



RWSA BOARD OF DIRECTORS
Minutes of Regular Meeting
June 24, 2025

A regular meeting of the Rivanna Water and Sewer Authority (RWSA) Board of Directors was held on Tuesday, June 24, 2025, at 2:15 p.m. at the Rivanna Administration Building, (2nd Floor Conference Room), 695 Moores Creek Lane, Charlottesville, VA 22902.

Board Members Present: Mike Gaffney, Sam Sanders, Jeff Richardson, Ann Mallek, Brian Pinkston, Quin Lunsford, Lauren Hildebrand.

Board Members Absent: None.

Rivanna Staff Present: Bill Mawyer, David Tungate, Lonnie Wood, Jennifer Whitaker, Daniel Campbell, Michelle Simpson, Austin Marrs, Betsy Nemeth, Westley Kern, Leah Beard, Deborah Anama, Jacob Woodson.

Attorney(s) Present: Valerie Long

1. CALL TO ORDER

Mr. Gaffney convened the June 24, 2025, regular meeting of the Board of Directors of the Rivanna Water and Sewer Authority at 2:15 p.m.

2. AGENDA APPROVAL

Ms. Mallek moved that the Board of Directors approve the agenda as presented. Mr. Pinkston seconded the motion, which carried unanimously (7-0).

3. MINUTES OF PREVIOUS BOARD MEETING ON MAY 27, 2025

Mr. Pinkston noted that these minutes incorrectly referred to “The Board of Supervisors” rather than “The Board of Directors,” so he would request that any references to “The Board of Supervisors” be corrected to “The Board of Directors.”

Mr. Pinkston moved that the Board of Directors approve the minutes of the May 27, 2025 meeting as amended. Ms. Mallek seconded the motion, which carried unanimously (7-0).

4. RECOGNITION

a. Resolution of Appreciation for Gregory L. Marrs, Maintenance Manager

Resolution of Appreciation for Gregory L. Marrs

WHEREAS Mr. Marrs has served in the Maintenance Department in various positions including Laborer, Utility Worker, Painter, Mechanic 3, Vehicle and Equipment Mechanic,

47 *Mechanic 2, Mechanic 1, Maintenance Supervisor, Assistant Maintenance Manager, and*
48 *Maintenance Manager for the Rivanna Water and Sewer Authority for 42 years; and*
49

50 *WHEREAS over the same period of 42 years, Mr. Marrs' knowledge and understanding*
51 *of the Authority's Maintenance activities as well as his unwavering dedication and loyalty to the*
52 *Authority have positively impacted the Authority, its employees, and its customers; and*
53

54 *WHEREAS Mr. Marrs' authentic commitment to the Authority's values of Integrity,*
55 *Teamwork, Respect and Quality has guided his leadership in building a professional, responsive*
56 *and dynamic Maintenance Department that has provided outstanding support for the Authority*
57 *as well as our community.*
58

59 *NOW, THEREFORE, BE IT RESOLVED that the Rivanna Water and Sewer Authority*
60 *Board of Directors recognizes, thanks, and commends Mr. Marrs for his many years of*
61 *distinguished service, efforts, and achievements, and presents this Resolution as a token of*
62 *esteem, with its best wishes in his retirement.*
63

64 *BE IT FURTHER RESOLVED that this Resolution be entered upon the permanent*
65 *Minutes of the Rivanna Water and Sewer Authority.*
66

67 *Michael Gaffney, Chairman*
68 *Lauren Hildebrand*
69 *Quin Lunsford*
70 *Ann Mallek*
71 *Brian Pinkston*
72 *Jeff Richardson*
73 *Sam Sanders*
74

75 **Ms. Mallek moved that the Board of Directors adopt the Resolution of Appreciation for**
76 **Gregory L. Marrs, Maintenance Manager. Mr. Sanders seconded the motion, which**
77 **carried unanimously (7-0).**
78

79 Mr. Mawyer stated that Greg had always done a great job and was a nice person to work with,
80 which greatly enhanced the overall process when colleagues could collaborate, communicate,
81 and resolve issues. He stated that Greg's 42 years of experience as a manager and employee had
82 been exemplary, covering nearly every service provided by the Authorities. He stated that they
83 truly appreciated his efforts and would miss him.
84

85 Mr. Marrs stated that he was ready and eager for his retirement.
86

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

88

89 Mr. Mawyer thanked everyone for coming today and helping them move forward as they had
90 transformational projects to consider for approval and planned to discuss many important things
91 happening for the Rivanna Water and Sewer Authority. He stated that with Mr. Marrs'
92 retirement, he also wanted to congratulate Mr. Steve Minnis, Sr., who was selected as the new

93 Maintenance Manager through a competitive process. He stated that Mr. Minnis most recently
94 served as the Assistant Maintenance Manager during his 33 years of service at Rivanna. He
95 congratulated Mr. Minnis and looked forward to seeing more of his outstanding efforts.
96

97 Mr. Mawyer stated that he also wanted to recognize Conrad Wilson for earning his Class 2
98 Wastewater Operator license, and Josh Bowen for becoming a Certified Public Infrastructure
99 Inspector by the American Public Works Association. He stated that additionally, he wanted to
100 congratulate Duane Houchens for completing his Associate's Degree in Applied Science from
101 Mountain Empire Community College. He also welcomed the summer interns, Hannah Young,
102 their IT/SCADA intern, and Sofia Beard, their lab intern.
103

104 Mr. Mawyer stated that June 30 was Drinking Water and Wastewater Professionals Appreciation
105 Day, which recognized the professionals who helped provide water and wastewater services to
106 the community 24/7. He stated that it was worth noting that June 1 through November 30 was
107 hurricane season for the East Coast, and recently, their staff conducted emergency response
108 training and reviewed their emergency operations plan. He added that they were also
109 collaborating with Albemarle County Service Authority (ACSA) and the City on regional
110 emergency response training.
111

112 Mr. Mawyer stated that their lab assisted the City Utilities Department with testing stormwater
113 samples, and they were glad to provide that analysis for Ms. Hildebrand's team. He stated that
114 infrastructure would be a significant topic for these meetings in the coming months, and it was
115 thrilling to see the work actually get started. He stated that displayed on the slide was a photo of
116 pipe installation on Hereford Drive and clearing on Reservoir Road for the water pump station
117 site, which would be part of the pipeline from Ragged Mountain to Observatory WTP.
118

119 Mr. Mawyer stated that the pump station site was a one-acre parcel they had purchased from the
120 UVA Foundation a few years ago. He stated that they were trying to get as much work done as
121 possible over summer break, so they were focusing on Hereford Drive using trench boxes and a
122 process called honeycombing to break up the underground rock before excavating and installing
123 the 36-inch water pipe.
124

125 Mr. Mawyer stated that Sugar Hollow, where a bladder collapsed last year, was undergoing
126 remediation to the piping inside the control room. He stated that the bladder was expected to be
127 reinflated and refilled with water this week and next, allowing for the refilling of Sugar Hollow
128 Reservoir. He stated that the new crest gate bladder, installed a couple of years ago, sat on top of
129 the concrete dam.
130

131 Mr. Mawyer stated that the Virginia Water Protection Permit, applied for in 2021, had also been
132 a topic of discussion, particularly regarding releases from Sugar Hollow Reservoir. He stated that
133 the draft permit for the urban water system was open for public comment from May 20 through
134 June 19, and it pertained to the water supply for the City and most developed areas of the county.
135 He explained that the permit had expired in 2023, and they had to apply for a new one, which
136 they had been working on with the Virginia Department of Environmental Quality (DEQ) for
137 over four years. He stated that the permit was required by the Virginia DEQ, and it would
138 authorize them to complete the pipeline from Rivanna to Ragged Mountain.

