including, expensive and proprietary maintenance services and temperature issues. With a significant and expensive scheduled maintenance event forthcoming, RWSA wanted to conduct a study to determine if these issues could be resolved or if there was a more efficient way to utilize the digester gas. This study will evaluate options for improvements to the existing system or new systems that could be implemented along with estimated costs and returns on investment. A final report has been completed, and RWSA is evaluating the alternatives.



MEMORANDUM

TO:RIVANNA WATER & SEWER AUTHORITY
BOARD OF DIRECTORSFROM:JENNIFER WHITAKER, DIRECTOR OF ENGINEERING &
MAINTENANCEREVIEWED BY:BILL MAWYER, EXECUTIVE DIRECTORSUBJECT:WHOLESALE METERING REPORT FOR NOVEMBER 2019DATE:DECEMBER 17, 2019

The monthly and average daily water usage by the City and the ACSA for November 2019 were as follows:

	Month	Daily Average	
City Usage (gal)	128,412,270	4,280,409	49.8%
ACSA Usage (gal)	129,372,547	4,312,418	50.2%
Total (gal)	257,784,817	8,592,827	

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 December 2018*), 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 is 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.

**As of the publish date for this report, Meter Site 11 was experiencing reporting issues, so the monthly reading at that site for November 2019 was estimated based on the average of the prior three months of data, per the implementation policy procedures.







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 NOVEMBER 2019

DATE: DECEMBER 17, 2019

WATER OPERATIONS:

The average daily/monthly total water distributed for November 2019 was as follows:

Water Treatment Plant	Average Daily Production (MGD)	Total Monthly Production (MG)	Maximum Daily Production in the Month (MGD)
Observatory	1.03	29.91	1.81 (11/08/19)
South Rivanna	7.30	218.88	8.16 (11/18/19)
North Rivanna	<u>0.341</u>	<u>10.22</u>	0.38 (11/08/19)
Urban Total	8.67	259.01	9.48 (11/08/19)
Crozet	0.548	16.44	0.76 (11/03/19)
Scottsville	<u>0.051</u>	<u>1.46</u>	0.065 (11/21/19)
RWSA Total	9.27	276.91	

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

Status of Reservoirs (as of December 9, 2019):

- ▶ Urban Reservoirs: 94.5 % of Total Useable Capacity
- Ragged Mountain Reservoir is -0.44 feet (98 %)
- Sugar Hollow Reservoir is -9.08 feet (65%)
- 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 November 2019. Performance of the WRRFs in November was as follows compared to the respective VDEQ permit limits:

WRRF	Average Daily Effluent	Average CBOD5 (ppm)		Average Total Suspended Solids (ppm)		Average Ammonia (ppm)	
Flow (mgd)		RESULT	LIMIT	RESULT	LIMIT	RESULT	LIMIT
Moores Creek	9.1	1	11	0.2	22	0.2	2.2
Glenmore	0.091	3.0	15	2.0	30	NR	NL
Scottsville	0.048	2.0	25	9.0	30	NR	NL
Stone Robinson	0.001	NR	30	NR	30	NR	NL

NR = Not Required

NL = No Limit

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

Nutrient discharges at the Moores Creek AWRRF were as follows for November 2019.

State Annual . (lb./yr.) F	Allocation Permit	Average Monthly Allocation (lb./mo.) *	Moores Creek Discharge November (lb./mo.)	Performance as % of monthly average Allocation*	Year to Date Performance as % of annual allocation
Nitrogen	282,994	23,583	10,514	45%	52%
Phosphorous	18,525	1,544	131	8%	36%

*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





WHOLESALE METERING PROGRAM

PRESENTED TO THE BOARD OF DIRECTORS

December 17, 2019 Victoria Fort, P.E.



Project Overview



The 2012 Water Cost Allocation Agreement between the City and the ACSA:

- Allocated additional water supply stored in the expanded Ragged Mtn Reservoir
- Designated how the two agencies would share costs of the Community Water Supply Plan projects
 - New Ragged Mtn Dam, 85% ACSA / 15% City
 - Pipeline connecting S. Rivanna and Ragged Mtn reservoirs, 80% ACSA / 20% City
 - Dredging the S. Rivanna Reservoir, 50 % / 50%
- Required RWSA to monitor each agency's actual water usage by installing, operating, and maintaining 25 meters in the water distribution system

Project Timeline



Meter Site 29 Construction – Pen Park Lane

- August 2012 Engineering Contract Awarded
- September 2013 Metering alternatives study completed, Jurisdictional Approach selected
- November 2015 Construction Award, \$2.2 M
- April 2018 Contract Termination
- April 2018-March 2019 Punchlist/Troubleshooting
- May 2018 Wholesale Metering Administration and Implementation Policy completed
- March 2019-October 2019 Calibration and Project Implementation
- Total CIP Project Expenditures \$3.2 M

Punchlist Completion and Meter Troubleshooting Meter Site 15 Construction — Ivy Road





Metering Instrumentation at Site 14 – Old Lynchburg Road

Calibration Challenges



Meter Calibration at Site 26 – Seminole Trail

- Calibration performed in March, June, and October of 2019
- Access challenges (night work, lane closures). Significant coordination with City and ACSA
- Learning curve for calibration of specific meter types
- Months spent ruling out possible causes of error (improper grounding, entrapped air, etc.)
- Several meters replaced due to inaccuracy