139
140 Mr. Mawyer stated that the permit also regulated the addition of 12 feet (700 MG) of water in the
141 Ragged Mountain Reservoir, as well as the closure of the pipe from the Sugar Hollow Reservoir
142 that currently supplied water to Ragged Mountain. He stated that the permit also regulated the
143 minimum in-stream flow releases from their dams and any impacts related to their work in
144 streams and wetlands. He explained that they had previously discussed a similar timeline, but
145 they received their first permit in 2008, after the drought and the community decided to build a
146 new dam.

147
148 Mr. Mawyer stated that the permit was for 15 years, so it expired in 2023, but the DEQ granted
149 them a continuance until their review for a new permit was completed. He stated they were
150 poised to get the permit approved, which would continue to authorize them to build the Ragged
151 to Observatory Pipeline. He stated that the Ragged to Observatory Pipeline was already under
152 construction, and the new permit would authorize the Rivanna to Ragged Pipeline, which they
153 projected would be started in 2026 and extend until 2030.

154
155 Mr. Mawyer noted that concerns had been raised last week about the water releases from Sugar
156 Hollow and the potential impact on the environment, particularly from the Thomas Jefferson
157 Trout Unlimited organization. He stated that the new permit included provisions that addressed
158 these concerns. He stated that the permit was complex because it anticipated a connected water
159 supply reservoir system, which would be completed once the Rivanna to Ragged pipeline was
160 built.

161
162 Mr. Mawyer stated that the permit included multiple sets of thresholds, depending on the stage of
163 the project, including requirements for water releases from Sugar Hollow before and after the
164 dam was completed. He stated that once the dam was completed and Ragged Mountain
165 Reservoir was filled to the initial fill level (elev 671), which was their current status, they were
166 working under these specific criteria. He stated that essentially, their conditions were compared
167 to those at Ragged Mountain, and if the storage at Ragged was equal to 1.5 billion gallons, which
168 was their current normal level, and the natural inflow to Sugar Hollow was greater than 5 million
169 gallons per day (MGD), then RWSA must release from Sugar Hollow 100% of the natural
170 inflow, or 10 million gallons per day, whichever was less.

171
172 Mr. Mawyer stated that these conditions had been generally consistent with releases from Sugar
173 Hollow since 2008. He stated that they also depended on the definition of natural inflow, which
174 was calculated based on the release rate from Sugar Hollow necessary to maintain a stable
175 reservoir elevation when the Ragged Mountain Reservoir pipeline was closed. He stated that this
176 permit sought to balance the need to store enough water to maintain a stable reservoir elevation
177 while also releasing as much as necessary into the environment downstream. He stated that the
178 balancing act was crucial in their work.

179
180 Mr. Mawyer stated that their goal was to avoid the situation that occurred from 1977 to 1979,
181 when the Sugar Hollow Reservoir was subject to a severe drought and the bottom of the reservoir
182 was dry. He stated that the caretaker had to open the metal crest gates on the dam to regulate
183 water pressure, which was a dangerous task during severe weather events. He stated that now,
184 they had an inflatable bladder that automatically adjusted to prevent excessive water pressure. He

185 stated that one significant change to their permits over the past 17 years was the Minor
186 Modification 4 in 2022, which revised their calculation of natural inflow to Sugar Hollow
187 Reservoir.

188
189 Mr. Mawyer explained that they had discovered that their previous method, which relied on a
190 gauge in the Mechums River and extrapolation using a correlation and engineering formula, was
191 not very accurate. He stated that this led them to re-evaluate their equation and, in 2022, they
192 revised it to better reflect the reservoir's inflow. He stated that the new equation was
193 independently validated by DEQ, and they had since applied it to their 2008 and 2025 permits.

194
195 Mr. Mawyer stated that they always had tried to release sufficient water for the wildlife
196 downstream of the reservoir, up to about 290,000 gallons per day. He noted that in the earlier
197 permit from 2008, there was a 0.4 mgd release requirement or natural inflow for the period
198 before the completion of the Ragged Mountain Reservoir. He stated that this requirement was no
199 longer applicable when Ragged Mountain Reservoir was completed in 2015, but they continued
200 to release close to the same amount anyway. He stated that in fact, they maintained this release
201 rate to this day.

202
203 Mr. Mawyer stated that there was no significant change in their 2025 permit application
204 compared to the 2008 permit, with the exception of a minor modification in 2022 to how they
205 calculated natural inflow. He stated that this topic was discussed last week, and they had
206 responded to several emails from the public attempting to clarify this issue. He stated that
207 however, they had yet to receive any comments from the DEQ regarding the public comment
208 period, so they would have to wait and see what changes to the permit, if any, would be
209 requested by DEQ.

210
211 Mr. Pinkston asked if they anticipated approval and when it was expected to be completed.

212
213 Mr. Mawyer replied that they anticipated the permit would be approved. He stated that they were
214 required to have a permit, so they hoped it would be soon after the public comments were
215 received and reviewed.

216
217 Mr. Pinkston asked how long the permit would be valid for.

218
219 Mr. Mawyer stated that it would be a 15-year permit, so it would expire in 2040.

220
221 Ms. Mallek stated that while the information that had been reported and the math presented in
222 the application were accurate, there were aspects that had not been included. She stated that
223 specifically, the intent in 2007-2008 was to never shut off or stop the river's flow, as stated by
224 Brian Richter, who had worked on the project in 2008. She stated that he had since expressed
225 that this should never have been changed.

226
227 Ms. Mallek stated that several factors had contributed to the problems they were facing,
228 including the prolonged heat, which could be devastating to the river's ecosystem. She stated that
229 without adequate measurement of inflow, the math used to determine the river's needs was
230 inherently flawed. She agreed that the downstream Moormans gauge may be better than using

231 the Mechums gauge, but it was still far from the North Fork and South Fork confluence.

232
233 Ms. Mallek stated that even though there may not be visible water on the surface, there was still
234 water beneath the rocks flowing in. She stated that the community felt frustrated because they
235 were not allowed to participate in the same arena as the math, which was their primary concern.
236 She stated that she would like to bring to Mr. Mawyer's attention the difficulties they had
237 discussed in 2023, when they had made accommodations to the river.
238

239 Ms. Mallek stated that it appeared that they were now abandoning those changes, as indicated in
240 their application. She stated that specifically, they were no longer planning to implement the
241 2023 modifications, which had included removing water from the pipe to prevent similar issues.
242 She stated that she would appreciate an update on this matter, as it was still unclear.
243

244 Mr. Mawyer stated that he recalled they discussed only transferring water to Ragged when there
245 was 30 mgd going over the dam. He stated that this was still included in the first amendment of
246 the Ragged Mountain Dam project agreement.
247

248 Ms. Mallek stated that if it was ever spilling, they did not have an issue. She stated that when it
249 was not spilling that there was reason for concern. She stated that regularly people expressed
250 concern that the bladder swelled in the heat of hot days, raising the elevation of the dam and
251 shutting off the spillover. She stated that this then affected the conditions of the river
252 downstream, which was disturbing. She stated that the math may work in theory, but there was
253 no adequate measure of the fluctuating conditions in the river. She stated that she did not want
254 community members to be concerned about RWSA's efforts in managing their water resources,
255 and she wanted to make sure they were doing all they could to make sure it worked.
256

257 Mr. Mawyer stated that he would like to mention that there was a question from the community
258 regarding the Central Water Line Project. He stated that there was a separate cost of \$793,000
259 which was solely attributed to City Utilities. He explained that the project was shared between
260 City Utilities and the Albemarle County Service Authority, with the City allocated 48% and the
261 Service Authority allocated 52%. He stated that Ms. Hildebrand's group requested that they
262 replace a City water pipe while they had their trench open, and they agreed to do so.
263

264 Mr. Mawyer stated that this work for City Utilities was located on both Lewis Street and
265 Cleveland Avenue. He stated that as a result, they identified this work separately on the bid form,
266 and the contractor bid on it, resulting in an approximate cost of \$793,000. He stated that this was
267 being reported as a sole City Utility charge, as the work was to solely serve the City Utility.
268

269 Mr. Pinkston asked if this was something Rivanna had done before. He stated that he understood
270 the logic behind doing it, but he wondered if there was precedent in terms of the process, as it
271 seemed to circumvent the City's Capital Improvement Plan.
272

273 Ms. Hildebrand answered that the project was already identified in the City Utility CIP, and
274 since the opportunity arose to get it done in conjunction with this other work by RWSA, it
275 allowed them to partner and complete these projects more cost efficiently.
276

Mr. Pinkston asked if this charge would apply to the City's CIP.

Ms. Hildebrand replied that yes, it would be incorporated into the City Utility debt service, and had already been factored in.

Mr. Mawyer noted that they had initially planned to implement a similar partnering approach with City Utilities on East High Street, but they found that there were too many underground utilities in the area. He stated that even now, they were discussing with a partnership with Ms. Hildebrand's group about the possibility of co-locating pipes at the eastern end of East High Street, where they could install a City water pipe while they were installing an RWSA water pipe.

Mr. Mawyer stated that additionally, they were collaborating with the Service Authority on a section where they could install their water pipe simultaneously, and the Service Authority would cover 100% of the cost. He stated that this partnership aimed to be cost effective and also to minimize street disruptions by completing these projects jointly.

6. ITEMS FROM THE PUBLIC: MATTERS NOT LISTED FOR PUBLIC HEARING ON THE AGENDA

Dede Smith stated that she had several questions, but she first wanted to note that it was amazing to her that the Executive Director's comments always seemed to include that something had come up, but there did not even seem to be any pretense about who they all served; it did not appear to be the ratepayers anymore. She stated that she was very frustrated about this. She stated that at the recent City Council meeting on water rates, Michael Payne, a Councilor, expressed concern about the rate increase and asked about the future trend.

Ms. Smith stated that not a single one of the three City representatives responded and instead sat in silence. She stated that brought up the issue during public comment, because it was concerning that they did not know the future of the rate increases. She added that the County ratepayer was in a much more difficult position due to the rapid rate hikes, and there was a clear lack of advocacy for them on the Rivanna Board. She stated that this was evident today when they gave a lot of time to assuage the concerns of residents from Western Albemarle, who were not ratepayers.

Ms. Smith stated that in fact, the elected County representatives from that area had consistently represented the interests of the area, cutting off that pipe, which was the only clean raw water source in Albemarle County for over a hundred years. She stated that her question today was regarding representation. She stated that specifically, she would like to know if RWSA had the authority to approve this budget, since the City had not reviewed it or approved it yet. She stated that City Council had voted on something in June 2022, but it was not this, and it was not phased or as detailed.

Ms. Smith stated that her next question was about the replacement of the City water mains, for which she appreciated the explanation; however, she had concerns about the connection to the Central Water Line, which previously was stated as connecting to the City water lines in the

south. She asked how they would connect the City water main if the Central Water Line was 10 feet deep in the road and if they would need further construction to achieve that connection.

Ms. Smith stated that finally, she had a question regarding the presentation on the treatment plants. She stated that it was shocking to see the image of clear water going over the South Fork Dam, with incredibly silty water on the way to the James River and Chesapeake Bay. She stated that she was extremely concerned about the buildup of silt in the South Fork River.

Ms. Smith stated that they were about to pump this silty water to Ragged Mountain, which did not currently have a silt problem. She noted that silt was a contributing factor to Richmond's recent water crisis, so it should be considered. She summarized that her questions were whether RWSA had the legal authority to vote on this contract when City Council had not approved it, whether there were depth issues with connecting the Central Water Line to City lines, and whether they were doing anything about the silt.

7. RESPONSES TO PUBLIC COMMENTS

Mr. Mawyer stated that regarding costs, Rivanna was supported 100% by the City and ACSA, and as a result, all of the RWSA costs are borne by the two parties. He stated that they presented the RWSA budget including the CIP and the operating budget to the Board, advertised the budgets for public review and the Board held a public hearing on the budgets before voting to approve the budgets. He stated that the Board had the authority to approve their CIP contracts.

Ms. Long stated that she would agree.

Mr. Mawyer explained that regarding the buildup of silt in the South Rivanna Reservoir, they conducted a bathymetric survey every 10 years, using Lidar technology to measure the topography of the reservoir's bottom. He stated that this data helped them calculate the volume of water in the reservoir, which was part of their water supply and demand study completed each decade. He stated that they worked with development and planning agencies in the City, County and UVA to ensure they had enough water to meet future demands. He added that storms could wash silt out of the reservoir, restoring capacity.

Mr. Mawyer stated that in their last bathymetric survey, they found more capacity than expected in the South Rivanna Reservoir. South Rivanna's capacity had decreased since its construction in 1966, and a study estimated that they would lose 15 million gallons of capacity annually due to siltation. He stated that they measured silt buildup every 10 years and kept track of it to determine when action may be necessary if the reservoir became overly silted.

Mr. Mawyer stated that regarding connections to the City water lines, they had at least five connections planned to distribute water throughout the City systems from the new Central Water Line.

Mr. Gaffney asked if Mr. Mawyer could address Ms. Smith's concern about silty water being pumped over to Ragged Mountain Reservoir.

Mr. Mawyer stated that in their operational strategy, once the pipeline was built from Rivanna to Ragged, they would only pump water to Ragged when the water conditions supported it. He stated that if the water was clear, they would pump the clean water to keep Ragged full. He stated that they could pump up to 25 million gallons a day, allowing them to send a significant amount of water to Ragged in a relatively short time; however, after storms, when the water became silty in the South Rivanna Reservoir, they would not pump water to Ragged Mountain.

8. CONSENT AGENDA

a. Staff Report on Finance

b. Staff Report on Operations

c. Staff Report on CIP Projects

d. Staff Report on Administration and Communications

e. Staff Report on Wholesale Metering

f. Staff Report on Drought Monitoring

*g. Approval of Engineering Services Work Authorization – Central Water Line Project,
Phase 1 Construction Administration Services – Michael Baker International*

Ms. Mallek asked if there was a known reason for the recorded spike in urban wastewater during March of this year.