20" meter and water-filled vault at Site 24 – Greenbrier Terrace

Monthly Data and Reporting



- Data retrieved monthly from multiple sources:
 - Badger Beacon AMA website (24 of 25 Jurisdictional Meters)
 - RWSA SCADA (1 of 25 Jurisdictional Meters)
 - Monthly Operations Summary (production data for Urban WTP's)
 - City and ACSA "Swap Meter" usage data
 - Observatory WTP "Potable Water Meter" monthly read
- Monthly data backed up and input into Monthly Water Allocation Worksheet to determine City and ACSA Usage



	Month	Daily Average	
City Usage (gal)	127,962,270	4,265,409	49.7%
ACSA Usage (gal)	129,374,547	4,312,485	50.3%
Total (gal)	257,336,817	8,577,894	

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 Raged 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 December 2018*), and that usage relative to the maximum allocation for each party (6.71 MGD for the City and 11.99 MGD For ACSA).

*Usage data through October 2019 is 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.

NOTE: As of the publish date for this report, Meter Site 11 was experiencing reporting issues, so the monthly reading at that site for November 2019 was estimated based on the average of the prior three months of data.






Next Steps



- Next Calibration Testing by July 2020
- Annual "True Up" in July of each Year
 - First official true-up in July of 2021
- Periodic Program Audits and Updates as needed

Calibration Testing at Meter Site 32 – Fontaine Avenue

> Meter Site 20 – Trader Joe's



Questions?

Agenda

- Project Overview
- Project Timeline
- Punchlist Completion and Meter Troubleshooting
- Calibration Challenges
- Monthly Data and Reporting
- Next Steps

Industrial Waste Pre-Treatment Program



Presented to the RWSA Board of Directors

BY: DR. BILL MORRIS, LABORATORY MANAGER DECEMBER 17, 2019



Purpose of the program

- •Protect the sewer system and the processes in the wastewater treatment plants with discharge limits
- Required by Environmental Protection Agency and Virginia Department of Environmental Quality (VDEQ)



Virginia Pollutant Discharge Elimination System

- •VDEQ Requirements:
 - Implement a pretreatment program that complies with the EPA's Clean Water Act
 - •Submit an annual report on the pretreatment program by January 31st of each year.

Discharge limits

- •Pretreatment program looks at the following constituents:
 - Fats Oils and Greases (FOG)
 - Metals (Manganese, Copper, Lead, heavy metals)
 - Nutrients (Nitrogen and Phosphorus)
 - pH (discharge must be between 6.0 and 9.0)
 - Biochemical Oxygen Demand (BOD)



Identifying Industrial Users

•Significant Industrial User (SIU)

- Categorical (metal finishing, semiconductor manufacturing, etc.)
- Non-categorical (discharges more than 25,000 gal/day or has potential to adversely affect our treatment process)
- Businesses with processes that discharge pollutants of concern to the sewer system
 - Restaurants
 - Breweries, Wineries
 - Dentists
 - Dry Cleaners

Current Industrial Permits

• We have 3 SIUs we are monitoring in the pretreatment program:



•New permits were issued for all 3 on July 1, 2019 and will expire on June 30, 2022.

•Each industry is required to submit a semi-annual report for the periods ending in June and December of each year.

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QUESTIONNAIRE for COMMERCIAL and INDUSTRIAL **PROCESS WASTEWATER DISCHARGERS to the SEWER SYSTEMS** of the Rivanna Water & Sewer Authority (RWSA), City of Charlottesville (City),

and Albemarie County Service Authority (ACSA)

1. Company information	below:		
Business Name:			
Physical Address:		_	
Mailing Address:			
Phone No.: () -	Fax No.: () -	Cell No.: () -
Email:		Website:	
2. Name, address, and tel above in item 1	ephone number of commercia	l/production/man	ufacturing facility, if different than
Business Name:		and a second	
Physical Address:			
Mailing Address:			
Phone No.: () -	Fax No.: () -	Cell No.: () -
Email:		Website:	
 Person authorized to re 	present this firm in official de	alings with RWSA/	City/ACSA:
Name:			
Title:			
Mailing Address:			
Phone No.: () -	Fax No.: () -	Cell No.: () -
Email:			
A			
4. Facility days and hours	of operation:		
Identify the type of bus	iness or activities conducted:		
Automotive Repair	Printing		Warehousing
Machine Shop	Food Processing		Vehicle Washing
Electroplating	Manufacturing (type):		U Other:
L Dry cleaning	Provide contribution of the second seco		

6. Standard Industrial Classification (SIC) Code(s) and/or North American Industry Classification System (NAICS) Code(s):

7. Will hot food service be available at the facility?

Yes No

8. List any environmental permits held for this facility:

9. Check the type(s) of wastewater your facility discharges and indicate the measured (M) or estimated (E) rate of discharge:

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	Rate of Discharge	
Waste Source	(gallons per day)	Check One
Domestic wastes (restrooms, showers, etc.)		M or E
Cooling water, non-contact		M or E
Boiler/tower blowdown		
Process water (describe below)		
Equipment/facility washdown		
Air pollution control unit		M or E
Stormwater runoff to sanitary sewer		M or E
Kitchen waste		M or E
Other (describe below)		
10. Certification:	·····	
I have personally examined and am familiar with the info is true, accurate and complete. In addition, I am aware t information including immediate suspension of service a	rmation given and believe tha hat there are significant penal nd other penalties authorized	t the submitted information ties for submitting false by law.
Business Name (type or print)		
Authorized Representative Name (type or print)	Sig	neture

Title

Questions