Mr. Mawyer stated that increased rainfall usually led to increased groundwater inflow and infiltration into the wastewater system, resulting in the higher flow of wastewater.

Mr. Pinkston stated that he had a question about Item G. He asked if these were Construction Administration services required to do the work.

Mr. Mawyer stated that that was correct.

Mr. Pinkston asked if that was reflected in the budget.

Mr. Mawyer replied yes. He stated that the \$79 million budget for the CWL project included the total costs for Phase 1 and Phase 2, which included construction administration costs from their consultants. He stated that these consultants reviewed submittals and assisted them with any problems that arose. He stated that the consultant would attend monthly progress meetings and conduct limited on-site inspections for approximately four years.

**Mr. Pinkston moved that the Board of Directors approve the Consent Agenda as presented.
Ms. Mallek seconded the motion, which carried unanimously (7-0).**

415
416 **9. OTHER BUSINESS**
417

- 418 *a. Presentation and Consider Vote to Approve: Award of Construction Contract for the*
419 *Central Water Line Project, Phase One – Sagres Construction*
420 *Michelle Simpson, P.E., Senior Civil Engineer*
421

422 Michelle Simpson, P.E., Senior Civil Engineer, stated that they had been working on this project
423 since about 2017, so she was glad they were getting ready to move forward with construction.
424 She stated she would begin with an overall project map of Phase 1 and Phase 2. She stated that
425 Phase 1 spanned approximately four miles of 30-inch and then 24-inch waterlines, extending to
426 the intersection of East Market and 10th Street Northeast. She stated that Phase 2 consisted of
427 approximately one mile of 24-inch waterline.
428

429 Ms. Simpson explained that they split the project into two phases, initially with an alignment in
430 East High Street, but they later determined that alignment was not feasible due to the co-location
431 with the City's 12-inch waterline, which left insufficient space for both of those pipes along with
432 existing utilities, so they were redesigning the pipe in Phase 2 which would run down Little
433 High, Meade, Fairway, and then through a City parcel along the river.
434

435 Ms. Simpson explained that the Central Water Line Phase 1 progress involved four miles of 24-
436 inch and 30-inch transmission waterlines, which would improve hydraulic efficiency in the urban
437 system and enabled the full utilization of the 10 MGD capacity upgrade at the Observatory
438 Water Treatment Plant. She stated that with the new, larger pipe, they could now produce water
439 at the Observatory WTP and better distribute it in the piping system.
440

441 Ms. Simpson stated that after advertising in November of last year and making adjustments
442 through the addenda to drawings and specifications, they received five bids on May 8, ranging
443 from approximately \$39.7 million to \$68.5 million. She stated that after following a thorough
444 review, they determined that the low bidder did not meet the experience requirements outlined in
445 the specifications; therefore, they were recommending a construction award to Sagres
446 Construction of Alexandria, Virginia, for \$47.45 million.
447

448 Ms. Simpson stated that the cost allocation between the City and ACSA waterline work was
449 noted. She stated that the total Phase 1 budget was \$58 million, which included the engineering
450 services previously approved for \$1.3 million. She stated that this was solely for Phase 1
451 construction engineering budget, and the remaining \$21 million was allocated towards Phase 2
452 budget. She stated that the overall construction schedule was set to begin this October, with
453 completion expected by December 2029.
454

455 Ms. Simpson noted that for reference, the specification for Sagres' construction experience
456 required demonstrating three projects greater than 5,000 feet, where they installed 24-inch
457 ductile iron pipe (DIP) or larger in an urban setting within the last seven years. She stated that
458 Sagres was able to provide experience for three separate projects with the same crew, installing
459 significant pipe in the last seven years.
460

Mr. Lunsford asked how the \$58 million budget compared to the \$47.45 million contract with Sagres.

Ms. Simpson stated that the \$58 million breakdown included easement costs, design costs, construction, administrative, and inspection costs from the engineer, as well as other permitting, legal, and administrative costs. She stated that the total of these expenses amounted to \$58 million, and this figure included a 10% construction contingency above the \$47.45 million award amount.

Mr. Richardson moved that the Board of Directors authorize the Executive Director to award a construction contract for IFB #413 (Central Water Line Phase 1) to Sagres Construction Corporation for \$47,450,000 and to approve any change orders to the construction contract necessary to ensure the completion of the work not to exceed 10% of the original construction contract amount. Ms. Hildebrand seconded the motion, which carried unanimously (7-0).

b. Presentation and Consider Vote to Approve: Award of Construction Contract for the Ragged Mountain Reservoir, Raise Normal Pool Level Project – Faulconer Construction Austin Marrs, P.E., Senior Civil Engineer

Austin Marrs, P.E., Senior Civil Engineer, stated that the primary objective of this project was to raise the normal pool of Ragged Mountain Reservoir by an additional 12 vertical feet, which would add approximately 700 million gallons to Ragged Mountain Reservoir, bringing its total capacity to 2.1 billion gallons. He stated that this would be achieved by clearing 12 vertical feet of trees around the entirety of the reservoir.

Mr. Marrs explained that in addition to this main objective, there were several other scope items included to facilitate the project, which included a blanket drain at the right abutment of the dam, two concrete boat ramps, and modifications to the riser structure, floating trail bridges, and a full containment boom. He stated that they were recommending the award of this project to Faulconer Construction at a contract amount of \$11,018,050.

Mr. Marrs stated that he would provide a few notes regarding the clearing process. He stated that as he mentioned earlier, it was 12 vertical feet around the entire perimeter of the reservoir, and this was generally shown by the red lines on the attached map. He stated that the green lines on the map represented the existing trails network around the reservoir, which were generally outside of the area to be cleared; however, there were a few areas where the City was actively relocating small spur trails around the reservoir. He stated that to minimize the impacts on these trails, they would be utilizing barges to facilitate contractor access around the reservoir, then the barge would bring logs back to the burn area or to the timber harvesting area, which they would discuss further in the presentation.

Mr. Marrs stated that regarding the burning of trees, the contractor had elected to harvest select timber from around the reservoir, which would result in a \$100,000 credit on the contract. He stated that they did have a time-of-year restriction on tree clearing (allowed November 15 – March 31), which was due to the northern long-eared bat, an endangered species; they could not

507 disrupt their mating season and nesting season, so they had this restriction in place and the
508 contractor had a four and a half-month window to clear the trees.

509
510 Mr. Marrs stated that burn boxes were first utilized during the construction of the New Ragged
511 Mountain Dam between 2012 and 2014. He stated that these burn boxes were powered by a
512 small diesel engine, which burned about a gallon of fuel per hour. He stated that the engine
513 essentially functioned as a large fan, which forced air into the box and promoted a high-
514 temperature, low-smoke, low-emission burning process.

515
516 Mr. Marrs stated that any burning conducted would be done in accordance with County and State
517 requirements. He stated that at this point, since the contractor would be harvesting trees, they
518 expected that most of the burning would consist of small trees, scrub brush, and other materials
519 that could not be sold.

520
521 Mr. Marrs stated that some of the other improvements in the work included enhancements to the
522 riser tower and piping inside the air system. He stated that they would be installing an air release
523 valve at the top of the piping, as well as a blind flange to close off the existing 671-foot
524 elevation, allowing the water to rise an additional 12 feet. He stated that they would also be
525 extending the existing floating trail bridge and spill containment boom at the upper end of the
526 reservoir near I-64 to accommodate the additional 12 feet.

527
528 Mr. Marrs stated that additionally, they were working with City Parks to perform grading for
529 additional parking in the grassy area adjacent to the existing gravel parking lot along Reservoir
530 Road. He stated that this would, in turn, provide a fill for the blanket drain that would be
531 discussed in the next slide. He stated that the boat ramp work along the left abutment was the
532 existing gravel boat ramp. He stated that they would be adding concrete to that, making it
533 available for potential future public use to access the reservoir.

534
535 Mr. Marrs stated that on the right abutment, they would be constructing another concrete boat
536 ramp for their staff use, which would accommodate their sampling boat and operations and
537 maintenance activities. He stated that the blanket drain mentioned earlier involved installing an
538 expanded drainage system along the right abutment. He stated that they had had minor seepage
539 issues in the past, which was common with earthen dams. He stated that to address this, they
540 would be installing a gravel and sand blanket drain system with perforated pipe, to catch and
541 discharge water at the plunge pool at the base of the dam.

542
543 Mr. Marrs provided an overview of the budget and schedule for this project. He stated that the
544 current CIP budget was \$6 million, and the final engineer's estimate was \$7.223 million due to
545 the blanket drain being added. He stated that during the bidding process, they received one bid
546 from Faulconer Construction, which was originally \$12,329,000 and negotiated down to a final
547 amount of \$11,018,050. He stated that their total budget was \$13.2 million, and the construction
548 schedule would be September 2025 through December 2026.

549
550 Mr. Marrs noted that one additional point he would like to make is that this project was actually
551 funded from the overall South Rivanna to Ragged Mountain Pipeline budget; they were not
552 currently requesting additional funding. He stated that the remaining work on the pipeline would

be bid in the fall of this year. He stated that at that time, they would determine their position within the overall \$123 million budget.

Mr. Richardson asked what made up the difference between the \$11 million awarded to Faulconer and the total budget of \$13.2 million for this project.

Mr. Marrs stated that it was similar to their previous discussion with Central Water Line, where they had to account for design, construction administration and inspection and other soft costs, which increased the budget from \$11 million to \$13.2 million. He stated that as with Central Water Line, there would also be a 10% project contingency to cover any unforeseen conditions that may arise.

Ms. Mallek asked if Mr. Marrs could provide a more detailed explanation of the blanket drain for civilians to understand. She stated that she was assuming it was a large, French drain-like system, but she would like a more precise description.

Mr. Marrs stated that a cross-section of sand and gravel would allow water to percolate into a perforated pipe, which was a pipe with holes that would collect the water instead of allowing groundwater to sit on top of the earthen dam. He stated that by collecting the water, they could redirect it to the plunge pool, rather than having it accumulate on the dam.

Ms. Mallek asked if this was part of the original plans for this dam.

Mr. Marrs stated that a small system was installed during the original dam construction. He stated that they found it was not collecting all of the water, and with the anticipated 12 feet of additional water, this blanket drain would proactively manage how the water drained.

Ms. Mallek asked if the tree roots in the immediate area were contributing to the seepage channel.

Mr. Marrs stated that there were a number of subterranean factors contributing to where water was able to migrate through the dam, but he was not sure if the tree roots were a primary issue. He stated that however, there would be some clearing required to install the pipes.

Mr. Gaffney asked how long the bridge would be once the water level was raised 12 feet higher.

Mr. Marrs stated that he was unsure, but he could find out. *(After the meeting, Mr. Marrs responded that the floating trail bridge will get about 60' longer, 30' on each side of the reservoir, as a result of the Pool Raise Project. The bridge will total approximately 290 LF in length.)*

Ms. Mallek asked if the 10% limit for change orders was cumulative, so the total amount associated with change orders could not exceed 10%, rather than each change order being 10% at maximum.

Mr. Mawyer confirmed that was correct; if the change order costs exceeded 10% of the original

599 construction contract award, they would need approval from the Board of Directors to proceed
600 with any further change orders.

601
602 **Ms. Mallek moved that the Board of Directors authorize the Executive Director to award a**
603 **construction contract to Faulconer Construction Company, Inc., for a total amount of**
604 **\$11,018,050 (= \$12,329,000, minus \$1,310,950 in reductions) and any change orders to the**
605 **construction contract necessary for completion of the work not to exceed 10% of the**
606 **original construction contract award. Mr. Pinkston seconded the motion.**

607
608
609 **The motion carried unanimously (7-0).**

610
611 *c. Presentation: Northern Area Utilities Master Plan*
612 *Jennifer Whitaker, P.E., Director of Engineering and Maintenance Division*
613

614 Jennifer Whitaker, P.E., Director of Engineering and Maintenance Division, stated that she
615 would discuss the Northern Area Utilities Master Plan. She stated that the urban service area was
616 the area of the City and County, as well as the university, to which the RWSA provided
617 wholesale water. She stated that this area served approximately 125,000 people. She stated that
618 on the map shown, they would see the area they served, labeled as water and served by three
619 water treatment plants. She stated that these plants included the North Rivanna Treatment Plant,
620 the South Rivanna Treatment Plant, and the Observatory Treatment Plant.

621
622 Ms. Whitaker stated that on the wastewater side, the urban area was completely served by the
623 Moores Creek Wastewater Treatment Plant. She noted that the area drained from the south and
624 Crozet and came into the plant via the Moores Creek Pump Station, while the area drained from
625 the north and came into the plant via the Rivanna Pump Station. She stated that the maps were
626 slightly different shapes because the water and sewer service area was not entirely concurrent.

627
628 Ms. Whitaker stated that the area they were discussing today was the Northern Service Area,
629 which included the most northern part of Albemarle County north of the South Fork Rivanna
630 River. She stated that on the water side, that includes the North Rivanna Water Treatment Plant,
631 the Airport Road Finished Water Pump Station, the North Rivanna Water Line, the Piney
632 Mountain Tank, and on the sewer side, the Powell Creek Interceptor. She stated that the smaller
633 lines shown on the map were the Albemarle County Service Authority waterlines, and there was
634 also an equally sized network of wastewater lines for that area.

635
636 Ms. Whitaker stated that the Northern Area Utilities Master Plan was developed over several
637 decades, initially during a period of anticipated growth in the northern end of the County just
638 prior to the 2008 economic recession. She stated that after the recession, there was a slow build
639 back to those plans for development in the northern end of the County. She stated that as staff
640 became aware of this, they recognized the need to take a deeper dive into the service needs of
641 this area.

642
643 Ms. Whitaker explained that the plan was meant to meet four goals. She stated that the first was
644 to consider upcoming developments and the resulting utility demands, as well as how those

demands were changing. She stated that they also aimed to use their water and sewer models to predict future infrastructure needs and understand the timing of capital improvement projects. She stated that they had a clear idea of which projects might be needed, but they wanted to know exactly when they needed to be built and when they would be online to serve their customers. She stated that finally, they wanted to compare their current 2024 demands to what was included in the 2019 Urban Finished Water Master Plan and understanding the changes that occurred over those five years.

Ms. Whitaker stated that while there was growth throughout the northern area, they focused on analyzing the impacts of several key developments, including the North Fork Research Discovery Park, Rivanna Station and Rivanna Futures land, and the North Pointe subdivision, which had undergone several large rezonings.

Ms. Whitaker stated that on the slide was a map of the North Fork Research Park growth area. She stated that they have been closely involved with UVA Foundation in understanding their phasing plans and rezoning plans. She stated that they had a sewer meter monitoring flow coming off the site, allowing them to gauge when development reaches certain growth thresholds. She stated that they continued to work with the Foundation as they grew and marketed this area.

Ms. Whitaker stated that the next image was Rivanna Futures, which they had been discussing with County staff about the potential commercial, office, and light industrial space surrounding the existing Rivanna station and the National Ground Intelligence Center (NGIC). She stated that they continued to monitor the anticipated growth in that space.

Ms. Whitaker stated that lastly, they had the North Pointe development, primarily residential with a few supporting commercial endeavors. She noted that they had seen at least two zoning changes since they began working on this master plan.

She stated that as a result of the rezonings throughout the area, they continued to evolve their thinking on planning projects. She stated that the next table showed the expected demand difference in 2070 for the three primary growth areas. She stated that in 2019, when they worked to project what would happen in this area, they were looking at approximately 250,000 gallons per day from these three developments, but they were now looking at approximately 700,000 gallons a day. She stated that they had seen a half-million-gallon increase in those three developments alone.

Ms. Whitaker explained that they then combined the projected demands from the specific development areas with those of the larger service area. She stated that as depicted on the table displayed, the combined demand in 2070 was a 50% increase, reaching approximately 1.36 mgd. She noted that when they looked at the 2030 time horizon, flows went from 0.55 mgd to 1.08 mgd, a 100% increase in those five years, exceeding the expected 2030 time period.

Ms. Whitaker stated that they had been working on this since before the 2008 economic crash, gaining a better understanding of what was to come and what it would take to serve this area. She stated that as a result, they had a series of projects already in the pipeline, some of which

were under construction, some were now complete, while others are in the planning stages. She stated that the Airport Road Water Line Phase 1 and Finished Water Pump Station were completed, and the South Rivanna River Second Crossing was currently under construction. She stated that this provided higher capacity and redundancy to the northern area.

Ms. Whitaker stated that once the River Crossing project was completed, they would start working on implementation of the North Rivanna Water Treatment Plant decommissioning, which was under design right now. She stated that they were currently working with the Virginia Department of Transportation (VDOT) on the Airport Road Water Line Phase 2, along the Berkmar Drive Extended alignment. She stated that this betterment project with VDOT would extend the waterline to Airport Road.

Ms. Whitaker stated that additionally, they had the opportunity within the pump station to install a third pump, and that originally, they thought that pump would be needed by 2035 or 2040, but based on their current numbers, they were looking at 2028. She stated that a few other projects that came out of this plan include the first one-million-gallon water storage tank to be located at the Airport Road Pump Station. She stated that this would provide hydraulic support for the entire northern end of the County, as well as areas closer to the South Rivanna Water Treatment Plant.

Ms. Whitaker stated that as they moved further out in time, they would be looking at the North Rivanna Water Line reinforcement, crossing of the North Rivanna River, surge mitigation for high pressures in the northern end of the County, and eventually, waterline replacement and tank number two at the Airport pump station. She stated that at that point, they would re-evaluate the capital program. She stated that as a reminder, she included some images of the construction of the new Airport Road Pump Station. She stated that it was completed in 2024 for approximately \$10 million.

Ms. Whitaker stated that they operated this pump station between three and four days a week while the North Rivanna Water Treatment Plant remained in service and could be turned on at any time. She noted that the two key design features of this pump station were the extra spot for a third pump and the oversized underground cans for the pumps, allowing for the installation of larger pumps as needed. She stated that as previously discussed, the South Rivanna River Crossing was currently under construction. She stated that on the diagram on the bottom right, one could see the pipe will be installed approximately 40 feet under the river.

Ms. Whitaker stated that the northern area they were discussing today was at the far reaches of the RWSA system. She explained that to serve this area, they needed to enhance the urban system, which in turn supported the suction side of the Airport Road Pump Station. She stated that the projects they previously discussed, including the Rivanna River Crossing, Ragged Mountain to Observatory waterline, South Rivanna to Ragged Mountain waterline, and Central Water Line, all contributed to augmenting and fortifying the urban service area, ultimately benefiting the suction side of the Airport Road Pump Station.

Ms. Whitaker stated that on the sewer side, they had analyzed demand conditions, sewer meter data, and factors such as inflow and infiltration (I&I), as well as storm recurrence intervals. She

737 stated that they had also projected sewer demands for 2030, 2045, and 2070. She stated that the
738 good news was that they did not believe they would need to upgrade the sewer system until at
739 least 2045. She stated that at that point, they would be approaching the demand condition, and
740 they would need to consider extensive rehabilitation, continued monitoring, and reducing I&I.

741
742 Ms. Whitaker stated that by 2070, they may need to upgrade the Powell Creek Interceptor, but
743 this was likely to occur between 2045 and 2070, depending on the pipeline's condition. She
744 stated that they may also need to perform intermediate rehabilitation work to maintain the
745 pipeline's lifespan. She stated that overall, they appeared to be in good shape until around 2070.

746
747 Ms. Whitaker stated that the next table had been updated with new numbers and timelines. She
748 stated that it served as a bar graph showing when they expected these various projects to begin
749 construction and completed. She stated that the final table was primarily intended for the staff's
750 reference, as it addressed common questions about capacity, current flows, peak flows, and
751 projected capacities.

752
753 Mr. Pinkston asked if they would have 40 years of water capacity by 2030.

754
755 Ms. Whitaker replied yes; the urban projects, river crossings, and additional pumping projects
756 were slated to be completed around 2030, and once those were all in place, they would have
757 great flexibility in dynamic conditions.

758
759 Ms. Mallek asked if there was already a North Fork Crossing.

760
761 Ms. Whitaker stated that they had the South Fork River Crossing, and nearby, the North Fork
762 River Crossing at Route 29. She stated they did have a pipeline that went under the bridge,
763 taking a sharp left turn near the ACSA pump station and then going under the river. She stated
764 that previously fortified that river crossing near the river access area at Camelot. She stated that
765 they intended to put a second crossing on the other side of the bridge in the case of a storm event.

766
767 *d. Presentation: Water Treatment Facilities and Staffing Overview*
768 *Daniel Campbell, Director of Operations and Environmental Services Division*
769

770 Daniel Campbell, Director of Operations and Environmental Services Division, stated that
771 today's presentation focused on the Water Department, covering treatment processes, staffing,
772 and the plants themselves. He stated that they began with a visual representation of the RWSA
773 water system in Albemarle County, which highlighted the three water systems they had in
774 Scottsville, Crozet, and the Urban system. He stated that they owned and operated five raw water
775 storage reservoirs, including three in the Urban system, Sugar Hollow, Ragged Mountain, and
776 South Rivanna, as well as one in Scottsville at Totier Creek and the Beaver Creek Reservoir in
777 Crozet. He noted that the transfer system coming from South Rivanna to Ragged would allow
778 them to move away from the current transfer from Sugar Hollow to Ragged Mountain.

779
780 Mr. Campbell stated that the South Rivanna Water Treatment Plant was a 12 MGD permitted
781 surface water treatment plant located at the end of Woodburn Road. He stated that most people
782 were familiar with this facility, as it was their largest water treatment plant. He stated that the

Observatory Water Treatment Plant, a 7.7 MGD conventional surface water treatment plant, was situated on the University of Virginia campus at Observatory Hill.

Mr. Campbell stated that the North Rivanna Water Treatment Plant, a 2 MGD conventional surface water treatment plant, was located in the northern system, which Ms. Whitaker had just discussed. He stated that the Crozet Water Treatment Plant, a 1.6 MGD conventional surface water treatment plant, served the Crozet community. He stated that they also had a small groundwater system in North Garden, which was the Red Hill Water Treatment Plant, a 10,000-gallon hydropneumatic well system. He stated that lastly, they had their smallest conventional surface water treatment plant in Scottsville, with a permitting capacity of 250,000 gallons per day.

Mr. Campbell stated that they examined the permitted capacities for the treatment plants, resulting in an urban total of 21.7 MGD. He stated that however, they would focus next on the average production from those plants. He stated that South Rivanna averaged 8.1 MGD in 2024, while Observatory averaged 1.05 MGD, North Rivanna averaged 0.4 MGD, contributing to an Urban total of 9.5 MGD. He stated that the smaller County facilities produced 640,000 gallons per day in Crozet, 50,000 gallons per day in Scottsville, and 2,000 gallons per day in Red Hill, totaling 10.2 MGD average production

Mr. Campbell stated that they produced drinking water every day, regardless of the weather conditions. He stated that this picture shown of the left of the slide, taken on a day when the water was clean, and the picture shown on the right, taken after rainfall, which had caused runoff into the South Rivanna Reservoir. He stated that regardless of the weather and runoff, they must produce the same quality finished drinking water; this was what made water treatment unique.

Mr. Campbell stated that the South Rivanna Pump Station conveyed water from the South Rivanna Reservoir to the treatment plant. He stated that the picture on the left showed the inside of the pump station, featuring four vertical turbine pumps controlled from the control room at the treatment plant. He stated that several of these pumps ran on variable frequency drives (VFD), which allowed operators to control the pump's speed and water flow into the treatment plant.

Mr. Campbell stated that he would next discuss conventional surface water treatment. He explained that when withdrawing water from a river, creek, or reservoir, the treatment criteria differ. He stated that in the conventional setup, the coagulation process began first, when raw water entered the plant. He stated that they would add their coagulant and pH adjustment to initiate the coagulation process. He stated that then, the conventional surface water treatment process involved flocculation, which was the slow mixing of water, coagulant, and pH adjustment. He explained that the goal was to neutralize the surface charges, allowing dirt particles to come together and form floc.

Mr. Campbell stated that the water then entered the sedimentation basins, which were larger and had more detention time. He stated that this allowed the formed floc to settle to the bottom, leaving a cleaner product on top that was ready for filtration, the final step of conventional surface water treatment. He stated that displayed on the slide was a basic site overview of South Rivanna, post upgrade. He stated that the foreground featured the equalization basin and the

clarifiers, where wastewater was processed.

Mr. Campbell stated that they also had the alum and fluoride building, a chemical storage facility, and the sodium hypochlorite or chlorine feed building. He stated that the water administration building housed the management staff's offices. He stated that the liquid lime building was new with construction and housed the tanks. He stated that the main filtration plant contained filters, operator control room, high service pumps, and other equipment. He stated that the filter press building processed the solids from the clarifiers using a filter press.

Mr. Campbell stated that they used typical water treatment additives, including aluminum sulfate as a coagulant. He noted that aluminum sulfate had a significant impact on pH levels, so they had to add coagulant to initiate the coagulation process. He stated that to bring the pH back up, they added liquid lime, as the water was acidic. He stated that this required setting the stage at the specific treatment pH that the plant operated at. He stated that they also used chlorine, sodium hypochlorite for disinfection, orthophosphate for corrosion control in the distribution system, and hydrofluorosilic acid (fluoride) for dental health in the water.

Mr. Campbell stated that provided on the slide was a visual representation, where the arrow illustrated the direction of travel of the flocculated colloidal particles, dirt in the water, that they had taken through the flocculation process, where they had been coagulated and were now entering the sedimentation basins where they would settle to the bottom. He stated that the next slide showed a water treatment jar test, which was a small-scale pilot test that could be used in the treatment plant to test out or mimic plant operating conditions on a smaller scale.

Mr. Campbell stated that in these jars, they could set different pH levels and coagulant doses, and then mix them to simulate the conditions found in the basins. He stated that by doing so, they could optimize the treatment process and dial in the optimal pH and coagulant dose. He stated that this was a picture of the dual media filters at the Observatory Water Treatment Plant, which were five new filters with construction.

Mr. Campbell stated that prior to the upgrade, the old rapid sand filters had no anthracite cap. He stated that during the renovation project, the under drains were replaced, and new sand and anthracite media were installed. He stated that dual media filters allowed for faster filtration rates and longer filter runs, resulting in less processed wastewater. He stated that they were typically the gold standard that treatment plants strived to use.

Mr. Campbell stated that they also discussed the seasonal free chlorine residual strategy. He stated that they had a general administrative procedure that guided the Water Department management staff on how much chlorine to add to the water. He explained that temperature served as a catalyst for chemical reactions, including chlorination in the distribution system. He stated that they measured raw water temperature daily at every treatment plant and used this data, along with coliform sampling data, to make adjustments to the chlorine dose.

Mr. Campbell stated that typically, they increased the chlorine dose in the summertime, as chemical reactions occurred faster in warmer water. He stated that in the winter months, when the water was cooler, the chlorine stayed in the water longer. He stated that they were able to

875 reduce the dosage so that the taste of the water was not affected at the tap. He stated that it was
876 about finding the right balance, not exceeding that amount. He stated that Giardia and
877 Cryptosporidium were two intestinal parasites that were often linked to waterborne illnesses, and
878 they had previously discussed filtration and disinfection methods to address these concerns.

879
880 Mr. Campbell stated that the reason they discussed these two was that they recently mentioned
881 filtration and chlorine disinfection. He stated that Giardia was inactivated by chlorine, but
882 Cryptosporidium was not. He stated that you could dose water containing Cryptosporidium with
883 chlorine, and it did not inactivate it. He stated that, however, filtration did remove it. He stated
884 that the point of these examples was that there was a multi-barrier approach to pathogen removal
885 at the treatment plants, not just disinfection, but also filtration.

886
887 Mr. Campbell stated that next were a couple of pictures of some of the instrumentation at the
888 treatment plants. He stated that most of the plants were run with online instrumentation, such as
889 the filter turbidimeters shown on the slide, which measured effluent turbidity off the underside of
890 the filters. He stated that they also bench checked all these online instruments every day. He
891 stated that the picture on the right showed a bench top turbidimeter, where the operator collected
892 a sample to verify the accuracy of the online instruments.

893
894 Mr. Campbell stated that the next slide was related to residual disposal at South Rivanna. He
895 stated that residuals processing could be a major bottleneck in the plant's operations. He stated
896 that the filter press in the picture on the left could process residuals at about 20 to 30 gallons per
897 minute, depending on the volume of sludge in the clarifier. He stated that during heavy rainfall
898 events, the amount of residuals processing increased significantly. He stated that currently, when
899 they experienced heavy rainfall, they needed to ensure that the levels in the clarifiers were low
900 and coordinate with the Solid Waste Authority to arrange for hauling residuals to Moores Creek
901 compost yard.

902
903 Mr. Campbell stated that when the filter press was running, the solids were pressed and fell onto
904 the conveyor, then fell down through the floor into a roll-off box, which was transported to
905 Moores Creek by the Solid Waste Authority. He stated that the plan for the future is to optimize
906 this process and eliminate some of the choke points by connecting the South Rivanna plant site
907 to the ACSA sewer main by crossing Berkmar. He stated that this was a future project, and there
908 were several projected paths, but the picture shown illustrated the general concept. He stated that
909 it would tie the plant into the sewer system, allowing them to process residuals at over 100
910 gallons per minute.

911
912 Mr. Campbell stated that this project would greatly improve their situation, regardless of whether
913 storms occurred or not. He stated that they would not have to truck the solids and store them;
914 instead, they would be able to put them directly into the sewer force main and take them to
915 Moores Creek, which could process solids more efficiently than South Rivanna's belt press. He
916 stated that this project was expected to be approximately 1,000 feet of four-inch force main and a
917 pump station, with a budget of around \$1 million. He stated that the completion date was
918 expected to be FY27 to FY29.

919
920 Mr. Campbell stated that the next slide showed the finished water pumps, or high service pumps,

at South Rivanna. He stated that they were standing on top of the plant clear well, and these pumps were picking up water from that clear well. He stated that they were putting it into a finished water header, this pipe on the left, and that was going out to distribution. He stated that next was an image that showed two types of activated carbon they used in the treatment process. He stated that the first was powdered activated carbon (PAC), pictured on the left, a powder similar to baby powder, used at the head of the treatment plant for taste and odors, with the goal of removing organics through enhanced coagulation.

Mr. Campbell stated that when they added PAC, they could remove more organics, resulting in less loading on their granular activated carbon (GAC). He stated that on the right, they had granular activated carbon, found in the pressure vessels. He noted that this was a renewable treatment technology through thermal reactivation. He stated that when their GAC became exhausted, they would call their contractor to remove it, re-activate it, and bring it back on site. He stated that they would heat it to 1700-1800 degrees Fahrenheit, destroying the absorbed organics, and then they would store it and bring it back.

Mr. Campbell stated that this was for organics removal post-filtration. He stated that the raw water from the raw water pump stations came in, and they added the powdered activated carbon before coagulation. He stated that next was a picture of the granular activated carbon contactors at South Rivanna. These were four of the 12-40 pressure vessels, each holding 40,000 pounds of GAC. He stated that from a department-wide standpoint, South Rivanna had eight 12-40 contactors, 320,000 pounds of carbon, and an 8 MGD capacity.

Mr. Campbell stated that Observatory had four of those contactors, with a total of 240,000 pounds of GAC and a 6 MGD capacity. He stated that Scottsville had full GAC capacity, matching the plant's 0.25 MGD capacity, with two 6,000-pound contactors. He stated that North Rivanna had one 40,000-pound contactor with a 1 MGD capacity. He stated that Crozet had two 10-20 pressure vessels, which were 20,000-pound vessels for 40,000 pounds of GAC in service. He stated that however, an upcoming project would add two 1240 pressure vessels for an additional 80,000 pounds of GAC and 2 MGD capacity. He stated that Red Hill was also scheduled for renovation projects that would include a 1,000-pound contactor, which would enable the full 7,000 gallon per day capacity of the plant.

Mr. Campbell stated that the next slide showed an aerial view of the Observatory Water Treatment Plant after renovations. He stated that the new chemical building featured all new alum fluoride corrosion inhibitor, permanganate, lime feed systems for the plant. He stated that the pre-treatment building received raw water and initiated the treatment process before it entered the flocculators and sedimentation basins. He stated that the granular activated carbon building housed the four additional 12-40 pressure vessels.

Mr. Campbell stated that the sedimentation basins had been modified to include plate settlers, increasing the clarification capacity. He stated that the main filtration building contained an operator control room, filters, and finally, the waste basins. He stated that the testing requirements for drinking water were extensive, with multiple agencies requiring monthly and quarterly reports to the Virginia Department of Health (VDH) and the Virginia Department of Environmental Quality (DEQ). He stated that they were required to report the volume of water

pumped into treatment plants and distribution systems daily, as well as daily chemical doses, filtered turbidities, water temperature, pH, chlorine, and disinfection calculations.

Mr. Campbell stated that they also maintained logs of daily treatment and met daily requirements. He stated that in the distribution system, they conducted total coliform sample results for water systems. He stated that additionally, they recorded disinfection byproducts and unregulated contaminants on the central data exchange (CDX). He stated that for FY26, the water operating budget breakdown was split between the Operations and Maintenance (O&M) and debt service. He stated that the urban system had a total of \$23.9 million; Crozet had a total of \$4.9 million for operating costs and debt service; Scottsville had a total of \$1.2 million.

Mr. Campbell stated that the annual production in the urban system was 3.4 billion gallons, with 2 million gallons in Crozet and 0.25 million gallons in Scottsville. He stated that there was \$3.3 million for employee salaries, \$2.5 million for water treatment chemicals, and just under \$1 million for utility costs. He stated that when factoring in the annual production from each rate center and the total costs, the production costs for all three systems came out to approximately \$0.42 per 100 gallons.

Mr. Campbell stated that finally, he would review the staffing in the Water Department. He stated that they had two Class I plants, South Rivanna and Observatory, which required a Class I Operator on-site at all times. He stated that North Rivanna and Crozet, were Class II plants, requiring a Class II operator. He stated that Scottsville was a Class III plant, requiring a Class III Operator, and Red Hill was a Class IV plant. He stated that in total, they had 27 full-time employees in the Water Department, with 22 of those being operators. He noted that they currently had 16 Class I operators, six Class II operators, three relief operators, and four management staff, including the water manager, assistant manager, and two supervisors.

Ms. Mallek asked if free chlorine residuals were chlorine byproducts that were measured at the end or beginning of the process for water treatment.

Mr. Campbell answered that they looked across the entire distribution system to measure those residuals. He stated that they looked at water coming into and leaving the system, as well as at the coliform sample sites throughout the system. He clarified that yes, free chlorine was definitely linked to disinfection byproducts; the higher the amount of free chlorine, the higher the amount of organics in the finished water, the higher the amount of disinfection byproducts.

Ms. Mallek stated that she was thankful that GAC effectively filtered out those substances.

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

There were none.

11. CLOSED MEETING

There was no reason for a closed meeting.

1013 ***12. ADJOURNMENT***

1014

1015 **At 4:01 p.m., Mr. Pinkston moved that the Board of Directors adjourn the meeting. Ms.**

1016 **Mallek seconded the motion, which carried unanimously (7-0).**

1017

DRAFT